



WORLD CONGRESS ON LARYNX CANCER 2015

26-30 JULY 2015 • CAIRNS CONVENTION CENTRE
CAIRNS • QUEENSLAND • AUSTRALIA

FINAL PROGRAM



AUSTRALIAN AND NEW ZEALAND
**HEAD & NECK
CANCER SOCIETY**

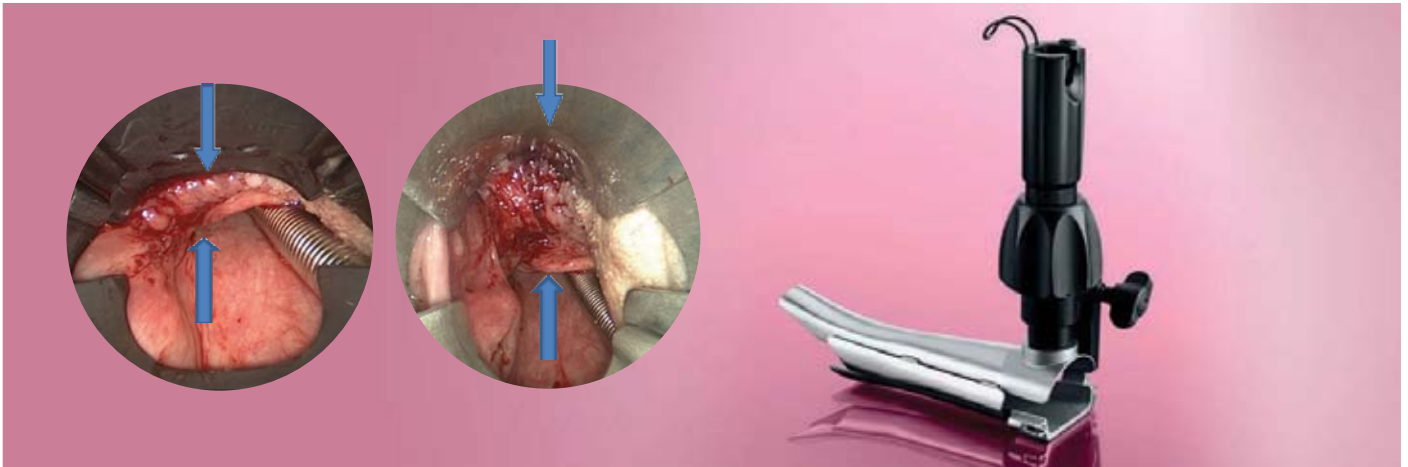
www.wclc2015.org

Endorsed by:



Cairns Convention Centre
World's Best Congress Centre 2014 / AIPC APEX Award

TRANSORAL LASER MICROSURGERY: THE ORGAN-PRESERVING OPTION FOR LARYNGEAL CANCER



The use of Transoral Laser Microsurgery (TLM) became widely accepted as a treatment option for early laryngeal cancer following introduction of CO₂ laser technology. Since then, the approach has been extended gradually to encompass wider indications, such as T4a laryngeal cancer.

Among the challenges to treating such forms of cancer with radical surgical procedures are preserving healthy tissue and the anatomical integrity of the larynx. A study published in 2013, reported on a study to assess the feasibility of TLM use in treating certain cancers as an organ-preserving alternative to standard open surgical treatments.* Compared with radical surgical procedures, use of TLM makes it possible to minimize loss of healthy tissue and avoid extensive reconstruction procedures, as well as the majority of primary tracheotomies. These advantages help offer enhanced quality of life to patients treated using TLM.

Use of TLM for laryngeal tumor removal has been limited, however, by the need to obtain proper exposure and working space. Many tumors cannot be exposed adequately using wide body transoral retractors and can only be visualized using laryngoscopes.

A new distending operating laryngoscope has a distinctive design that helps provide optimal exposure of critical areas of the tongue and supraglottic region. Specifically, the design allows 50 to 100% of the base of tongue to be visualized during procedures. And, the use of lateral wings prevents the tongue and soft tissue from obstructing the lumen.

* Canis M, Ihler F, Martin A, Wolff HA, Matthias C, Steiner W. Organ preservation in T4a laryngeal cancer: is transoral laser microsurgery an option? Eur Arch Otorhinolaryngol. 2013;270:2719–27.

**For more information regarding technologies to support TLM, contact your local
KARL STORZ representative at 1800 996 562 or email karlstorz@karlstorz.com.au**

STORZ

KARL STORZ—ENDOSKOPE

KARL STORZ Endoscopy Australia Tel +61 2 9490 6700 Free Call 1800 996 562 www.karlstorz.com



HINNI Distending Operating Laryngoscope

WELCOME LETTER

Dear Colleagues

On behalf of the organising committee, it is our pleasure to welcome you to the World Congress on Larynx Cancer from Sunday 26 July to Thursday 30 July 2015 in Cairns.

The program is designed for all those working in the care of patients with larynx cancer, not only at presentation, but in the years afterwards as well. We hope that you will find the congress thought provoking with the opportunity to network with colleagues across many disciplines.

We are extremely grateful to the invited local and international faculty members for their participation and look forward to their significant contributions throughout the program.

We would like to take this opportunity to acknowledge our major sponsors and exhibitors and thank them for their support and involvement in the congress. Delegates are encouraged to meet with all exhibitors during the session breaks and to take the opportunity to view the posters in the industry exhibition.

We hope you enjoy the science, networking and time in Cairns.

Yours sincerely,



Associate Professor Robert Smee AM FRANZCR
Radiation Oncologist, Sydney, Australia
Convener



Associate Professor Carsten Palme FRACS
ENT / Head & Neck Surgeon, Sydney, Australia
Co-Convener

2015 ORGANISING COMMITTEE

Convener	Associate Professor Robert Smee AM FRANZCR, Radiation Oncologist, Sydney
Co-Convener	Associate Professor Carsten Palme FRACS, ENT / Head & Neck Surgeon, Sydney
Organising Committee	Dr Daniel Novakovic FRACS, ENT Surgeon, Sydney
	Dr Faruque Riffat FRACS, ENT Surgeon, Sydney
	Associate Professor Chris Milross FRANZCR, Radiation Oncologist, Sydney
	Dr Julia Maclean, Speech Pathologist, Sydney
	Dr David Veivers FRACS, ENT / Head & Neck Surgeon, Sydney

The World Congress on Larynx Cancer 2015 is hosted by the Australian and New Zealand Head & Neck Cancer Society (ANZHNCs). For further information on the Society, visit: www.anzhncs.org

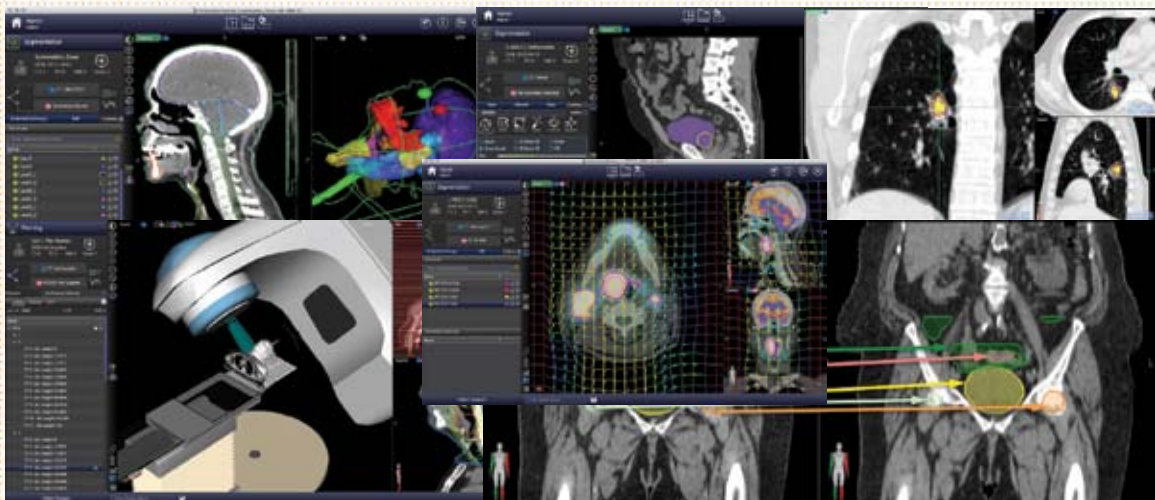


CONTENTS

Welcome Letter	3
2015 Organising Committee	3
Sponsors and Exhibitors	5
Academic Faculty Members	6
General Information	10
Official Functions	12
Workshops	12
Exhibition Floor Plan	13
Accommodation & Venue Map	13
Program at a Glance	15
Final Program	16
Posters	46
Presentation Abstracts	48
Poster Abstracts	106

VELOCITY SOFTWARE

TRANSFORMING UNCONNECTED DATA INTO CLINICAL KNOWLEDGE



Come learn more at the Varian Booth # 37 at World Congress Larynx Cancer

VARIAN
medical systems | A partner for life

SPONSORS AND EXHIBITORS *(as at time of printing)*

MAJOR SPONSORS

Gold Sponsor:



Silver Sponsors:



Bronze Sponsors:



Scientific Program Sponsor:



CONGRESS SUPPORTERS



EXHIBITORS

Atos Medical A B
Australian and New Zealand Head & Neck
Cancer Society
Cancer Council Queensland
Cellmed
Device Technologies
ELEKTA Pty Ltd
In Vitro Technologies
Inline Medical

KARL STORZ Endoscopy Australia Pty Ltd
Lumenis
Main Medical and Inhealth Technologies
Marina Medical Instruments
Medtronic
Merck Serono
Olympus
Stratpharma
Varian Medical Systems Australasia



ACADEMIC FACULTY MEMBERS

Correct at time of printing.

TITLE	NAME	SURNAME	COUNTRY	PROFESSION
Dr	Muzib	Abdul-Razak	Australia	Head & Neck Surgeon / Surgical Oncologist
Dr	Marlinda	Adham	Indonesia	ENT / Head & Neck Surgeon
Dr	Suki	Ahluwalia	Australia	ENT Surgeon
Dr	Farzaneh	Ahmadi	Australia	Research Fellow
Dr	Jacqui	Allen	New Zealand	Otolaryngologist
Professor Dr	Petra	Ambrosch	Germany	Otolaryngology / Head & Neck Surgeon
Dr	Gurmit	Bachher	India	Speech Pathologist
Professor	Michael	Barton	Australia	Radiation Oncologist
Dr	Martin	Batstone	Australia	Oral and Maxillofacial Surgeon
Professor	Linda	Bauld	United Kingdom	Professor of Cancer Prevention
Dr	Andrew	Blitzer	United States of America	Otolaryngologist / Head & Neck Surgeon
Dr	Eric D	Blom	United States of America	Speech Pathologist
Dr	Pierre	Bradley	Australia	Anaesthetist
Dr	Chad	Brenner	United States of America	Assistant Professor of Otolaryngology
Associate Professor	Patrick	Bridger	Australia	Otolaryngology / Head & Neck Surgeon
Dr	Andrew	Bridger	Australia	ENT / Head & Neck Surgeon
Dr	Ben	Britton	Australia	Clinical and Health Psychologist
Dr	Matthew	Broadhurst	Australia	Otolaryngology / Head & Neck Surgeon
Ms	Teresa	Brown	Australia	Dietitian
Ms	Robyn	Burnett	Australia	Speech Pathologist
Dr	James	Burns	United States of America	Laryngeal Surgeon
Mrs	Clare	Burns	Australia	Speech Pathologist
Ms	Elisabete	Carrara de Angelis	Brazil	Speech Pathologist
Dr	Bena	Cartmill	Australia	Speech Pathologist
Dr	John	Chaplin	New Zealand	ENT / Head & Neck Surgeon
Ms	Penny	Chapman	Australia	Head & Neck / Oncology Speech Pathologist
Clinical Associate Professor	Alan	Cheng	Australia	ENT Surgeon
Dr	Douglas	Chepeha	Canada	Otolaryngology
Dr	Ronald	Chin	Australia	Otolaryngologist / Head & Neck Surgeon
Dr	Benjamin	Chua	Australia	Radiation Oncologist
Assistant Professor	Michelle	Ciucci	United States of America	Neuroscientist / Speech Pathologist
Associate Professor	Jonathan	Clark	Australia	Head & Neck Surgeon
Dr	Anthony	Clifford	Australia	Head & Neck Surgeon
Mr	Ian	Cole	Australia	Otolaryngology / Head & Neck Surgeon
Associate Professor	Hedley	Coleman	Australia	Pathologist
Dr	Michael	Collins	Australia	Radiation Oncologist
Dr	Scott	Coman	Australia	ENT Surgeon
Professor	William	Coman	Australia	ENT / Head & Neck Surgeon
Associate Professor	June	Corry	Australia	Radiation Oncologist
Dr	Julia	Crawford	United States of America	Otolaryngologist / Head & Neck Surgeon
Professor	David	Currow	Australia	Chief Cancer Officer / CEO
Professor	Mike	Daube	Australia	Professor of Health Policy
Dr	Graeme	Dickie	Australia	Radiation Oncologist
Dr	Richard	Dirven	Netherlands	ENT Surgeon
Dr	Ben	Dixon	Australia	ENT Surgeon
Ms	Pauline	Dooley	Australia	Speech Pathologist
Dr	Ardalan	Ebrahimi	Australia	Head & Neck / Reconstructive and Endocrine Surgeon

ACADEMIC FACULTY MEMBERS (CONT)

TITLE	NAME	SURNAME	COUNTRY	PROFESSION
Professor	Bahman	Emami	United States of America	Radiation Oncologist
Professor	Camile	Farah	Australia	Oral Oncologist
Mr	Michael	Farrell	Australia	Head & Neck Surgeon / Otolaryngology
Dr	Jeremy	Field	Australia	Anaesthetist
Ms	Merran	Findlay	Australia	Senior Oncology Dietitian
Professor	Caterina	Finizia	Sweden	ENT Surgeon
Clinical Associate Professor	Kerwyn	Foo	Australia	Radiation Oncologist
Dr	Jacqui	Frowen	Australia	Speech Pathologist
Dr	Tsien	Fua	Australia	Radiation Oncologist
Associate Professor	Richard	Gallagher	Australia	Head & Neck Surgeon
Mr	Charlie	Giddings	Australia	ENT / Head & Neck Surgeon
Associate Professor	Lavier	Gomes	Australia	Radiologist
Associate Professor	Peter	Graham	Australia	Radiation Oncologist
Professor	Leah	Gramlich	Canada	Gastroenterologist
Dr	Raefe	Gundelach	Australia	ENT / Head & Neck Surgeon
Associate Professor	Ruta	Gupta	Australia	Surgical Pathologist
Ms	Kelli	Hancock	Australia	Speech Pathologist
Miss	Claire	Hanna	Australia	Research Officer
Dr	Stéphane	Hans	France	Surgeon / Otorhinolaryngology
Professor Dr	Frans J M	Hilgers	Netherlands	Head & Neck Surgeon
Professor	Michael L	Hinni	United States of America	Otolaryngology / Head & Neck Surgeon
Dr	Christopher	Hobbs	Singapore	ENT / Head & Neck Surgeon
Dr	John-Charles	Hodge	Australia	ENT / Head & Neck Surgeon
Dr	Tim	Iseli	Australia	ENT / Head & Neck Surgeon
Dr	N Gopalakrishna	Iyer	Singapore	Head & Neck Surgeon
Mr	Jean-Pierre	Jeannon	United Kingdom	ENT / Head & Neck Surgeon
Associate Professor	Jørgen	Johansen	Denmark	Radiation Oncologist
Emeritus Professor	Newell W	Johnson	Australia	Oral Pathologist
Dr	Craig	Johnston	Australia	ENT / Head & Neck Surgeon
Dr	Young Hoon	Joo	Korea	Otolaryngologist / Head & Neck Surgeon
Dr	Lyndell	Kelly	New Zealand	Radiation Oncologist
Ms	Cheryl	Kelly	Australia	Head & Neck Nurse
Associate Professor	John (Jack)	Kennedy	Australia	ENT / Head & Neck Surgeon
Dr	Liz	Kenny	Australia	Radiation Oncologist
Dr	Geraldine (Gerri)	Khong	Australia	Anaesthetist
Professor	Min-Sik	Kim	Korea	ENT / Head & Neck Surgeon
Ms	Jenny	King	Australia	Nurse
Professor	Yo	Kishimoto	Japan	Head & Neck Surgeon / Laryngologist
Dr	Stephen	Kleid	Australia	ENT Surgeon
Associate Professor	Kelvin	Kong	Australia	ENT Surgeon
Professor	Luiz	Kowalski	Brazil	Head & Neck Surgeon
Associate Professor	Suren	Krishnan	Australia	Head & Neck Surgeon
Associate Professor	Eddie	Lau	Australia	Radiologist / Nuclear Medicine Specialist
Ms	Nadine	Lawson	Australia	Speech Pathologist
Professor	Georges	Lawson	Belgium	ENT / Head & Neck Surgeon
Professor	Jan	Lewin	United States of America	Head & Neck Surgeon
Dr	Richard	Lewis	Australia	Otolaryngologist / Head & Neck Surgeon



ACADEMIC FACULTY MEMBERS (CONT)

TITLE	NAME	SURNAME	COUNTRY	PROFESSION
Dr	Thomas	Loh	Singapore	Otolaryngology / Head & Neck Surgeon
Dr	David	Lott	United States of America	Laryngeal / Otolaryngology-Head & Neck Surgeon
Associate Professor	Bernard	Lyons	Australia	ENT / Head & Neck Surgeon
Professor	Boguslaw	Maciejewski	Poland	Radiation Oncologist
Dr	Catherine	Madill	Australia	Voice Specialist / Speech Pathologist
Ms	Linda	Magann	Australia	Clinical Nurse Consultant
Dr	Scott	Magnuson	United States of America	Head & Neck Surgeon
Professor	Antti	Mäkitie	Finland	Otolaryngology / Head & Neck Surgeon
Professor	Henri	Marres	Netherlands	ENT / Head & Neck Surgeon
Dr	Timothy M	McCulloch	United States of America	Otolaryngology / Head & Neck Surgeon
Dr	Aoife	McGarvey	Australia	Physiotherapist
Dr	John	McGuinness	Australia	ENT / Head & Neck Surgeon
Professor	Michael	McKay	Australia	Radiation Oncologist
Dr	Andrew	McWhorter	United States of America	Laryngologist
Ms	Felicity	Megee	Australia	Speech Pathologist
Dr	Rishi	Mehra	Australia	Anaesthetist
Dr	William	Mendenhall	United States of America	Radiation Oncologist
Dr	Nancy	Mendenhall	United States of America	Radiation Oncologist
Associate Professor	Chris	Milross	Australia	Radiation Oncologist
Dr	Charles	Molumi	Papua New Guinea	ENT Surgeon
Ms	Louise	Moodie	Australia	Dietitian
Associate Professor	Gary	Morgan	Australia	Head & Neck Surgeon
Dr	Atsushi	Motegi	Japan	Radiation Oncologist
Ms	Judith	Muir	United Kingdom	Matron Head & Neck and Ophthalmology
Dr	Virginia	Mumford	Australia	Post-Doctoral Research Fellow
Professor	Barbara	Murphy	United States of America	Medical Oncologist
Dr	Meijin	Nakayama	Japan	Head & Neck Surgeon
Dr	Daniel	Novakovic	Australia	ENT Surgeon
Dr	Rebecca	Nund	Australia	Speech Pathologist
Dr	Kerry	Olsen	United States of America	Otolaryngology / Head & Neck Surgeon
Professor	Brian	O'Sullivan	Canada	Radiation Oncologist
Professor	Jens	Overgaard	Denmark	Clinical Oncologist
Professor	Vinidh	Paleri	United Kingdom	Head & Neck Surgeon
Associate Professor	Carsten	Palme	Australia	Head & Neck Surgeon
Dr	Leo	Pang	Australia	ENT / Head & Neck Surgeon
Associate Professor	Ben	Panizza	Australia	Otolaryngology / Head & Neck Surgeon
Dr	Deepak	Parikh	India	Head & Neck Surgeon
Mr	Hemi	Patel	Australia	Otolaryngology / Head & Neck Surgeon
Dr	Joanne	Patterson	United Kingdom	Speech and Language Therapist
Mr	Stephen	Pearson	Australia	Otolaryngologist / Head & Neck Surgeon
Associate Professor	Michael	Penniment	Australia	Radiation Oncologist
Professor	Giorgio	Peretti	Italy	Otorhinolaryngologist
Professor	Alison	Perry	Ireland	Dean, Education and Health Sciences
Professor	Lester	Peters	Australia	Radiation Oncologist
Dr	Annabel	Pollard	Australia	Clinical Psychologist
Associate Professor	Sandro	Porceddu	Australia	Radiation Oncologist

ACADEMIC FACULTY MEMBERS (CONT)

TITLE	NAME	SURNAME	COUNTRY	PROFESSION
Associate Professor	Michael	Poulsen	Australia	Radiation Oncologist
Dr	Harry	Quon	United States of America	Radiation Oncologist
Mr	Guy	Rees	Australia	Head & Neck Surgeon
Professor	Marc	Remacle	Belgium	Otolaryngology / Head & Neck Surgeon
Dr	Young Soo	Rho	Korea	Head & Neck Surgeon
Miss	Amy	Richardson	New Zealand	PhD Candidate
Dr	Scott	Rickert	United States of America	Otolaryngologist
Dr	John A (Drew)	Ridge	United States of America	Head & Neck Surgeon
Dr	Faruque	Riffat	Australia	ENT Surgeon
Professor	Danny	Rischin	Australia	Medical Oncologist
Mrs	Rachelle	Robinson	Australia	Speech Pathologist
Professor	Charlotte	Rotbøl Bøje	Denmark	Radiation Oncologist
Mr	Chad	Sader	Australia	Otolaryngology / Head & Neck Surgeon
Dr	Babak	Sadoughi	United States of America	Otolaryngologist
Professor	Agostino	Serra	Italy	ENT Surgeon
Professor	Jatin P	Shah	United States of America	Head & Neck Surgeon
Dr	Kerwin	Shannon	Australia	Surgeon
Dr	Caitlin	Sheehan	Australia	Palliative Medicine Staff Specialist
Professor	Ashok Mohan	Shenoy	India	Head & Neck Surgeon
Professor	Belayat Hossain	Siddiquee	Bangladesh	Head & Neck Surgeon
Dr	Elizabeth	Sigston	Australia	ENT Surgeon
Ms	Virginia	Simms	Australia	Speech Pathologist
Associate Professor	Robert	Smee	Australia	Radiation Oncologist
Ms	Heather	Starmer	United States of America	Speech-Language Pathologist
Dr	Brian	Stein	Australia	Medical Oncologist
Emeritus Professor	Wolfgang	Steiner	Germany	ENT / Head & Neck Surgeon
Dr	Murray	Stokan	Australia	Consultant Anaesthetist
Ms	Danielle	Stone	Australia	Speech Pathologist
Dr	Marshall	Strome	United States of America	Otolaryngologist
Dr	Michal	Szczesniak	Australia	Senior Post-Doctoral Research Fellow
Professor Dr	Chris	Terhaard	Netherlands	Radiation Oncologist
Professor	Susan L	Thibeault	United States of America	Otolaryngology / Head & Neck Surgery
Mr	Peter	Thomson	Australia	Otorhinolaryngologist
Dr	Sharon	Tivey	Australia	Anaesthetist
Professor	André	Van Zundert	Australia	Anaesthetist
Ms	Belinda	Vangelov	Australia	Senior Clinical Oncology Research Dietitian
Dr	David	Veivers	Australia	ENT / Head & Neck Surgeon
Professor	Jan B	Vermorken	Belgium	Medical Oncologist
Ms	Laurelie	Wall	Australia	Speech Pathologist
Professor	Liz	Ward	Australia	Speech Pathologist
Associate Professor	Nathan	Welham	United States of America	Speech-Language Pathologist
Dr	Andrew	Wignall	Australia	Otolaryngology / Head & Neck Surgeon
Professor	Gregory T	Wolf	United States of America	Otolaryngology / Head & Neck Surgeon
Dr	Wenchang	Wong	Australia	Radiation Oncologist
Dr	Chris	Wratten	Australia	Radiation Oncologist
Professor	Steven M	Zeitels	United States of America	Head & Neck Surgeon



WORLD CONGRESS ON LARYNX CANCER 2015

26-30 JULY 2015 • CAIRNS CONVENTION CENTRE
CAIRNS • QUEENSLAND • AUSTRALIA

GENERAL INFORMATION

DATE AND VENUE

The World Congress on Larynx Cancer 2015 will be held at the Cairns Convention Centre, Sheridan Street, Cairns, Queensland, Australia from Sunday 26 July – Thursday 30 July 2015. For further information about the venue, please visit www.cairnsconvention.com.au

REGISTRATION DESK

The registration desk will be located on the ground floor of the Cairns Convention Centre.

Opening Hours:

Sunday 26 July 2015:	4:00pm – 7:00pm
Monday 27 July 2015:	7:00am – 5:00pm
Tuesday 28 July 2015:	7:30am – 3:30pm
Wednesday 29 July 2015:	7:30am – 5:00pm
Thursday 30 July 2015:	7:30am – 4:00pm

NAME BADGES

Your name badge is essential for entry to the Cairns Convention Centre and to participate in congress activities.

DRESS

Scientific Sessions:	Business Attire or Smart Casual
Welcome Reception:	Smart Casual
Congress Dinner:	Lounge Suit / Cocktail Dress

INDUSTRY EXHIBITION

The industry exhibition is located in Hall 2 at the Cairns Convention Centre. Delegates have the opportunity to visit the booths and view the posters in the breaks.

BUSINESS MEETINGS

ANZHNCS Executive Committee Meeting

(Executive Members Only)

Sunday 26 July 2015

4:00pm – 6:00pm

Meeting Room 4, Mezzanine Level

ANZHNCS Annual General Meeting

(ANZHNCS Members Only)

Tuesday 28 July 2015

2:30pm – 3:30pm

Hall A, Mezzanine Level



StrataXRT®
For the prevention and treatment
of radiation dermatitis



StrataXRT is a novel, flexible wound dressing, developed by Stratpharma Switzerland for the prevention and treatment of radiation dermatitis.

**An innovative, flexible film for the prevention and treatment of radiation dermatitis**

**Effective as monotherapy in cases of dry and moist desquamation**

**Approved for use in clinical practice**

**Easy to apply**

**Unique formulation requiring less product per application**


Up to 60% of patients receiving treatment for cancer are undergoing radiotherapy at some stage in their illness ^{1,6}

The percentage of people experiencing radiation dermatitis ranges between 75% to 95% ²⁻⁵

(1) Naylor W, Mattett J. Eur J Oncol Nurs 2001; 5(4): 221-233 (2) Porock D, Kristjansson L. Eur J Cancer Care 1999; 8(4): 343-353 (3) D'Haese S et al. Eur J Cancer Care 2005; 14: 28-42 (4) DeLand MM et al. Laser Surg Med 2007; 39(164-168) (5) MacBride SK et al. Cancer Nurs 2008; 31(1): E8-14 (6) Kedge E. Radiography 2009; 15: 247-257


For more information: **1800 567 007**
174 Willoughby Rd, Crows Nest, NSW 2065 Australia
www.strataxrt.com www.stratpharma.com

**Stratpharma**
Switzerland

**Medtronic**

Introducing...

Continuous Vagus Nerve Monitoring



Come and visit us at the Medtronic Stand

Medtronic Australasia Pty Ltd. 97 Waterloo Road, North Ryde NSW 2113 Toll Free: 1800 668 670
www.medtronic.com.au SCIONZ Authorised Sales Agent Unit 8, 31 Cheshire Street, Parnell Auckland
New Zealand Toll free: 0800 724 669 www.medtronic.co.nz UC2015007ANZ 1907-042015

SPEAKERS' SUPPORT

Meeting Room 7, Mezzanine Level

Presenters are requested to submit their PowerPoint presentations to the Speakers' Support Room at least two hours prior to the commencement of the session in which they are speaking. Speakers' Support is open from 7:00am daily from Monday 27 July to Thursday 30 July 2015.

POSTERS

Posters will be displayed in the industry exhibition in Hall 2 and will be available for viewing throughout the congress.

PRIZES

\$500.00 each

Prizes will be awarded for Best Overall Oral Presentation and Best Overall Poster Presentation at the congress. Entries are assessed during the congress and then announced at the conclusion.

MORNING TEAS, LUNCHES AND AFTERNOON TEAS

All morning teas, lunches and afternoon teas (as applicable) will be served in the industry exhibition area in Hall 2 at the Cairns Convention Centre.

BEVERAGES

Cairns Convention Centre is a licensed premises.

NO outside alcohol permitted.

DIETARY REQUIREMENTS

Please note that the venue is responsible for all catering at the congress and ANZHNCS / RACS does not inspect or control food preparation areas or attempt to monitor ingredients used. You should contact the venue directly for all special dietary requirements during the event, irrespective of whether details have been provided to ANZHNCS / RACS. If ANZHNCS / RACS requests information about your dietary requirements for a specific event ANZHNCS / RACS will endeavour to forward the information provided to the venue (time permitting). ANZHNCS / RACS will not retain information provided for future events, so you must verify your requirements for each event. Even if information is requested or provided, ANZHNCS / RACS takes no responsibility for ensuring that the venue acknowledges your dietary requirements or that these requirements can be met. In all cases you must verify for yourself that your dietary requirements have been met and ANZHNCS / RACS refutes any and all liability for any failure to adequately provide your special dietary requirements or any consequential damage resulting from such failure.

INTERNET ACCESS

Wireless internet access is available throughout the Centre. Please connect using the following details:

Connect to the network: WCLC

Password: cairns2015

CONTINUING MEDICAL EDUCATION (CME) / CONTINUING PROFESSIONAL DEVELOPMENT (CPD) POINTS

This educational activity has been approved in the Royal Australasian College of Surgeons CPD Program. Fellows who participate can claim one point per hour (maximum 28 points) in Maintenance of Knowledge & Skills towards 2015 CPD totals.

DISTANCE FROM AIRPORT TO CAIRNS CITY

Cairns Airport is located between Cairns City and the Northern Beaches and is only a 10 minute drive (approximately) to the city centre. Cairns Airport has a Domestic and International Terminal.

For further information about the Cairns Airport, please visit: www.cairnsairport.com.au

TAXI

Taxi fares from the Airport to Cairns City costs approximately \$25.00 - \$30.00 Australian Dollars depending on the time of day you are travelling.

PUBLIC TRANSPORT

The local bus company in Cairns is Sunbus with fares starting from Single Zone 1 costing approximately \$2.40 to daily ticket approximately \$4.80 per person. For further information, please go to www.sunbus.com.au

CAR PARKING (CAIRNS CONVENTION CENTRE)

The centre's car park is by way of coin operated boom gate with a per entry fee of \$5.00 (as at time of printing). Access to the car park is via Sheridan Street. The car park is open Monday to Friday and on weekends if an event is held at the centre.

EMERGENCY CALL SERVICE

000 is the phone number for emergency services in Australia. The operator can connect you to Police, Ambulance or the Fire Brigade. You should only call 000 in an emergency.

INTENTION TO PHOTOGRAPH

Delegates are advised that photographs may be taken during the congress and reproduced.

CONGRESS ORGANISER

Conferences and Events Management
Royal Australasian College of Surgeons
College of Surgeons Gardens
250 - 290 Spring Street
East Melbourne, Victoria, 3002
Australia

T: +61 3 9249 1260

F: +61 3 9276 7431

E: wclc2015@surgeons.org

W: www.wclc2015.org



OFFICIAL FUNCTIONS

WELCOME RECEPTION

Date: Sunday 26 July 2015, 6:30pm – 9:00pm
Venue: Outdoor Plaza, Cairns Convention Centre
Cost: A ticket is included for full registration categories, however delegates must indicate their attendance when registering for the congress. Additional tickets cost \$88.00 per person for day registrations and/or accompanying persons.
If you have not yet arranged a ticket and would like to attend, please visit the registration desk to enquire about availability.

The welcome reception will commence immediately after the Opening Ceremony. Network with the academic faculty, industry and fellow colleagues whilst celebrating the opening of the congress.

Guests to make their own way to the function.

CONGRESS DINNER

Date: Wednesday 29 July 2015, 7:00pm – 10:30pm
Venue: Halls C & D, Cairns Convention Centre
Cost: A ticket is included for full registration categories, however delegates must indicate their attendance when registering for the congress. Additional tickets cost \$155.00 per person for day registrations and/or accompanying persons.
If you have not yet arranged a ticket and would like to attend, please visit the registration desk to enquire about availability.

The organising committee are delighted to invite you to attend the congress dinner. Enjoy a three course dinner and entertainment with colleagues and friends to mark this important event.

There are no coach transfers to the dinner. Guests to make their own way to the Convention Centre.

Return Shuttle: A coach shuttle will be available from 10:30pm returning to congress hotels (refer to page 13 for a list of congress hotels). Alternatively guests may use the taxi phone provided at the main entrance to the Convention Centre to book a taxi.

WORKSHOPS

PRE CONGRESS WORKSHOP

Sunday 26 July 2015
8:30am – 5:30pm
Meeting Room 1
Cost: complimentary for registered delegates.
\$220 for non-congress registrants. Tickets essential.
Register your attendance at the registration desk.

Narrow Band Imaging of the Head and Neck: Theory, Clinical Applications, Local & International Perspectives

Keynote Speaker: Professor Giorgio Peretti, MD, PhD, Department of Otolaryngology, Genova University, Italy

The workshop program highlights include:

- Epidemiology & history of Neoplastic Lesions of UADT
- Endoscopic Diagnostic work of Neoplastic lesions of UADT
- Technology & principal of NBI
- NBI & HDTV endoscopic evaluation of tumours in the UADT
- University of Brescia study protocol for HDTV & NBI endoscopy
- Results of the HDTV - NBI study for the Oral cavity and Oropharynx
- Local perspectives on NBI - Australia

Proudly sponsored by:



LUNCHTIME SYMPOSIUM

Tuesday 28 July 2015
12:30pm – 1:30pm
Meeting Room 1
Cost: complimentary for registered delegates. Tickets essential.
Register your attendance at the registration desk.

Changing Paradigms – Time to Rethink the Way We Treat Our Locally Advanced SCCHN Patients

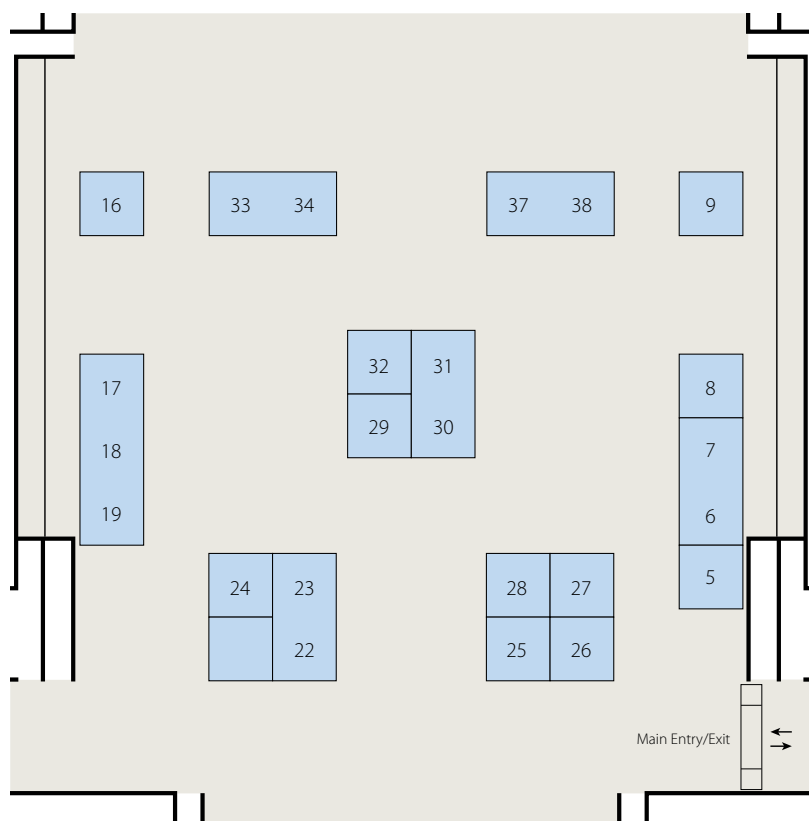
Chair: Associate Professor Alexander Guminski

- 12:30pm Welcome and introduction – Associate Professor Alexander Guminski
- 12:35pm Optimising cancer therapy for locally advanced SCCHN patients – Professor Jan Vermorken
- 12:50pm Considering chemotherapy and biologics safety profiles – Dr Matthew Foote
- 1:00pm Panel discussion – All
- 1:30pm Close

Proudly sponsored by:



EXHIBITION FLOOR PLAN *Hall 2, Cairns Convention Centre*



- 8 Atos Medical A B
- 24 Australian and New Zealand Head & Neck Cancer Society
- 29 Cancer Council Queensland
- 5 Cellmed
- 28 Device Technologies
- 6 & 7 ELEKTA Pty Ltd
- 27 In Vitro Technologies
- 32 Inline Medical
- 17-19 KARL STORZ Endoscopy Australia Pty Ltd
- 26 Lumenis
- 22 & 23 Main Medical and Inhealth Technologies
- 25 Marina Medical Instruments
- 9 Medtronic
- 30 & 31 Merck Serono
- 33 & 34 Olympus
- 16 Stratpharma
- 37 & 38 Varian Medical Systems Australasia

ACCOMMODATION & VENUE MAP



CONGRESS HOTELS

- 1 Hilton Cairns**
800m: 8 - 10 minute walk
10 - 12 minute walk via boardwalk
- 2 Shangri-La Hotel**
1.1 km: 10 - 14 minute walk
14 - 16 minute walk via boardwalk
- 3 Pullman Cairns International**
650m: 8 minute walk
- 4 Novotel Cairns Oasis Resort**
1.2 km: 16 minute walk
- 5 Piermonde Apartments**
400m: 5 minute walk

IT'S LIVE!
in Queensland

CHECK OUT THE BEST LIVE EVENTS IN TROPICAL NORTH QUEENSLAND



Tropical North Queensland mixes the excitement of new discoveries with the enchantment of exotic experiences. The only place where two World Heritage Wonders are side by side: The Great Barrier Reef and the Daintree National Park with some of the world's oldest tropical rainforest.

Great Barrier Reef Masters Games

13-16 Aug



Cardiac Challenge Cairns to Cooktown Bike Ride

19-21 Sep



Crocodile Trophy

17-25 Oct



Carlton Mid Cairns Amateurs Carnival

11-12 Sep



Reef Feast

8-11 Oct



See the full event calendar at queensland.com/events

**Tropical North
Queensland**
Where rainforest meets the reef

PROGRAM AT A GLANCE

Program correct at time of printing (July 2015) however the congress organisers reserve the right to change the program without notice.

SUNDAY 26 JULY 2015	MONDAY 27 JULY 2015	TUESDAY 28 JULY 2015	WEDNESDAY 29 JULY 2015	THURSDAY 30 JULY 2015
8:30am – 5:30pm Pre-Congress Workshop	7:00am – 5:00pm Registration Open	7:30am – 3:30pm Registration Open	7:30am – 5:00pm Registration Open	7:00am – 4:00pm Registration Open
	8:00am – 8:30am Congress Welcome	8:00am – 8:30am Keynote Lecture	8:00am – 8:30am Keynote Lecture	8:00am – 8:30am Keynote Lecture
	8:30am – 9:00am Chris O’Brien Oration	8:30am – 10:00am Plenary	8:30am – 10:00am Plenary	8:30am – 10:00am Concurrent Sessions
	9:00am – 10:30am Plenary			
	10:30am – 11:00am Morning Tea with the Industry	10:30am – 12:30pm Concurrent Sessions	10:30am – 12:30pm Concurrent Sessions	10:30am – 12:30pm Concurrent Sessions
	11:00am – 12:30pm Concurrent Sessions			
	12:30pm – 1:30pm Lunch with the Industry	12:30pm – 1:30pm Lunch with the Industry Lunchtime Symposium	12:30pm – 1:30pm Lunch with the Industry	12:30pm – 1:30pm Lunch with the Industry
	1:30pm – 2:00pm Keynote Lecture	1:30pm – 2:00pm Keynote Lecture	1:30pm – 2:00pm Keynote Lecture	1:30pm – 2:00pm Panel
	2:00pm – 3:30pm Concurrent Sessions	2:00pm – 2:30pm Keynote Lecture	2:00pm – 2:30pm Keynote Lecture	2:00pm – 3:30pm Free Papers
		2:30pm – 3:30pm ANZHNCS Annual General Meeting (ANZHNCS Members only)	2:30pm – 4:00pm Concurrent Sessions	
3:30pm – 4:00pm Afternoon tea with the Industry		4:00pm – 4:30pm Afternoon tea with the Industry	3:30pm – 4:00pm Afternoon tea with the Industry	
4:00pm – 6:00pm ANZHNCS Executive Committee Meeting (Executive Members only)		4:30pm – 5:30pm Free Papers	4:00pm – 5:30pm Concurrent Sessions	
4:00pm – 7:00pm Registration Open				5:30pm – 6:00pm Closing Remarks
6:00pm – 6:30pm Opening Ceremony				
6:30pm – 9:00pm Welcome Reception				



WORLD CONGRESS ON LARYNX CANCER 2015

26-30 JULY 2015 • CAIRNS CONVENTION CENTRE
CAIRNS • QUEENSLAND • AUSTRALIA

FINAL PROGRAM

Program correct at time of printing (July 2015) however the congress organisers reserve the right to change the program without notice.

SUNDAY 26 JULY 2015

- 8:30am - 5:30pm** **PRE-CONGRESS WORKSHOP**
Meeting Room 1
NARROW BAND IMAGING OF THE HEAD AND NECK:
THEORY, CLINICAL APPLICATIONS, LOCAL & INTERNATIONAL PERSPECTIVES
Please refer to page 12 for further information.
- 4:00pm - 6:00pm** **ANZHNCS EXECUTIVE COMMITTEE MEETING**
Meeting Room 4
- 4:00pm - 7:00pm** **REGISTRATION OPEN**
Ground Floor, Cairns Convention Centre
- 6:00pm - 6:30pm** **OPENING CEREMONY**
Hall A
- 6:30pm - 9:00pm** **WELCOME RECEPTION**
Outdoor Plaza

OLYMPUS®

Your Vision, Our Future



See things in a
DIFFERENT LIGHT

Please visit the Olympus stand to find out more!

Customer Service 1300 132 992
www.olympusaustralia.com.au

MONDAY 27 JULY 2015

8:00am - 8:30am	CONGRESS WELCOME <i>Hall A</i>
8:00am	ANZHNCS PRESIDENT WELCOME Kerwin Shannon (Australia)
8:15am	MEMBER FOR CAIRNS WELCOME Rob Pyne, MP
8:25am	CONVENER WELCOME Robert Smee (Australia)
8:30am - 9:00am	KEYNOTE 1 – CHRIS O'BRIEN ORATION <i>Hall A</i>
	Chair: Kerwin Shannon (Australia)
8:30am	LARYNGEAL CANCER – A DWARF'S LOOK AT A GIANT Jens Overgaard (Denmark)
9:00am - 10:30am	PLENARY 1 <i>Hall A</i>
	Chair: Kerwin Shannon (Australia)
9:00am LC01	LARYNGEAL ANATOMY AND CANCER SPREAD Patrick Bridger (Australia)
9:30am	THE HISTORY OF LARYNGEAL CANCER SURGERY Steven Zeitel (United States of America)
10:00am	IMPACT OF CO-MORBIDITY ON TREATMENT OUTCOME IN 3,647 PATIENTS WITH LARYNGEAL CANCER – A POPULATION BASED STUDY FROM THE DAHANCA DATABASE Charlotte Rotbøl Bøje (Denmark)
10:20am	THE HISTORY OF CLINICAL TRIALS IN LARYNX CANCER Chris Milross (Australia)
10:30am - 11:00am	MORNING TEA WITH THE INDUSTRY <i>Hall 2</i>

CONCURRENT SESSIONS 1

11:00am - 12:30pm	1.1 EPIDEMIOLOGY <i>Meeting Room 1</i>
	Chair: Anthony Clifford (Australia) and Antti Mäkitie (Finland)
11:00am LC02	EPIDEMIOLOGY OF LARYNGEAL CANCER IN UK Jean-Pierre Jeannon (United Kingdom)
11:15am LC07	EPIDEMIOLOGY OF CANCER OF THE LARYNX IN POLAND COMPARED WITH EUROPEAN COUNTRIES Boguslaw Maciejewski (Poland)
11:30am LC11	EPIDEMIOLOGY OF LARYNX CANCER IN AUSTRALIA June Corry (Australia)
11:45am LC14	OUTCOMES OF LARYNGEAL CANCER CARE IN THE ELDERLY AND THE IMPACT OF SPEECH PATHOLOGY CARE Heather Starmer (United States of America)
12:00pm LC17	LARYNGEAL CANCER IN THE NORTHERN EUROPEAN COUNTRIES Antti Mäkitie (Finland)
12:15pm	DISCUSSION



MONDAY 27 JULY - CONCURRENT SESSIONS 1 (CONT'D)

11:00am - 12:30pm 1.2 OFFICE ENDOSCOPY

Hall A

Chair: Daniel Novakovic (Australia) and Andrew Blitzer (United States of America)

- 11:00am STROBOSCOPIC ASSESSMENT OF THE LARYNX
Jan Lewin (United States of America)
- 11:15am USE OF EXPERIMENTAL MODELS IN PREDICTING VOICE OUTCOMES AND TREATMENT PLANNING
LC08 Timothy McCulloch (United States of America)
- 11:30am SPEECH PATHOLOGY ASSESSMENT OF VOICE USING ENDOSCOPY:
IT'S NOT WHAT YOU'VE GOT, IT'S HOW YOU USE IT?
LC09 Catherine Madill (Australia)
- 11:45am OFFICE PANENDOSCOPY: AN ALTERNATIVE TO THE OPERATING ROOM
Matthew Broadhurst (Australia)
- 12:00pm THE ROLE OF NARROW BAND IMAGING IN THE ASSESSMENT OF EARLY GLOTTIC CANCERS
Giorgio Peretti (Italy)
- 12:15pm DISCUSSION

11:00am - 12:30pm 1.3 IMAGING OF THE LARYNX

Meeting Room 2

Chair: William Mendenhall (United States of America) and Raefe Gundelach (Australia)

- 11:00am IMAGING OF THE LARYNX
William Mendenhall (United States of America)
- 11:20am PET IMAGING OF THE LARYNX
LC10 Eddie Lau (Australia)
- 11:40am CT AND MRI IN THE EVALUATION OF LARYNX CANCER
LC12 Lavier Gomes (Australia)
- 12:00pm THE IMPORTANCE OF VALIDATION OF CURRENT AND NEW IMAGING TECHNIQUES FOR TUMOR
DELINEATION AND TUMOR GUIDANCE DURING RADIOTHERAPY
LC18 Chris Terhaard (Netherlands)
- 12:20pm DISCUSSION

11:00am - 12:30pm 1.4 TUMOUR PATHOLOGY/AETIOLOGY

Meeting Room 5

Chair: Michael Farrell (Australia) and Luiz Kowalski (Brazil)

- 11:00am TUMOR INFILTRATING LYMPHOCYTES AND PROGNOSIS
LC04 Gregory Wolf (United States of America)
- 11:20am PATHOLOGY OF SQUAMOUS CELL NEOPLASMS OF THE LARYNX: PROBLEMS AND SOLUTIONS
LC09 Ruta Gupta (Australia)
- 11:40am NON SQUAMOUS CELL MALIGNANCIES OF THE LARYNX
LC13 Hedley Coleman (Australia)
- 12:00pm AETIOLOGY OF LARYNGEAL CANCER
Christopher Hobbs (Singapore)
- 12:20pm DISCUSSION

11:00am - 12:30pm 1.5 PUBLIC HEALTH

Meeting Room 3

Chair: Deepak Parikh (India) and Kerwyn Foo (Australia)

- 11:00am THE ROLE OF CAREGIVERS IN SMOKING CESSATION
LC05 Amy Richardson (New Zealand)

MONDAY 27 JULY - CONCURRENT SESSIONS 1 (CONT'D)

- 11:15am THE NEW "SMOKING" – ITS ROLE IN LARYNGEAL CANCER
LC06 Kerry Olsen (United States of America)
- 11:30am JOINT EFFECTS OF ALCOHOL AND REFLUX
Guy Rees (Australia)
- 11:45am WHAT WORKS IN SMOKING CESSATION?
LC15 Linda Bauld (United Kingdom)
- 12:00pm EPIDEMIOLOGY OF LARYNX CANCER AND SMOKING CONTROLS IN A DEVELOPED ASIAN COUNTRY
Thomas Loh (Singapore)
- 12:15pm TOBACCO CONTROL PROGRAM IN INDIA AND ITS IMPACT ON HEAD AND NECK CANCER
LC19 Ashok Mohan Shenoy (India)

11:00am - 12:30pm 1.6 IFHNOS SESSION: WORLD HEAD AND NECK CANCER DAY (WHNCD)

Meeting Room 8

Chair: Jack Kennedy (Australia) and Michael Collins (Australia)

- 11:00am THE GLOBAL IMPORTANCE OF WORLD HEAD AND NECK CANCER DAY
LC03 Newell Johnson (Australia)
- 11:10am THE GLOBAL IMPACT OF PROGRAMS OFFERED BY IFHNOS
Jatin Shah (United States of America)
- 11:30am PROGRAMS OF AWARENESS, EARLY DIAGNOSIS AND PREVENTION IN AUSTRALASIA
Benjamin Chua (Australia)
- 11:40am HEAD AND NECK CANCER PATIENT EDUCATION AND SUPPORT NEEDS – A SINGLE INSTITUTION STUDY
LC12 Carsten Palme (Australia)
- 11:55am EDUCATION NEEDS FOR PATIENTS – THE PHYSICIAN'S PERSPECTIVE
LC16 Jonathan Clark (Australia)
- 12:15pm THE ROLE OF ANZHNCS IN HEAD AND NECK CANCER EDUCATION
Kerwin Shannon (Australia)
- 12:25pm DISCUSSION

12:30pm - 1:30pm LUNCH WITH THE INDUSTRY
Hall 2

1:30pm - 2:00pm KEYNOTE 2

Hall A

Chair: Robert Smee (Australia)

- 1:30pm MOLECULAR BIOLOGY OF LARYNX CANCER
Chad Brenner (United States of America)

CONCURRENT SESSIONS 2

2:00pm - 3:30pm 2.1 PREMALIGNANT LESIONS CIS

Meeting Room 2

Chair: Peter Thomson (Australia) and Liz Kenny (Australia)

- 2:00pm SESSION WELCOME
- 2:05pm SUBEPITHELIAL CORDECTOMY FOR HISTOLOGICAL ASSESSMENT: ARE FROZEN SECTIONS RELIABLE
Marc Remacle (Belgium)
- 2:25pm MALIGNANT TRANSFORMATION FOR LARYNGEAL DYSPLASIA: RISK, INTERVAL AND ROLE OF NEW IMAGING MODALITIES
LC22 Vinidh Paleri (United Kingdom)



MONDAY 27 JULY - CONCURRENT SESSIONS 2 (CONT'D)

2:45pm OFFICE VS. OPERATIVE MANAGEMENT OF LARYNGEAL DYSPLASIA
LC27 **Andrew McWhorter (United States of America)**

3:05pm A REVIEW OF VOCAL CORD DYSPLASIA – THE PRINCE OF WALES EXPERIENCE
LC33 **Andrew Bridger (Australia)**

3:20pm DISCUSSION

2:00pm - 3:30pm **2.2 HOW DISADVANTAGED ARE INDIGENOUS PATIENTS OR THOSE IN THE DEVELOPING WORLD?**

Meeting Room 1

Chair: Suki Ahluwalia (Australia) and Kelvin Kong (Australia)

2:00pm SESSION WELCOME

2:05pm HEAD & NECK CANCER THROUGH ABORIGINAL EYES
LC20 **Kelvin Kong (Australia)**

2:25pm INNOVATION, EXCELLENCE AND PRAGMATISM: THE CHALLENGES OF HEAD AND NECK CANCER
MANAGEMENT IN ABORIGINAL PEOPLE IN THE NORTHERN TERRITORY
LC23 **Hemi Patel (Australia)**

2:45pm RADIOTHERAPY FOR INDIGENOUS CANCER PATIENTS
LC26 **Michael Barton (Australia)**

3:05pm IMPORTANCE OF QUALITATIVE AND TIMELY TREATMENT TO PATIENTS SUFFERING FROM CANCER
OF THE LARYNX
LC32 **Gurmit Kaur Bachher (India)**

3:25pm DISCUSSION

2:00pm - 3:30pm **2.3 DISEASE BURDEN: THE SIGNIFICANCE OF TUMOUR VOLUME**

Hall A

Chair: John McGuinness (Australia) and Tsien Fua (Australia)

2:00pm SESSION WELCOME

2:05pm TUMOR VOLUMES AND OUTCOMES IN LARYNGEAL CANCER (LC)
LC21 **Gregory Wolf (United States of America)**

2:20pm DISEASE BURDEN – THE SIGNIFICANCE OF TUMOUR VOLUME
William Mendenhall (United States of America)

2:35pm THE PROGNOSTIC VALUE OF PRIMARY AND LYMPH NODE VOLUME IN LARYNGEAL CANCER TREATED
WITH IMRT
LC25 **Brian O'Sullivan (Canada)**

2:50pm IS VOLUMETRIC STAGING A CHALLENGE TO THE TNM IN RADIOTHERAPY FOR LARYNGEAL CANCER.
IMPORTANCE OF MOLECULAR PREDICTORS
LC28 **Boguslaw Maciejewski (Poland)**

3:05pm EARLY CANCER: THE TNM CLASSIFICATION IS NOT ENOUGH FOR THE SURGICAL DECISION
Marc Remacle (Belgium)

3:20pm ASSESSMENT OF TUMOR VOLUME AS PROGNOSTIC FACTOR FOR LOCAL AND LOCO-REGIONAL
CONTROL, AND OVERALL SURVIVAL IN ADVANCED LARYNX CANCER
LC35 **Adriana Timmermans (Netherlands)**

2:00pm - 3:30pm **2.4 PATIENT SUPPORT STRUCTURES: ROLE OF PRIMARY CARE GIVER**

Meeting Room 3

Chair: Pauline Dooley (Australia) and Merran Findlay (Australia)

2:00pm SESSION WELCOME

2:05pm IMPLEMENTING A TELEPRACTICE MODEL TO SUPPORT SPEECH PATHOLOGY SERVICES FOR PATIENTS
WITH HEAD AND NECK CANCER (HNC): AN OVERVIEW OF SERVICE OUTCOMES
LC20 **Clare Burns (Australia)**

MONDAY 27 JULY - CONCURRENT SESSIONS 2 (CONT'D)

- 2:20pm THE LARYNGECTOMY CHOIR – A NOVEL SUPPORT GROUP
Elisabete Carrara de Angelis (Brazil)
- 2:35pm ASSESSMENT AND MANAGEMENT OF LYMPHOEDEMA IN THE HEAD AND NECK: CHALLENGES AND COMPLEXITIES
LC24 Aoife McGarvey (Australia)
- 2:50pm THE ROLE OF “COMPETENCE” IN INTRINSIC AND EXTRINSIC SUPPORTS DURING THE TOTAL LARYNGECTOMY JOURNEY
LC29 Jane Bickford (Australia)
- 3:00pm THE USE OF MINDFULNESS BASED THERAPIES AFTER TREATMENT FOR HEAD AND NECK CANCER
Annabel Pollard (Australia)
- 3:15pm INTRA-OPERATIVE MONITORING OF THE SPINAL ACCESSORY NERVE: A SYSTEMATIC REVIEW
LC34 Aoife McGarvey (Australia)
- 3:25pm DISCUSSION

2:00pm - 3:30pm 2.5 RARE TUMOURS / PAEDIATRIC

Meeting Room 8

Chair: John-Charles Hodge (Australia) and Douglas Chepeha (Canada)

- 2:00pm PAEDIATRIC LARYNGEAL MALIGNANCY: WHEN IS SUGERY TRULY MUTILATING?
LC28 Alan Cheng (Australia)
- 2:20pm TREATMENT OF CRICOID CHONDROSARCOMAS AND RECONSTRUCTION WITH CRYOPRESERVED AORTIC HOMOGRAFTS
Steven Zeitels (United States of America)
- 2:40pm VOCAL FOLD PARALYSIS IN THE CASE OF PAEDIATRIC LARYNGEAL LESIONS WITH OPTIONS FOR TREATMENT
Scott Rickert (United States of America)
- 3:00pm RECONSTRUCTIVE OPTIONS FOR THE CRICOID WITH SELECT CHONDROSARCOMAS: INTRODUCTION OF A NEW TECHNIQUE
LC30 Douglas Chepeha (Canada)
- 3:20pm DISCUSSION

2:00pm - 3:30pm 2.6 AIRWAY MANAGEMENT

Meeting Room 5

Chair: Murray Stokan (Australia)

- 2:00pm SESSION WELCOME
- 2:05pm CAN'T INTUBATE, CAN'T OXYGENATE
Rishi Mehra (Australia)
- 2:25pm TRACHEOSTOMY MANAGEMENT
Faruque Riffat (Australia)
- 2:45pm AIRWAY ASSESSMENT
Rishi Mehra (Australia)
- 3:05pm VIDEOLARYNGOSCOPY – DIFFICULT & IMPOSSIBLE AIRWAYS
LC31 André van Zundert (Australia)
- 3:25pm DISCUSSION

3:30pm - 4:00pm AFTERNOON TEA WITH THE INDUSTRY
Hall 2



MONDAY 27 JULY (CONT'D)

CONCURRENT SESSIONS 3

4:00pm - 5:30pm

3.1 FREE PAPERS – ALLIED HEALTH

Hall A

Chair: Aoife McGarvey (Australia) and Annabel Pollard (Australia)

- | | |
|--------|--|
| 4:00pm | THE RELATIONSHIP BETWEEN ACOUSTIC SIGNAL TYPING AND PERCEPTUAL EVALUATION OF TRACHEOESOPHAGEAL VOICE QUALITY FOR SUSTAINED VOWELS |
| LC37 | Renee Clapham (Netherlands) |
| 4:10pm | OUTCOMES OF PRIMARY TRACHE-OESOPHAGEAL FISTULA WITH VOICE PROSTHESIS INSERTION AT THE TIME OF SURGERY IN LARYNGECTOMY PATIENTS AT PRINCE OF WALES HOSPITAL |
| LC40 | Rachelle Robinson (Australia) |
| 4:20pm | LONG TERM FOLLOW UP OF THE EFFECTS OF HEAT AND MOISTURE EXCHANGER (HME) EQUIPMENT USE IN PATIENTS POST LARYNGECTOMY |
| LC42 | Penny Chapman (Australia) |
| 4:30pm | INTRODUCTION OF A DISCHARGE CHECKLIST FOR HEAD AND NECK CANCER PATIENTS IN A TERTIARY REFERRAL HOSPITAL |
| LC47 | Samuel Roberts (Australia) |
| 4:40pm | NECK AND SHOULDER FUNCTION SIX MONTHS TO FIVE YEARS AFTER NECK DISSECTION: A PRELIMINARY CROSS-SECTIONAL STUDY |
| LC50 | Elise Gane (Australia) |



imagine

...advanced technology with
the patient in mind

With Elekta, it's reality.

Every day, more than 100,000 patients worldwide are diagnosed, treated or receive follow-up with the help of a solution from Elekta. Through innovation and collaboration, we are advancing patient care.

4513 371 1128 02:13

Human care makes the future possible
More at elekta.com.au



Neuroscience



Oncology



Treatment Planning & Information Software



Brachytherapy



ELEKTA

MONDAY 27 JULY - CONCURRENT SESSIONS 3 (CONT'D)

- 4:50pm CLINICAL ASSESSMENT OF A NEW HANDS-FREE SPEAKING VALVE FOR VOICE AND PULMONARY REHABILITATION AFTER TOTAL LARYNGECTOMY: PROVOX FREEHANDS FLEXIVOICE
LC54 Liset Lansaet (Netherlands)
- 5:00pm BIOFILM FORMATION ON THE PROVOX ACTIVALVE: COMPOSITION AND INGROWTH ANALYZED BY ILLUMINA PAIRED-END RNA SEQUENCING, FLUORESCENCE IN SITU HYBRIDIZATION, AND CONFOCAL LASER SCANNING MICROSCOPY
LC55 Adriana Timmermans (Netherlands)
- 5:10pm TELEPHONIC VOICE INTELLIGIBILITY: DOES THE THERAPEUTIC APPROACH MAKE A DIFFERENCE? A COMPARISON STUDY
LC61 Giovanni Succo (Italy)
- 5:20pm DISCUSSION

4:00pm - 5:30pm 3.2 ASSESSMENT OF THE PATIENT WITH LARYNX CANCER

Meeting Room 2

Chair: Jack Kennedy (Australia) and Peter Graham (Australia)

- 4:00pm KNOWLEDGE GAINED FROM ANALYSIS OF HEAD AND NECK DATA FROM A NATIONAL DATABASE AND CENTRAL REGISTRIES REGARDING SOCIO-ECONOMIC CONDITIONS, WORK AFFILIATION, AND TOBACCO USE
Charlotte Rotbøl Bøje (Denmark)
- 4:20pm COMORBIDITIES IMPACT ON TREATMENT DECISION AND OUTCOMES
LC44 Luiz Kowalski (Brazil)
- 4:40pm PATIENT EQUALITY IS A MYTH
LC49 Robert Smee (Australia)
- 5:00pm PRE-OPERATIVE COUNSELLING FOR LARYNGECTOMY PATIENTS: A SYSTEMATIC REVIEW
LC57 Eavan Fitzgerald (Ireland)
- 5:10pm WEIGHT LOSS IN PATIENTS WITH LARYNX CANCER UNDERGOING RADIOTHERAPY – SHOULD WE BE MORE CONCERNED?
LC60 Belinda Vangelov (Australia)
- 5:20pm DISCUSSION

4:00pm - 5:30pm 3.3 FREE PAPERS – MEDICAL

Meeting Room 8

Chair: Chad Sader (Australia) and Graeme Dickie (Australia)

- 4:00pm THE IMPACT OF SURGICAL FREE MARGIN OF PARAGLOTTIC SPACE IN SUPRACRICOID PARTIAL LARYNGECTOMY
LC36 Choung Soo Kim (Korea)
- 4:10pm OUTCOMES FOLLOWING TOTAL LARYNGECTOMY FOR SQUAMOUS CELL CARCINOMA AT A SINGAPORE TERTIARY REFERRAL CENTRE
LC41 WeiZhong Ernest Fu (Singapore)
- 4:20pm COMBINED MODALITY TREATMENT IN ADVANCED LARYNGEAL AND HYPOPHARYNGEAL CANCERS: SITE WISE DIFFERENCES IN SURVIVAL OUTCOMES
LC43 Shawn Joseph (India)
- 4:30pm TRANSORAL ULTRASONIC TOTAL LARYNGECTOMY (TOUSS-TL)
LC46 Mario Fernandez-Fernandez (Spain)
- 4:40pm PATTERN OF LYMPH NODE METASTASIS IN HYPOPHARYNGEAL SCC: WHEN DO WE NEED PARATRACHEAL LYMPH NODE DISSECTION?
LC53 Bumki Cho (Korea) – *Presenting on behalf of Min Woo Park, refer abstract under Park*



MONDAY 27 JULY - CONCURRENT SESSIONS 3 (CONT'D)

- 4:50pm LARYNGEAL SQUAMOUS CELL CARCINOMA OUTCOMES AT AUCKLAND CITY HOSPITAL: 2002-2009
LC56 David Vokes (New Zealand)
- 5:00pm THE STOMA AFTER A TOTAL LARYNGECTOMY, ARE THERE FACTORS THAT INFLUENCE
A GOOD OUTCOME?
LC62 Alexander Vlantis (Hong Kong)
- 5:10pm WOUND HEALING AFTER TRANSORAL ANGIOLYTIC LASER SURGERY FOR EARLY GLOTTIC CANCER
LC63 James Burns (United States of America)
- 5:20pm DISCUSSION

4:00pm - 5:30pm **3.4 DATABASE**

Meeting Room 3

Chair: William Coman (Australia) and Jørgen Johansen (Denmark)

- 4:00pm SESSION WELCOME
- 4:05pm DATABASES FOR LARYNGEAL CANCER – A QUEENSLAND PERSPECTIVE
LC39 Michael Poulsen (Australia)
- 4:25pm HYPOTHYROIDISM AFTER TREATMENT OF THE NECK IN LARYNX CANCER
LC45 Jørgen Johansen (Denmark)
- 4:45pm DATABASES AND MODERN LARYNX CANCER TREATMENT
LC52 John Ridge (United States of America)
- 5:05pm CREATING A DATABASE IS NOT RESEARCH:
A PRIMER ON HOW TO CREATE AND USE DATABASES TO FACILITATE RESEARCH
LC58 Douglas Chepeha (Canada)
- 5:25pm DISCUSSION

4:00pm - 5:30pm **3.5 SMOKING TRENDS AND OTHER CARCINOGENS**

Meeting Room 1

Chair: John-Charles Hodge (Australia) and Linda Bauld (United Kingdom)

- 4:00pm SESSION WELCOME
- 4:05pm SMOKING TRENDS
LC38 David Currow (Australia)
- 4:20pm TOBACCO AND ALCOHOL – WHERE NEXT?
Mike Daube (Australia)
- 4:35pm UK SMOKING TRENDS & OTHER CARCINOGENS
LC48 Jean-Pierre Jeannon (United Kingdom)
- 4:50pm TFG2000: A NEW APPROACH TO TOBACCO CONTROL IN SINGAPORE
N Gopalakrishna Iyer (Singapore)
- 5:05pm SMOKING TRENDS IN THE UNITED KINGDOM AND PROGRESS MADE
LC59 Linda Bauld (United Kingdom)
- 5:20pm DISCUSSION
-

TUESDAY 28 JULY 2015

8:00am - 8:30am KEYNOTE 3

Hall A

Chair: Carsten Palme (Australia)

8:00am INNOVATIONS IN LARYNX CANCER SURGERY – PART ONE
Steven Zeitels (United States of America)

8:30am - 10:00am PLENARY 2 – STAGING OF LARYNX CANCER

Hall A

Chair: Patrick Bridger (Australia)

8:30am STAGING OF LARYNX CANCER – PROGRESS BY AJCC IN THE PAST 20 YEARS
Jatin Shah (United States of America)

8:50am STAGING OF THE NECK IN CANCER OF THE LARYNX
LC64 Petra Ambrosch (Germany)

9:10am EXPLORING OPPORTUNITIES TO IMPROVE THE PERFORMANCE OF THE UICC/AJCC TNM
FOR GLOTTIC CANCER
LC65 Brian O'Sullivan (Canada)

9:30am ISSUES IN STAGING OF LARYNX CANCER
LC66 John Ridge (United States of America)

9:50am DISCUSSION

10:00am - 10:30am MORNING TEA WITH THE INDUSTRY

Hall 2

CONCURRENT SESSIONS 4

10:30am - 12:30pm 4.1 AIRWAY MANAGEMENT II

Meeting Room 4

Chair: Faruque Riffat (Australia) and Sharon Tivey (Australia)

10:30am THE SIX HOUR WAIT, AND GETTING AROUND THE CORNER
LC69 Jeremy Field (Australia)

10:50am BASIC ANAESTHETIC PHARMACOLOGY
Geraldine Khong (Australia)

11:10am VIDEOLARYNGOSCOPE
LC75 Pierre Bradley (Australia)

11:30am THE ROLE OF ULTRASOUND IN TRACHEOSTOMY
Faruque Riffat (Australia)

11:40am AIRWAY FIRE
Murray Stokan (Australia)

12:10pm DISCUSSION

10:30am - 12:30pm 4.2 MOLECULAR BIOLOGY

Meeting Room 5

Chair: Chad Brenner (United States of America) and Michael Poulsen (Australia)

10:30am PROGNOSTIC FACTORS IN HNSCC: A CLOUD TO BEDSIDE APPROACH
N Gopalakrishna Iyer (Singapore)

10:50am MOLECULAR ASPECTS OF LARYNGEAL CANCER
William Coman (Australia)



WORLD CONGRESS ON LARYNX CANCER 2015

26-30 JULY 2015 • CAIRNS CONVENTION CENTRE
CAIRNS • QUEENSLAND • AUSTRALIA

TUESDAY 28 JULY - CONCURRENT SESSIONS 4 (CONT'D)

- 11:10am MOLECULAR STRATIFICATION OF LARYNGEAL CANCER: IMPLICATIONS FOR PERSONALIZED COMBINATION MEDICINE
LC78 **Chad Brenner (United States of America)**
- 11:30am TREATMENT SELECTION TO FACILITATE EXPLORATION AND VALIDATION OF BIOMARKERS?
LC81 **Douglas Chepeha (Canada)**
- 11:50am A PUTATIVE MIRNA/MRNA INTERACTOME FOR ORAL SQUAMOUS CELL CARCINOMA: A PROSPECTIVE PROFILING STUDY OF NARROW BAND IMAGING SURGICAL RESECTIONS
LC87 **Camile Farah (Australia)**
- 12:10pm INTEREST OF GENETICS IN LARYNGEAL TUMOR
LC92 **Suzy Duflo (Guadeloupe)**
- 12:20pm DISCUSSION

10:30am - 12:30pm 4.3 CURRENT STAGING SYSTEM – LIMITATIONS

Meeting Room 3

Chair: Suren Krishnan (Australia) and Andrew Bridger (Australia)

- 10:30am IMAGING OF LARYNX CANCER: STRENGTHS AND LIMITATIONS
LC68 **Eddie Lau (Australia)**
- 10:50am LIMITATIONS OF THE CURRENT STAGING SYSTEM OF GLOTTIC AND SUPRAGLOTTIC CANCER
LC72 **Petra Ambrosch (Germany)**



COEXIST

"With NEW Technology Now You Can Choose"

Digital AcuBlade Microsurgery + Fiber Combined

EXPERIENCE having it all
Precision - Versatility - Ease of Use

For more information contact:
Lumenis Australia +61-3-9863-7823



Visit Lumenis booth at the World
Congress on Larynx Cancer 2015

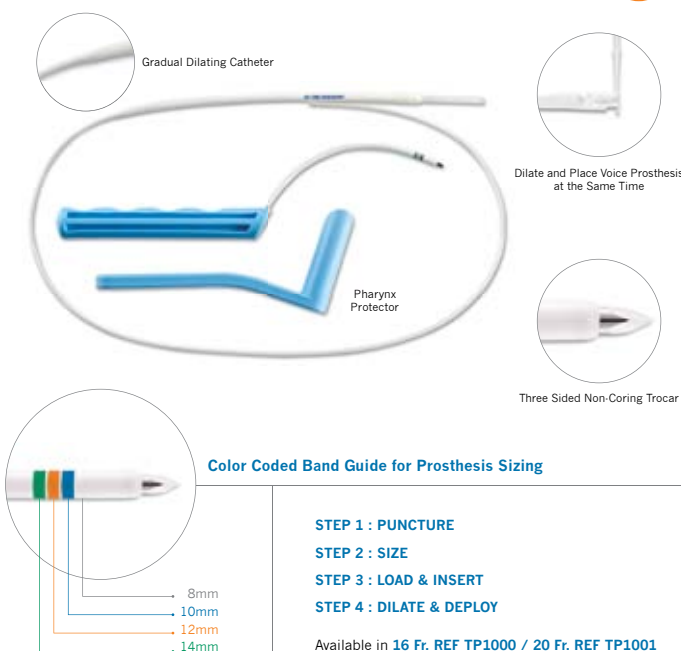


Introducing the Blom-Singer® VOICE PROSTHESIS PLACEMENT SURGICAL KIT (Sterile)

Voice Prosthesis Placement for Primary or Secondary Puncture

Designed by Eric D. Blom, Ph.D.

NEW



Blom-Singer®

US and foreign patents pending

INHEALTH®
TECHNOLOGIES

www.inhealth.com

TUESDAY 28 JULY - CONCURRENT SESSIONS 4 (CONT'D)

- 11:10am DO PROBLEMS IN TNM CLASSIFICATION EXPLAIN POOR OUTCOME OF T2 LARYNGEAL CANCER IN FINLAND?
LC76 Antti Mäkitie (Finland)
- 11:30am NON TNM FACTORS IMPORTANT TO LARYNGEAL CANCER
LC82 Kerry Olsen (United States of America)
- 11:50am THE CURRENT TNM STAGING DOES NOT DIRECT SURGICAL DECISIONS IN THE MANAGEMENT OF LARYNGEAL CANCER
LC89 Suren Krishnan (Australia)
- 12:10pm DISCUSSION

10:30am - 12:30pm 4.4 THE NECK

Meeting Room 1

Chair: Gary Morgan (Australia) and Sandro Porceddu (Australia)

- 10:30am STATISTICS & NECK DISEASE
LC67 Robert Smee (Australia)
- 10:50am IMAGE-GUIDED MANAGEMENT OF THE NECK FOLLOWING CHEMO-RADIATION THERAPY – JUST HOW SAFE IS IT TO OBSERVE THE RESIDUAL NODE?
Sandro Porceddu (Australia)
- 11:10am SHOULD ELECTIVE NECK DISSECTION BE ROUTINELY PERFORMED IN PATIENTS UNDERGOING SALVAGE TOTAL LARYNGECTOMY?
LC77 Jean-Pierre Jeannon (United Kingdom)
- 11:30am ELECTIVE AND THERAPEUTIC SURGICAL APPROACH TO LEVEL VI LYMPH NODES IN ADVANCED STAGE LARYNX CARCINOMA
LC84 Luiz Kowalski (Brazil)
- 11:50am REDUCING COMPLICATIONS IN NECK DISSECTION
LC88 Tim Iseli (Australia)
- 12:10pm LYMPH NODE METASTASIS AND TREATMENT OUTCOME OF LARYNX CANCER ARE AFFECTED BY EXPRESSION LEVEL OF LYSYL OXIDASE IN PRIMARY TUMOR
LC93 Yoon Se Lee (Korea)
- 12:20pm DISCUSSION

10:30am - 12:30pm 4.5 SUPRAGLOTTIC CANCER

Meeting Room 2

Chair: Guy Rees (Australia) and Brian O'Sullivan (Canada)

- 10:30am RADIATION TREATMENT OF SUPRAGLOTTIC CARCINOMA. UPDATE FROM A NATIONAL DATABASE (DAHANCA)
LC70 Jørgen Johansen (Denmark)
- 10:50am TORS SUPRAGLOTTIC PARTIAL LARYNGECTOMY INDICATION TECHNIQUE & OUTCOME
Georges Lawson (Belgium)
- 11:10am TRANSORAL SURGERY FOR SUPRAGLOTTIC CANCER
LC79 Michael Hinni (United States of America)
- 11:30am PROGNOSIS AND LARYNGEAL PRESERVATION OF SUPRAGLOTTIC CANCER VERSUS GLOTTIC CANCER
LC80 Shunsuke Miyamoto (Japan)
- 11:40am HOW THE NECK IS MANAGED IN SUPRAGLOTTIC CANCER
John McGuinness (Australia)
- 11:50am NEED FOR RELOOK AT PRIMARY SURGERY IN THE INITIAL MANAGEMENT OF T3-4A ADVANCED CANCERS OF THE LARYNX
LC89 Ashok Mohan Shenoy (India)



TUESDAY 28 JULY - CONCURRENT SESSIONS 4 (CONT'D)

12:05pm SUPRAGLOTTIC LARYNGEAL CARCINOMAS
LC91 Robert Smee (Australia)

12:25pm DISCUSSION

10:30am - 12:30pm 4.6 VOICE OUTCOME MEASURES: OBJECTIVE VS SUBJECTIVE

Meeting Room 8

Chair: Bena Cartmill (Australia) and Felicity Megee (Australia)

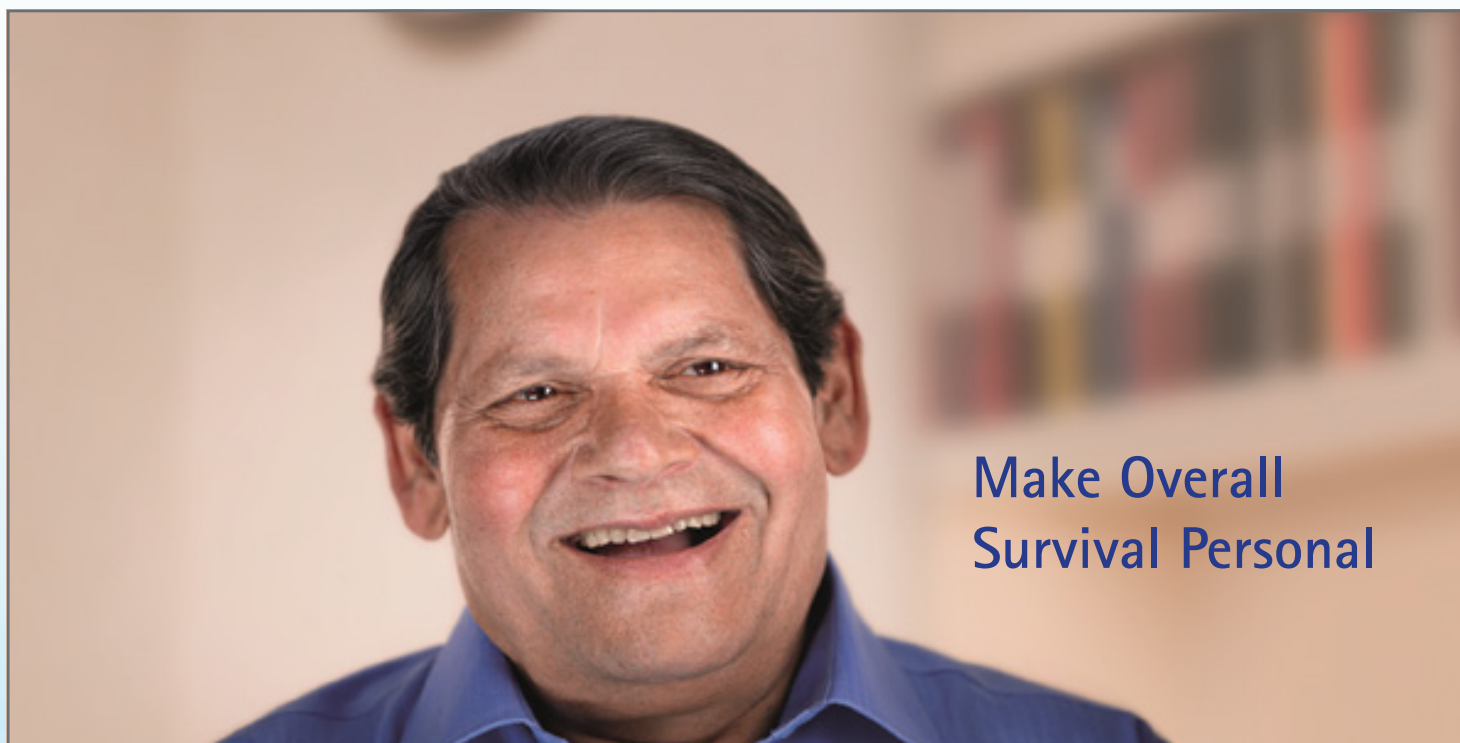
10:30am SUBJECTIVE VS OBJECTIVE VOICE ASSESSMENT: WHAT SHOULD WE MEASURE AND WHO REALLY CARES?
LC70 Catherine Madill (Australia)

10:45am VOICE OUTCOMES FOLLOWING TRANSORAL LASER MICROSURGERY FOR EARLY GLOTTIC CANCER –
CONSIDERING SIGNAL TYPE AND SMOOTHED CEPSTRAL PEAK PROMINENCE
LC71 Danielle Stone (Australia)

11:00am VOICE OUTCOMES IN EARLY LARYNX CANCER
LC74 Timothy McCulloch (United States of America)

11:15am FUNCTIONAL OUTCOMES AND QUALITY OF LIFE OF PATIENTS UNDERGOING TRANS-ORAL ROBOTIC
SURGERY FOR HYPOPHARYNGEAL CARCINOMA
LC79 Pauline Dooley (Australia)

11:30am VOICE OUTCOMES IN NON-SURGICAL TREATMENT
LC83 Caterina Finizia (Sweden)



Make Overall
Survival Personal

Merck Serono Oncology | *Make Overall Survival Personal*

Merck Serono



TUESDAY 28 JULY - CONCURRENT SESSIONS 4 (CONT'D)

11:45am WHEN SHOULD PATIENTS BE REFERRED FOR VOICE REHABILITATION?
LC86 Daniel Novakovic (Australia)

12:05pm MULTIDIMENSIONAL ANALYSIS OF VOICE
Elisabete Carrara de Angelis (Brazil)

12:20pm DISCUSSION

10:30am - 12:30pm 4.7 GLOTTIS

Hall A

Chair: Richard Lewis (Australia) and Tsien Fua (Australia)

10:30am ONCOLOGICAL AND FUNCTIONAL RESULTS OF EARLY GLOTTIC CANCERS TREATED BY TLM
Giorgio Peretti (Italy)

10:45am TRANSORAL LASER MICROSURGERY FOR EARLY GLOTTIS CANCER
LC72 Carsten Palme (Australia)

11:00am SELECTION FOR PRIMARY RADIOTHERAPY
LC73 Chris Terhaard (Netherlands)

11:15am ONCOSPACE – DEVELOPING A LEARNING HEALTH SYSTEM PARADIGM TO SYSTEMATICALLY UNDERSTAND THE IMPACT OF CANCER THERAPIES
Harry Quon (United States of America)

11:30am TRANSORAL CARBON DIOXIDE LASER SURGERY IN LARYNGEAL CANCERS: LESSONS LEARNT OVER LAST 30 YEARS
Deepak Parikh (India)

11:45am KTP LASER SURGERY OF EARLY GLOTTIC CARCINOMA – VOICE AND ONCOLOGIC RESULTS
LC85 James Burns (United States of America)

12:00pm A 20-YEAR REVIEW OF PRIMARY RADIOTHERAPY FOR EARLY GLOTTIC SQUAMOUS CELL CARCINOMA AT WESTMEAD HOSPITAL
LC90 Julia Crawford (United States of America)

12:10pm DISCUSSION

12:30pm - 1:30pm LUNCH WITH THE INDUSTRY
Hall 2

12:30pm - 1:30pm CHANGING PARADIGMS – TIME TO RETHINK THE WAY WE TREAT OUR LOCALLY ADVANCED SCCHN PATIENTS

Meeting Room 1

Chair: Alexander Guminski (Australia)

Sponsored by:  

Complimentary for registered delegates. Tickets essential.
Register your attendance at the registration desk.

12:30pm WELCOME AND INTRODUCTION
Alexander Guminski (Australia)

12:35pm OPTIMISING CANCER THERAPY FOR LOCALLY ADVANCED SCCHN PATIENTS
Jan Vermorken (Belgium)

12:50pm CONSIDERING CHEMOTHERAPY AND BIOLOGICS SAFETY PROFILES
Matthew Foote (Australia)

1:00pm PANEL DISCUSSION



TUESDAY 28 JULY (CONT'D)

- 1:30pm - 2:00pm** **KEYNOTE 4**
Hall A
Chair: Jonathan Clark (Australia)
- 1:30pm INNOVATIONS IN LARYNX CANCER SURGERY – PART TWO
Steven Zeitels (United States of America)
- 2:00pm - 2:30pm** **KEYNOTE 5**
Hall A
Chair: John Chaplin (New Zealand)
- 2:00pm MEASUREMENT OF OUTCOMES: THE PATIENT'S PERSPECTIVE
Barbara Murphy (United States of America)
- 2:30pm - 3:30pm** **ANZHNCS AGM** (*ANZHNCS Members Only*)
Hall A

WEDNESDAY 29 JULY 2015

- 8:00am - 8:30am** **KEYNOTE 6**
Hall A
Chair: Robert Smee (Australia)
- 8:00am HISTORICAL PERSPECTIVES: VOICE RESTORATION FOLLOWING TOTAL LARYNGECTOMY
LC94 Eric Blom (United States of America)
- 8:30am - 10:00am** **PLENARY 3 – TUMOUR BOARD**
Hall A
Chair: Jatin Shah (United States of America) and Carsten Palme (Australia)
- PANEL DISCUSSION
Petra Ambrosch (Germany)
William Coman (Australia)
June Corry (Australia)
Jan Lewin (United States of America)
- 10:00am - 10:30am MORNING TEA WITH THE INDUSTRY
Hall 2

CONCURRENT SESSIONS 5

- 10:30am - 12:30pm** **5.1 ROLE OF OPEN PARTIAL SURGERY**
Meeting Room 8
Chair: Christopher Hobbs (Singapore) and Stéphane Hans (France)
- 10:30am THE ROLE OF OPEN PARTIAL LARYNGEAL SURGERY
LC97 Richard Lewis (Australia)
- 10:50am WHAT HAVE WE ACHIEVED SO FAR WITH OPEN PARTIAL SURGERY
Christopher Hobbs (Singapore)
- 11:10am THE ROLE OF PARTIAL LARYNGEAL SURGERY IN THE MODERN ERA
LC05 Scott Coman (Australia)
- 11:35am OPEN PARTIAL LARYNGECTOMY "IT AIN'T WHAT IT USED TO BE"
LC10 John Kennedy (Australia)
- 12:00pm QUALITY OF LIFE AFTER TRANSCERVICAL CONSERVATION LARYNGEAL SURGERY
LC18 Babak Sadoughi (United States of America)
- 12:20pm DISCUSSION

WEDNESDAY 29 JULY - CONCURRENT SESSIONS 5 (CONT'D)

10:30am - 12:30pm 5.2 RADIOTHERAPY AS THE MAIN COMPONENT OF TREATMENT

Meeting Room 2

Chair: Chris Milross (Australia) and Harry Quon (United States of America)

Session endorsed by:



The Royal Australian and New Zealand
College of Radiologists

- 10:30am IMPROVING THE RADIOTHERAPUTIC TREATMENT OF LARYNGEAL CANCER THROUGH BIOLOGICAL MODIFICATION
Jens Overgaard (Denmark)
- 10:50am TIME FACTOR AND DOSE-FRACTIONATION IN RADIOTHERAPY FOR CANCER OF THE LARYNX
LC02 Boguslaw Maciejewski (Poland)
- 11:10am IMPROVEMENT OF THE RADIOTHERAPY OUTCOME BY USE OF ADVANCED TECHNIQUES
LC03 Chris Terhaard (Netherlands)
- 11:30am MANAGMENT OF RADIATION SKIN REACTIONS
Peter Graham (Australia)
- 11:50am OUTCOMES OF DIFFERENT LARYNX PRESERVATION STRATEGIES FOR TREATMENT OF LOCALLY ADVANCED LARYNX CANCER
LC13 David Rosenthal (United States of America)
- 12:10pm COMPARISON OF EFFECTS OF (CHEMO)TOMOTHERAPY VERSUS 3D CONFORMAL XRT ON THE NON SURGICAL LARYNX AND HYPOPHARYNX
LC17 Laura Moroney (Australia)
- 12:20pm DISCUSSION

10:30am - 12:30pm 5.3 THE DEVELOPING WORLD

Meeting Room 4

Chair: Faruque Riffat (Australia) and Mershen Pillay (South Africa)

- 10:30am THE RATIONAL FOR LARYNGECTOMY AS THE FIRST OPTION FOR PATIENTS TREATED IN COMMUNITY HOSPITALS IN DEVELOPING COUNTRIES
LC99 Luiz Kowalski (Brazil)
- 10:50am RADIOTHERAPY IN LOW AND MIDDLE INCOME COUNTRIES
LC04 Michael Barton (Australia)
- 11:10am LARYNX CANCER IN BANGLADESH
LC11 Belayat Hossain Siddiquee (Bangladesh)
- 11:30am LARYNGEAL CANCER IN PAPUA NEW GUINEA
LC19 Charles Paki Molumi (Papua New Guinea)
- 11:40am RICH MAN, POOR MAN, BEGGAR MAN, THIEF: LARYNGECTOMEE REHABILITATION AND GLOBAL ECONOMIES
LC21 Mershen Pillay (South Africa)
- 11:50pm LARYNX CANCER IN INDONESIA
Marlinda Adham (Indonesia)
- 12:10pm DISCUSSION



WEDNESDAY 29 JULY - CONCURRENT SESSIONS 5 (CONT'D)

10:30am - 12:30pm **5.4 SWALLOWING ASSESSMENT WITH AND WITHOUT A LARYNX**

Hall A

Chair: Danielle Stone (Australia) and Rachelle Robinson (Australia)

- 10:30am LATE EFFECTS OF (CHEMO)RADIOTHERAPY ON SWALLOWING
LC96 Joanne Patterson (United Kingdom)
- 10:45am SWALLOWING AFTER TREATMENT OF ADVANCED STAGE LARYNX CANCER
LC98 Timothy McCulloch (United States of America)
- 11:00am VIDEOFLUOROSCOPIC SWALLOWING ASSESSMENT FOR PATIENTS UNDERGOING CRT
Jan Lewin (United States of America)
- 11:15am A MULTIFACETED APPROACH TO LONG-TERM SWALLOWING ASSESSMENT
LC07 Bena Cartmill (Australia)
- 11:30am OROPRESS: A SAFE, VALID AND RELIABLE TOOL FOR ORAL TONGUE PRESSURE MEASUREMENT WITH HN CANCER PATIENTS
LC08 Alison Perry (Ireland)
- 11:45am PRE AND POST TREATMENT TRANSNASAL OESOPHAGOSCOPY IMPROVES MANAGEMENT OF PATIENTS DIAGNOSED WITH LARYNX CANCER
Jacqui Allen (New Zealand)
- 12:00pm "SCREENIT": TECHNOLOGY-ASSISTED SCREENING OF SWALLOWING, NUTRITION AND DISTRESS STATUS IN HEAD AND NECK CANCER PATIENTS AND THEIR CARERS DURING (CHEMO)RADIOTHERAPY
LC16 Laurelie Wall (Australia)
- 12:15pm LONG-TERM SWALLOWING OUTCOME AND DISPLACEMENT OF PRESERVED LARYNX AFTER SUPRACRICOID LARYNGECTOMY WITH CRICOHYOIDEPIGLOTTO-PEXY
LC20 Yutomo Seino (Japan)
- 12:25pm DISCUSSION

10:30am - 12:30pm **5.5 TREATMENT OF DYSPLASIA AND CIS**

Meeting Room 3

Chair: Andrew Wignall (Australia) and Leo Pang (Australia)

- 10:30am TREATMENT AND FOLLOW UP OF LARYNGEAL DYSPLASIA: RECOMMENDATIONS BASED ON UK WIDE CONSENSUS AND EXISTING EVIDENCE BASE
LC95 Vinidh Paleri (United Kingdom)
- 10:50am TREATMENT OF DYSPLASIA AND CIS
LC01 Henri Marres (Netherlands)
- 11:10am OFFICE LASER TREATMENT OF DYSPLASIA AND CIS OF VOCAL FOLDS
Andrew Blitzler (United States of America)
- 11:25am INTRAOPERATIVE AND OFFICE BASED ANGIOLYTIC KTP LASER TREATMENT OF VOCAL FOLD DYSPLASIA AND CIS
Steven Zeitels (United States of America)
- 11:45am TREATMENT OF DYSPLASIA AND CIS
William Mendenhall (United States of America)
- 12:05pm HISTOPATHOLOGY OF VOCAL HEALING: SUPERIORITY OF LASER AND CRYOTHERAPY VS LASER ALONE
Marshall Strome (United States of America)
- 12:20pm DISCUSSION

WEDNESDAY 29 JULY - CONCURRENT SESSIONS 5 (CONT'D)

10:30am - 12:30pm **5.6 SALVAGE TREATMENT**

Meeting Room 1

Chair: Bernard Lyons (Australia) and Min-Sik Kim (Korea)

- 10:30am CONTROL OF THE NECK IN SALVAGE LARYNGECTOMY
Thomas Loh (Singapore)
- 10:50am PHILOSOPHIC CONSIDERATIONS IN SALVAGE TREATMENT OF LARYNGEAL CANCER:
POTENTIAL ROLE FOR RE-IRRADIATION
LC00 Brian O'Sullivan (Canada)
- 11:10am OUTCOME OF TRANSORAL SURGERY AS A SALVAGE TREATMENT FOR EARLIER GLOTTIS CANCER
Georges Lawson (Belgium)
- 11:30am SALVAGE LARYNGECTOMY – THE PRINCE OF WALES EXPERIENCE
LC09 Andrew Bridger (Australia)
- 11:50am SYSTEMATIC REVIEW OF THE COMPLICATIONS OF SALVAGE LARYNGECTOMY
LC12 Zubair Hasan (Australia)
- 12:00pm SURVIVAL OUTCOMES OF SALVAGE LARYNGECTOMY FOR RECURRENT LARYNGEAL AND
HYPOPHARYNGEAL CARCINOMA FOLLOWING PRIMARY RADIO/CHEMORADIOTHERAPY FOR
ADVANCED STAGE DISEASE
LC15 Vinidh Paleri (United Kingdom)
- 12:10pm DISCUSSION

10:30am - 12:30pm **5.7 CHEMOTHERAPY**

Meeting Room 5

Chair: Wenchang Wong (Australia) and Brian Stein (Australia)

- 10:30am LOCALLY ADVANCED LARYNX CANCER – PETER MAC CLINICAL EXPERIENCE AND PROGNOSTIC
FACTOR STUDIES
Danny Rischin (Australia)
- 10:50am AVOIDING DIMINISHING RETURNS FROM AGGRESSIVE THERAPY: LESSONS FROM GERIATRIC ONCOLOGY
LC06 Brian Stein (Australia)
- 11:20am THE ROLE OF CHEMOTHERAPY IN LARYNX PRESERVATION PROTOCOLS
Jan Vermorken (Belgium)
- 11:45am BIOLOGICAL BASIS OF CHEMORADIOTHERAPY
Wenchang Wong (Australia)
- 12:00pm DISCUSSION

12:30pm - 1:30pm **LUNCH WITH THE INDUSTRY**

Hall 2

1:30pm - 2:00pm **KEYNOTE 7**

Hall A

Chair: Guy Rees (Australia)

- 1:30pm RECURRENT DISEASE: HOW TO AVOID COMPLICATIONS AFTER SALVAGE LARYNGECTOMY
LC22 Douglas Chepeha (Canada)

2:00pm - 2:30pm **KEYNOTE 8**

Hall A

Chair: Robert Smee (Australia)

- 2:00pm POSTLARYNGECTOMY REHABILITATION IN THIS ERA OF INCREASING ORGAN PRESERVATION TREATMENT
LC23 Frans Hilgers (Netherlands)



WEDNESDAY 29 JULY (CONT'D)

CONCURRENT SESSIONS 6

2:30pm - 4:00pm **6.1 LEARNING CURVE**

Meeting Room 3

Chair: Liz Kenny (Australia) and Ronald Chin (Australia)

2:30pm SESSION WELCOME

2:35pm THE LEARNING CURVE IN H&N RADIATION ONCOLOGY

LC26 June Corry (Australia)

2:50pm MASTERING OLD TECHNIQUES WHILE ADOPTING THE NEW: IS THIS ATTAINABLE?

Ben Dixon (Australia)

3:10pm THE LEARNING CURVE IN PROFESSIONAL AND INTERDISCIPLINARY BEHAVIOUR

Liz Kenny (Australia)

3:25pm OPTIMUM MANAGEMENT STRATEGIES FOR DEALING WITH LARYNGEAL CANCER

William Coman (Australia)

3:40pm HEAD AND NECK SURGEON OR HEAD AND NECK ONCOLOGIST?

LC43 Frans Hilgers (Netherlands)

3:55pm DISCUSSION

2:30pm - 4:00pm **6.2 LARYNGECTOMY REHABILITATION**

Meeting Room 2

Chair: Robyn Burnett (Australia) and Jacqui Frowen (Australia)

2:30pm SESSION WELCOME

2:35pm TRACHEOSOPHOGEAL PUNCTURE TECHNIQUES

LC29 Timothy McCulloch (United States of America)

2:55pm NOVEL MANAGEMENT OF VOICE PROSTHESIS RELATED PROBLEMS

LC32 Eric Blom (United States of America)

3:10pm A UNIQUE "ELASTOMERIC LENGTH-ADJUSTING" TRACHEOESOPHAGEAL VOICE PROSTHESIS

LC35 Eric Blom (United States of America)

3:25pm PROSTHETIC MANAGEMENT OF PE FISTULAE

LC39 Eric Blom (United States of America)

3:40pm THE IMPACT OF SWALLOWING ON VOICE FUNCTION

Michal Szczesniak (Australia)

2:30pm - 4:00pm **6.3 VOCAL FOLD WOUND HEALING**

Meeting Room 4

Chair: Daniel Novakovic (Australia) and Jacqui Allen (New Zealand)

2:30pm SESSION WELCOME

2:35pm VOCAL FOLD MECHANIOBIOLOGY, WOUND HEALING AND STEM CELLS

LC27 Susan Thibeault (United States of America)

2:55pm CURRENT TREATMENT OPTIONS FOR VOCAL FOLD SCARRING

LC31 Yo Kishimoto (Japan)

3:15pm REFINING OUR UNDERSTANDING OF VOCAL FOLD SCAR PATHOPHYSIOLOGY

LC36 Nathan Welham (United States of America)

3:35pm WOUND HEALING MODULATION WITH A TYPE 1A COLLAGEN INHIBITOR IN A VOCAL FOLD INJURY ANIMAL MODEL

Jacqui Allen (New Zealand)

3:55pm DISCUSSION

WEDNESDAY 29 JULY - CONCURRENT SESSIONS 6 (CONT'D)

2:30pm - 4:00pm **6.4 RECONSTRUCTION**

Meeting Room 1

Chair: Scott Coman (Australia) and John Chaplin (New Zealand)

- 2:30pm SESSION WELCOME
- 2:35pm TISSUE ENGINEERING FOR LARYNX AND TRACHEA RECONSTRUCTION
LC28 David Lott (United States of America)
- 2:55pm RESTORING LARYNGEAL FUNCTION AFTER ONCOLOGIC SURGERY:
VOICE AND AIRWAY CONSIDERATIONS
LC33 James Burns (United States of America)
- 3:15pm RECONSTRUCTION APPROACHES FOLLOWING PARTIAL LARYNGOTRACHEAL RESECTION
LC37 Jonathan Clark (Australia)
- 3:35pm TECHNICAL TIPS FOR IMPROVING SHORT AND LONG TERM OUTCOMES
LC40 Douglas Chepeha (Canada)
- 3:55pm DISCUSSION

2:30pm - 4:00pm **6.5 COMPLICATIONS AVOIDANCE AND TREATMENT**

Meeting Room 8

Chair: Tim Iseli (Australia) and Sandro Porceddu (Australia)

- 2:30pm SESSION WELCOME
- 2:35pm HYPOPHARYNGEAL FISTULA: APPROACH TO MANAGEMENT
LC24 Douglas Chepeha (Canada)
- 2:50pm COMPLICATION AVOIDANCE IN SALVAGE LARYNGECTOMY
LC30 Jean-Pierre Jeannon (United Kingdom)
- 3:05pm GENERALIZED ACTINIC LICHEN PLANUS INDUCED BY RADIOTHERAPY OF LARYNGEAL CANCER
LC34 Bahman Emami (United States of America)
- 3:20pm DYSPHAGIA AFTER TOTAL LARYNGECTOMY
Bernard Lyons (Australia)
- 3:35pm NSQIP SURGICAL RISK CALCULATOR: ACTUAL VS. PREDICTED SURGICAL MORTALITY AND MORBIDITY
IN SOUTH AUSTRALIAN LARYNGEAL CANCER PATIENTS
LC42 Claire Frauenfelder (Australia)
- 3:45pm DISCUSSION

2:30pm - 4:00pm **6.6 TRANSLATIONAL RESEARCH**

Meeting Room 5

Chair: N Gopalakrishna Iyer (Singapore) and Danny Rischin (Australia)

- 2:30pm SESSION WELCOME
- 2:35pm MOLECULAR BIOMARKERS PREDICT OUTCOME IN A CLINICAL TRIAL OF ADVANCED LARYNX CANCER
LC25 Chad Brenner (United States of America)
- 2:55pm GLOTTIC CANCER: A METAMORPHOSING DISEASE WITH AN INCREASING POPULATION OF
NON-SMOKERS
Steven Zeitels (United States of America)
- 3:15pm DESIGNING A BIONIC VOICE PROSTHESIS TO RESTORE NATURAL VOICE FOR LARYNGECTOMY PATIENTS
LC26 Farzaneh Ahmadi (Australia)
- 3:35pm HPV IN LARYNX CANCER
Christopher Hobbs (Singapore)
- 3:55pm DISCUSSION



WEDNESDAY 29 JULY - CONCURRENT SESSIONS 6 (CONT'D)

2:30pm - 4:00pm **6.7 LASER VS ROBOT VS OPEN**

Hall A

Chair: Richard Gallagher (Australia) and Petra Ambrosch (Germany)

2:30pm SESSION WELCOME

2:35pm LARYNGEAL CANCER SURGERY:
FROM OPEN SURGERY TO MINIMALLY INVASIVE TECHNIQUES, LASER AND TORS
Stéphane Hans (France)

2:55pm LASER VERSUS ROBOT VERSUS OPEN NECK SURGERY FOR THE MANAGEMENT OF SUPRAGLOTTIC
CANCER: A WRONG CONCEPT
Georges Lawson (Belgium)

3:15pm INDICATION AND TECHNIQUE OF TLM FOR CANCER OF THE LARYNX
LC38 Petra Ambrosch (Germany)

3:35pm SUPRACRICOID LARYNGECTOMY: OUR EXPERIENCE
LC41 Agostino Serra (Italy)

3:55pm DISCUSSION

4:00pm - 4:30pm AFTERNOON TEA WITH THE INDUSTRY

Hall 2

CONCURRENT SESSIONS 7

4:30pm - 5:30pm **7.1 FREE PAPERS SESSION – ALLIED HEALTH**

Hall A

Chair: Michael Collins (Australia) and Kelli Hancock (Australia)

4:30pm PRETREATMENT FACTORS ASSOCIATED WITH FUNCTIONAL ORAL INTAKE, DYSPHAGIA AND ENTERAL
NUTRITION USE ONE AND SIX MONTHS POST RADIOTHERAPY (+/- CHEMOTHERAPY)

LC45 Molly Barnhart (Australia)

4:40pm PREVALENCE, INCIDENCE AND RISK FACTORS FOR SHOULDER AND NECK DYSFUNCTION AFTER NECK
DISSECTION: A SYSTEMATIC REVIEW

LC46 Elise Gane (Australia)

4:50pm EXPLORATION OF THE EXPERIENCES OF COMMUNICATION CHANGES AFFECTING 'SELF-IDENTITY'
AFTER TOTAL LARYNGECTOMY

LC48 Jane Bickford (Australia)

5:00pm VOICE-SPECIFIC AND HEALTH-RELATED QUALITY OF LIFE FOLLOWING TRANSORAL LASER
MICROSURGERY FOR EARLY GLOTTIC CANCER

LC51 Danielle Stone (Australia)

5:10pm SWALLOWING AND VOICE OUTCOMES IN PHARYNGOLARYNGECTOMY: FASCIO-CUTANEOUS FREE
FLAPS VERSUS JEJUNUM

LC53 Sarah Wilson (Australia)

5:20pm DISCUSSION

4:30pm - 5:40pm **7.2 FREE PAPERS SESSION – LASER**

Meeting Room 2

Chair: Elizabeth Sigston (Australia) and Anthony Clifford (Australia)

4:30pm OFFICE-BASED SECONDARY TRACHEOESOPHAGEAL PUNCTURE USING TRANSNASAL ESOPHAGOSCOPY
LC44 David Vokes (New Zealand)

WEDNESDAY 29 JULY - CONCURRENT SESSIONS 7 (CONT'D)

4:40pm	THE RELATIONSHIP BETWEEN CO ₂ LASER-INDUCED ARTEFACT AND GLOTTIC CANCER SURGICAL MARGINS AT VARIABLE POWER DOSES
LC47	Malcolm Buchanan (United Kingdom)
4:50pm	NEGATIVE RESECTION RATE FOLLOWING CO ₂ LASER RESECTION OF T1S AND T1 GLOTTIC CARCINOMA
LC49	Malcolm Buchanan (United Kingdom)
5:00pm	ENDOLUMENAL FUNCTIONAL LUMEN IMAGING PROBE (ENDOFLIP) PROVIDES A VALID AND SENSITIVE DIRECT MEASUREMENT OF THE UPPER OESOPHAGEAL SPHINCTER COMPLIANCE IN PATIENTS WITH RADIOTHERAPY-RELATED PHARYNGEAL DYSPHAGIA
LC50	Peter Wu (Australia)
5:10pm	OUTCOMES OF TRANSORAL LASER MICROSURGERY FOR LARYNGEAL SQUAMOUS CELL CARCINOMA: A 12 YEAR REVIEW
LC54	Kiva Belt (Australia)
5:20pm	VOICE OUTCOMES AFTER KTP LASER TREATMENT OF EARLY GLOTTIC CANCER
LC55	Matthew Broadhurst (Australia)
5:30pm	NOVEL MICROMANIPULATOR FOR ROBOT-ASSISTED MICROSURGICAL SYSTEM FOR TRANSORAL LASER SURGERIES
LC52	Luca Guastini (Italy)

7:00pm - 10:30pm **CONGRESS DINNER**
Hall C & D, Cairns Convention Centre

THURSDAY 30 JULY 2015

8:00am - 8:30am	KEYNOTE 9 <i>Hall A</i> Chair: Alison Perry (Ireland)
8:00am	MEASUREMENT OF OUTCOMES FOR LYMPHEDEMA AND FIBROSIS Barbara Murphy (United States of America)

CONCURRENT SESSIONS 8

8:30am - 10:00am	8.1 JUDGING SUCCESS <i>Meeting Room 1</i> Chair: Liz Ward (Australia) and Martin Batstone (Australia)
8:30am	SESSION WELCOME
8:35am	LOCAL CONTROL IS NO LONGER THE ONLY ENDPOINT
LC58	Robert Smee (Australia) and Claire Hanna (Australia)
8:55am	MEASURING SUCCESS IN HEAD & NECK CANCER MANAGEMENT: A SPEECH PATHOLOGIST'S PERSPECTIVE
	Catherine Madill (Australia) and Danielle Stone (Australia)
9:15am	SUCCESS: DIFFERENT THINGS FOR DIFFERENT PEOPLE
	Ben Panizza (Australia)
9:35am	SUCCESS MEASUREMENT IS MORE THAN ORGAN PRESERVATION AND/OR SURVIVAL FIGURES ALONE
LC66	Frans Hilgers (Netherlands)
9:55am	DISCUSSION



THURSDAY 30 JULY - CONCURRENT SESSIONS 8 (CONT'D)

8:30am - 10:00am **8.2 OPEN SURGERY**

Meeting Room 2

Chair: Ian Cole (Australia) and David Veivers (Australia)

- 8:30am SESSION WELCOME
- 8:35am LARYNGEAL SURGERY FOR RADIATION FAILURES
Jatin Shah (United States of America)
- 8:50am VERTICAL PARTIAL HEMI-LARYNGECTOMY IN 2015 – HOW I DO IT
Bernard Lyons (Australia)
- 9:05am SUPRACRICOID PARTIAL LARYNGECTOMY FOR LOCALLY ADVANCED LARYNGEAL CANCER
Min-Sik Kim (Korea)
- 9:20am BENEFITS AND DRAWBACKS OF OPEN PARTIAL HORIZONTAL LARYNGECTOMIES:
EARLY-INTERMEDIATE STAGE GLOTTIC CARCINOMA
LC62 Giovanni Succo (Italy)
- 9:35am BENEFITS AND DRAWBACKS OF OPEN PARTIAL HORIZONTAL LARYNGECTOMIES:
INTERMEDIATE AND SELECTED ADVANCED STAGE LARYNGEAL CARCINOMA
LC64 Giovanni Succo (Italy)
- 9:45am MICROVASCULAR RECONSTRUCTIONS OF EXTENDED DEFECTS OF PHARYNX-ESOPHAGEOUS,
LARYNX AND TRACHEA
LC68 Adam Maciejewski (Poland)
- 9:55am DISCUSSION

8:30am - 10:00am **8.3 RADIOTHERAPY AS AN ESTABLISHED TREATMENT**

Meeting Room 8

Chair: Lester Peters (Australia) and Michael Penniment (Australia)

- 8:30am SESSION WELCOME
- 8:35am IS RADIATION THERAPY FOR EARLY LARYNGEAL CANCER OBSOLETE
Sandro Porceddu (Australia)
- 8:55am STAGE T1 GLOTTIC CANCER RADIOTHERAPY
LC60 Graeme Dickie (Australia)
- 9:15am ESTABLISHED ROLE OF RADIOTHERAPY IN NODE NEGATIVE SQUAMOUS CELL CARCINOMA OF
GLOTTIS LARYNX
Bahman Emami (United States of America)
- 9:35am DISCUSSION

8:30am - 10:00am **8.4 THE PATIENT (SURVIVORSHIP)**

Hall A

Chair: Lyndell Kelly (New Zealand) and Barbara Murphy (United States of America)

- 8:30am SESSION WELCOME
- 8:35am DYSPHAGIA IN SURVIVORSHIP
LC56 Rebecca Nund (Australia)
- 8:55am LATE EFFECTS: MORE THAN JUST QUALITY OF LIFE
Barbara Murphy (United States of America)
- 9:15am PREVENTION AND THE PATIENT
Mike Daube (Australia)
- 9:35am PSYCHOLOGICAL CHALLENGES OF HEAD AND NECK CANCER AND THEIR EVIDENCE BASED SOLUTIONS
LC65 Ben Britton (Australia)
- 9:55am DISCUSSION

THURSDAY 30 JULY - CONCURRENT SESSIONS 8 (CONT'D)

8:30am - 10:00am **8.5 TRANSPLANT TISSUE ENGINEERING AND REHABILITATION SURGERY**

Meeting Room 5

Chair: Ardalan Ebrahimi (Australia) and Jonathan Clark (Australia)

- 8:30am SESSION WELCOME
- 8:35am HIGHLIGHTING 14 YEARS OF THE FIRST COMPOSITE MULTI-ORGAN HEAD AND NECK
LC59 Marshall Strome (United States of America)
- 8:55am REHABILITATIVE VOCAL SURGERY AFTER LARYNGEAL CANCER SURGERY
Andrew Blitzer (United States of America)
- 9:15am A NOVEL ADDITIVE MANUFACTURED TRACHEAL GRAFT FOR RATS
LC61 Antti Mäkitie (Finland)
- 9:35am LARYNGEAL RECONSTRUCTION AFTER GLOTTIC CANCER SURGERY
Matthew Broadhurst (Australia)
- 9:50am DISCUSSION

8:30am - 10:00am **8.6 PALLIATIVE CARE**

Meeting Room 3

Chair: Stephen Kleid (Australia) and Judith Muir (United Kingdom)

- 8:30am SESSION WELCOME
- 8:35am PALLIATIVE CARE – TIMING IS EVERYTHING
LC57 Caitlin Sheehan (Australia)
- 8:50am TRANS ORAL ROBOTIC SURGERY FOR RECURRENT OROPHARYNGEAL CANCER
LC60 Scott Magnuson (United States of America)
- 9:05am IS EXTREME AN ADEQUATE REGIMEN FOR PALLIATION?
Jan Vermorken (Belgium)
- 9:25am PALLIATIVE CARE IS NOT A DIRTY WORD(S)
LC67 Linda Magann (Australia)
- 9:35am WHEN RADIOTHERAPY CAN'T CURE
LC63 Robert Smee (Australia)
- 9:50am DISCUSSION

10:00am - 10:30am **MORNING TEA WITH THE INDUSTRY**

Hall 2

CONCURRENT SESSIONS 9

10:30am - 12:30pm **9.1 LASER**

Hall A

Chair: Wolfgang Steiner (Germany) and Carsten Palme (Australia)

Sponsored by:  **STORZ**
KARL STORZ – ENDOSKOPE

- 10:30am ONCOLOGIC AND FUNCTIONAL OUTCOMES OF TRANSORAL LASER MICROSURGERY (TLM) FOR
GLOTTIC AND SUPRAGLOTTIC CANCER
LC71 Petra Ambrosch (Germany)
- 10:50am ONCOLOGIC EFFICACY OF KTP LASER IN EARLY GLOTTIC CANCER
LC75 Matthew Broadhurst (Australia)



THURSDAY 30 JULY - CONCURRENT SESSIONS 9 (CONT'D)

- 11:05am LASER (TLM) AND ROBOTS (TORS): COMPLEMENTARY TOOLS?
Marc Remacle (Belgium)
- 11:20am OUTCOMES OF TRANSORAL LASER MICROSURGERY FOR GLOTTIC CARCINOMA: THE LOCAL EXPERIENCE
Scott Coman (Australia)
- 11:35am ONCOLOGIC AND FUNCTIONAL OUTCOMES IN SALVAGE TRANSORAL LASER MICROSURGERY (TLM)
LC81 Andrew McWhorter (United States of America)
- 11:55am COMPLICATIONS FOLLOWING CO₂ LASER SURGERY FOR EARLY GLOTTIC CANCER:
AN INSTITUTIONAL EXPERIENCE
LC84 Migie Lee (Australia)
- 12:05pm THE DEVELOPMENT OF AN ENDOSCOPIC LASER SERVICE
LC86 Peter Floros (Australia)
- 12:15pm DISCUSSION

10:30am - 12:30pm **9.2 ROBOTIC SURGERY**

Meeting Room 8

Chair: **Ardalan Ebrahimi (Australia)** and **Michael Hinni (United States of America)**

- 10:30am ROBOTIC LARYNGEAL SURGERY
LC69 Suren Krishnan (Australia)
- 10:50am ENDOSCOPIC SURGERY FOR LARYNGEAL CANCER: ROBOTICS, COSTS, AND THE FUTURE
LC80 Michael Hinni (United States of America)
- 11:10am TRANS ORAL ROBOTIC SURGERY: THE TRAINING PATHWAY AND LEARNING CURVE
LC82 Scott Magnuson (United States of America)
- 11:30am TORS FOR SUPRAGLOTTIC AND HYPOPHARYNGEAL LESIONS
Richard Gallagher (Australia)
- 11:50am TORS: A FRENCH EXPERIENCE – OUR PROTOCOL, OUR TRAINING PROGRAM, AND DEVELOPMENT OF
NEW SURGICAL TECHNIQUES
Stéphane Hans (France)
- 12:10pm DISCUSSION

10:30am - 12:30pm **9.3 NURSING**

Meeting Room 3

Chair: **Cheryl Kelly (Australia)**

- 10:30am CHANGES
LC74 Judith Muir (United Kingdom)
- 11:00am MANAGING COMPLEX SYMPTOMS AT THE END OF LIFE
LC76 Linda Magann (Australia)
- 11:20am HEAD & NECK MUCOSITIS, A NURSES PERSPECTIVE
LC79 Jennifer King (Australia)
- 11:40am CHALLENGES
LC82 Judith Muir (United Kingdom)
- 12:10pm LARYNGEAL CANCER – HOLD YOUR BREATH
LC87 Cheryl Kelly (Australia)

THURSDAY 30 JULY - CONCURRENT SESSIONS 9 (CONT'D)

10:30am - 12:30pm 9.4 RADIOTHERAPY OF THE FUTURE

Meeting Room 1

Chair: Michael Collins (Australia) and Boguslaw Maciejewski (Poland)

10:30am RADIOTHERAPY OF THE FUTURE

LC72 June Corry (Australia)

10:50am RADIOTHERAPY OF THE FUTURE

William Mendenhall (United States of America)

11:10am RADIATION THERAPY – THE MOST EFFECTIVE TARGETED THERAPY

LC78 Michael Poulsen (Australia)

11:30am THE PATIENT'S GENOME AND THE CANCER GENOME WILL GUIDE RADIOTHERAPY OF THE FUTURE

Michael McKay (Australia)

11:50am TRENDS IN TREATMENT AND SURVIVAL OF ADVANCED LARYNX CANCER:

A 20-YEAR POPULATION-BASED STUDY IN THE NETHERLANDS

LC83 Adriana Timmermans (Netherlands)

12:00pm RADIOTHERAPY DOSE TO THE CRICOPHARYNGEUS IS PREDICTIVE FOR DEATH FROM
ASPIRATION PNEUMONIA

LC85 Jolyne O'Hare (Australia)

12:10pm DISCUSSION

10:30am - 12:30pm 9.5 CHALLENGE OF TRIALS IN LARYNX CANCER

Meeting Room 5

Chair: Sandro Porceddu (Australia) and Wenchang Wong (Australia)

10:30am MATCHING TUMOR BIOLOGY TO TREATMENT IN ADVANCED LARYNGEAL CANCER IMPROVES SURVIVAL

LC70 Gregory Wolf (United States of America)

10:55am DIFFICULTIES OF LARYNGEAL CANCER TRIALS

William Coman (Australia)

11:20am CHALLENGE OF TRIALS IN LARYNX CANCER

Jørgen Johansen (Denmark)

11:45am TRIALS AND TRIBULATIONS: RUNNING A MULTI CENTRE PHASE 3 TRIAL IN ASIA

N Gopalakrishna Iyer (Singapore)

12:10pm DISCUSSION

10:30am - 12:30pm 9.6 SWALLOWING THERAPY AND TREATMENT

Meeting Room 2

Chair: Penny Chapman (Australia) and Nadine Lawson (Australia)

10:30am REACTIVE NG VS PROPHYLACTIC PEG

LC73 Vinidh Paleri (United Kingdom)

10:50am PROPHYLACTIC SWALLOWING EXERCISES DURING AND AFTER CRT – WHAT IS THE EVIDENCE?

Jan Lewin (United States of America)

11:10am TREATMENT OF LATE DYSPHAGIA

LC77 Timothy McCulloch (United States of America)

11:30am HIGH RESOLUTION MANOMETRY TO GUIDE TREATMENT

LC80 Michelle Ciucci (United States of America)

11:50am EXPIRATORY MUSCLE STRENGTH TRAINING IN DYSPHAGIC PATIENTS

Elisabete Carrara de Angelis (Brazil)

12:10pm DISCUSSION



THURSDAY 30 JULY - CONCURRENT SESSIONS 9 (CONT'D)

- 12:30pm - 1:30pm LUNCH WITH THE INDUSTRY
Hall 2
- 1:30pm - 2:00pm **KEYNOTE 10 – REHABILITATION TEAM**
Hall A
Chair: Guy Rees (Australia)
PANEL DISCUSSION
Caterina Finizia (Sweden)
Jan Lewin (United States of America)
Andrew McWhorter (United States of America)
Barbara Murphy (United States of America)
Annabel Pollard (Australia)

CONCURRENT SESSIONS 10

- 2:00pm - 3:30pm **10.1 FREE PAPERS SESSIONS**
Meeting Room 2
Chair: Stephen Pearson (Australia) and Julia Crawford (United States of America)
- 2:00pm SESSION WELCOME
- 2:05pm PROPHYLACTIC BILATERAL SELECTIVE NECK DISSECTION (SND) IN ADVANCE CARCINOMA LARYNX
LC90 Belayat Hossain Siddiquee (Bangladesh)
- 2:15pm ENDOSCOPIC VOCAL CORD INJECTION USING A 25-GAUGE BUTTERFLY NEEDLE
LC92 Malcolm Buchanan (United Kingdom)
- 2:25pm THE FUNCTIONAL AND ONCOLOGICAL OUTCOME OF NEAR TOTAL LARYNGECTOMY FOR
LARYNGOPHARYNGEAL CARCINOMA
LC93 Min Woo Park (Korea)
- 2:35pm PRIMARY PHARYNGEAL CLOSURE AND ITS MANAGEMENT AFTER TOTAL LARYNGECTOMY
LC95 Alexander Vlantis (Hong Kong)
- 2:45pm JEJUNAL FREE FLAP RECONSTRUCTION OF THE PHARYNGO-LARYNGECTOMY DEFECT:
AN EXPERIENCE OF A LARGE DISTRICT GENERAL HOSPITAL
LC96 Daniel Mulvihill (United Kingdom)
- 2:55pm TREATMENT OF TRANSGLOTTIC LARYNGEAL CARCINOMA (T3 WITH FIXED CORDS):
HYPERFRACTIONATED RADIOTHERAPY ALONE VS SURGERY
LC98 Bahman Emami (United States of America)
- 3:05pm SPEECH RESTORATIVE SURGERY AS PRIMARY MODALITY IN ADVANCED CANCERS OF LARYNX –
NEED WE RETHINK ?
LC99 Ashok Mohan Shenoy (India)
- 3:15pm DISCUSSION

THURSDAY 30 JULY - CONCURRENT SESSIONS 10 (CONT'D)

2:00pm - 3:30pm 10.2 COST OF CARE

Hall A

Chair: Gary Morgan (Australia) and Brian Stein (Australia)

2:00pm SURGERY: FREQUENTLY GOOD VALUE SOMETIMES HIGH COST

LC88 Charles Giddings (Australia)

2:20pm SYSTEMIC THERAPY: SOMETIMES GOOD VALUE, SOMETIMES LOW COST

LC91 Brian Stein (Australia)

2:40pm THE COSTS AND BENEFITS OF RADIOTHERAPY

LC94 Michael Barton (Australia)

3:00pm HOW TO ASSESS RESOURCE USE AND VALUE HEALTH OUTCOMES IN LARYNGEAL CANCER

LC97 Virginia Mumford (Australia)

3:20pm TRIALS AND TRIBULATIONS OF SETTING UP A GOLD STANDARD HEAD AND NECK RECONSTRUCTIVE SERVICE IN A REGIONAL AREA

LC00 Samuel Davies (Australia)

3:30pm - 4:00pm AFTERNOON TEA WITH THE INDUSTRY

Hall 2

CONCURRENT SESSIONS 11

4:00pm - 5:30pm 11.1 UPDATE FOR LARYNGEAL PRESERVATION STRATEGIES FOR LOCALLY ADVANCED LARYNGEAL CANCER: ASIAN SYMPOSIUM

Meeting Room 1

Chair: Carsten Palme (Australia) and Min-Sik Kim (Korea)

4:00pm PATHOLOGIC RATIONALE AND BASE FOR PARTIAL LARYNGECTOMY

Min-Sik Kim (Korea)

4:15pm SUPRACRICOID LARYNGECTOMY: 17 YEARS' EXPERIENCE IN JAPAN

LC05 Meijin Nakayama (Japan)

4:30pm THE ROLE OF CONSERVATION LARYNGEAL SURGERY IN HYPOPHARYNEAL CANCER

LC09 Young Soo Rho (Korea)

4:45pm ROBOTIC SURGERY FOR LARYNGEAL CANCER

LC14 Young-Hoon Joo (Korea)

5:00pm CURRENT STATUS AND FUTURE DIRECTION OF RADIOTHERAPEUTIC MANAGEMENT FOR LOCALLY ADVANCED LARYNGEAL CANCER, AIMING AT IMPROVEMENT OF LARYNX PRESERVATION

LC18 Atsushi Motegi (Japan)

5:15pm DISCUSSION

4:00pm - 5:30pm 11.2 QUALITY OF LIFE

Hall A

Chair: Nancy Mendenhall (United States of America) and Babak Sadoughi (United States of America)

4:00pm QOL AND COPING STRATEGIES FOR PATIENTS WITH DYSPHONIA

Elisabete Carrara de Angelis (Brazil)

4:20pm PSYCHOLOGICAL FACTORS THAT CONTRIBUTE TO POST-TREATMENT QUALITY OF LIFE IN PATIENTS WITH LARYNX CANCER

LC07 Amy Richardson (New Zealand)



THURSDAY 30 JULY - CONCURRENT SESSIONS 11 (CONT'D)

4:40pm AN OUTCOMES TOOLBOX FOR HEAD AND NECK CANCER CLINICAL TRIALS
LC12 John Ridge (United States of America)

5:00pm WELLBEING AND SMOKING CESSATION
LC19 Linda Bauld (United Kingdom)

5:20pm DISCUSSION

4:00pm - 5:30pm 11.3 VOICE AND SENSORY RESTORATION

Meeting Room 2

Chair: Rebecca Nund (Australia) and Virginia Simms (Australia)

4:00pm OLFACTORY FUNCTION AFTER REHABILITATION WITH THE NASAL AIRFLOW-INDUCING MANEUVER
IN PATIENTS TREATED WITH TOTAL LARYNGECTOMY

LC01 Caterina Finizia (Sweden)

4:20pm HANDS-FREE SPEECH IN LARYNGECTOMIZED PATIENTS: THE FUTURE NORM
LC06 Richard Dirven (Netherlands)

4:40pm PULMONARY REHABILITATION, A KEY ELEMENT OF POSTLARYNGECTOMY FUNCTION RESTORATION
LC11 Frans Hilgers (Netherlands)

5:00pm RELATIONSHIP BETWEEN RADIOTHERAPY AND GASTROESOPHAGEAL REFLUX IN VOICE
REHABILITATION FAILURE

LC17 Agostino Serra (Italy)

5:10pm VOICE REHABILITATION FOLLOWING TOTAL LARYNGECTOMY BY PERSONALIZED
TEXT-TO-SPEECH SYNTHESIS

LC21 Michal Zabrodsky (Czech Republic)

5:20pm DISCUSSION

4:00pm - 5:30pm 11.4 "TO FEED OR NOT TO FEED?" – IS THERE A QUESTION?

Meeting Room 8

Chair: Merran Findlay (Australia) and Barbara Murphy (United States of America)

4:00pm ENTERAL FEEDING AND THE HEAD AND NECK CANCER PATIENT – A SINGLE CENTRE'S EXPERIENCE
LC03 Belinda Vangelov (Australia)

4:10pm BEST EVIDENCE TO BEST PRACTICE: IMPLEMENTING AN INNOVATIVE MODEL OF CARE FOR NUTRITIONAL
MANAGEMENT OF PATIENTS WITH HEAD AND NECK CANCER

LC04 Merran Findlay (Australia)

4:20pm OPTIMIZING NUTRITION CARE IN PATIENTS WITH HEAD AND NECK CANCER
LC08 Leah Gramlich (Canada)

4:50pm EATING AS TREATMENT (EAT) IN HEAD AND NECK CANCER PATIENTS UNDERGOING RADIOTHERAPY:
A STEPPED WEDGE RANDOMISED CLUSTER CONTROLLED TRIAL

LC15 Ben Britton (Australia)

5:00pm IMPLEMENTING HEAD AND NECK CANCER NUTRITIONAL GUIDELINES:
A NORTHERN TERRITORY EXPERIENCE

LC16 Louise Moodie (Australia)

5:10pm OUTCOMES FOLLOWING PROACTIVE VS REACTIVE NUTRITION SUPPORT IN PATIENTS
UNDERGOING CHEMORADIOTHERAPY

LC20 Teresa Brown (Australia)

5:20pm DISCUSSION

THURSDAY 30 JULY - CONCURRENT SESSIONS 11 (CONT'D)

4:00pm - 5:30pm **11.5 FUTURE TOPICS IN LARYNX CANCER**

Meeting Room 5

Chair: Muzib Abdul-Razak (Australia) and June Corry (Australia)

4:00pm FUTURE DIRECTIONS IN LARYNX CANCER
Suren Krishnan (Australia)

4:10pm ARTIFICIAL LARYNX: A STEP TOWARD LARYNGEAL TRANSPLANTATION
Georges Lawson (Belgium)

4:30pm SPEECH AND SWALLOWING MANAGEMENT FOLLOWING LARYNX CANCER: WHERE TO FROM HERE?
LC10 Elizabeth Ward (Australia)

4:50pm CAN WE MAKE RADIOTHERAPY ANY BETTER IN TREATING LARYNX CANCER
LC12 Robert Smee (Australia)

5:10pm DISCUSSION

4:00pm - 5:30pm **11.6 LONG TERM FOLLOW-UP**

Meeting Room 3

Chair: Craig Johnston (Australia) and Chris Wratten (Australia)

4:00pm THE FATE OF FOLLOW-UP: "WHEN AM I CURED DOC?"
LC13 Robert Smee (Australia)

4:15pm LONG TERM FOLLOW-UP IN LARYNGEAL CANCER IN SA FROM 1977-2015
Guy Rees (Australia)

4:35pm STANDARD FOLLOW-UP OR PERSONALIZED SURVEILLANCE OF LARYNGEAL CANCER PATIENTS
LC02 Henri Marres (Netherlands)

4:55pm RADIOLOGY IN THE FOLLOW-UP OF PATIENTS WITH HEAD AND NECK CANCERS
Chris Wratten (Australia)

5:15pm DISCUSSION

5:30pm - 6:00pm **CLOSING REMARKS**

Hall A

5:30pm Lester Peters (Australia)

5:35pm Wolfgang Steiner (Germany)

5:40pm Robert Smee (Australia)

5:45pm AWARDING OF PRIZES
ANZHNCS ASM 2016



POSTERS

These posters may be viewed in the exhibition area in Hall 2.

Alphabetical order by presenting author's surname.

LC57P

THE IMPACT OF LARYNGEAL BIOPSY ON VOICE OUTCOMES

Liza Bergstrom (Australia)

LC33P

DETERMINING THE NEED FOR NECK DISSECTION IN CLINICALLY
NODE-NEGATIVE LARYNGEAL SQUAMOUS
CELL CARCINOMA

Crystal Cheong (Singapore)

LC28P

ANTI-CANCER EFFECTS OF COLCHICINE ON HYPOPHARYNGEAL
CANCER

Jung-Hae Cho (Korea)

LC55P

T2 GLOTTIC SCC TREATED WITH RADIOTHERAPY;
IMPACT OF ANTERIOR COMMISSURE INVOLVEMENT

Graeme Dickie (Australia)

LC42P

PROLONGED ASPIRATION OF BLOM-SINGER INDWELLING VOICE
PROTHESIS

Kristin Fulton (Australia)

LC24P

A CASE OF LARYNGEAL VISCERAL LEISHMANIASIS

Sumit Gupta (India)

LC44P

RADIOCHONDRONECROSIS OF LARYNX AND ITS MANAGEMENT:
A SINGLE INSTITUTE CASE SERIES

Sumit Gupta (India)

LC49P

ROLE OF INTRAOPERATIVE BRACHYTHERAPY DURING SALVAGE
HEAD AND NECK SURGERY – CASE SERIES AND REVIEW OF
ARTICLE

Sumit Gupta (India)

LC66P

WHEN LIGHTNING STRIKES TWICE: THE IMPACT OF LOCAL
FAILURE ON SURVIVAL IN PATIENTS WITH LARYNGEAL
CARCINOMAS

Claire Hanna (Australia)

LC59P

THE ROLE OF P300 IN THE TUMOR PROGRESSION OF HEAD AND
NECK SQUAMOUS CELL CARCINOMA

Seong-Doo Hong (Korea)

LC30P

CHARACTERIZATION OF RADIORESISTANT HEAD AND NECK
CANCER CELL LINE AND CANCER STEM CELLS

Young-Hoon Joo (Korea)

LC46P

RELATIONSHIP BETWEEN PARAGLOTTIC SPACE INVASION AND
CERVICAL LYMPH NODE METASTASIS IN PATIENTS UNDERGOING
SUPRACRICOID PARTIAL LARYNGECTOMY

Young-Hoon Joo (Korea)

LC62P

TWO CASES OF LARYNGEAL SCHWANNOMA RESECTED
BY DIFFERENT APPROACHES

Koichi Kano (Japan)

LC64P

UTILITY OF 18F-FDG PET/CT IN SUPRACRICOID PARTIAL
LARYNGECTOMY

Choung Soo Kim (Korea)

LC48P

RISK FACTOR FOR LOCAL RECURRENCE IN EARLY GLOTTIC
CANCER: LONG-TERM RESULT

Sang-Yeon Kim (Korea)

LC56P

THE EFFICACY OF 18F-FDG PET/CT IMAGING FOR
EXTRACAPSULAR SPREAD OF THE LARYNGEAL SQUAMOUS CELL
CARCINOMA

Sang-Yeon Kim (Korea)

LC52P

SCORE TO PREDICT DISEASE-SPECIFIC SURVIVAL AFTER
TREATMENT OF LOCAL RECURRENCE OF LARYNGEAL CANCER

Luiz Paulo Kowalski (Brazil)

LC31P

CLINICAL ANALYSIS FOR LATE RECURRENCE OF EARLY GLOTTIC
CANCER

Tack-Kyun Kwon (Korea)

LC25P

A CASE THAT IS SUPERFICIAL HPC RESECTED BY HYBRID
APPROACHES

Hasebe Masayuki (Japan)

LC45P

RECRUITMENT PATTERNS & LIMITATIONS OF INTENSIVE
DYSPHAGIA REHABILITATION AT A METROPOLITAN TERTIARY
HOSPITAL

Felicity Megee (Australia)

POSTERS (CONT'D) *Alphabetical order by presenting author's surname.*

LC36P
FRONTOLATERAL LARYNGECTOMY: SIRIRAJ EXPERIENCE
Choakchai Metheetrairut (Thailand)

LC32P
COMPARISON OF QUALITY AND RESOURCE IMPACT OF THREE
DIFFERENT RADIATION THERAPY PLANNING TECHNIQUES FOR
LARYNGEAL CANCER
Myo Min (Australia)

LC22P
"WHEN CAN THIS TUBE COME OUT?" IDENTIFYING FACTORS TO A
SUCCESSFUL GASTROSTOMY REMOVAL
Louise Moodie (Australia)

LC43P
PROPHYLACTIC GASTROSTOMIES IN CURATIVE-INTENT HEAD
AND NECK TREATMENT: DETERMINING APPROPRIATE GUIDELINES
FOR THE NORTHERN TERRITORY POPULATION
Louise Moodie (Australia)

LC39P
METHOTREXATE-ASSOCIATED DIFFUSE LARGE B CELL
LYMPHOMA OF THE VOCAL CORD
Matthew Ng (Australia)

LC37P
FUNCTIONAL ANALYSIS OF SWALLOWING AFTER
FRONTOLATERAL HEMI-LARYNGECTOMY IN PATIENTS DIAGNOSED
WITH EARLY STAGE CA GLOTTIS
Sunun Ongarg (Thailand)

LC27P
AN ANATOMIC STUDY ON THE DIMENSIONS OF CADAVERIC
LARYNGEAL SINUS
Ashwin Rai (India)

LC51P
SACRIFICE OF DURAL SINUS VESSELS IN HEAD AND NECK
ONCOLOGY SURGERY
Samuel Roberts (Australia)

LC26P
A RETROSPECTIVE CASE STUDY: DOES STRATAXRT SILICONE GEL
REDUCE RADIATION DERMATITIS SKIN REACTIONS ON HEAD &
NECK CANCER PATIENTS?
Robert Smee (Australia)

LC63P
UNSEDATED TRANSNASAL ESOPHAGOSCOPY AS A SCREENING
TOOL IN AN OUTPATIENT CLINIC
Premuda Sombuntham (Thailand)

LC29P
ASSOCIATIONS OF FOXP3 GENE POLYMORPHISMS WITH SEVERE
RECURRENT RESPIRATORY PAPILLOMATOSIS IN KOREAN PATIENTS
Eun Young Song (Korea)

LC40P
NECK METASTASIS IN PATIENTS WITH T1-2 SUPRAGLOTTIC
CANCER
Tomoyasu Tachibana (Japan)

LC23P
A CADAVERIC STUDY OF THE ADULT HUMAN THYROID
CARTILAGE
Rajanigandha Vadgaonkar (India)

LC60P
THE TENACIOUS HEAD & NECK RESEARCHER
Janet Williams (Australia)

LC34P
DIET RE-INITIATION POST FLAP RECONSTRUCTION OF
PHARYNGOLARYNGECTOMY DEFECTS
Nilay Yalcin (Australia)

LC38P
LARYNGEAL CHONDROSARCOMAS – DIAGNOSIS AND
TREATMENT OPTIONS
Michal Zabrodsky (Czech Republic)



PRESENTATION ABSTRACTS

Alphabetical order by presenting author's surname.

LC26

DESIGNING A BIONIC VOICE PROSTHESIS TO RESTORE NATURAL VOICE FOR LARYNGECTOMY PATIENTS

Dr Farzaneh Ahmadi

New South Wales, Australia

The most important mechanism of human communications is speech, and the larynx is the only source of voice production in the human speech generation mechanism. When a person speaks, the sound waves generated by the larynx pass through the vocal tract and are shaped into different phonemes by the changes in the shape of the vocal tract. If for any reason, the larynx is amputated (e.g. as the result of laryngeal cancer or swallowing disorders), the person will lose the ability to generate voice and will remain merely with the possibility of producing limited whispers. Despite the emerging progress in many fields of bionics, developing a Bionic Voice prosthesis for laryngectomy patients has not been achieved so far. Hence, these patients live to suffer a lifelong voice disability after surgical removal of the larynx. The existing standard of care for voice after laryngectomy is the Tracheoesophageal (TE) prosthesis. TE is a plastic valve surgically placed between food pipe and wind pipe which provides the patients with acceptable levels of intelligibility [1]. However, it requires frequent replacements [2] and generates an open wound inside the throat which remains susceptible to infections [3]. In addition the TE generates a male sounding low-pitched voice similar to belching for both men and women [3]. The source of voice in TE speech lacks a proper motor control similar to the healthy larynx. Hence, this existing gold standard is claimed to remain ultimately limited in modulating natural variations of intonation and generating a natural voice after laryngectomy [4]. The mainstream of biomedical engineers, have traditionally sought an alternative solution for voice after laryngectomy through manipulating the Electrolarynx as an adjustable design platform. Their hope has been to employ the strengths of digital signal processing to improve Electrolarynx voice quality over time. Yet, more than fifty years after the invention of the Electrolarynx and despite many design efforts, very little progress has been made to reach any substantial improvement in the robot-like sound quality of the device [5]. This research deviates from the main stream of biomedical engineers and focuses on designing a physiologically relevant Bionic Voice prosthesis. The Bionic Voice prosthesis employs what seems to be the main physiological contributor to the superior quality of the gold standard of TE voice (natural control of respiration). The design also employs the most important contributor to the natural variations of the intonation of the voice [5] (neural drive of the superior laryngeal nerve). Bionic Voice is a non-invasive electronic prosthesis and similar to Bionic Arm, is a motor control prosthesis where the intended motor function is voice generation. To provide access to the neural drive, residual nerves of the larynx will be transferred to the muscles of the neck during laryngectomy surgery in human subjects in this project. Consequently, a non-invasive neural interface is designed to monitor the activity of these muscles, providing a natural control over intonation. This project report

on the latest achievements of a pioneering research team in Australian universities to develop the first functional Bionic Voice solution. The work is defined as a joint research program between Bioelectronics and Neuroscience research group, MARCS institute, University of Western Sydney, The University of Sydney, and the Department of Laryngology, The University College of London.

References: [1] R. E. Hillman, M. J. Walsh, G. T. Wolf, S. G. Fisher, and W. K. Hong, "Functional outcomes following treatment for advanced laryngeal cancer. Part I-- Voice preservation in advanced laryngeal cancer. Part II--Laryngectomy rehabilitation: the state of the art in the VA System. Research Speech-Language Pathologists. Department of Veterans Affairs Laryngeal Cancer Study Group," *The Annals of otology, rhinology & laryngology. Supplement*, vol. 172, pp. 1-27, 1998. [2] S. Xi, "Effectiveness of voice rehabilitation on vocalisation in postlaryngectomy patients: a systematic review," *International Journal of Evidence Based Healthcare*, vol. 8, pp. 256-258, 2010. [3] L. Smithwick, P. Davis, J. Dancer, G. S. Hicks, and J. Montague, "Female Laryngectomees'satisfaction With Communication Methods And Speech-Language Pathology Services," *Perceptual and motor skills*, vol. 94, pp. 204-206, 2002. [4] A. M. Pou, "Tracheoesophageal voice restoration with total laryngectomy," *Otolaryngologic Clinics of North America*, vol. 37, pp. 531-545, 2004. [5] G. S. Meltzner and R. E. Hillman, "Impact of aberrant acoustic properties on the perception of sound quality in electrolarynx speech," *Journal of Speech, Language and Hearing Research*, vol. 48, p. 766, 2005. [6] T. A. Kuiken, et al., "Targeted reinnervation for enhanced prosthetic arm function" *The Lancet*, vol. 369, 2007"

LC38

INDICATION AND TECHNIQUE OF TLM FOR CANCER OF THE LARYNX

Prof Petra Ambrosch

Department of ORL Head and Neck Surgery, Kiel, Schleswig-Holstein, Germany

Transoral techniques have gained wide acceptance for partial laryngeal resections due to little invasiveness and morbidity. TLM is now an established surgical technique having been used since the early seventies. The advantages are: A big variety of laryngoscopes is available, enabling the experienced surgeon to get adequate access to the tumor even in cases of "difficult" exposure. The operating microscope allows a stereoscopic view. With the CO₂ laser as a cutting device, only one microinstrument is in the surgical field. The use of a pulsed CO₂ laser allows precise bloodless mucosal cuts with little carbonization. Techniques for the histopathologic examination of resection specimens are described. Using piece-meal resection, the tumor extension is visible during surgery, the resection follows the tumor, uninvolved structures can be better preserved, and the view is not obstructed by a bulky resection specimen. The technical set-up is done in a few minutes, reducing OR times. Costs for TLM are low. TLM has proven safety and oncologic efficacy for early and moderately advanced glottis and supraglottic carcinomas if indicated correctly.

PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

LC72

LIMITATIONS OF THE CURRENT STAGING SYSTEM OF GLOTTIC AND SUPRAGLOTTIC CANCER

Prof Petra Ambrosch

Department of ORL Head and Neck Surgery, Kiel, Schleswig-Holstein, Germany

The TNM system gives a coded description of the anatomical extent of neoplastic disease. At present, the 7th edition of the AJCC/UICC Cancer Staging Manual is the applied version. The classification system is based on the anatomical extent of a tumor as determined clinically. The larynx is divided into 3 regions: supraglottis, glottis and subglottis. Despite the explanatory notes published by the AJCC on the borders, there is considerable controversy about the definitions among clinicians. A description of the terms preepiglottic and paraglottic space is missing. Factors that may lead to over- and understaging with possible consequences for treatment planning are the following: the assessment of vocal cord mobility as a clinical parameter of depth of invasion is subjective and the interobserver variability is high. Imaging characteristics that define T3 lesions are extension to the preepiglottic or paraglottic space and erosion of the inner cortex of the thyroid cartilage. The latter two are difficult to routinely detect by imaging with CT and/or MRI. The same may be true for extralaryngeal tumor spread. Stage T4 (a and b) can be assessed correctly only by combining imaging and direct laryngoscopy. Nonanatomic prognostic factors (e.g., depth of invasion of the primary tumor, presence or absence of vascular and perineural invasion, grading, HPV-status, number, size and location of lymph node metastases in the neck, presence or absence of extranodal spread, patient-related factors) are not yet part of the staging system.

LC64

STAGING OF THE NECK IN CANCER OF THE LARYNX

Prof Petra Ambrosch

Department of ORL Head Neck Surgery, Schleswig-Holstein, Germany

It is well recognized that the status of the cervical lymph nodes is an important prognostic factor in head and neck cancer. The presence, number, size, level and extranodal spread of cervical lymph node metastases considerably reduce locoregional control and survival rates of the patients. The likelihood of metastasizing to the neck depends on the location of the tumor within the larynx (glottic versus supraglottic carcinomas) and the T category of the primary tumor. At diagnosis circa 40% of supraglottic carcinomas have caused lymph node metastases in the neck. Early glottic carcinomas do not metastasize, for glottic T2 and T3 carcinomas the prevalence of (occult) metastases at diagnosis is 10-15%, and for T4 carcinomas 25-40%. Current aspects of pre- and post therapeutic staging are described. The accuracy of the currently available imaging techniques (ultrasound, ultrasound-guided fine needle aspiration cytology, CT, MRI, PET-CT, USPIO-MRI) for the staging of the clinical N0 neck and the impact on the indication for elective neck treatment is discussed. The ability to detect extranodal spread and the accuracy for the staging of the post-treatment neck is also reported. Metastasizing to the neck follows predictable routes. Metastases are located mainly in the lymph nodes of level II and III. Metastases in lymph nodes of other levels are rare. The impact on indication and extent of elective and therapeutic neck dissection is discussed.

LC71

ONCOLOGIC AND FUNCTIONAL OUTCOMES OF TRANSORAL LASER MICROSURGERY (TLM) FOR GLOTTIC AND SUPRAGLOTTIC CANCER

Prof Petra Ambrosch, Johanna Erlenwein, Dr Asita Fazel, Mireia Gonzales-Donate

Department of ORL Head and Neck Surgery, Kiel, Schleswig-Holstein, Germany

The report is based on the long-term follow up of 419 previously untreated patients with glottic and supraglottic carcinomas treated from 04/2002 to 12/2012 at Kiel University, Germany. We treated 236 patients with T1 glottic carcinomas. The 5y local control rate was 93% for T1a and 89% for T1b tumors. The majority of recurrences were successfully treated by further TLM. The 5y larynx preservation rates were 97% and 92%. The median VHI score for 97 patients with T1a tumors was 25. We treated 65 patients with T2 glottic carcinomas (15% with impaired vocal cord mobility). The 5y local control and larynx preservation rates were 78% and 91%. Twenty-seven patients with T3 glottic carcinomas had TLM. The 5y local control and larynx preservation rates were 70% and 81%. Functional results were very satisfactory. There were no laryngectomies for functional reasons. We treated 91 previously untreated patients with supraglottic carcinomas. The stage distribution was: stage I, 9%; stage II, 24%; stage III, 29% and stage IVa, 38%. (pT1/pT2, 46%; pT3/pT4a, 54%). The 5 year local control rate was 72% and the ultimate local control rate including salvage surgery 81%. The 5 year overall survival rate was 70% for stage I and II and 58% for stage III and IV disease; the 5 year disease-specific survival rate was 80% and 64%, respectively. **Functional results:** One patient had a laryngectomy for functional reasons and 2 depend on a gastrostomy tube. The dysphagia-related quality of life was examined with the MDADI questionnaire in a subset of patients. The MDADI composite score was 80.

LC32

IMPORTANCE OF QUALITATIVE AND TIMELY TREATMENT TO PATIENTS SUFFERING FROM CANCER OF THE LARYNX

Dr Gurmit Kaur Bachher

Tata Memorial Hospital, Mumbai, India, Maharashtra, India

Introduction: Profound differences in overall health status exist between developed and developing nations. In a developing country like India lack of socioeconomic factor plays a dominating role in the awareness of the presence of disease, and the ability to deal with the treatment and rehabilitation following head and neck cancers. Patients affected by cancer of the larynx need to undergo pre-operative as well as post-operative counseling to have a proper idea about the disease, treatment and rehabilitation. It is essential that patients receive treatment and rehabilitation eventually in time to have good quality of life. Due to high illiteracy rates in India speech is the only tool of communication. This may lead to loss of vocation and livelihood. Lack of communication and resources can make these patients social recluse. After cancer treatment voice rehabilitation is done by the speech pathology services at Tata Memorial Hospital, India. Services rendered are psycho-oncological evaluation, voice analysis and voice therapy. All the patients with laryngeal cancers should have some form of speech which enables them to 'Phonate on demand'. The patients who are unable to attend health care institutions in small cities or villages should be



PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

attended and awareness should be instituted through medical camps with involvement of non government organizations.

Conclusion: Awareness, timely intervention and proper rehabilitation will ensure patients with laryngeal cancer a good quality of life and fulfill the goal, 'Every patient must be self-sufficient and happy to enjoy the New Life'.

LC45

PRETREATMENT FACTORS ASSOCIATED WITH FUNCTIONAL ORAL INTAKE, DYSPHAGIA AND ENTERAL NUTRITION USE ONE AND SIX MONTHS POST RADIOTHERAPY (+/- CHEMOTHERAPY)

Miss Molly Barnhart, Mrs Rachelle Robinson, Mrs Virginia Simms, Dr Elea Wurth, Prof Elizabeth Ward, A/Prof Robert Smee
Prince of Wales Hospital, New South Wales, Australia

Purpose: Speech pathology services advocate assessing patients pre-treatment to identify those at risk of compromised oral intake and/or use of enteral nutrition (EN). Greater understanding of predictive factors impacting post-treatment swallowing outcomes is needed to enhance services. This study investigated which patient and treatment factors predicted oral intake and EN use at 1 and 6 months post radiotherapy +/- chemotherapy (RT/CRT). **Methodology:** Participants included 80 patients who underwent RT/CRT for HNC. Baseline predictors investigated were T-stage, tumour site (nasopharynx, oropharynx, larynx, hypopharynx), baseline dysphagia, treatment modality, neck treatment, place of residence, and social support. Outcomes of oral intake and EN use at 1 and 6 months post treatment were analysed using binary logistic regression. Short term (<6 weeks) vs long term (>6 weeks) EN use was analysed with the 37 patients who used EN. **Results:** Bilateral neck treatment ($p<0.001$) and T3/T4 stages ($p=0.032$) predicted patients on modified diets at 1 and 6 months respectively. CRT and bilateral neck treatment were correlated with EN use at 1 month ($p=0.021$ & $p=0.015$ respectively). Of patients who used EN, those treated with CRT were more likely to use EN for >6 weeks ($p=0.037$). Although tumour site (larynx, nasopharynx & hypopharynx vs oropharynx) had correlations at a bivariate level, this lost significance with multivariate analysis. **Conclusion:** Patients with bilateral neck treatment are at risk of requiring modified diets and EN use at 1 month post treatment, and T3/T4 stage tumours at risk of dysphagia at 6 months. These predictors will help enhance service planning for oral intake, EN use and prognostic discussions with patients.

LC04

RADIOTHERAPY IN LOW AND MIDDLE INCOME COUNTRIES **Prof Michael Barton**

Ingham Institute, New South Wales, Australia

About 8 million cases of cancer (56% of new cases in the world) arise in people in low and middle income (LMI) countries. This proportion will rise to 70% by 2020. These are countries where the annual Gross National Income is <US\$12,616 per capita. Radiotherapy is an essential part of the treatment of cancer. In High Income countries 48% of new cases of cancer should receive radiotherapy at least once¹ and up to 25% may receive a second course. Because of the different distribution of tumour types and more advanced stage at presentation cancer patients in LMI countries have a greater need for radiotherapy². Radiotherapy for cure or palliation has been shown to be cost-

effective. There is a current deficit of over 4600 megavoltage machines in LMI and 22 African countries have no radiotherapy at all. Strategies for developing services require planning at a national level and considerable investment for staff training and equipment. The safe and effective development of services would benefit from linkages with established services in other countries particularly those within the same region, access to information such as free on-line journal access and better education of all medical staff about the roles and benefits of radiotherapy.

¹ Barton MB, Jacob S, Shafiq J, et al. Estimating the demand for radiotherapy from the evidence: A review of changes from 2003 to 2012. *Radiotherapy and Oncology* 2014. ² Barton MB, Frommer M, Shafiq J. The role of radiotherapy in cancer control in low- and middle-income countries. *Lancet Oncol* 2006; 7 (7): 584-95.

LC26

RADIOTHERAPY FOR INDIGENOUS CANCER PATIENTS

Prof Michael Barton

Ingham Institute, New South Wales, Australia

We estimate that 48% of cancer patients in Australia need radiotherapy at least once. A greater proportion of indigenous cancer patients need radiation more than the non-indigenous population because of the mix of tumour types that they have. One difficulty is that because of the need for concentration of equipment and staffing infrastructure, radiotherapy facilities are situated in major cities. Even radiotherapy opinions can be difficult to obtain in remote areas. A major problem for aboriginal patients is whether they are being referred adequately for radiotherapy. When referred they often need to travel long distances from home and stay away from home for many weeks. They may have difficulties in adjusting to treatment. There are often problems with travel restrictions on escorts and finding appropriate escorts. Differences from home often include the language, the climate, and the uncertainty of negotiating multi-story buildings and what support is available for weekends off treatment. Aboriginal people often have duties in their own country that cannot be deferred and will interrupt a course of radiotherapy. Travel and support services do not accommodate their need for flexible travel. Added to that are the special cultural difficulties if very sick patients die away from home or patients sent home after radiotherapy who develop subsequent side effects from the therapy.

LC94

THE COSTS AND BENEFITS OF RADIOTHERAPY

Prof Michael Barton

Ingham Institute, New South Wales, Australia

Radiotherapy is an essential part of cancer care. Successive studies have shown radiotherapy to be inexpensive and cost-effective. These studies are difficult to undertake and may not be applicable in different countries because of variations in work practices, wages and capital costs. A population-based model of radiotherapy demand and benefits could provide an estimate cost effectiveness if it was coupled to cost data. It could be updated simply by adding new cost or epidemiological data. We have developed a model of every indication for radiotherapy that has allowed us to estimate that 48% of cancer cases in a Australian require radiotherapy at least once (<http://tinyurl.com/pwkua34>). It is possible to adapt the model to other countries

PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

by substituting the relevant proportions of cancer types and even stages for that country. The model has been expanded to estimate the number of fractions per indication and thus an average of 18 fractions is needed per course. We have also estimated the survival and local control benefit of radiotherapy at 5 years by tumour type. Using Markov modelling it is possible to calculate the number of Life Years Gained and thus we can calculate a survival benefit per fraction. By costing fractions in different countries it will be possible to estimate the cost per life year gained.

LC59

SMOKING TRENDS IN THE UNITED KINGDOM AND PROGRESS MADE

Prof Linda Bauld

Cancer Research United Kingdom, London, United Kingdom

In the United Kingdom, tobacco smoking rates have halved since the 1970s but one in five adults still smokes. Prevalence is highest in adults in their 20s and 30s with older people more likely to stop smoking. This presentation will outline current smoking patterns in the UK in children aged 11-16 and in adults, focusing in particular on socio-economic gradients in tobacco use and how current tobacco control efforts need to be concentrated on those from less affluent communities and on priority groups including adults diagnosed with a psychiatric condition and pregnant women. The rationale behind targets to reduce smoking rates to 5% of the population by 2034 will be described and current tobacco control interventions explained. The presentation will also outline national guidance on tobacco harm reduction, produced by the UK's National Institute for Health and Care Excellence in 2014 and how this links to current approaches to regulation and use of electronic cigarettes as an alternative to tobacco smoking. It will ask what next for policies and services to reduce smoking, including a recent proposal to introduce a levy on the tobacco industry to cover some of the costs of national programmes to reduce smoking rates further.

LC19

WELLBEING AND SMOKING CESSATION

Prof Linda Bauld, Dr Rosemary Hiscock, Ms Fiona Dobbie, Dr Andy McEwen

University of Stirling, Stirlingshire, United Kingdom

Background: Smokers often present at cessation services with poor mental and physical health. Here we explore whether lower perceived levels of wellbeing affect the likelihood of abstinence from smoking. **Data:** 3057 clients of smoking cessation services in the UK provided routine monitoring data and completed additional questions on mental and physical health including questions on levels of wellbeing. Biochemical validation of smoking status was carried out 4 and 52 weeks post quit date. Multivariate logistic regression analysis was used to establish whether services differed in terms of the mental health of their clients and whether medical conditions and wellbeing predicted cessation. Regression analysis also was used to determine predictors of wellbeing. **Results:** Subjective wellbeing, but not medical conditions, predicted quitting after controls. Many characteristics that increase chances of quitting are also associated with higher wellbeing such as social support and socioeconomic status. Smokers who accessed different types of services differed in their levels of wellbeing and mental

and physical health conditions, with those treated in pharmacy and primary care less likely to report a mental health condition and those who attended group sessions more likely to report higher subjective wellbeing. **Conclusions:** Assessing wellbeing amongst smokers trying to quit may provide one indication of likely commitment to a programme and act as one predictor of cessation. Services should explore ways that wellbeing can be maintained and enhanced during a quit attempt. These findings will be discussed in the presentation within the wider context of what we know from the literature on wellbeing and smoking cessation

LC15

WHAT WORKS IN SMOKING CESSATION?

Prof Linda Bauld, Ms Fiona Dobbie, Dr Andy McEwen, Dr Rosemary Hiscock

University of Stirling, Stirlingshire, United Kingdom

Smoking is the leading preventable cause of cancer and tobacco use remains high in many countries. This presentation will outline what we know about effective interventions for smoking cessation in the context of broader population tobacco control measures. Drawing on evidence from Cochrane reviews and individual studies, it will describe the efficacy of behavioural support and pharmacotherapy from trials and effectiveness from 'real world' observational studies. The most effective interventions include a combination of face to face, telephone or mobile text messaging behavioural support alongside nicotine replacement therapy, bupropion, varenicline or cytisine. Cohort studies of service users receiving this combination illustrate that it is, on average, four times more likely to result in abstinence from smoking than willpower alone. Particular attention will be paid to interventions that can be delivered in low and middle income countries where barriers to the delivery of effective treatments exist. Emerging evidence on the effectiveness of electronic cigarettes and nicotine vapourisers for smoking cessation will also be described.

LC54

OUTCOMES OF TRANSORAL LASER MICROSURGERY FOR LARYNGEAL SQUAMOUS CELL CARCINOMA: A 12 YEAR REVIEW

Dr Kiva Marie Belt, Dr Nicholas Potter, Dr Benedict Panizza, Dr Scott Coman

Princess Alexandra Hospital, Queensland, Australia

Objective: To investigate the oncologic and functional outcomes in patients undergoing transoral laser microsurgery for laryngeal squamous cell carcinoma (SCC). **Design:** A retrospective chart review of all adult patients who underwent transoral laser microsurgery with curative intent for laryngeal SCC at the Princess Alexandra Hospital between 2003 and 2015. **Setting:** A tertiary-level Australian public hospital. **Outcomes:** Attainment of local control and laryngectomy-free survival. **Results and Conclusion:** 73 patients were included. 14% of patients had squamous cell carcinoma in-situ, 64% had T1 SCC, 18% had T2 SCC, and 4% had T3 SCC. 42% of lesions were well-differentiated SCC, 47% were moderately-differentiated SCC, and 11% were poorly-differentiated SCC. 16% of patients had postoperative radiotherapy. Good local control rates were achieved: a two-year local control rate of 80%, a three-year local control rate of 76%, and a five-year local control rate of 60%. Median follow-up



PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

was 21 months, with many patients returning to their regional centres for follow-up. 3 patients in the study period progressed to laryngectomy. Transoral laser microsurgery has thus been an effective means of achieving local control in laryngeal squamous cell carcinoma.

LC29

THE ROLE OF "COMPETENCE" IN INTRINSIC AND EXTRINSIC SUPPORTS DURING THE TOTAL LARYNGECTOMY JOURNEY

Ms Jane Bickford, Prof John Coveney, A/Prof Janet Baker, A/Prof Deborah Hersh

Flinders University, South Australia, Australia

Purpose: Physical and psychosocial adjustment to total laryngectomy (TL) is complex, and the resultant support needs are extensive. Current support practices have been guided by HR-QOL measures; whilst useful many were developed without considering the perspectives of people who have experienced TL. To further improve understanding of the support needs after TL multiple viewpoints were examined (e.g. affected individuals, significant others and health professionals). **Methodology:** A qualitative study explored the perspectives of 28 individuals (7 men and 5 women who had undergone a TL, 9 significant others and 7 health professionals). Data were collected through in-depth, semi-structured interviews, journals and field notes, and analysed using constructivist grounded theory and symbolic interactionism. **Results:** The emergent theme 'competence and the total laryngectomy journey' as reflected across the participant groups suggest that temporal factors, exposure thresholds, knowledge acquisition and self-efficacy are important aspects of TL support provision and adjustment. Displaying competence is perceived as clinical expertise for health professionals and for patients or significant others it is perceived as mastery. Where competence is lacking, trust is affected and the capacity for rehabilitation and participation impacted. **Conclusion:** The extent to which competence develops with time, experience and education for the individual and their primary supporters appeared important across the TL journey. Multi-disciplinary, person-centred care is optimized when all actors are competent with the care. In turn, reduced competence increases the support burden for one or all in the care triad.

LC48

EXPLORATION OF THE EXPERIENCES OF COMMUNICATION CHANGES AFFECTING 'SELF-IDENTITY' AFTER TOTAL LARYNGECTOMY

Ms Jane Bickford, Prof John Coveney, A/Prof Janet Baker, A/Prof Deborah Hersh

Flinders University, South Australia, Australia

Purpose: Total laryngectomy (TL) results in profound communication changes for the individual. The impact of impaired communication after TL can be measured with HR-QOL tools. However, many were developed without considering the perspectives of people who have experienced TL. To further understand the experiences and impacts of alaryngeal speech, multiple viewpoints were explored (e.g. affected individuals, significant others and health professionals). **Methodology:** A qualitative study explored the perspectives of 28 individuals (7 men and 5 women who had undergone a TL, 9 significant others and 7 health professionals). Data were collected through

in-depth, semi-structured interviews, journals and field notes, and analysed using constructivist grounded theory and symbolic interactionism. **Results:** The theme 'communication changes affecting self-identity' highlights the linguistic and paralinguistic limitations experienced using alaryngeal communication and the relationship of these to a person's identity. Changes to communication versatility, reliability and vocal features were modifiers of interaction, engagement and participation. Personal and socio-cultural constructs e.g. gender, age, resilience, belief and supports continuously influence how an individual responds and adjusts to the changes. **Conclusion:** Communication changes after TL have functional and psycho-emotional importance. The extent these changes disrupted social roles affecting a person's sense of self appeared to relate to long-term adjustment. Further understanding of the issues and related impacts on participation e.g. relationship building, access, employment is important for providing optimal and accessible healthcare support and rehabilitation.

LC32

NOVEL MANAGEMENT OF VOICE PROSTHESIS RELATED PROBLEMS

Dr Eric Blom

Center for Ear, Nose, Throat & Allergy, Indiana, United States of America

In 1978 Blom and Singer pioneered the method of tracheoesophageal "puncture" and valved silicone voice prosthesis that, over the past 37 years, has become the international standard for voice restoration following total laryngectomy. At the onset, our review of the problems encountered by previous investigators led to our formulation of some working principles that we believed to be critical to our development of a successful surgical voice restoration method. These included: a) no oncologic compromise, b) viability in radiated tissue, c) no aspiration, d) safety and surgical simplicity, e) consistent reproducibility and f) inclusion of an uncomplicated valved prosthesis. Although our working principles have been clinically realized and substantiated over time, unfortunately "c) no aspiration" (liquid leakage through or around a voice prosthesis) remains an annoying problem for some patients. This presentation offers the author's traditional and currently under development approach(s) to this problem.

Conflict of Interest Declaration: Dr Blom receives royalties from InHealth Technologies, Carpinteria, California for license rights for patents and trademarks.

LC35

A UNIQUE "ELASTOMERIC LENGTH-ADJUSTING" TRACHEOESOPHAGEAL VOICE PROSTHESIS

Dr Eric Blom

Center for Ear, Nose, Throat & Allergy, Indiana, United States of America

A clinically recognized aspect of tracheoesophageal "puncture" and use of a valved voice prosthesis is fluctuation(s) in the length of the tracheoesophageal tract in which the prosthesis resides. In the weeks following surgery the tract length shortens as edema subsides and accordingly a shorter voice prosthesis is required. Also, during long-term prosthesis use some patients experience episodes of transient tissue edema that necessitates temporary

PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

use of an longer prosthesis. This presentation describes the author's design of an elastomeric, automatic length-adjusting voice prosthesis that addresses the problem of fluctuations in tracheoesophageal tract length.

Conflict of Interest Declaration: Dr Blom receives royalties from InHealth Technologies, Carpinteria, California for license rights for patents and trademarks.

LC39

PROSTHETIC MANAGEMENT OF PE FISTULAE

Dr Eric Blom

Center for Ear, Nose, Throat & Allergy, Indiana, United States of America

An adjustable bi-flanged fistula prosthesis is a silicone device designed for the management of pharyngeal fistulae (PE). Patients with a fistulae need a means to reduce leakage of saliva, food/drink and esophageal contents into the trachea, soft tissue, or external to the body. Traditional treatment has typically been to pack the site to facilitate healing. Depending on fistula size and location, this can also require a feeding tube to be placed and the patient to be hospitalized for multiple days until the site has healed sufficiently for normal eating. The two prosthesis flanges are connected with a stretchable (elastomeric) beaded stem. Both flanges are the same diameter for a given size device. The inner flange is flexible enough to allow folding for trans-fistula insertion by a qualified medical professional. The stem has beads at regular intervals to facilitate adjustment of a snug fit between the outer and inner flanges that creates a surface seal around the tissue. The distance between the fistula prosthesis flanges can be manually adjusted to provide a more tightly or loosely fitting flange seal against the tissue surfaces. Clinical experience with 25 patients treated with a custom-fabricated bi-flanged fistula prosthesis has demonstrated that this device can provide a safe and effective alternative for managing fistulae. The majority of patients treated with this device were able to control or eliminate leakage and no serious adverse events were experienced.

Conflict of Interest Declaration: Dr Blom receives royalties from InHealth Technologies, Carpinteria, California for license rights for patents and trademarks.

LC94

HISTORICAL PERSPECTIVES: VOICE RESTORATION FOLLOWING TOTAL LARYNGECTOMY

Dr Eric Blom

Center for Ear, Nose, Throat & Allergy, Indiana, United States of America

In the mid-1900s a succession of surgeons proposed reconstructive methods to establish voice following total laryngectomy. These methods usually incorporated shunts or planned fistulae through which pulmonary airflow could be directed to the cervical esophagus or pharynx. Virtually all of these methods failed over time because the reconstructed airflow tract either became too patent and allowed aspiration, or the opposite, stenotic, resulting in excessive airflow resistance and effortful phonation. In 1978 Blom and Singer pioneered the method of tracheoesophageal "puncture" and valved silicone voice prosthesis that, over the past 37 years has become the

international standard following total laryngectomy. This abbreviated presentation describes the evolution of this method and various voice prosthesis designs, primarily those introduced by Blom and Singer, but also includes the contributions of other investigators.

Conflict of Interest Declaration: Dr Blom receives royalties from InHealth Technologies, Carpinteria, California for license rights for patents and trademarks.

LC75

VIDEOLARYNGOSCOPE

Dr Pierre Bradley

Monash University, Victoria, Australia

Usage of Videolaryngoscope is increasing across a number of facilities and slowly being considered a standard of care. The videolaryngoscopes can broadly be divided into Mac like and hyperangulated types. Both of these types require different method to use. The use of hyperangulated blade should be considered a new complex skill to acquire and require practice to become experience with it, even for practitioners who are already comfortable with direct laryngoscope. The role of videolaryngoscope in contemporary practice will explored along with its limitations, specifically in relation to new airway assessment guidelines and other advanced airway procedures. There are advantages to the use of videolaryngoscopes include improve glottic view and imaging of the area, education of staff, reduced cervical spine movement, the ability to optimise cricoid pressure and may facilitate a faster intubation time for more complex airways. Its role in the difficult airway is well established.

LC25

MOLECULAR BIOMARKERS PREDICT OUTCOME IN A CLINICAL TRIAL OF ADVANCED LARYNX CANCER

Dr Chad Brenner, Dr Carol Bradford, Emily Bellile, Adam Scheel, Dr Thomas Carey

Um Spore Program Faculty, University of Michigan, Michigan, United States of America

Larynx cancer is traditionally associated with heavy cigarette smoking. Surgery, usually laryngectomy, followed by full course radiation therapy was the standard therapy for advanced stage T3, T4, N+ larynx cancer until the VA larynx cancer study showed that chemotherapy and radiation were as effective as surgery and radiation in controlling this disease. That study used induction chemotherapy to identify responders who would go on to additional chemotherapy followed by radiation while non-responders were immediately given surgery followed by radiation. This study led the way to concurrent chemo/RT trials such as UMCC9520 that showed remarkable 2 and 3 year survival rates. We have studied the tissue specimens from the VA larynx trial and the UMCC9520 trial extensively and have discovered molecular biomarkers that were predictive of subsequent laryngectomy in subjects in the Chemo followed by RT arm in the VA larynx trial, but not in the UMCC9520 trial. Likewise, we identified additional biomarkers in the UMCC9520 trial that could distinguish the response of patients. We found that mutational status and protein expression of key driver genes and tumor suppressors that are commonly altered in the Cancer Genome Atlas data correlated with outcomes in this trial.



PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

LC78

MOLECULAR STRATIFICATION OF LARYNGEAL CANCER: IMPLICATIONS FOR PERSONALIZED COMBINATION MEDICINE

Dr Chad Brenner, Megan Ludwig, Dr Todd Festerling, Dr Andrew Birkeland, Dr Carol Bradford, Dr Thomas Carey
University of Michigan, Michigan, United States of America

The development of personalized medicine trials have led to substantial advances in outcome for some cancers, but have yet to make a substantial impact in laryngeal carcinoma. One reason for this is genomic complexity intrinsic to tumors of the larynx in which multiple mutational events can drive resistance to targeted therapies. Recent high throughput sequencing studies have revealed basic molecular subsets of laryngeal squamous cell carcinoma. Importantly, several pathways commonly altered in laryngeal tumors including EGFR, NOTCH, PIK3CA, FGF/FGFR and CDKN2A have companion therapeutics that are being advanced to clinical trials. Here, we developed a strategy to understand the co-dependent molecular pathways that drive resistance to monotherapies targeting recurrent genomic aberrations. Preliminary data using integrative DNA and RNA next generation sequencing as well as whole genome CRISPR/CAS9 knockout profiling of cell line models defines combinations of genes and pathways that drive resistance to targeted therapy. Small molecule based inhibition of these secondary compensatory pathways enhances the effects of targeted monotherapies in vitro and in vivo and provides a basis for the rational selection of patients onto "personalized combination trials".

LC01

LARYNGEAL ANATOMY AND CANCER SPREAD

A/Prof Patrick Bridger

New South Wales, Australia

In 1961 Dr. Gabriel Tucker from the Johns Hopkins Hospital Baltimore published his observations of whole organ serial sections of total laryngectomy cancer specimens. This and his later publications provided a three-dimensional appreciation of tumour spread and highlighted structures which hindered cancer spread and spaces once contaminated assisted cancer invasion. The Paraglottic space is situated on the inner face of the thyroid alar and readily invaded by cancers arising in the saccule or ventricle or by secondary spread from glottic and supraglottic tumours. The implications of transglottic invasion and the understanding of pre-epiglottic and supraglottic cancer spread were revealing. His description of the anterior commissure and the anterior subglottic wedge are important. In 1968 I was appointed fellow to Professor Bordley at the Johns Hopkins Hospital and allowed to study the same serial sections which had remained after Dr. Tucker moved to head the department in Pennsylvania. Together with Dr. Victor Nasser from the Pathology department we published several papers revealing that laryngeal Carcinoma In Situ can invade the mucous glands and it can be difficult to distinguish this lesion from invasive cancer: furthermore invasion may well occur from the glandular elements while the lesion in the overlying mucosa remain uninvolved. The topography of the mucous glands in a specific location can influence cancer spread.

LC09

SALVAGE LARYNGECTOMY – THE PRINCE OF WALES EXPERIENCE

A/Prof Robert Smee, A/Prof G. Patrick Bridger, **Dr Andrew Bridger**
Prince of Wales Hospital, New South Wales, Australia

Purpose: This paper outlines the experience of the head and neck oncology unit at the Prince of Wales Hospital in salvage total laryngectomy following radiation failure. **Methodology:** the Head and Neck oncology database at the Prince of Wales Hospital, Sydney was accessed to perform a retrospective review. **Results:** 94 patients underwent salvage laryngectomy in our unit between 1969 and 2010. 36.2% had a supraglottic primary and 63.8% had a glottic primary. 73% had an initial complete response to salvage surgery. The mean follow-up was 7.3 Years with a range from 1 to 27 Years. 13.8% of patients were alive and disease free and 44.7% had died free of cancer. The cancer specific survival is 58.5%. **Conclusions:** Comment is made upon this data and treatment strategies employed to minimise post-operative complications such as the use of the pectoralis major flap. Comment is also made regarding the staging of primary laryngeal cancers and considerations to appropriately select those lesions that should be more amenable to radiation treatment and avoiding the necessity for salvage surgery.

LC33

A REVIEW OF VOCAL CORD DYSPLASIA – THE PRINCE OF WALES EXPERIENCE

Dr Andrew Bridger, A/Prof Robert Smee, A/Prof G. Patrick Bridger
Prince of Wales Hospital, New South Wales, Australia

Much has been written over the past 100 years regarding dysplastic changes in the true vocal cord epithelium. This review paper revisits the normal anatomy of the vocal fold and histological changes seen as a lesion affecting the stratified squamous nonkeratinising epithelium of the true vocal cord progresses from normal histology to carcinoma in situ. Significant past papers are reviewed and current investigation and treatment modalities are outlined. The experience of our unit at the Prince of Wales Hospital is also detailed and comment is made regarding the behaviour and treatment of lesions initially thought to be carcinoma in situ on the basis of histology that subsequently behave as invasive disease.

LC65

PSYCHOLOGICAL CHALLENGES OF HEAD AND NECK CANCER AND THEIR EVIDENCE BASED SOLUTIONS

Dr Ben Britton, Dr Kerrie Clover, Ms Karen Mathews, Ms Camille Plant, Ms Sophia Wooldridge, Prof Gregory Carter
Calvary Mater Newcastle, New South Wales, Australia

Purpose: Head and neck cancer (HNC) presents patients with many challenges as a consequence of the tumour itself, the treatments offered and the resultant changes in functioning. These challenges will be presented from a psychological perspective, examining the evidence around each and also go on to provide suggestions for practical clinical interventions for these often overlooked and sometimes challenging patients. Before Treatment Despite an increase in HPV related cancers, HNC patients still present a unique psychological demographic compared to other cancer populations. They

PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

continue to have higher rates of substance dependence and pre-morbid psychological illness, factors known to affect care received in Australian medical systems. During Treatment Once diagnosed, HNC patients face radical and often disfiguring treatments which evidence suggests they often don't adequately understand. Treatments can also be hampered by pre-morbid psychological problems such as a claustrophobic patient who requires an immobilisation mask for 7 weeks of radiotherapy. Following Treatment Living with the realities of HNC treatment can often mean difficulties in eating and communication and embarrassment about doing both in public. In extreme cases this can lead to malnutrition or social withdrawal. Finally the salient reminders of their cancer mean that fear of recurrence is a very real issue for HNC patients attempting to re-enter life following cancer. **Conclusion:** HNC patients represent a unique group and face a range of psychological issues that can be alleviated through evidence based interventions.

LC15

EATING AS TREATMENT (EAT) IN HEAD AND NECK CANCER PATIENTS UNDERGOING RADIOTHERAPY: A STEPPED WEDGE RANDOMISED CLUSTER CONTROLLED TRIAL

Dr Ben Britton, Prof Amanda Baker, A/Prof Judith Bauer, Dr Chris Wratten, Dr Alison Beck, Prof Gregory Carter
University of Newcastle, New South Wales, Australia

Purpose: Maintenance of adequate nutrition in Head and Neck Cancer (HNC) patients is challenging. The rigours of radiation treatment and the burden of the malignancy make it difficult to maintain sufficient nutrition. However, health behaviour interventions designed to improve nutrition in HNC patients have not yet been evaluated. Building on promising pilot data that found a significant difference in mortality after three years, the trial evaluates the effectiveness of a dietitian delivered health behaviour intervention: Eating As Treatment (EAT) to reduce malnutrition in HNC patients undergoing radiotherapy.

Methodology: Nearing completion, the EAT trial aimed to recruit 400 HNC patients (Nasopharynx, Oropharynx, Oral Cavity, Larynx, or Hypopharynx), aged 18+ undergoing radiotherapy (> 60Gy) with curative intent from five Australian radiotherapy departments. The primary outcome is nutrition assessment (PG-SGA). To address the special requirements of EAT being a complex-systems behavioural intervention, the trial utilises a stepped wedge design. Stepped wedges are becoming more common as alternatives to RCTs and our experience of the difficulties and benefits of the design will be discussed. The EAT intervention is based on established behaviour change counselling methods, including motivational interviewing (MI), cognitive behavioural therapy (CBT) and incorporates systems change theory. An understanding will be provided of the elements of the intervention, the evidence underpinning its development and the mechanisms by which it operates.

Conclusion: The lessons learned from the running of a large, multi-centre, multi-disciplinary and multi-modal trial will be presented.

LC55

VOICE OUTCOMES AFTER KTP LASER TREATMENT OF EARLY GLOTTIC CANCER

Dr Matthew Broadhurst, Ms Lauren Slattery
Queensland Centre for Otolaryngology & Voice, Queensland, Australia

Purpose: Given that disease control rates among patients treated with curative-intent radiotherapy or trans-oral laser microsurgery are comparable, the metric that then becomes critical is voice outcome. Studies have shown voice outcomes in these 2 groups to be essentially similar. With KTP laser now emerging as an oncologically safe treatment option for early glottic cancer, measuring voice outcomes in this group is important. **Methodology:** A retrospective chart review analyzed treatment and voice outcomes in 31 consecutive patients with early glottic cancer (T1-2 N0M0). All patients had no prior treatment (laser or radiation) and one patient was excluded having required total laryngectomy for early treatment failure. Pre-treatment videostroboscopy, acoustic/aerodynamic studies and voice handicap index (VHI) were compared at 2 years following treatment. Recurrence and further treatment required were recorded. **Results:** Of 31 patients (average age 56 years, 30 males, 1 female) there were 16 T1a, 10 T1b and 5 T2 (all N0M0). One patient had recurrence of carcinoma in situ treated with further KTP laser ablation and remains disease free with good quality voice. The maximal phonation time and pitch range improved in 30 and 27 patients respectively. The VHI improved in 30 patients, post treatment stroboscopy was improved in all patients and 3 patients required reconstructive surgical intervention. **Conclusion:** KTP laser treatment of T1-2 glottic cancer as primary treatment provided very satisfactory voice outcomes at 2 years following treatment completion. All patients but 1 (96.7%) reported satisfied to highly satisfied voice outcomes and there were improved objective voice measures noted in all patients.

LC75

ONCOLOGIC EFFICACY OF KTP LASER IN EARLY GLOTTIC CANCER

Dr Matthew Broadhurst, Ms Lauren Slattery
Queensland Centre for Otolaryngology & Voice, Queensland, Australia

Purpose: Early glottic cancer (T1,T2) is typically managed by curative-intent radiotherapy or CO₂ laser resection. Disease control rates and voice outcomes are comparable. KTP laser treatment of early glottic cancer has shown promise in providing similar control rates in limited studies. This treating centre presents the largest series outside Boston, USA where this treatment was pioneered. **Methodology:** A retrospective chart review analyzed treatment and outcome of 43 consecutive patients with early glottic cancer (T1-2 N0M0). Pre-treatment videostroboscopy, acoustic/aerodynamic studies and voice handicap index were compared at 1 and 2 years following treatment. Recurrence, progression to radiation or open surgery and mortality were recorded. **Results:** Of 43 patients (average age 61 years, 41 males, 2 females) there were 22 T1a, 10 T1b and 11 T2a with two T1b patients having prior irradiation. Two patients of 43 had recurrence: one CIS and one SCC. The SCC recurrence progressed to open partial resection followed by



PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

chemoradiotherapy. He is alive without disease but required total laryngectomy for a non-functioning larynx. One patient with initial radiotherapy progressed to total laryngectomy, chemotherapy after failed KTP laser salvage and later died from loco-regional recurrence 18 months later. **Conclusion:** KTP laser treatment of T1-2 glottic cancer as primary treatment provided 95.1% disease control at 2 years. Larynx preservation was 97.6% and requirement for post-KTP laser radiation to control disease 2.4%. Radiotherapy was therefore preserved as a future option in 100% of T1a, 89% of T1b and 100% of T2a patients confirming oncologic efficacy of KTP laser treatment of early glottic cancer.

LC20

OUTCOMES FOLLOWING PROACTIVE VS REACTIVE NUTRITION SUPPORT IN PATIENTS UNDERGOING CHEMORADIO THERAPY

Mrs Teresa Brown, Dr Marilyn Banks, A/Prof Brett Hughes, Dr Charles Lin, Dr Lizbeth Kenny, A/Prof Judith Bauer
Royal Brisbane and Women's Hospital, Queensland, Australia

Purpose: The optimal method of tube feeding for patient with head and neck cancer remains unclear. Our institution uses validated local hospital guidelines for the insertion of prophylactic gastrostomy feeding tubes. The aim of this study was to investigate the outcomes of patients following non adherence to these recommendations. **Methodology:** Patients assessed as high nutrition risk according to local guidelines were included from August 2012 – July 2014. Patients were grouped according to adherence to guideline recommendation for gastrostomy placement. **Clinical outcomes were:** weight change from diagnosis to the end of radiotherapy; use of feeding tubes; and admissions for up to one month post treatment.

Results: Over 2 years there were 130 high nutrition risk patients with the following characteristics - 88% male, median 59 years old, 77% oropharyngeal tumours, 91% stage IV disease, and 88% chemoradiotherapy treatment. Group 1 received a gastrostomy (n=69). Group 2 were managed reactively (n=61), with 26 patients (43%) requiring a feeding tube or with weight loss $\geq 10\%$. Mean weight loss during treatment was 7.0% (gastrostomy group) versus 8.4% (reactive group) ($p=0.114$), which was significant when adjusting for T stage, tumour site, and age ($p=0.048$). Unplanned admissions accounted for 75% of total length of stay in the gastrostomy group and 82% in the reactive group ($p=0.029$). **Conclusion:** Nutritional and clinical outcomes were improved in the group receiving gastrostomy when adjusting for clinical differences between the groups. Some selection bias was evident in patients without a gastrostomy and further investigation of this group could help to assist to improve the guidelines for gastrostomy selection.

LC49

NEGATIVE RESECTION RATE FOLLOWING CO₂ LASER RESECTION OF TIS AND T1 GLOTTIC CARCINOMA

Mr Malcolm Buchanan, A/Prof Hedley Coleman, Dr Faruque Riffat, A/Prof Carsten Palme
ENT Department, Westmead Hospital, Sydney, New South Wales, Australia

Purpose: Transoral laser microscopy (TLM) excision is becoming an increasingly utilized method for resection of early glottic cancers due to its ease of application, low complication rate, and similar disease-free, and survival and voice outcome results to external beam radiotherapy. The aim of this study

was to assess the rate of subsequent negative laser excision pathology following initial cold steel biopsy of Tis or early (T1) glottic squamous carcinoma in a 10-year cohort of patients.

Methodology: A retrospective chart review of prospectively-gathered data on all patients over a 10-year period who had undergone TLM for Tis or T1 glottic squamous cell carcinomas was analyzed, to assess the rate of negative laser resection. Pathological specimens were re-reviewed. **Results:** Of 133 patients who underwent TLM excision of Tis or T1 glottic lesion, 16 patients had undergone initial positive cold steel biopsy which was found to be negative on subsequent laser excision. **Conclusion:** Although cold steel biopsy with full excision of small glottic lesions is not considered adequate treatment oncologically, the results suggest that a subsequent course of external beam radiotherapy may be over-treatment, and just a subsequent laser resection with negative pathology may suffice.

LC92

ENDOSCOPIC VOCAL CORD INJECTION USING A 25-GAUGE BUTTERFLY NEEDLE

Mr Malcolm Buchanan, Dr Faruque Riffat, A/Prof Carsten Palme
ENT Department, Westmead Hospital, Sydney, New South Wales, Australia

Purpose: To describe a useful technique for infiltrating a bulking agent using a butterfly needle, as part of a trans-oral endoscopic vocal cord medialization procedure. **Methodology:** The procedure of grasping the needle with a phonosurgery forcep and administration of the injectate to the vocal fold through careful application of the syringe plunger via a length of rubber tubing from outside the mouth is presented. **Results:** This procedure is performed routinely in our Institution without complication. The advantages of this technique are discussed. **Conclusion:** This is a safe and easy method of injecting a vocal cord.

LC47

THE RELATIONSHIP BETWEEN CO₂ LASER-INDUCED ARTEFACT AND GLOTTIC CANCER SURGICAL MARGINS AT VARIABLE POWER DOSES

Mr Malcolm Buchanan, Prof Hedley Coleman, Mr James Daley, Mr James Digges, Dr Faruque Riffat, Prof Carsten Palme
Department of ENT, Westmead Hospital Sydney, New South Wales, Australia

Purpose: To assess and correlate the depth of laser-induced thermal artefact with laser power rating, based on the knowledge that the carbon dioxide laser can induce thermal cytologic artefact at the margin of early glottic squamous cell carcinoma histologic specimens, thus making assessment of the margin difficult. **Methods:** The surgical margins of 30 patients with early glottic squamous cell carcinomas who underwent laser resection were re-analyzed retrospectively. **Results:** Thermal damage consisted of collagen denaturation within the vocal cord lamina propria and vocalis muscle, and epithelial structural changes. There was a decrease in depth of tissue artefact with increased power rating ($p>0.05$). The average depth of thermal damage was 380.83 ± 178.79 microns. **Conclusion:** The laser causes less thermal damage at higher power, presumably due to increased speed of cutting and reduced contact time with surrounding cells. Knowledge of the depth of thermal artefact is important surgically when ensuring the cancer is excised with sufficient oncologic margin.

PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

LC33

RESTORING LARYNGEAL FUNCTION AFTER ONCOLOGIC SURGERY: VOICE AND AIRWAY CONSIDERATIONS

Dr James Burns

Massachusetts General Hospital, Boston, Massachusetts, United States of America

Purpose: The purpose of this presentation is to discuss methods of laryngeal reconstruction ranging from voice rehabilitation after surgery for early glottic cancer to airway lumen reconstruction after wide-field transcervical partial-laryngectomy (TPL). **Methodology:** A retrospective review of various options for reconstructing post-surgical laryngeal defects was done. Microstereoscopic-laryngoscopic lipoinjection, laryngeal framework surgery, and strategies for re-establishing vocal fold pliability were considered. Additionally a retrospective examination of 15 patients who underwent single-stage wide-field TPL with cryopreserved aortic-homograft reconstruction was done; 8/15 had failed prior radiotherapy. At least 40% of the cricoid circumference was resected in 8/15. **Results:** Lipoinjection and framework surgery resulted in improved glottic valvular function. All 15 patients who underwent TPL were decannulated and have laryngeal phonation, while 14/15 resumed oral intake. There were no major surgical complications with any of the reconstruction techniques. **Conclusion:** Several innovative strategies are available for rebuilding the larynx after oncologic surgery. Voice rehabilitation is possible by improving glottic valvular function with lipoinjection and framework surgeries. Aortic homograft provides the laryngeal surgeon with a new, reliable, and versatile single-stage reconstructive option for performing wide-field conservation laryngeal-cancer surgery while allowing for voice preservation and optimizing airway and aerodigestive function. Future innovations will include biogels to re-establish vocal fold pliability.

LC63

WOUND HEALING AFTER TRANSORAL ANGIOLYTIC LASER SURGERY FOR EARLY GLOTTIC CANCER

Dr James Burns

Massachusetts General Hospital, Boston, Massachusetts, United States of America

Purpose: The purpose of this study was to describe wound healing after transoral angiolytic laser surgery for early glottic cancer and determine the incidence of abnormal and worrisome endoscopic findings on exam that warrant further treatment. **Methodology:** A retrospective review was done of 100 consecutive patients undergoing surgery for early (T1, T2 lesions) glottic cancer or salvage surgery after radiation failure from 2006-2014, noting endoscopic findings during the immediate post-operative period (3 months). **Results:** Granulation tissue and/or thickened eschar were noted in 30 patients with 11 of these patients returning to the operating room for exam. Biopsy confirmed persistent cancer in 3 patients. The remaining 8 patients' granulation tissue resolved within 3 months with no further treatment. Of the 19 patients who did not undergo a second surgery, 16 completely healed the surgical wound within 3 months and 3 patients took longer than 3 months to completely heal. Wound healing in patients undergoing salvage surgery after failing radiation therapy (N=4) was delayed, with 75% of patients requiring longer than 3 months to heal. **Conclusion:** The majority of vocal fold wounds heal completely

within 3 months after angiolytic laser surgery for early glottic cancer. Post-surgical tissue granulation tissue and eschar can heal without additional surgical intervention, but biopsy is warranted for persistently abnormal-appearing wounds. The vast majority of surgical wounds from previously-radiated patients took longer than 3 months to heal.

LC85

KTP LASER SURGERY OF EARLY GLOTTIC CARCINOMA – VOICE AND ONCOLOGIC RESULTS

Dr James Burns

Massachusetts General Hospital, Boston, Massachusetts, United States of America

Purpose: The purpose of this presentation is to report voice and oncologic results from a cohort of patients with early glottic cancer who were treated with ultra-narrow margins using angiolytic KTP laser surgery. **Methodology:** 117 patients (T1a-71, T1b-11, T2a-10, T2b-25) underwent KTP laser treatment of early glottic cancer with a minimum 3-year follow up (average: 53 months). Pre-treatment and post-treatment voice outcome data were obtained in 72/117 patients (T1a-43, T1b-8, T2a-2, T2b-19). Evaluations included objective measures (acoustic and aerodynamic) and patients' self-assessments of vocal function (Voice-Related Quality of Life). **Results:** Disease control for T1 and T2 lesions was 96% (79/82) and 80% (28/35) respectively. All 10 recurrences were treated with radiotherapy. Fifty percent (5/10) were controlled with radiotherapy, and the other 5 died of disease. Larynx preservation and survival were achieved in 99% (81/82) with T1 disease and 89% (31/35) with T2 disease. There were statistically significant ($p < 0.01$) post-operative improvements for acoustic measures of voice quality (perturbation and signal-to-noise) and self-assessments of vocal function for both groups. Average acoustic values for the T1 group more closely approximated normative thresholds. **Conclusion:** Angiolytic KTP laser treatment of early glottic cancer with ultra-narrow margins is an effective management strategy for early glottic cancer. Oncologic results compare favorably with other reported series and voice results show excellent preservation of glottic function. Radiotherapy was preserved for future use in over 90% of patients.

LC20

IMPLEMENTING A TELEPRACTICE MODEL TO SUPPORT SPEECH PATHOLOGY SERVICES FOR PATIENTS WITH HEAD AND NECK CANCER (HNC): AN OVERVIEW OF SERVICE OUTCOMES

Ms Clare Burns, Prof Liz Ward, Dr Anne Hill, Dr Lizbeth Kenny
Royal Brisbane & Women's Hospital, Queensland, Australia

Purpose: HNC treatment is predominantly based at metropolitan Cancer Centres. For patients living in non-metropolitan areas, there can be significant costs and challenges accessing specialist speech pathology (SP) services. The aim of the current study was to explore the service characteristics of a novel telepractice model implemented to facilitate access to specialist SP services for non-metropolitan patients with HNC. **Methodology:** A hub and spoke SP telepractice service model was established between the Royal Brisbane and Women's Hospital (RBWH) cancer centre (hub) and the three regional cancer centres (spokes):- Nambour Hospital, Hervey Bay Hospital and Rockhampton Hospital. Specialist clinical cameras with real-



PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

time video and audio recording were utilised at each site. Weekly sessions were offered with referrals initiated by the regional SP. Service data was collected over a 2 year period including patient demographics, nature of services provided, session information and technological issues. **Results:** In the monitored period, over 80 sessions were conducted and sessions included preoperative counselling, post treatment swallowing and communication rehabilitation, surgical voice restoration, and clinical education. The service initiated instrumental assessments and consultations with other specialists including ENT, Dentists and Physiotherapists. Session duration ranged from 30 to 90 minutes with technical difficulties noted in <10% of sessions. Travel to the metropolitan centre was avoided in all cases. Patient satisfaction with the service was high. **Conclusion:** Telepractice can facilitate enhanced access to specialist speech pathology services and is well received by patients.

LC07

A MULTIFACETED APPROACH TO LONG-TERM SWALLOWING ASSESSMENT

Dr Bena Cartmill, Professor Elizabeth Ward, Ms Olivia Macginley, A/Prof Sandro Porceddu

CFAHR, Princess Alexandra Hospital, Queensland, Australia

Purpose: Dysphagia remains a chronic condition for HNC patients who undergo radiotherapy with or without chemotherapy (ICRT), however beyond 1-2 years post-treatment data is limited. Clinicians are challenged by determining appropriate assessment modalities for long-term dysphagia. This study aimed to investigate long-term outcomes up to 10 years post-(C)RT using patient-reported functional measures. A secondary aim was to examine services accessed and desired by this group. **Methodology:** A retrospective audit was conducted to select patients treated curatively for HNC using (C)RT and seen by speech pathology. Twenty nine eligible HNC patients, 5-10 years post-treatment were assessed for dysphagia using a series of patient-reported outcome measures, a quality of life (QoL) scale, a general distress tool and questions relating to services. **Results:** In the subgroup of patients who were 5-6 years post-treatment, 30% tolerated a normal diet and over half reported moderate to severe oral health effects. Moderate to severe levels of distress were reported by 25%, though global QoL remained positive. Few reported seeking services for these issues. In the subgroup who were 10 years post-treatment, only 11% tolerated a normal diet and all participants reported ongoing moderate to severe effects of treatment, including 56% who reported moderate to severe distress. Global QoL was diminished across all domains.

Conclusion: Assessment of long-term patient functioning using patient-reported outcomes revealed chronic swallowing difficulties, persistent oral health effects and distress are common. Reasons for lack of ongoing engagement with health services for support with these chronic issues needs further examination.

LC42

LONG TERM FOLLOW UP OF THE EFFECTS OF HEAT AND MOISTURE EXCHANGER (HME) EQUIPMENT USE IN PATIENTS POST LARYNGECTOMY

Ms Penny Chapman, Mr Bernard Lyons, Ms Gillian Dickinson, Ms Kathryn McKinley

St. Vincent's Hospital Melbourne, Victoria, Australia

A RCT was conducted at St. Vincent's during 2011-2014 to investigate the effects of HME equipment on pulmonary rehabilitation and voice outcomes immediately post laryngectomy. The study compared patient perceptions of pulmonary symptoms, confidence and independence with tracheostoma care and tracheoesophageal voice outcomes for HME use and non HME use (standard care) at weeks one, two and four post-operatively. **Purpose:** To investigate patient and clinician perceptions of pulmonary symptoms, tracheostoma care and voice for long term HME and non HME use in patients post laryngectomy. **Methodology:** A retrospective audit of medical files and a long term follow up interview with patients who were initially part of the four week RCT HME trial was undertaken. Data was collected on patient's perceptions and clinician's report of pulmonary symptoms, tracheostoma care and voice prosthesis use during a period of 1-4 years post treatment. Patient demographic and post-treatment complications information were examined. Data was analysed using descriptive statistics. **Results:** A total of 32 files were audited. Interviews were conducted with 23 participants from the initial RCT HME trial. 60% are still using HME and 20% who were in the control arm (non HME) are now using HME use due to perceived benefits. 18% are no longer using HME. 43% of patients continue to use the Vega indwelling voice prosthesis. **Conclusion:** This study provides further insight into pulmonary rehabilitation and voice outcomes of long term HME use in patients post laryngectomy. Patients who have persisted with HME devices have experienced significant benefits to function and QOL.

LC28

PAEDIATRIC LARYNGEAL MALIGNANCY – WHEN IS SURGERY TRULY MUTILATING?

A/Prof Alan Cheng

University of Sydney, Children's Hospital Westmead, New South Wales, Australia

Paediatric laryngeal malignancies are rare even in major head and neck centres. It is because of the rarity of its presentation that any discussion on the topic is made difficult. Early detection of laryngeal malignancies in children is frequently delayed. A problem base learning case scenario will be used to highlight the difficulties in treatment decision making that was involved. In the discussion, it is important to emphasise: 1) Treatment of malignancies in the area needs to consider these functions as well as the histological cell type of the malignancy; 2) Preservation of the function of larynx is imperative – and surgery to extirpate the tumour has become quite unique to allow frequently complete clearance without causing supposed "mutilative" clearance of disease. 3) The ongoing treatment of the larynx must take into account the short term and long effects of radiation to the area – in its effects on growth, its effects on laryngeal function, the possibility of secondary malignancy to the area and thyroid specifically.

PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

LC22

RECURRENT DISEASE: HOW TO AVOID COMPLICATIONS AFTER SALVAGE LARYNGECTOMY

Dr Douglas Chepeha

University of Toronto, Ontario, Canada

Patients undergoing salvage laryngectomy after concurrent chemoradiation are predisposed to impaired wound healing that can lead to pharyngocutaneous fistula (PCF). When a PCF develops, extended hospitalization and/or re-operation are often required. A variety of reconstructive techniques are used to try and mitigate this complication and improve outcome. Pharyngocutaneous fistula rates were 36% and ranged from 21-46% based on reconstructive approach and size of accompanying pharyngeal defect. Differences in reconstructive approach and guidelines for treating this patient group will be presented. At the completion of the presentation the participant should understand the literature on tissue augmentation of hypopharyngeal closure after laryngectomy and be able to provide practice-based evidence for the reconstruction of the salvage laryngectomy patient.

LC24

HYPOPHARYNGEAL FISTULA: APPROACH TO MANAGEMENT

Dr Douglas Chepeha

University of Toronto, Ontario, Canada

The management of the hypopharyngeal fistula in the head and neck cancer patient is a combination of evidence, experience and anecdote. The patient with the hypopharyngeal fistula is the subject of "curbside consultations" with colleagues and is the topic of debate amongst head and neck surgeons with respect to the approaches to treatment. Optimization of the patient at high risk for a wound complication will be discussed which will include evidence for the use of antibiotics, optimization of thyroid levels and the impact of nutritional status. Then, the management of patients with a fistula will specifically addressed with respect to drain placement, the use of irrigation, packing, debridement, and wound vacs. Also when to perform secondary reconstruction or exteriorize the wound. At the completion of the presentation the participant should have a better understanding of the management of hypopharyngeal fistula.

LC30

RECONSTRUCTIVE OPTIONS FOR THE CRICOID WITH SELECT CHONDROSARCOMAS: INTRODUCTION OF A NEW TECHNIQUE

Dr Douglas Chepeha

University of Toronto, Ontario, Canada

Conservation laryngeal surgery that involves resection of part of the cricoid cartilage has few solutions because of the need to maintain a stable airway, to prevent aspiration during deglutition, and to maximize vocal function. In addition to restoring the cartilaginous framework of the larynx, the promotion of primary healing and prevention of granulation and subsequent stenosis are important goals of reconstruction. To accomplish these goals, numerous options have been suggested that include temporoparietal flaps, free cartilage grafts, radial forearm free tissue transfers and tracheal autotransplantation with vascular carriers. These approaches will be discussed and a novel one stage procedure for the reconstruction of the reconstruction of the cricoid cartilage based on the thoracodorsal artery scapular

tip autogenous transplant (Tdst). At the completion of the presentation the participant should have a better understanding of reconstructive approaches that are available for selected patients with chondrosarcoma that are an alternative to the standard of care, laryngectomy.

LC40

TECHNICAL TIPS FOR IMPROVING SHORT AND LONG TERM OUTCOMES

Dr Douglas Chepeha

University of Toronto, Ontario, Canada

When the laryngectomy or laryngopharyngectomy is completed the surgical management is transferred to the reconstructive surgeon. Techniques that can be helpful in the operating room such as secondary procedures to facilitate swallowing, design a stoma, wound closure, drain placement and tracheal-esophageal fistula for speech will be discussed. In addition, there are a number of management techniques that can be useful in the clinic to the patient after surgery to facilitate long-term outcome. Clinic balloon dilation and placement of TEP will be discussed. At the end of the presentation the participant will understand adjunctive procedures in the operating room and in the clinic that help patients with short and long term outcomes.

LC58

CREATING A DATABASE IS NOT RESEARCH: A PRIMER ON HOW TO CREATE AND USE DATABASES TO FACILITATE RESEARCH

Dr Douglas Chepeha

University of Toronto, Ontario, Canada

The ability to create and maintain a database is an essential part of clinical research. Databases are expensive to develop and maintain. The development and maintenance of databases can take on a life of their own and despite significant effort and financial commitment can be of limited utility for the evaluation of research questions. When committing resources to database development and maintenance it is important to be sure that the research team has developed questions that the database is designed to answer in an incisive manner. Different approaches to database development can be used in different ways to develop different levels of research questions. At the end of the presentation the participant will understand the personal approach of the presenter and his experience with the use of databases and should have a better understanding of how to approach data storage and data use for different research efforts.

LC81

TREATMENT SELECTION TO FACILITATE EXPLORATION AND VALIDATION OF BIOMARKERS?

Dr Douglas Chepeha

University of Toronto, Ontario, Canada

Investigators have made an effort to understand the benefits and limitations of CRT in head and neck cancer. Numerous trials focused on developing definitive CRT protocols for organ preservation. The European Organization for Research and Treatment of Cancer larynx trial and Veterans Affairs Laryngeal Cancer Study for induction chemotherapy (IC) were the first IC trials to show survival outcomes similar to those of surgery for laryngeal or hypopharyngeal SCC. Response to IC identifies a favorable prognostic group that often responds well to



PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

definitive radiotherapy. The University of Michigan has focused on using induction selection (IS) to "chemoselect" responders and nonresponders to chemo- therapy. Definitive treatment is based on the response to IC, with the responders undergoing concomitant CRT and the nonresponders undergoing surgery with adjuvant radiotherapy. This type of approach allows personalized treatment, with selection of patients who may have a greater likelihood of organ preservation through chemoselection. Biomarker discovery is an important aspect of induction selection and is an opportunity to understand important molecular biological processes in the context of an effect modifier. Tips for understanding biomarker analysis and some the pitfalls of interpreting biomarker analysis will be discussed. At the completion of the presentation the participant should have a better understanding of induction selection and how to interpret biomarker analysis.

LC80

HIGH RESOLUTION MANOMETRY TO GUIDE TREATMENT

Prof Michelle Ciucci, Dr Dylan Lippert, Dr Matthew Hoffman, Dr Timothy McCulloch

University of Wisconsin, Wisconsin, United States of America

Successful swallowing is the result of precise timing of movement of structures to create pressures that move the bolus into the esophagus while sealing off the airway. Failure of this leads to incomplete bolus transfer and airway compromise. Although standard imaging techniques such as Videofluoroscopy and Fiberoptic Endoscopic Examination of Swallowing are valuable, they are also limited in terms of reliability and subjective interpretation. High Resolution Manometry can collect accurate, detailed, and objective data on pressure and timing events that can inform diagnosis and management of swallowing disorders. This presentation will cover our work with regard to development of standard measurement techniques, interpretation of data, recommendations for implementation, and future directions. We will also briefly discuss new data from patients with total laryngectomy.

LC37

THE RELATIONSHIP BETWEEN ACOUSTIC SIGNAL TYPING AND PERCEPTUAL EVALUATION OF TRACHEOESOPHAGEAL VOICE QUALITY FOR SUSTAINED VOWELS

Ms Renee Clapham, Dr Corina Van As-Brooks, Dr Rob Van Son, Prof Frans Hilgers, Prof Michiel Van Den Brekel

University of Amsterdam, Amsterdam, Netherlands

Purpose: To investigate the relationship between acoustic signal typing and perceptual evaluation of sustained vowels produced by tracheoesophageal (TE) speakers and the use of signal typing in the clinical setting. **Methodology:** Two evaluators independently categorized 1.75-second segments of narrow-band spectrograms according to acoustic signal typing and independently evaluated the recording of the same segments on a visual analog scale according to overall perceptual acoustic voice quality. The relationship between acoustic signal typing and overall voice quality (as a continuous scale and as a four-point ordinal scale) was investigated and the proportion of inter-rater agreement as well as the reliability between the two measures. **Results:** The agreement between signal type (I–IV) and ordinal voice quality (four-point scale) was

low but significant, and there was a significant linear relationship between the variables. Signal type correctly predicted less than half of the voice quality data. There was a significant main effect of signal type on continuous voice quality scores with significant differences in median quality scores between signal types I–IV, I–III, and I–II. **Conclusions:** Signal typing can be used as an adjunct to perceptual and acoustic evaluation of the same stimuli for TE speech as part of a multidimensional evaluation protocol. Signal typing in its current form provides limited predictive information on voice quality, and there is significant overlap between signal types II and III and perceptual categories. Future work should consider whether the current four signal types could be refined.

LC37

RECONSTRUCTION APPROACHES FOLLOWING PARTIAL LARYNGOTRACHEAL RESECTION

Prof Jonathan Clark

Chris O'Brien Lifecare, New South Wales, Australia

Surgery to reconstruct the larynx, cricoid or trachea is relatively uncommon. This presentation describes the author's experience and literature on reconstructive approaches to partial laryngotracheal defects.

LC16

EDUCATION NEEDS FOR PATIENTS – THE PHYSICIAN'S PERSPECTIVE

Prof Jonathan Clark, Dr James Wykes, Dr Ardalan Ebrahimi, Dr Joe Jabour

Chris O'Brien Lifecare, New South Wales, Australia

Background: Head and neck cancers (HNC) represent a diverse range of tumours. Patients undergoing treatment for HNC often face complex decisions and morbid treatments associated with prolonged functional and psychosocial effects. There is a lack of research regarding the type of information needed and the optimal form of delivery. **Objectives:** The study aims to understand the educational needs of HNC patients from the perspective of clinicians and allied health professional who treat patients with HNC. **Methods:** Cross-sectional online questionnaire using Survey Monkey Inc. focusing on accessibility and content of existing resources. Clinicians were sourced from the Australia & New Zealand Head and Neck Cancer Society and Australian Society for Otolaryngology Head and Neck Surgery. **Results:** 112 questionnaires were completed. The predominant resources used are pamphlets/booklets restricted to English. Current resources are comprehensible but improvements are needed in the range and scope of information covered and resources available to carers. Barriers to provision of education resources are language, time constraints and availability of resources. Majority of clinicians would like to access resources through a website with multiple information formats. More comprehensive information required for aesthetic effects of treatment, palliative care, pain management, psychosexual health and intimate relationships. Resources needed to cater for Chinese, Vietnamese and Arabic speaking patients. **Conclusion:** Current HNC education resources are often difficult to access, unable to cover the broad range of issues that affect patients with HNC and need to be available in a range of contemporary formats and languages.

PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

LC13

NON SQUAMOUS CELL MALIGNANCIES OF THE LARYNX

A/Prof H G Coleman, A/Prof C E Palme

University of Sydney, New South Wales, Australia

Squamous cell carcinomas (SCC) account for the vast majority of laryngeal malignancies, representing more than 90% of cases in the literature. The remainder of the malignancies according to the WHO Classification include salivary gland type tumours, neuroendocrine tumours, melanomas, soft tissue tumours, tumours of bone and cartilage, haematolymphoid tumours as well as metastatic disease. The aim of this presentation is to highlight some of these rare cases treated by a single surgeon at Westmead hospital in Sydney. The clinico-pathologic features of each of chondrosarcoma, atypical carcinoid, adenoid cystic carcinoma, Kaposi's sarcoma and non-Hodgkin's lymphoma will be reviewed.

LC05

THE ROLE OF PARTIAL LARYNGEAL SURGERY IN THE MODERN ERA

Dr Scott Coman

Princess Alexandra Hospital, Queensland, Australia

Management of laryngeal cancer over recent decades, particularly with the development of transoral surgical techniques, has seen improved functional outcomes in patients whilst maintaining good oncologic results. Partial laryngeal surgery has the ability to preserve the functions of speech and swallowing, and these techniques remain important options in the comprehensive care of laryngeal cancer patients, despite their diminishing role. Careful patient selection in a multidisciplinary environment is critical to their appropriate application as well as an understanding of surgical techniques and attentive rehabilitation. Vertical partial laryngectomy varies from partial cordectomy via laryngofissure to more thorough resections which may encompass part of the paraglottic space and thyroid lamina as well as part of the contralateral vocal cord. Vertical partial laryngectomy has a role in tumours that may not be accessible via trans oral approach and in certain selected failed radiation cases. Good reconstruction is an important part of this technique. Supracricoid laryngectomy provides an excellent option for the treatment of (principally) glottic tumours. The preservation of at least one function cricoarytenoid unit enables the functions of speech and swallowing are retained without the need for a tracheostoma. The surgical resection has an advantage over vertical partial laryngectomy as it involves the complete resection of both paraglottic spaces, in addition to the entire thyroid cartilage and both true and false vocal cords. An understanding of the importance of the particular steps of the procedure is crucial. Intensive rehabilitation improves vocal and swallowing outcomes.

LC11

EPIDEMIOLOGY OF LARYNX CANCER IN AUSTRALIA

Prof June Corry

Peter MacCallum Cancer Centre, Victoria, Australia

This talk will give an overview of the epidemiology of larynx cancer in Australia. It will discuss the falling incidence of larynx cancer, due largely to the reduction in smoking across the Australian population. The Australian QUIT programme has been

influential in this area and an overview of the QUIT programme will be presented. In addition, the current management strategies for early and advanced larynx cancer that are commonly utilised in Australia will be discussed, together with relevant published literature.

LC26

THE LEARNING CURVE IN H&N RADIATION ONCOLOGY

Prof June Corry

Peter MacCallum Cancer Centre, Victoria, Australia

There is strong evidence demonstrating significantly better survival for head and neck cancer patients when treated in a large volume centres. This talk will discuss the relevant literature on this topic, and explore potential reasons for this effect. Whilst the data isn't limited to H&N radiation oncology, it will form the focus of this talk. The talk will include barriers to implementation of centralised H&N cancer centres, and potential ways to overcome these barriers. It will also include a discussion of our own radiotherapy quality assurance programme at PeterMac.

LC72

RADIOTHERAPY OF THE FUTURE

Prof June Corry

Peter MacCallum Cancer Centre, Victoria, Australia

There are many current and future challenges in H&N cancer patient management. Some of these will be discussed including: 1) Patient care – how and when we apply the evidence for better outcomes? How do we manage the ever increasing cost of patient care? 2) Clinical research – the increasing difficulty, complexity and cost of clinical trials; the need to further stratify patient groups which then markedly reduces patient cohort numbers; clarifying and refining the co-dependency of investigator driven and pharmaceutical trials; altering traditional endpoints for H&N cancer trials. 3) Capital equipment – there is an explosion of technical equipment and software and radiotherapy treatment techniques. How do we assess the “added value” of new technology in a timely manner to ensure appropriate uptake across centres, particularly when reliant on government funding support. I will discuss my experience with the Australian ANROTAT project.

LC90

A 20-YEAR REVIEW OF PRIMARY RADIOTHERAPY FOR EARLY GLOTTIC SQUAMOUS CELL CARCINOMA AT WESTMEAD HOSPITAL

Dr Julia Crawford, Dr Niall Jefferson, Dr Lakmalie Perera, A/Prof Carsten Palme, Prof Michael Veness, A/Prof Gary Morgan
Westmead Hospital, New South Wales, Australia

Objectives: To evaluate the outcome of treating patients with early glottic squamous cell carcinoma with definitive radiotherapy and to analyse the factors predicting outcome.

Methods: Retrospective analysis of patient treated at Westmead Cancer Care Centre, Sydney (WCCC) between January 1990 and January 2010 with either T1 or T2 glottic SCC who received definitive radiotherapy as their primary treatment. **Results:** One hundred and fifty-four patients (145 men and 9 women; median age of 63) were treated with definitive radiotherapy for early glottic cancer during the study period. Locoregional control rates (LCR) were 75%, 85%, 83% and 80% for patient with T1s,



PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

T1a, T1b and T2 lesions respectively. Ultimate local control was 93%, laryngectomy free survival was 89% and overall survival was 77% at five years. In regard to recurrence, smoking and greater than 1/3 vocal cord involvement were significant on univariate analysis and remained so on multivariate analysis. Age at diagnosis and continuing to smoke during and post-treatment were negative independent prognostic factors.

Conclusions: Our local control rates using definitive radiotherapy are consistent with prior published series. Greater than 1/3 vocal cord involvement and continuing to smoke during and post treatment were significant in predicting locoregional recurrence.

LC38 SMOKING TRENDS

Prof David Currow

Cancer Institute New South Wales, New South Wales, Australia

Smoking remains the single greatest lifestyle factor associated with a large number of cancers. Indeed, the number of cancers which are associated with smoking continues to increase as large epidemiological studies are done. Smoking has fundamentally changed in different parts of the world: in resource rich countries that are signatories to the Framework Convention on Tobacco Control (FCTC), there has been a substantial reduction not only in smoking but in the cultural change to expecting people will be non-smokers. In resource poor countries, the challenge of tobacco control is far greater. The incentives are not there for legislative initiatives and smoking rates continue to be maintained at very high levels. Initiatives including taxation, banning on advertising, banning of smoking in public places, plain packaging, out of sight sales cabinets, limiting access to minors and change in cultural norms have all contributed to the ability to substantially change smoking rates across the community. Unless the communities of resource challenged countries are able to take on the challenge of smoking, this century will see unbelievable suffering as a result of smoking. Given long lead times and very high rates of smoking in much of the world, the continuing burden of smoking related disease will be a major burden on health systems.

LC00 TRIALS AND TRIBULATIONS OF SETTING UP A GOLD STANDARD HEAD AND NECK RECONSTRUCTIVE SERVICE IN A REGIONAL AREA

Dr Samuel Davies, Dr Bruce Ashford

The Wollongong Hospital, New South Wales, Australia

Free tissue transfer using micro-vascular techniques has become an essential component of the reconstructive armamentarium for major ablative defects in head and neck surgery. Reconstructive advances have enabled the ablative component of this demanding regional surgery to advance. However, access to reconstruction for major head and neck ablation for patients from regional and rural areas is commonly limited. The effect of this limitation is to delay management and dislocate patients from supports. To overcome such a disadvantage, a head and neck reconstructive service was established in the Illawarra-Shoalhaven area of NSW in 2009. Residents of the Illawarra-Shoalhaven lie below the state average on both the Index of Relative Disadvantage and percentage holding private health insurance. In establishing the service, the aim was to

provide a standard of reconstructive care, which dovetailed with the existing ablative capacity, within a multidisciplinary team framework. Although volumes and outcomes were equivalent to metropolitan centres, several obstacles were encountered in establishing and maintaining this service. We detail these difficulties such that similar services can be set up in regional areas with greater ease. The hope is to ultimately augment rural and regional cancer care accessibility and allow a level of care that equates with that provided in larger centres.

LC60 STAGE T1 GLOTTIC CANCER RADIOTHERAPY

Dr Graeme Dickie, Dr Jonathan Askew, Mr Lee Tripcony, Dr Tuan Ha

Royal Brisbane & Women's Hospital, Queensland, Australia

A review was done of all patients with stage T1 glottic SCC treated with radiotherapy at our institution between 1961 and 2012 inclusive. There were 995 patients. The main site of relapse was local and so the main end point was local control which at 5 years was 88%. The general factors examined were age (<65 vs >65 years), sex, date of presentation (<1996 vs >1996), differentiation, and T substage (T1a vs T1b). There was no significant difference between any of those factors. For radiotherapy dose those receiving 53Gy or less did significantly worse than other dose levels, but there was no significant difference between 54 to 60Gy, 61 to 63Gy, and >63Gy groups. Voice was usually fair or good. There were 122 relapses, 112 primary site alone, 6 primary and nodes, and 4 nodes alone. Of those who relapsed, laryngectomy was the main method of salvage and the 5 year survival from relapse was 56%.

LC06 HANDS-FREE SPEECH IN LARYNGECTOMIZED PATIENTS: THE FUTURE NORM

Dr Richard Dirven

Radboud University Medical Center Nijmegen, Gelderland, Netherlands

Total laryngectomy is often indicated in advanced laryngeal carcinoma or recurrent disease. Tracheoesophageal speech is the most widely applied voice rehabilitation technique after total laryngectomy in the Western world. Many patients find digital stoma occlusion uncomfortable because this draws attention to their handicap and occupies one hand during speech. Unfortunately, only a minority is able to speak hands-free with an automatic stoma valve (ASV) on a daily basis. Troublesome fixation of baseplates due to differences in tracheostoma anatomy and high backpressure needed for hands-free speech, frequently result in early detachment of the adhesive baseplate. A 3D-Stereophotogrammetry imaging technique was used to introduce a virtual model in which tracheostoma anatomy was assessed and then correlated with adhesive lifetime during hands-free speech. Longer lifetime of the adhesive baseplate in patients with smaller volume outcomes suggests that a more accurate fit between baseplate and stoma leads to better fixation. 3D-Stereophotogrammetry is a promising imaging technique to assess anatomical differences and potentially beneficial to further develop devices. To counter press the high pressures needed for hands-free speech a custom moldable External Neck Brace (ENB) was developed. The brace supports

PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

adhesive housings during hands-free speech for laryngectomees. In our trials the majority of the patients considered the neck brace to be a welcome addition to improve hands-free speech after laryngectomy. Furthermore it objectively reduces the number of baseplate replacements. Appropriate speech rehabilitation in a laryngectomized patient remains a challenge and deserves an individually tailored approach.

LC79

FUNCTIONAL OUTCOMES AND QUALITY OF LIFE OF PATIENTS UNDERGOING TRANS-ORAL ROBOTIC SURGERY FOR HYPOPHARYNGEAL CARCINOMA

Ms Pauline Dooley, A/Prof Richard Gallagher

St Vincent's Private Hospital, Sydney, New South Wales, Australia

Quality of Life (QOL) has been central to the management of patients undergoing Trans-Oral Robotic Surgery (TORS) at St Vincent's Private Hospital, Sydney since commencement of the program in November 2011. Long-term effects of TORS upon speech and swallowing were identified by surgeon and speech pathologist as fundamental to measurement of QOL and a specific follow-up program implemented. The Head and Neck Cancer Inventory (HNCI) a 30-item 5-point Likert instrument was presented to patients undergoing TORS at 3, 6 and 12 months post surgery. The 5 domains measured by the HNCI – social disruption, speech, eating, pain/discomfort and aesthetics were recorded. Swallowing progress by way of patient-reported diet consistency managed was collated at 3, 6, and 12 months post TORS. Clinicopathological data including TNM staging, HPV status, site and type of lesion, medical complications, pre and post-operative radiation therapy, reliance on naso-gastric tube feeding or gastrostomy, and length of stay have been recorded. Case studies of patients with hypopharyngeal and laryngeal cancer followed up over 12 months post operatively will demonstrate good functional outcomes and a high QOL through minimization of speech and swallow dysfunction.

LC92

INTEREST OF GENETICS IN LARYNGEAL TUMOR

Prof Suzy Duflo

French West Indies University, Guadeloupe

Introduction: Over the past years, progress was done in the understanding of the molecular alterations underlying the development of laryngeal tumor. Genetics can be used to determine risk of laryngeal cancer, to inhibit invasion and proliferation of cancer cells, to predict recurrence in early stage disease and to assess biomarkers for target therapy. We will present a review studies regarding interest of genetics in laryngeal tumor. **Methodology and Results:** Regarding to benign lesions, a very few studies have been using genetics to establish their gene expression profiles and to understand whether or not they are a pre-neoplastic condition for carcinoma. Some answers are available but more researches are needed. Considering laryngeal cancer, they have been more investigated by genetics. Knowledge about genes acting on risk of laryngeal cancer and recurrence after early stage of disease, on tissue invasion and angiogenesis, in regulation of tumor growth and metastasis are considerably increased. Also, gene therapy appears to be a better answer to improve treatment responses, decrease toxicity reaction, with low side effects and

a better quality of life for patients. **Summary:** Further studies with standardized unbiased genotyping methods, homogenous cancer patients, well matched controls and multiethnic groups would be warranted to improve the knowledge and evolve into clinical applications and therapeutics.

LC98

TREATMENT OF TRANSGLOTTIC LARYNGEAL CARCINOMA (T3 WITH FIXED CORDS): HYPERFRACTIONATED RADIOTHERAPY ALONE VS SURGERY

Prof Bahman Emami, Dr Maya Mathew, Dr Richard Borrowdale, Dr Carol Bier-Laning, Dr Richard Garza, Dr Guy Petruzelli

Loyola University Medical Center, Illinois, United States of America

Purpose: Management of Transglottic squamous cell carcinoma (T3) with fixed cords is either surgery (total laryngectomy with neck dissection) or radiotherapy + chemotherapy. With the goal of avoiding known functional and cosmetic morbidity of surgery and significant side effects of concurrent chemoradiation, we have treated those patients with hyperfractionated radiotherapy (HRT). **Methodology:** From 1999-2014, 59 patients with T3N0 laryngeal tumors were treated. 41 patients were treated with HRT and 18 patients with surgery. Radiation was delivered by 3-DCRT/IMRT. Dose of XRT was 74.4 Gy /62 fractions to larynx and 48 Gy/40 fractions to bilateral nodes (1.2 Gy x 2 fractions/day). 8/18 patients in the surgery group had post op adjuvant radiation. Surgery consisted of total laryngectomy with neck dissection. Median follow up was 34 months. **Results:** The probability of locoregional control after radiation alone was 75.5% and 56.6% at 2 and 7 years respectively. The probability of locoregional control after surgery was 93.8% and 85.9% at 2 and 7 years respectively. 10/41 patients (24%) in the radiation arm and 2/18 patients (11%) in the surgery arm had locoregional failure. 6/10 patients in the radiation arm were salvaged with. So the overall locoregional control rate was 90% in the radiation arm and 89% in the surgery arm. The risk of severe late complications was 2%. Overall survival in the entire group was 45% (27/59). Most of the patients died of non-laryngeal carcinoma related causes (24/27 - 89%). **Conclusions:** In patients with T3N0 laryngeal carcinoma, HRT, offer favorable results without morbidity of surgery + RT and toxicities of chemoradiation and should be considered first with surgery reserved for salvage.

LC34

GENERALIZED ACTINIC LICHEN PLANUS INDUCED BY RADIOTHERAPY OF LARYNGEAL CANCER

Prof Bahman Emami, Dr Scott Silva PhD

Loyola University Medical Center, Illinois, United States of America

Background: Actinic lichen planus (ATP) is an inflammatory pruritic disease of the skin. The etiology is unknown. Radiation induced lichen planus (LP) has rarely been reported (7 cases reported in literature). It is not clear if radiation is trigger of the new LP or it causes exacerbation of the undiagnosed existing LP. Here we report one case of radiation induced/triggered generalized actinic LP in patient with localized radiation. In addition we also observed early severe moist desquamation of skin treated site (first report of such an observation). **Material and Patient:** The patient, 55 y.o. female with diagnosis of stage 1B vocal cord SCC. She has planned for radiotherapy to total dose of 66Gy/33Fr. The technique was routine pop ports with wedges.



PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

During 2nd – 3rd week of treatment she developed severe (grade III) skin reaction extending well beyond her treatment portals. On triple review, the dosimetry was perfect. Patient is NED 3 ½ years after treatment but has marked discolorative marks on the skin of neck. Patient had history of pruritic skin lesions of extremities prior to radiation but never had diagnosis of ALP. Severe early skin reaction triggered investigation leading to diagnosis of ALP. The development of wide generalized actinic L.P following targeted radiation therapy may possibly be the result of an abscopal autoimmune response. **Conclusion:** In patients with diagnosis of L.P. or patients without known diagnosis of L.P. but with generalized pruritic skin lesions, the possibility of induction or exacerbation of L.P./Actinic L.P. should be considered and patient should be warned of acute side effects and specially late cosmetic skin sequella.

LC87

A PUTATIVE MIRNA/MRNA INTERACTOME FOR ORAL SQUAMOUS CELL CARCINOMA: A PROSPECTIVE PROFILING STUDY OF NARROW BAND IMAGING SURGICAL RESECTIONS

Prof Camile Farah

University of Western Australia, Western Australian, Australia

Purpose: Narrow Band Imaging (NBI) surpasses white light (WL) for defining non-involved surgical margins for oral squamous cell carcinoma excision. We used NBI to define three biopsy sites along the spatial axis from normal tissue (NBI), through non-cancerous tissue bearing evidence of abnormality (WL), to tumour core (T) that were analysed for differential miRNA and mRNA expression. We aimed to correlate putative miRNA/mRNA interactions to this spatial axis as evidence that molecular abnormality extends into visually normal (WL) surgical margins. **Methodology:** Micro-RNA and mRNA molecular divergence was established for 18 patients using microarrays (GeneChip®U133-plus-2.0 mRNA & SurePrint®G3 Human miRNA). **Results:** 119 miRNA and 4794 mRNA were differentially expressed in pairwise comparisons of: (1) WL-T; (2) NBI-T; (3) NBI-WL. Molecular divergence was greater for NBI-T than WL-T comparisons, for miRNA, mRNA and miRNA/mRNA integration (with miRTarBase). The miRNA/mRNA interactome proper superset contained 210 interactions between 64 miRNA and 192 mRNA. Selection of statistically robust data (LOOCV stability>0.5) with correlation to the spatial axis of NBI:WL:T (Pearson's $r=1.00$, FDR adjusted $p<0.05$) gave a proper superset of 37 putative miRNA/mRNA interactions between 15 miRNA and 35 mRNA. Additional analysis distinguished reciprocal from non-reciprocal miRNA/mRNA relationships. Clustering of miRNA was equally apparent for all tissue sites. **Conclusion:** A putative spatially correlated miRNA/mRNA interactome was generated. This strongly supports our premise that resection to surgical margins that are determined by NBI rather than WL will leave less potentially malignant residual tissue and increase surgical success.

Conflict of Interest Declaration: Professor Farah undertakes clinical and translational research utilising Olympus NBI, but has no financial or personal interests in Olympus NBI.

LC46

TRANSORAL ULTRASONIC TOTAL LARYNGECTOMY (TOUSS-TL)

Dr Mario Fernandez-Fernandez, Dr Lourdes Montes-Jovellar, Dr Primitivo Ortega, Dr Pablo Parente, Dr Miguel Ángel Gomez-Marino, Dr Jorge Duque
Hospital Universitario del Henares, Coslada, Madrid, Spain

Purpose: TORS (transoral robotic surgery) has been used for the transoral removal of the entire larynx. However, robotic platforms are not reachable for most institutions. In order to allow every single ENT department to join the transoral endoscopic philosophy, Transoral Ultrasonic Surgery (TOUSS) has been described as a robotless transoral endoscopic surgical alternative for pharyngeal and supraglottic lesions. TOUSS has been adapted to allow the removal the entire larynx when a total laryngectomy is indicated. **Methodology:** The surgical steps of TOUSS-TL (Transoral Ultrasonic Total Laryngectomy) were established on cadaver prior to its clinical application. The surgical technique is adequately described. Salvage total laryngectomy was the main indication of TOUSS-TL, however any total laryngectomy without neck dissection could be also a candidate for TOUSS-TL in order to avoid lateral neck incisions, elevation of cutaneous flaps and its secuelae. **Results:** Two candidates for TOUSS-TL were properly counseled about the technique and other alternatives. Both were treated with TOUSS-TL. Patient #1 had a persistent T3 right glottic cancer with extension into the piriform sinus after chemoradiotherapy so a transoral total laryngectomy with partial pharyngectomy was performed. Patient #2 had a subglottic T2 carcinoma and TOUSS-TL was established as a primary treatment. A free surgical margin was obtained in both cases. Oral feeding was started in 5 weeks and 13 days respectively. **Conclusion:** TOUSS-TL allows a transoral total laryngectomy without robotic equipment. We hope that this proposal can contribute to spread the transoral endoscopic philosophy to most head and neck cancer departments.

Conflict of Interest Declaration: Olympus has provided the equipment to develop the technique.

LC69

THE SIX HOUR WAIT, AND GETTING AROUND THE CORNER

Dr Jeremy Field

Westmead Hospital, New South Wales, Australia

Two dominant concerns in the safe administration of general anaesthesia are airway maintenance, and protection against pulmonary aspiration of gastric contents. Airway maintenance is relatively difficult in humans compared to other species, owing to the dimensions and angulation of the mouth, tongue and pharynx. The overlapping course of the upper airway and proximal gastrointestinal tract also creates the possibility of aspiration of gastric contents into the lungs. These two factors require specific consideration for every anaesthetic, including a period of fasting before all elective surgery, and ready availability of a range of devices for maintenance of the unanticipated "difficult airway". **Aim:** To consider the configuration of the human airway from an evolutionary perspective. **Methods:** Literature review. **Results:** Species which may be representative

PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

of earlier periods in human evolution manifest airway configurations of widely varying complexity. It is possible to speculate on the forces which have driven the formation of the complex airway of the anatomically modern human. **Discussion:** Spoken language is likely to have served as a strong selective force in the evolution of the human airway, and appears to have overpowered the shortcomings which it necessitates, including the tendency to obstructive sleep apnoea.

LC04

BEST EVIDENCE TO BEST PRACTICE: IMPLEMENTING AN INNOVATIVE MODEL OF CARE FOR NUTRITIONAL MANAGEMENT OF PATIENTS WITH HEAD AND NECK CANCER

Ms Merran Findlay, A/Prof Tim Shaw, A/Prof Judith Bauer, Dr Nicole Rankin, Prof Michael Boyer, A/Prof Chris Milross
Royal Prince Alfred Hospital, New South Wales, Australia

Purpose: Malnutrition is prevalent in patients with head and neck cancer (HNC) impacting on outcomes. Despite publication of evidence-based nutrition guidelines (EBGs), evidence-practice gaps remain. Reasons include lack of familiarity with the EBGs amongst the multidisciplinary team (MDT), dietetic resource and infrastructure limitations and lack of awareness of the intensiveness of nutrition care required. This project aims to implement and evaluate a best-practice dietetic model of care (MOC). Through integration with the MDT, the MOC will take a patient-centred approach to minimise the detrimental sequelae of malnutrition. **Methodology:** A mixed methods, pre-post study design will be used to evaluate outcomes of interest prior to, and following, implementation. Three phases include pre-implementation and implementation (9 months each) and post-implementation analysis (6 months). Uptake of the new dietetic MOC will be measured by monitoring process and clinical outcomes. A preliminary cost-effectiveness analysis will inform future sustainability strategies. Planned Analysis Primary outcomes of interest include process measures (adherence to new appointment schedules and screening/assessment protocols) and clinical outcomes (effect of the new MOC on nutritional outcome measures and quality of life). Secondary process (clinician awareness, knowledge and acceptance of EBGs) and clinical outcomes (nutrition and hydration-related hospital admissions, length of stay, duration of feeding tube use and influence on treatment completion rates) will be monitored. **Expected Outcomes:** The level of evidence provides justification for the highly feasible translation to an evidence-based dietetic MOC to improve patient outcomes.

LC01

OLFACTORY FUNCTION AFTER REHABILITATION WITH THE NASAL AIRFLOW-INDUCING MANEUVER IN PATIENTS TREATED WITH TOTAL LARYNGECTOMY

Prof Caterina Finizia

Inst of Clinical Sciences Gothenburg University, Gothenburg, Sweden

Purpose: As the upper and lower airways are disconnected after a total laryngectomy, a loss or decrease of normal sense of smell and taste are present in most patients. In the last decade a new method that can restore the sense of smell in laryngectomized patients has been developed, the Nasal Airflow-Inducing Maneuver (NAIM) or "Polite Yawning Technique". **Methodology:**

The NAIM creates a negative pressure in the oral cavity and oropharynx to induce orthonasal airflow, thus enabling odorous substances to reach the olfactory epithelium. In the Swedish studies olfaction acuity was examined with the Scandinavian Odor Identification Test (SOIT) and the patients were categorized as smellers (normosmia or hyposmia) or non-smellers (anosmia). Their self-estimation of smell, taste and health-related quality of life (HRQL) were measured with validated questionnaires. **Results:** According to SOIT 75% had impaired sense of smell before NAIM rehabilitation and 72% improved their sense of smell after 3 NAIM rehabilitation sessions. Further improvement was also seen at the 6 and 12 month follow-up, i.e. 83% and 88% respectively, were categorized as smellers according to SOIT results. Three years after NAIM rehabilitation all patients still alive (n=18) were re-examined and as many as 78% were still smellers. In addition, the patients reported an overall good HRQL and no mental distress. **Conclusion:** It was concluded that olfactory impairment is common in laryngectomized patients, that NAIM is an effective method for restoring the sense of smell, and that the improvements endure in long-term and should be incorporated into routine rehabilitation programs.

LC83

VOICE OUTCOMES IN NON-SURGICAL TREATMENT

Prof Caterina Finizia

Inst of Clinical Sciences Gothenburg University, Gothenburg, Sweden

Purpose: Discussion according to objective and subjective voice outcomes. The presentation will include the results of a randomized intervention study as well as guidelines for the Swedish Self Evaluation of Communication Experiences after Laryngeal Cancer (S-SECEL). **Methodology:** The intervention study included 33 patients who received voice rehabilitation post-radiotherapy and 32 patients in a control group. Outcome measures included patient reported HRQL and communication in terms of acoustic measures and perceptual analysis. Outcome measures were analysed one, six and 12 months post-radiotherapy, where voice rehabilitation was conducted between the first two time-points. **Results:** The patients improved after six months of follow-up with regard to communication function and HRQL. These improvements remained unchanged after 12 months post-radiotherapy. A significant perceptual deterioration of roughness in the control group occurred after six months, yet remained unchanged in the intervention group. The acoustic measures remained unchanged during the course of the study. Results in the S-SECEL study identified cut-off values indicating the need for voice rehabilitation. **Conclusion:** When evaluating vocal outcomes after voice rehabilitation, the most important aspects to consider would, rather than the acoustic measures, be the patient's own perception of his or her voice and communication, as well as other people's perception. In order to capture possible changes and to be able to demonstrate for the patients that changes have occurred, both PRO instruments, such as the S-SECEL, and voice recordings are probably needed.



PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

LC57

PRE-OPERATIVE COUNSELLING FOR LARYNGECTOMY PATIENTS: A SYSTEMATIC REVIEW

Ms Eavan Fitzgerald, Prof Alison Perry

University of Limerick, Limerick, Ireland

Purpose: To undertake a systematic review of the published literature about pre-operative counselling for laryngectomy patients. **Methodology:** A search strategy was formulated using a concept map and PICO (Population, Intervention, Comparative Measure and Outcome) schema. Scopus, Medline, PubMed and Google Scholar databases were searched using key words, limiting the search to papers in English. All types of studies from 1975 - 2015 that incorporated reports of pre-operative counselling for patients before total laryngectomy were included. Pertinent papers were reviewed and underwent stringent critique and categorisation according to the Joanna Briggs Institute's Levels of Evidence. **Results:** 56 papers were retrieved and 21 were included. Literature was limited, with no published papers from Ireland and all publications demonstrating bias and having poor methodological quality. There is no operationalising of pre-operative 'counselling,' resulting in differing paradigms being examined. Despite this, there are clear and persistent reports by patients and carers of shortfalls in clinical practice. **Conclusion:** There is a paucity of published literature about pre-operative counselling for laryngectomyes with significant flaws in terms of study design and low levels of evidence. Quality work in this area is necessary.

LC86

THE DEVELOPMENT OF AN ENDOSCOPIC LASER SERVICE

Dr Peter Floros, Dr Faruque Riffat, A/Prof Carsten Palme

Westmead Hospital, New South Wales, Australia

Purpose: The oncologic role of endoscopic laser surgery in the management of head and neck cancer is well established. Major challenges remain when introducing this approach as a fundamental component of any successful multidisciplinary head and neck clinic. We propose that setting up an endoscopic laser service (ELS) requires a thoughtful and coordinated approach, which includes a number of fundamental infrastructure and human resource components. **Methodology:** We describe our experience in setting up an ELS within a well established tertiary head and neck service in a major university teaching hospital. The medical literature on the evidence and challenges of setting up such a service was reviewed. **Results:** A successful ELS requires fundamental and coordinated structural, human and health care system components. These foremost include dedicated specialists involved in all aspects of managing upper aerodigestive tract disease, allied health professionals and nursing staff. Major infrastructure components include an appropriate practice environment, documentation and specialized surgical equipment. Appropriate systems need to be in place ensuring state of the art training, education, research and audit. **Conclusions:** We highlight that setting up a successful endoscopic laser service within a tertiary multidisciplinary head and neck clinic is a complex task which requires multiple components and resources.

LC42

NSQIP SURGICAL RISK CALCULATOR: ACTUAL VS. PREDICTED SURGICAL MORTALITY AND MORBIDITY IN SOUTH AUSTRALIAN LARYNGEAL CANCER PATIENTS

Dr Claire Frauenfelder, Dr Daniel Wong, Dr Giri Krishnan, Dr Charmaine Woods, A/Prof Suren Krishnan, Dr Eng Ooi

Flinders Medical Centre, South Australia, Australia

Purpose: Patient selection for laryngeal cancer patients considering surgery is critical in ensuring the optimal outcomes for patients. The American College of Surgeons NSQIP risk calculator is a validated web based tool, developed to assess patients 30-day post-operative risk assessment based on 21 patient-specific factors, and provide surgeons with information to guide decision making. Use of the risk calculator in an Australian population has not been published to date.

Methodology: A retrospective review of actual mortality and morbidity of Head and Neck cancer patients was undertaken to investigate validity of this tool for South Australian patients treated from 2009 - 2012 (the period of the NSQIP risk calculator data-set collection). Post-operative 30-day outcomes for patients undergoing laryngectomy, glossectomy (partial/complete), pharyngolaryngectomy, with or without modified radical neck dissection in South Australian public teaching hospitals were included in the study. Results from the study were compared to the predicted mortality and morbidity using NSQIP risk calculator, incorporating surgeon-assessed relative risk category. **Results:** There were n=100 patients identified in the study. The predicted mortality and morbidity was significantly different from the actual mortality and morbidity identified in the case notes. Multiple factors for this were identified and will be explored in the presentation. **Conclusion:** This risk calculator tool has value in optimising the decision making process for laryngeal cancer patients and clinicians in the Australian healthcare system undergoing major head and neck surgery.

LC41

OUTCOMES FOLLOWING TOTAL LARYNGECTOMY FOR SQUAMOUS CELL CARCINOMA AT A SINGAPORE TERTIARY REFERRAL CENTRE

Dr Weizhong Ernest Fu, Dr Ming Yann Lim, Dr Jeevendra Kanagalingam, Dr Christopher G.L. Hobbs

Tan Tock Seng Hospital, Singapore, Singapore

Objectives: To evaluate the patient population, clinical outcomes and complications following total laryngectomy in a South-East Asian population. **Methodology:** 10-year retrospective review of the hospital's electronic database for patients with squamous cell carcinomas (SCC) following total laryngectomy or laryngo-pharyngectomy. **Main Outcome Measures:** 5-year overall survival (OS) and disease-free survival (DFS) **Results:** 61 patients were reviewed of which 55 (90%) had laryngeal SCC while 6 (10%) had hypopharyngeal SCC. The overall median survival period for all patients following surgery was 85 months. The 5-year OS and DFS for laryngeal SCC were 65% and 47% respectively while the 5-year OS and DFS for hypopharyngeal SCC were both 33%. The most common post-operative complication was pharyngocutaneous fistula (11%), followed by chyle leak (8%) and tracheo-stomal stenosis (8%). 19 patients (31%) had recurrent disease after surgery, of which 8 (13%), 3 (5%) and 14 (23%) patients developed local, regional and distant recurrence respectively. 25 patients (41%) had a pre-

PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

operative tracheostomy, of which 4 patients (16%) developed local recurrences which included 2 (8%) peristomal recurrences. The most common cause of death was due to advanced cancer secondary to disease recurrence. **Conclusion:** Although there is increasing tendency towards laryngeal preservation, surgery remains a robust and safe treatment option in selected patients with laryngeal and hypopharyngeal SCC. In our local population, patients often present late with advanced laryngeal and hypopharyngeal cancer, as demonstrated by a high rate of emergency preoperative tracheostomy. However, there is no evidence that this affects survival or local disease recurrence.

LC50

NECK AND SHOULDER FUNCTION SIX MONTHS TO FIVE YEARS AFTER NECK DISSECTION: A PRELIMINARY CROSS-SECTIONAL STUDY

Miss Elise Gane, Dr Shaun O'Leary, Dr Steven Mcphail, Dr Anna Hatton, A/Prof Ben Panizza

The University of Queensland, Queensland, Australia

The aims of this study were to 1) describe neck/shoulder dysfunction in patients six months to five years after neck dissection (ND); and 2) to determine the relationship between patient characteristics, physical impairment, and psychosocial status. Past patients of two tertiary hospitals in Brisbane, Australia, who had undergone ND between July 2009 - May 2014 were invited to partake in a cross-sectional study. The primary outcome was the Neck Dissection Impairment Index (NDII), a measure of health related quality of life (HRQOL). Other patient reported outcomes included self-reported shoulder and neck function, generic HRQOL, pain, general self-efficacy, and symptoms of neuropathic pain. Physical measures included shoulder and neck active range of motion and strength, and resting scapular posture. A preliminary analysis of 50 patients (33 male) with a mean (SD) age at surgery of 61 (15) years has been undertaken. Surgical type included unilateral selective ND (SND) (n=24), unilateral modified radical ND (n=11), unilateral radical ND (n=3), bilateral ND of various types (n=9), or unknown at time of analysis (n=3). The mean (SD) NDII score for the entire cohort was 73 (25) (100 = maximal HRQOL). Linear modelling indicated the QuickDASH measure of self-reported shoulder function (coef (95% CI) = -1.18 (-1.79, -0.57); $p < 0.001$) was associated with NDII. Undergoing a unilateral SND was associated with better NDII scores (coef (95% CI) = 12.97 (2.04, 23.09); $p < 0.05$). Among cancer survivors six months to five years post-surgery, type of ND and self-reported shoulder function, but not common physical measures, were associated with patient perceived HRQOL.

LC46

PREVALENCE, INCIDENCE AND RISK FACTORS FOR SHOULDER AND NECK DYSFUNCTION AFTER NECK DISSECTION: A SYSTEMATIC REVIEW

Miss Elise Gane, Dr Zoe Michaleff, Dr Khalid Jaber, Dr Shaun O'Leary, Dr Steven Mcphail, Dr Anna Hatton

The University of Queensland, Queensland, Australia

The aim of this systematic review was to investigate rates of prevalence and incidence, as well as risk factors for the development of shoulder and neck dysfunction after neck dissection (ND) for head and neck cancer (HNC). Studies were identified by an electronic search of Pubmed, CINAHL, EMBASE, and Cochrane Library as well as OpenGrey.eu and NYAM from

inception until 1 August 2014. Only cross-sectional, case-control or cohort studies which investigated adults with HNC treated with ND using shoulder or neck outcome measures were included. No language restriction was applied. Two reviewers assessed the eligibility of titles and full texts with mediation by a third reviewer where necessary. Methodological quality was assessed using The Critical Review Form – Quantitative Studies. Sixty-seven papers of modest to good methodological quality were included in this review. The majority (39, 58%) were cross-sectional in design and reported on the prevalence of shoulder dysfunction. Radical ND was consistently reported to have a higher prevalence of shoulder dysfunction (range 33 to 100%) compared to modified radical ND (range 27 to 68%) and selective ND (range 4 to 77%). Risk factors for shoulder dysfunction only are reported by five papers and include surgical, physical and psychosocial results. There was significant variability in the way in which dysfunction was defined. The large ranges in prevalence and incidence reported by this review may reflect the lack of a clear definition of the term "shoulder dysfunction", as well as the influence of radiotherapy. The review highlighted the lack of prospective studies investigating risk factors for dysfunction and the lack of investigation of neck outcomes in this population.

LC88

SURGERY: FREQUENTLY GOOD VALUE SOMETIMES HIGH COST

Mr Charles Giddings

Monash Health, Victoria, Australia

Outcomes for early laryngeal cancer are similar irrespective of modality, which allows different treatment options to be offered. Surgery for early laryngeal cancer is frequently a convenient and low cost treatment that may be repeated. Surgery for advanced carcinoma of the larynx, either primarily or for salvage, is expensive and there is some evidence that care in high-volume centres with high-volume surgeons results in lower costs and in-patient stays. Developing technologies are becoming more widespread but are not inexpensive. The economic implications of surgery for early and advanced laryngeal cancer will be discussed.

LC12

CT AND MRI IN THE EVALUATION OF LARYNX CANCER

A/Prof Lavier Gomes

University of Sydney, New South Wales, Australia

Imaging is essential in the evaluation of laryngeal carcinoma. Whilst the diagnosis of laryngeal carcinoma is usually made clinically, the primary role of imaging is in staging of laryngeal cancer. Imaging is of benefit in detecting submucosal disease and its extension into the pre epiglottic space, laryngeal cartilages, and paraglottic spaces. CT and MRI are the mainstay in staging laryngeal carcinoma. Multislice CT is the most commonly used technique in staging laryngeal cancer, due to its relatively easy accessibility, high spatial resolution and ability to scan the affected region in a few seconds. Conventional CT however does have difficulty in evaluating cartilage involvement and has difficulty with resolving soft tissue densities. MRI whilst currently used as problem solving tool in most centres, is increasingly being used as the primary cross sectional modality to stage Laryngeal cancer due to the ability to better evaluate soft tissues



PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

particularly submucosal changes and cartilage involvement. Small field of view examinations and higher resolution studies have further enhanced the ability of MRI to detect submucosal spread. The challenge to more widespread use of MRI is the ability to obtain diagnostic high spatial imaging in an acquisition time that most patients will be able to tolerate and in the limited accessibility to MRI scanners. Newer techniques on both CT (Dual energy CT, and Perfusion CT) and MRI (diffusion weighted sequences and perfusion) have added to the sensitivity and specificity of staging and post therapy imaging.

LC08

OPTIMIZING NUTRITION CARE IN PATIENTS WITH HEAD AND NECK CANCER

Prof Leah Gramlich

University of Alberta, Alberta, Canada

The nutrition care of patients with Head and Neck cancer requires consideration of the patients themselves, the nature, location and extent of disease and the planned and completed treatment for the cancer. In addition it requires reflection upon discipline specific roles as they relate to nutrition care, local practices, experiences and beliefs regarding nutrition care. The complexity of the intervention and the lack of robust evidence in support of nutrition care make application to practice challenging. This session will describe Complex Multimodal Care in patients with Head and Neck Cancer with a view to linking: Theory – Evidence – Practice. We will review evidence-based considerations in optimal nutrition care building upon current definitions and the current evidence. A framework for advancing multimodal supportive care, that allows a patient centered approach during the cancer journey will be identified. Nutrition care is central to the treatment for patients with Head and Neck Cancers – there is an opportunity and a mandate to see this develop and advance in order to optimize the care.

LC52

NOVEL MICROMANIPULATOR FOR ROBOT-ASSISTED MICROSURGICAL SYSTEM FOR TRANSORAL LASER SURGERIES

Dr Nikhil Deshpande, Dr Luca Guastini, Dr Leonardo Mattos, Prof Giorgio Peretti

Istituto Italiano di Tecnologia, Genova, Italy

The article has following main objectives: (i) Increase precision, safety, and controllability for Transoral laser surgeries; (ii) Simplify the surgeon-machine interface through robotic actuation and intuitive interfaces; (iii) Assistive technologies for intraoperative planning and active constraints. The article introduces a novel robot assisted microsurgical system consisting of: (i) New micromanipulator with motorized spherical orienting device, attached beam-splitter mirror, and UniMax 2000EWD reflective focusing optics; (ii) Graphics Stylus with Tablet for intuitive laser aiming and activation; (iii) Two HD cameras attached to microscope for real-time 3D visualization through a modified SONY head-mount display; (iv) Touchscreen for system configuration, in-surgery recording. Assistive features for the surgeon include: (i) stylus-based control; (ii) scan patterns for automatic incision and ablation, (iii) constraint areas for active (Safe) or inactive (Dangerous) laser. System was tested in Sept-Oct. 2014. Surgery-like gestures were evaluated for quantitative and subjective usability, against the Lumenis

AcuBlade (AB) interface. Following results were obtained: (i) the system average error was 0.15 mm (max. error of 0.44 mm) showing more accuracy and superiority to AB (0.35 mm and 1.53 mm respectively). Surgeons evaluated the system with ex-vivo pig larynxes to be smoother and more precise than AB, with improved quality of cut, and reduced carbonization. The automatic incision and ablation freed up one hand of surgeons for better tissue manipulation. In conclusion, the system provides improved safety, precision, control, ergonomics, 3D visualization, and maneuverability in Transoral laser microsurgeries.

LC09

PATHOLOGY OF SQUAMOUS CELL NEOPLASMS OF THE LARYNX: PROBLEMS AND SOLUTIONS

Prof Ruta Gupta

Royal Prince Alfred Hospital, New South Wales, Australia

Alterations of the laryngeal squamous mucosa, including dysplasia and invasive carcinoma require diagnosis and treatment of at the earliest possible stage, but distinction from other lesions of similar endoscopic appearance can only be achieved by pathological examination. Dysplasia and early invasive squamous cell carcinoma pose significant diagnostic challenges for the pathologist. These primarily relate to the biopsy quality (size, thickness), specimen handling and the inherently subjective grading of dysplasias. The extent of sampling of the abnormal area is also critical for instances where drop down microcarcinomas occur in the absence of dysplasia. The exact location of the biopsy is also important in interpretation as microinvasive carcinomas portend a different prognosis in the various parts of the larynx due to subtle differences in the micro-anatomy. Furthermore, these lesions need to be accurately distinguished from benign histological mimics such as pseudoepitheliomatous hyperplasia, necrotizing sialometaplasia and radiation induced changes in the appropriate clinical context. Diagnosis, prognostication and management of conventional squamous cell carcinoma can be relatively straightforward. However pathological variants such as verrucous carcinoma and papillary carcinoma may cause diagnostic problems on small biopsy specimens and may require close follow up and multiple biopsies before an accurate diagnosis is possible. Appropriate specimen orientation and the examination of multiple levels of conventional histology sections form the mainstay of diagnosis. However, the availability of genetic sequencing will improve prognostication, survival and quality of life in the future.

LC12

SYSTEMATIC REVIEW OF THE COMPLICATIONS OF SALVAGE LARYNGECTOMY

Dr Zubair Hasan, Dr Raghav Dwivedi, Dr Dakshika Guneratne, A/Prof Carsten Palme, Dr Faruque Riffat

Westmead Hospital, New South Wales, Australia

Purpose: Contemporary interest in management of laryngeal cancer has focused on "organ preservation" with chemoradiotherapy. However, in the event of treatment failure, surgery in the form of salvage total laryngectomy remains the mainstay of treatment. Nevertheless no review of the complications of this procedure has been performed. This is the aim of the present study. **Methodology:** Systematic review of the literature using keywords "salvage laryngectomy" in Pubmed and MEDLINE between January 2000 and September

PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

2014 to identify relevant articles. Inclusion criteria included studies reporting primary squamous cell carcinoma as laryngeal (or hypopharyngeal) pathology, salvage total laryngectomy rather than any other salvage procedure as the surgery patients underwent after failing combined chemoradiation or radiation therapy only, and studies reporting 3 or more patients. **Results:** A total of 350 studies were identified from the initial literature search and after exclusion, the final study includes 49 studies. A total of 2954 patients were included across the 49 studies. The most commonly reported complication was pharyngocutaneous fistula (PCF) which was reported 754 (25.5%) times in this group of patients. An additional 20 studies reported complications in addition to PCF. A further 13 complications were reported in the literature. The most commonly reported complications included wound infection (n=93), dysphagia (n=54), haematoma/haemorrhage (n=53), pharyngeal stenosis (n=42) and wound dehiscence (n=38). **Conclusions:** A review of complications of salvage total laryngectomy has been reported. To the best of our knowledge, this is the first time such a study has been conducted.

LC11 PULMONARY REHABILITATION, A KEY ELEMENT OF POSTLARYNGECTOMY FUNCTION RESTORATION

Prof Frans Hilgers

Netherlands Cancer Institute, NH, Netherlands

Total laryngectomy (TL) not only affects voice and speech, but the disconnection of upper and lower airways also has an impact on respiration and olfaction. Any postlaryngectomy rehabilitation program, therefore, should address these 3 major functional changes. Prosthetic vocal rehabilitation has emerged as the most successful method in history. Unlike oesophageal (O-) speech (short phonation-time, long learning-curve), tracheoesophageal (TO-) speech is pulmonary driven and hence most close to normal laryngeal voicing (better phonation time, loudness, and dynamic range; easier and shorter learning-curve). Overall, long-term and fair to excellent voice-quality rates around 90% are achievable with TO-speech. Although, as with any surgical method, side effects have to be taken into account, most adverse events are tolerable and well manageable. The post-TL anatomical changes also negatively impact patients' respiratory system, and significant pulmonary, physical, and psychosocial problems have been extensively evidenced. To compensate for the lost heating, moistening, and filtering function, heat and moisture exchangers (HMEs) have been identified as highly beneficial. Numerous in vitro, ex vivo, and clinical studies have demonstrated the positive (treatment, prevention, and cost-effectiveness) effects of HMEs in laryngectomized patients. All research findings indicate that HMEs form an obligatory therapeutic measure for pulmonary protection and respiratory rehabilitation after TL. And last but not least, the problem of impaired olfaction after TL will be addressed, as will be the research on the rehabilitation of this important sense with the easy to acquire nasal airflow inducing manoeuvre ('polite-yawning').

Conflict of Interest Declaration: The Netherlands Cancer Institute receives an Unrestricted Research Grant from Atos Medical Sweden, which contributes to the existing infrastructure for health-related quality of life research of the Department of Head and Neck Oncology and Surgery.

LC23

POSTLARYNGECTOMY REHABILITATION IN THIS ERA OF INCREASING ORGAN PRESERVATION TREATMENT

Prof Frans Hilgers

Netherlands Cancer Institute, NH, Netherlands

Notwithstanding the current focus on organ preservation treatment protocols, total laryngectomy often still is considered indispensable as primary treatment modality for advanced (T4) larynx cancer. Moreover, management of recurrent disease and/or debilitating laryngeal dysfunction after prior non-surgical treatment also still demands this organ-sacrificing procedure. Postlaryngectomy rehabilitation, thus, remains an essential theme in present-day larynx cancer treatment and aftercare, but at the same time challenges have become bigger because of the relative increase in salvage procedures. This lecture will focus on the main postlaryngectomy functional changes and current voice and pulmonary rehabilitation options. Furthermore, attention will be given to developments in clinical research and medical device technology, which in the majority of cases (still) enable reliable restoration of pulmonary-driven speech, and compensation for lost upper respiratory tract (climate conditioning) functions, despite the increasing surgical challenges. **Outcome Objectives:** 1: Upon completion of this session, participants will have state of the art understanding of the impact of the disconnection of upper and lower airways on voice and pulmonary physiology. 2: Upon completion of this session, participants should be knowledgeable about the options and state of the art evidence-based solutions for voice and pulmonary rehabilitation notwithstanding the present (salvage) surgical challenges.

Conflict of Interest Declaration: The Netherlands Cancer Institute receives an Unrestricted Research Grant from Atos Medical Sweden, which contributes to the existing infrastructure for health-related quality of life research of the Department of Head and Neck Oncology and Surgery.

LC43

HEAD AND NECK SURGEON OR HEAD AND NECK ONCOLOGIST?

Prof Frans Hilgers

Netherlands Cancer Institute, NH, Netherlands

Prerequisites to become a competent head and neck surgeon dealing with larynx cancer are: • A keen interest in head and neck cancer • Willingness to invest extra (post-specialty) education time in head and neck surgery, i.e. to conduct a dedicated fellowship, preferably with a research component • To focus this fellowship not only on becoming a competent HN surgeon, (obviously essential), but also on becoming an oncologist. This means that the fellowship ideally should be accomplished in a large volume multidisciplinary setting/comprehensive cancer centre, with all oncology specialties collaborating and confining to evidence-based consensus protocols • To realize that the notion "bigger volume- better outcome" according to European and US data also does apply in HNC • To keep in mind that there have been significant fluctuations in larynx cancer approach in the various TNM classifications/stages over the last 2-3 decades, from surgery to radiotherapy and back to surgery, or from induction chemotherapy to concomitant chemoradiotherapy to adjuvant chemotherapy and back. This means that keeping an open mind to clinical research is still imperative and that



PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

large volume centres are better capable of conducting and/or participating in clinical research and development • The notion that experimental treatment protocols should not be implemented in every day practice before actual proof of their superiority over existing protocol standards has been collected • The 24/7 availability of treatment and rehabilitation infrastructure, which also speaks for treatment of larynx cancer in large volume centres.

Conflict of Interest Declaration: The Netherlands Cancer Institute receives an Unrestricted Research Grant from Atos Medical Sweden, which contributes to the existing infrastructure for health-related quality of life research of the Department of Head and Neck Oncology and Surgery.

LC66

SUCCESS MEASUREMENT IS MORE THAN ORGAN PRESERVATION AND/OR SURVIVAL FIGURES ALONE

Prof Frans Hilgers

Netherlands Cancer Institute, NH, Netherlands

Initially, HNC "success measurements" mainly concerned reporting oncologic outcomes, e.g. disease specific survival. However, more prominently overall survival presently is reported, since especially with organ-preservation protocols tumour-, comorbidity- and therapy-related effects are difficult to disentangle. Moreover, quality of life (QoL) has become an equally relevant "success measure". Therefore, Patient Reported Outcomes (PROs) have become indispensable research tools for measuring functional, psychosocial and QoL "success" of HNC protocols. Fortunately, many present PROs, specific for HN sites, functions, and protocols, are well validated and multilingual, making international reports better comparable and interchangeable. However, valid and comprehensive health and QoL measurements call for a large number of sufficiently detailed problem specific questionnaires, but similarly it's important to limit patient burden and maintain practical feasibility, by restricting the number of questions a patient needs to answer. This bandwidth-fidelity problem sometimes leads to invalid measurements, even in disease specific validated questionnaires. A classic example: response to the only EORTC HN35 voice question ("Have you been horse?") was "Not at all" in 91% of 79 laryngectomized patients in a voice rehabilitation study, indicating that study specific questionnaires still are needed. Additionally, e.g. for "measuring success" in medical device development, also health technology and cost-effectiveness assessments are required, for ensuring patients' reimbursement in their health insurance plan. The bottom line is that we still need a variety of "measurements" to determine the multifactorial issue "success" constitutes.

Conflict of Interest Declaration: The Netherlands Cancer Institute receives an Unrestricted Research Grant from Atos Medical Sweden, which contributes to the existing infrastructure for health-related quality of life research of the Department of Head and Neck Oncology and Surgery.

LC79

TRANSORAL SURGERY FOR SUPRAGLOTTIC CANCER

Dr Michael Hinni

Arizona, United States of America

Supraglottic cancer is treated with open or endoscopic surgical approaches, ionizing radiation, or Chemoradiotherapy. This presentation will explore the feasibility and technique of transoral approaches. While ideal for small volume tumors, transoral surgery permits resection to a clear margin even on most advanced T Stage lesions. The advantages and disadvantages of this approach will be discussed as will comparisons to nonsurgical strategies from both an oncologic and functional standpoint. At present, there is no single "Standard of Care" and each patient and lesion should receive individualized treatment.

LC80

ENDOSCOPIC SURGERY FOR LARYNGEAL CANCER: ROBOTICS, COSTS, AND THE FUTURE

Dr Michael Hinni

Arizona, United States of America

Endoscopic resection of laryngeal cancer is not new. The appearance of the surgical robot has added new instrumentation to our surgical toolbox. As with all surgical approaches, exposure remains the key to success. Lesions that can only be exposed with an operating laryngoscope are not currently suitable for robotic surgery as wide body retractors are necessary to permit robotic access. Further, the usual cutting electrosurgical hook or spatula may be unsuitable for glottic involvement. However robotic laser technologies, new imaging techniques, multimodal displays and scaling of movements may help to propel robotic surgery into the mainstream, particularly as new and smaller systems become available. Cost remains a key barrier for many hospitals. Exciting future developmental capabilities will also be explored.

LC88

REDUCING COMPLICATIONS IN NECK DISSECTION

Mr Tim Iseli

Royal Melbourne Hospital, Victoria, Australia

Incision planning for neck dissection is discussed. The author prefers a Boomerang incision for unilateral neck dissection, a utility incision on the second side if the primary is addressed endoscopically, and a T incision if a laryngectomy is planned. The role of level 2b neck dissection is discussed. The author prefers to dissect level 2b. The role of level 5 neck dissection is discussed. The author prefers not to dissect level 5 unless involved by suspicious lymph nodes. Prevention and management of chyle leak is discussed.

PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

LC02

EPIDEMIOLOGY OF LARYNGEAL CANCER IN UK

Mr Jean-Pierre Jeannon

Guy's & St Thomas' Hospital, London, United Kingdom

Incidence: In 2011, there were 2,360 new cases of laryngeal cancer in the UK: 1,932 (82%) in men and 428 (18%) in women, giving a male to female ratio of around 4.5:1. The crude incidence rate shows that there are 6 new laryngeal cancer cases for every 100,000 males in the UK, and 1 for every 100,000 females. The latest analysis of laryngeal cancer incidence reports significant geographical variation across the UK, there is a clear north-south divide with the highest rates in parts of Scotland and northern England, and the lowest rates in southern England. Laryngeal cancer incidence is related to age, with the highest incidence rates being in older men and women. Three-quarters (74%) were diagnosed in patients 60 and over. **Mortality & Survival** In 2012 around 780 people in the UK died from laryngeal cancer. Over the last decade laryngeal cancer death rates in men have fallen by a quarter; in women, they have fallen by a sixth. Around 8 in 10 laryngeal cancer deaths occur in men. Overall, 7 in 10 men with laryngeal cancer survive the disease for five years or more. More than 6 in 10 men diagnosed with laryngeal cancer will survive the disease for ten years or more. Survival for laryngeal cancer is highest in the youngest men – more than three-quarters of men diagnosed aged 15-49 survive their disease for at least five years. Survival for laryngeal cancer is improving – now, 7 in 10 men survive for at least five years, compared with more than 5 in 10 forty years ago.

LC48

UK SMOKING TRENDS & OTHER CARCINOGENS

Mr Jean-Pierre Jeannon

Guy's & St Thomas' Hospital, London, United Kingdom

Smoking: The highest recorded level of smoking among men in Great Britain was 82% in 1948, of whom 65% smoked cigarettes. Smoking prevalence among women in 1948 was 41% and remained fairly constant until the early 1970's, peaking at 45% in the mid 1960's. Overall the proportion of adults (aged 16 and over) smoking in Great Britain has been declining since 1974. Between 1994 and 2007, smoking continued to decline but a slower rate. However, since 2007 the rate of smoking has remained largely unchanged among men while there has been a small fall among women. Data for 2014 indicates 22% of men and 17% of women in the UK smoke an overall incidence of 19%. **Alcohol:** More than one in five adults (21%) said that they do not drink alcohol at all. This has increased slightly since 2005 (19%). The proportion of young adults who reported that they do not drink alcohol at all increasing by over 40% between 2005 and 2013. The proportion of adults who binged at least once in the week decreased from 18% in 2005 to 15% in 2013 **HPV infection.** The importance of HPV infection in laryngeal cancer is not well established compared to oropharyngeal cancer. The prevalence of HPV 16/18 infection in the post-immunisation survey was 6.5% amongst 16–18 year olds, compared to 19.1% in the similar survey conducted prior to the introduction of HPV immunisation. These findings are the first indication that the national HPV immunisation programme is successfully preventing HPV 16/18 infection in sexually active young women in England.

LC30

COMPLICATION AVOIDANCE IN SALVAGE LARYNGECTOMY

Mr Leo Pang, Mr Ricard Simo, Mr Jean-Pierre Jeannon

Guy's & St Thomas' Hospital, London, United Kingdom

Salvage laryngectomy denotes oncological surgery after failed radiotherapy or chemoradiotherapy (CRT). Salvage laryngectomy is a high-risk endeavour as it carries a significant risk of complications. The purpose of this paper is to assess the ways in which complications from salvage laryngectomy can be prevented and minimized. This is a complex subject and complications are often multifactorial and interrelated. Many patients with recurrent cancer are not suitable for salvage surgery due to severe co-morbidities or disease progression. Salvage laryngectomy is best carried out in tertiary centres by experienced multidisciplinary teams. Preoperative assessment and evaluation is critical to success and to minimize complications. Surgical principles include single incisions, delicate tissue handling, use of frozen sections, adopting a critical approach to neck dissections and the use of flaps, secondary surgical voice restoration for laryngectomies and appropriate postoperative care. The emphasis on the importance of a multidisciplinary approach by experienced teams, the centralization of resources and teams, a structured and thorough patient assessment, surgical planning and a systematic attention to detail when addressing patients undergoing salvage laryngectomy.

LC77

SHOULD ELECTIVE NECK DISSECTION BE ROUTINELY PERFORMED IN PATIENTS UNDERGOING SALVAGE TOTAL LARYNGECTOMY?

Mr Thomas Pezier, Mr Iain Nixon, Dr William Scotton, Mr Anil Joshi, Mr Ricard Simo, Mr Jean-Pierre Jeannon

Guy's & St Thomas' Hospital, London, United Kingdom

Background: The prevalence of occult neck metastasis in patients undergoing salvage total laryngectomy remains unclear, and there is controversy regarding whether elective neck dissection should routinely be performed. **Method:** A retrospective case note review of 32 consecutive patients undergoing salvage total laryngectomy in a tertiary centre was performed, in order to correlate pre-operative radiological staging with histopathological staging. **Results:** The median patient age was 61 years (range, 43-84 years). With regard to lymph node metastasis, 28 patients were pre-operatively clinically staged (following primary radiotherapy or chemoradiotherapy) as node-negative, 1 patient was staged as N1, two patients as N2c and one patient as N3. Fifty-two elective and seven therapeutic neck dissections were performed. Pathological analysis up-staged two patients from clinically node-negative (following primary radiotherapy or chemoradiotherapy) to pathologically node-positive (post-surgery). No clinically node-positive patients were down-staged. More than half of the patients suffered a post-operative fistula. **Conclusion:** Pre-operative neck staging had a negative predictive value of 96 per cent. Given the increased complications associated with neck dissection in the salvage setting, consideration should be given to conservative management of the neck in clinically node-negative patients (staged following primary radiotherapy or chemoradiotherapy).



PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

LC70

RADIATION TREATMENT OF SUPRAGLOTTIC CARCINOMA. UPDATE FROM A NATIONAL DATABASE (DAHANCA)

Dr Jørgen Johansen

DAHANCA – The Danish Head and Neck Cancer Group, Denmark

Since 1991, The Danish Head and Neck Cancer Group (DAHANCA) has recorded new cases of head and neck cancer on a national basis. The collection of treatment information, patient characteristics, and outcome data has contributed to our understanding of these diseases as well as facilitating implementation of new treatment strategies and guidelines which have been applied nationally and internationally. The advantage of continuously collecting treatment data from the clinic is that data are likely to be representative of the true population, may be abundant, and cheap to extract for analytic purposes. However, data may be missing if close quality assurance is not performed. Updates of the different disease entities, including laryngeal carcinoma, are performed regularly in DAHANCA. In Denmark, the standard treatment of larynx cancer is accelerated radiotherapy with the hypoxic sensitizer nimorazole, combined with weekly cisplatin in advanced stage disease. A recent update of supraglottic cancer from this large national clinical database will be presented.

LC45

HYPOTHYROIDISM AFTER TREATMENT OF THE NECK IN LARYNX CANCER

Dr Jørgen Johansen

Department of Oncology, Odense University Hospital, Denmark

Hypothyroidism (HT) is a common side-effect after treatment of head and neck cancer. HT and even sub-clinical HT (elevated TSH, normal T4/T3) are shown to be associated with deterioration in quality of life, increased cardio-vascular disease, and mortality. Surgery with or without radiation to the neck is critical for the development of HT, while the role of chemotherapy seems negligible. Incidence rates of HT have been reported in the range of 20-70%. Although substitution therapy for HT may restore physiological parameters, symptoms and health-related quality of life is not always improved which implies that HT is not a trivial condition. Radiotherapy (RT) is the standard treatment of larynx cancer in many countries, and the implementation of modern 3D radiation treatment techniques in recent years has resulted in dose-planning options for prevention of HT. To this end, we sought to develop a predictive model to describe the risk of experiencing sub-clinical HT (sHT) after definitive RT for head and neck cancer. Validation was performed on two independent cohorts of patients retrieved from the DAHANCA database. We consistently demonstrated that mean radiation dose to the thyroid gland as well as the thyroid volume were significantly associated with the development of sHT with a 5-year estimated risk of 25% after RT alone. The 25% risk of HT was 26 Gy, 38 Gy, 48 Gy and 61 Gy for thyroid volumes of 10, 15, 20 and 25 cm³, respectively. Since HT is highly prevalent after treatment of the head and neck and associated with increased morbidity and mortality, routine follow-up of thyroid function is required up to 5 years post-treatment.

LC03

THE GLOBAL IMPORTANCE OF WORLD HEAD AND NECK CANCER DAY

Prof Newell Johnson

Menzies Health Institute Queensland, Queensland, Australia

Malignant neoplasms of head and neck constitute a major public health problem worldwide. Over 90% are squamous cell carcinomas arising in mucosae of the upper aerodigestive tract (UADT). Risk factors are well understood and both primary and secondary prevention should be achievable. Nasopharyngeal cancer has a specific aetiology related to Epstein-Barr Virus (EBV) infection and dietary carcinogens. All other sites share common risk factors of alcohol, tobacco (including betel quid/areca nut), poor dentition and diets poor in antioxidants and vitamins, and an increasingly recognised role for Human Papillomavirus (HPV). These UADT sites: oral cavity (including tongue), nasopharynx, other pharynx, and larynx have a male incidence/mortality of 14.3/7.9 and for females of 4.4/2.3 cases per 100,000 pa. This ranks UADT cancer as the sixth most common site for men, eighth for women, across the world. Adding oesophagus as another alcohol/tobacco-related cancer, the rates add to 23.3/15.6 and 7.5/5.0 respectively, ranking these cancers second only to lung cancer in men, and fourth after breast, uterine cervix and large bowel in females. The global burden is rising. The public must be made aware of these stark facts. Apart from sexually transmitted HPV infections, these cancers predominantly affect the poor. Smoking control by regulation and education is proving effective in many countries. We need a Framework Convention on Areca Nut. The importance of diet and of alcoholic beverages is underestimated. World Head and Neck Cancer Day is making a significant contribution in promoting public awareness and in encouraging screening programs.

LC14

ROBOTIC SURGERY FOR LARYNGEAL CANCER

Prof Young-Hoon Joo

The Catholic University of Korea, Seoul, Korea

Purpose: The current techniques of transoral robotic partial laryngectomy represent waypoints along a continuum in the development of minimally invasive surgery for laryngeal cancer. This study investigates the efficiency, safety, and functional outcomes of transoral robotic partial laryngectomy.

Methodology: Patients with laryngeal cancer who underwent transoral robotic partial laryngectomy between 2008 and 2015 at an academic medical center in Korea are presented. **Result:** The average operation time in the transoral robotic surgery was 265.8 (SD, 128.4) min. There was no significant difference in margin negativity between the transoral robotic surgery group and the conventional surgery group. The transoral robotic surgery group showed full swallowing ability by 8.1 days on average. Patients performed transoral robotic laryngectomy were decannulated by 9.2 (SD, 2.5) days on average. The average hospital stay of the transoral robotic laryngectomy was 18.6 (SD, 3.5) days.

Conclusion: Transoral robotic partial laryngectomy cancer removed the tumor transorally without an external incision. Therefore, it showed rapid functional recovery and less morbidity compared with conventional laryngectomy.

PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

LC43

COMBINED MODALITY TREATMENT IN ADVANCED LARYNGEAL AND HYPOPHARYNGEAL CANCERS: SITE WISE DIFFERENCES IN SURVIVAL OUTCOMES

Dr Shawn Joseph, Dr Krishnakumar Thankappan, Dr Sharankumar Shetty, Dr Vidhyadharan Sivakumar, Dr Akshay Kudpaje, Dr Subramania Iyer

Amrita Institute of Medical Sciences, Kochi, Kerala, India

Purpose: Evaluate and analyse site- wise differences in survival outcomes of patients with cancers of larynx and hypopharynx treated with combined modality approaches of organ preservation regimens versus surgery followed by adjuvant treatment. **Methodology:** This is a retrospective study done in a tertiary head and neck cancer institute. The study includes 155 treated patients of Stage III and Stage IVA squamous cell carcinoma of larynx and hypopharynx. The study period was from January 2004 to June 2012. The follow up period ranged from 6 to 86 months with a mean follow up of 24 months. Statistical analysis of the data was done using Kaplan Meier curves, Log rank test and Cox proportional hazards model.

Results: At the end of the follow up period 125 patients were alive and disease free. The 5 year overall survival of patients with carcinoma larynx was 77.1% and that of carcinoma hypopharynx was 67.4%. The 5 year disease free survival in the overall carcinoma larynx group was 69.2% and that in the hypopharynx group was 47%. In the primary non surgery group, the 5 year overall survival of carcinoma larynx patients was 84.3% and that of carcinoma hypopharynx patients was 62.8%. In the primary surgery group the 5 year overall survival was 71.5% for patients with carcinoma larynx and 78.6% for patients with carcinoma hypopharynx. Cervical lymph node metastasis and perinodal spread emerged as independent prognostic factors affecting survival and were more in patients with carcinoma hypopharynx.

Conclusion: Advanced hypopharyngeal cancers have a poorer outcome compared to laryngeal cancers. Combined modality treatment with upfront surgical treatment of the neck may be preferred in advanced hypopharyngeal cancers.

LC87

LARYNGEAL CANCER – HOLD YOUR BREATH

Mrs Cheryl Kelly

Coman Medical, Queensland, Australia

I wish to present an interesting and entertaining case study of a business man whose love of surfing took precedence over his treatment options for laryngeal cancer over the course of 15 years. An inspiring patient that should make us all reconsider our somewhat conservative thoughts on laryngectomy rehab.

LC10

OPEN PARTIAL LARYNGECTOMY “IT AIN’T WHAT IT USED TO BE”

A/Prof John Kennedy

St. Vincent’s Hospital Melbourne, Victoria, Australia

Purpose: Study the role of open partial laryngectomy surgery in the management of laryngeal cancer and its relevance compared with treatment, with radiotherapy & transoral microscopic laser surgery. **Methodology:** A prospective study of

a cohort of patients surgically treated by open partial laryngeal surgery for cancer of the larynx 1973 - 1998 in the Department of Otorhinolaryngology Head & Neck Surgery, St. Vincent’s Hospital Melbourne. Disease Specific 5 year survival, Local Regional Control and Salvage Laryngectomy rates have been recorded, and compared with Radiotherapy and Transoral Microscopic CO₂ laser surgery treatments during the period of this study. **Results:** Open Vertical Hemi Laryngectomy Disease free survival 5 years 94.4% Local Regional control 96% Salvage Laryngectomy 11.1%, Horizontal supraglottic Laryngectomy Disease free survival 5 years 85.4% Local Regional control 85.3%. Salvage Laryngectomy 9.3% **Conclusion:** Open partial laryngectomy was certainly more invasive than radiotherapy and while this series studied had a comparable salvage total laryngectomy rate to at least one large radiotherapy cohort, where partial laryngectomy salvage surgery was also used successfully, Steiner’s publication of his results of transoral microscopic laser surgery mid 1990 resulted in the phasing out of open partial laryngeal surgery, and transoral microscopic laser surgery seemingly the treatment of choice for T1 & T2 cancer of the larynx.

LC36

THE IMPACT OF SURGICAL FREE MARGIN OF PARAGLOTTIC SPACE IN SUPRACRICOID PARTIAL LARYNGECTOMY

Dr Choung Soo Kim, Prof Min Sik Kim, Dr In Chul Nam, Dr Sang Yeon Kim, Prof Young-Hoon Joo, Prof Kwang Jae Cho
The Catholic University of Korea, Seoul, Korea

Background: Invasion of paraglottic space (PGS) has been known as an important factor in local control and prognosis in laryngeal carcinoma. The purpose of this study is to find what factor influence prognosis when PGS was invaded and through pathologic validation, investigate the impact of mean surgical free margin from PGS for recurrence and survival in patients underwent supracricoid partial laryngectomy (SCPL) with more than T2b laryngeal squamous cell carcinoma. **Method:** We retrospectively reviewed 81 patients who underwent SCPL for advanced laryngeal squamous cell carcinoma (more than T2b) between 1993 and 2010. **Result:** The PGS invasion was confirmed in 49 patients, and the rate of PGS invasion was 60.49% (49/81). There was significant difference in mean surgical free margin from PGS between laryngeal cancer with PGS invasion (0.45±0.25) and laryngeal cancer without PGS invasion (1.08±0.48). And significant correlation was also found between local recurrence and surgical free margin (p=0.031). Furthermore, in the cases with PGS invasion, supraglottic cancer presented shorter mean surgical free margin (p=0.029) and high local recurrent rate (p=0.046) than glottis cancer with significant. There was significant difference in 5 year disease-specific survival rate depending on the PGS invasion (p=0.021). Local recurrence (P<0.001) and pathologic T stage (P=0.014). however multivariate analysis identified that local recurrence was only prognostic factor for 5-year disease specific survival. **Conclusion:** This results shows that PGS invasion is significantly related to local recurrence and survival. Primary tumor site and shorter safety margin of tumor in PGS could be one reason of local recurrence.



PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

LC79

HEAD & NECK MUCOSITIS, A NURSES PERSPECTIVE

Mrs Jennifer King

*Radiation Oncology Department, Prince of Wales Hospital,
New South Wales, Australia*

Mucositis is a debilitating side effect of radiotherapy treatment especially if the patient is receiving concurrent chemotherapy. Mucositis is an ongoing problem causing frustration and distress. There are many consequences of Mucositis, pain and weight loss being the main issues. A multidisciplinary approach is essential to help the patient get through this distressing side effect.

LC31

CURRENT TREATMENT OPTIONS FOR VOCAL FOLD SCARRING

Dr Yo Kishimoto

Graduate School of Medicine, Kyoto University, Kyoto, Japan

Vocal fold scarring occurs following mucosal injury and inflammation. It alters the biomechanical properties of the vocal fold mucosa, resulting in severe, intractable dysphonia. Researches conducted over the past decade have provided a detailed profile of the histological alterations in the vocal fold lamina propria, such as dense and disorganized collagen deposition and decreased hyaluronic acid. For this pathological condition, various behavioral, pharmacological and surgical interventions have been tried in an attempt to restore scarred tissues. These traditional treatment approaches offer some benefit, however they are supported by limited evidences and do not directly address the underlying ECM alteration. Recent developments in the field of tissue engineering and regenerative medicine have yielded promising new approaches to restore disordered tissues. One potent option is the growth factor therapy. Our group has focused on hepatocyte growth factor (HGF) and basic fibroblast growth factor (bFGF), and proven their restorative effects on the vocal fold by stimulating fibroblasts in the lamina propria using animal models. Based on these preclinical findings, the effects of bFGF on the human vocal fold scar were confirmed using commercially available bFGF product. Further, 5-amino acid deleted type of HGF has been developed in GMP (Good Manufacturing Practice) compatible format and explorative clinical trial is now ongoing in Japan. Current and future treatment options for the vocal fold scar will be reviewed.

LC20

HEAD & NECK CANCER THROUGH ABORIGINAL EYES

A/Prof Kelvin Kong

New South Wales, Australia

The Australian healthcare system is a great system that caters for the broad Australian population. Historically there have been many barriers to health care access for Aboriginal and Torres Strait Islander people. With the "close the gap" campaign working well, we have seen improvements in life expectancy. Unfortunately the corollary to this achievement is the increase of serious neoplasia. Unfortunately head and neck cancer remains one of the higher over-represented cancers amongst ATSI people. This presentation explores some other factors impacting on this important area.

LC99

THE RATIONAL FOR LARYNGECTOMY AS THE FIRST OPTION FOR PATIENTS TREATED IN COMMUNITY HOSPITALS IN DEVELOPING COUNTRIES

Dr Luiz Kowalski

A.C.Camargo Cancer Center, Sao Paulo, Brazil

Published larynx preservation trials include patients with no comorbidities and with T2-T4a tumours. Patients candidates for organ preservation in developing countries had different characteristics. Nutritional condition is an important predictive factor for response to chemoradiotherapy. Among then, patients from developing countries can suffer from chronic malnutrition. When these patients underwent chemoradiotherapy, treatment needs to be discontinued frequently due to mucositis, which result in a poor compliance to the treatment and a decrease in the rates of tumour control. Accessing the health system in developing countries is a difficult task and it does not guarantee that therapy will be administered timely and in the most adequate form. In the majority of places unavailability of hospital beds or updated radiotherapy equipment and multidisciplinary care are common barriers for treatment. There are also patient's conditions that can affect the administration of radiotherapy and chemotherapy: impossibility to travel long distances and the patients lack of understanding about the treatment. The reported trials show that patients submitted to chemoradiotherapy that do not present complete response should be quickly submitted to salvage surgery. However, conditions of health system in developing countries usually preclude the achievement of salvage treatment on time. Laryngeal preservation protocols are complex interventions and depend on many factors. We believe that this therapy should only be offered in specialized centres for selected patients. If it is not possible, total laryngectomy remains as the best option.

LC44

COMORBIDITIES IMPACT ON TREATMENT DECISION AND OUTCOMES

Dr Luiz Kowalski

A.C.Camargo Cancer Center, Sao Paulo, Brazil

Comorbidities influence prognosis of larynx cancer patients, not only because of the association with treatment complications and treatment-related mortality, but mainly because they usually preclude the use of standard treatments. Furthermore, old age, nutritional consequences and symptoms associated with tumour severity are also relevant for treatment decision. Treatment of stages I and II can be done with surgery or radiation with similar expected outcomes. Most patients with comorbidities are submitted to radiation therapy with minor effect on prognosis if the patient's compliance is adequate. On the other side, patients with supraglottic tumors and selected glottic/transglottic T2-T3 tumors cannot be submitted to supraglottic or supracricoid laryngectomy, respectively, due to pulmonary function deficits. Most of them cannot also be submitted to chemoradiation because of other concomitant comorbidities. The usual treatment for this group of patients has been radiation alone, with a reduction on tumor control and survival rates. The treatment options for patients with advanced disease are usually chemoradiation (T3-T4a) or total laryngectomy followed by radiotherapy or chemoradiotherapy (T4b). However, the

PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

choice of the different treatment strategy depends also on medical and hospital experience and infrastructure and on patients' clinical conditions and wishes. In clinical practice several clinico-pathological and therapeutic prognostic factors must be considered for therapeutic decision. In general, patients with severe comorbidities are submitted to less radical surgical procedures, and chemoradiation is usually changed to radiation alone. These substandard treatments can have a remarkable influence on survival results.

LC84 ELECTIVE AND THERAPEUTIC SURGICAL APPROACH TO LEVEL VI LYMPH NODES IN ADVANCED STAGE LARYNX CARCINOMA

Dr Luiz Kowalski

A.C. Camargo Cancer Center, Sao Paulo, Brazil

The pattern of larynx cancer metastasis to lateral neck nodes (levels II-V) has been extensively studied. However, the involvement of central compartment lymph nodes (levels VI-VII) has been object of less discussion. The laryngeal lymphatics of the anterior part of the subglottis drain the larynx through the cricothyroid membrane towards the delphian and pre-tracheal nodes. The lymphatics of the posterior part of the subglottis, pyriform sinus and retrocricoid area drain to the paratracheal lymph nodes. There is an anastomotic network of level VI and level III and IV nodes. Several authors recognized the prognostic significance of level VI metastasis and noted a strong association with stomal recurrences. In 1952, Ogura and Bello were the first to propose paratracheal dissection to reduce the risk of stomal recurrences. Other authors emphasized the need of the dissection of these lymph nodes in patients with pyriform sinus, retrocricoid and subglottic carcinomas. Appropriate level VI nodal clearance and postoperative radiation therapy are likely to reward with less chances of developing stomal recurrences. In 1991, using multivariate survival analysis, we showed that bilateral paratracheal dissection was a significant independent prognostic factor. The basis of the treatment of patients with positive level VI and those with stomal recurrence started during the 1960's. George Sisson established the principles of the surgical techniques that are currently in use. These principles address three requirements: 1) staging of extent of disease; 2) wide resection of the tumor and level VI and VII lymph nodes and 3) reconstruction.

LC69 ROBOTIC LARYNGEAL SURGERY

Suren Krishnan

Adelaide, South Australia

Transoral Robotic Surgery has become an established technique in treating head and neck cancer. It has an established role in oral pharyngeal cancer and the excision of benign tumours especially of the parapharyngeal space. Its use has been extended into the larynx. The current endowrist instruments are not easily applied into the larynx, however, we have had experience in the performance of vertical partial laryngectomy. The 3 dimensional view provided by the da Vinci robot and the endowrist instruments have proven useful in supraglottic laryngectomy and in total laryngectomy for early supraglottic and early glottic laryngeal cancers.

LC89

THE CURRENT TNM STAGING DOES NOT DIRECT SURGICAL DECISIONS IN THE MANAGEMENT OF LARYNGEAL CANCER

Suren Krishnan

Adelaide, South Australia

The landscape of investigation, assessment, and surgical management of laryngeal cancer has evolved. High resolution CT and MRI supplements stroboscopic and narrow band imaging to provide greater anatomical detail of disease. Endoscopic management of laryngeal cancers has evolved with improved training and technology with both transoral laser and transoral robotic surgery. The current TNM system does not factor in these changes and does not adequately direct surgical decision making in the management of laryngeal cancer.

LC54

CLINICAL ASSESSMENT OF A NEW HANDS-FREE SPEAKING VALVE FOR VOICE AND PULMONARY REHABILITATION AFTER TOTAL LARYNGECTOMY: PROVOX FREEHANDS FLEXIVOICE

Ms Liset Lansaat, Dr Bertram De Kleijn, Prof Frans Hilgers, Prof Bernard Van Der Laan, Prof Michiel Van Den Brekel

The Netherlands Cancer Institute, Amsterdam, Netherlands

Purpose: Assessment of short- and long-term clinical feasibility of a new hands-free speaking valve (Provox FreeHands FlexiVoice; FV) with integrated Heat and Moisture Exchanger (HME) for laryngectomized patients. The FV also can be used with manual occlusion. **Methodology:** Prospective multicenter study in 40 laryngectomized patients of whom 13 were regularly using a hands-free speaking valve (Provox FreeHands HME; FH) and 27 were not. All subjects were able to tolerate an HME. Primary outcome measure was compliance. The outcomes were recorded by means of structured and comparative questionnaires, voice assessment, visual analog scales, quality of life questionnaires and diaries. **Results:** Four patients dropped out before the 1-month assessment point (3 not device related; 1 device related). After the 1-month assessment point 11 patients decided to discontinue the study (all device related), leaving 25 patients still using the FV at 6-months, almost a doubling of hands free speech in this study cohort. All 25 patients used the hands-free speaking mode, and 16 of them also applied manual occlusion. Average use per 24 hours was 8.3 hours (SD: 6.13). Of the 25 long-term users, 15 used the FV on a daily, and 10 on a non-daily basis. The main reason for non-daily use was inconsistency of the airtight seal of the adhesive. At 6 months 18 of the 25 long-term users (72%) preferred the FV compared to their former device. **Conclusion:** The 6-month observations on this new device show that its advanced features (such as the possibility to use the speaking valve both hands-free and with manual occlusion) offer additional benefits for further improving vocal and pulmonary rehabilitation in laryngectomized patients.

Conflict of Interest Declaration: The Department of Head & Neck Oncology & Surgery of the Netherlands Cancer Institute received an unrestricted research grant from Atos Medical AB, Hörby, Sweden.



PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

LC10

PET IMAGING OF THE LARYNX

A/Prof Eddie Lau

Peter MacCallum Cancer Centre, Victoria, Australia

Purpose: The roles of positron emission tomography (PET) in the evaluation of larynx cancer are reviewed with a focus on its clinical applications. **Content:** Detection of cervical nodal disease is the major indication of FDG PET in larynx cancer staging, but exclusion of distal metastases and synchronous primary is also a valuable utility. FDG PET/CT is advantageous in radiotherapy planning, especially for locally advanced disease. There is also evidence to suggest that using PET to assess response during therapy is accurate and provides useful prognostic information, with a reported high negative predictive value of more than 95% in head and neck cancer. Post-therapy follow up with PET/CT has been found to be more superior to physical examination and conventional imaging in the detection of early loco-regional recurrence and can help to triage patients into appropriate salvage therapy. There is also a role for PET using FDG and other PET tracers to provide useful prognostic and biological information, including tumour aggressiveness and the presence of tumour hypoxia. There are however certain limitations and pitfalls of FDG PET in the head and neck region, including physiologic uptake and movement artefacts. The anatomical and soft tissue details provided by PET and low-dose CT is limited in the head and neck region which has complex anatomy. Hybrid positron emission tomography/magnetic resonance (PET/MR) technology has recently become available and has the potential to provide a one-stop shop in head and neck imaging. **Conclusion:** Although more expensive than other imaging modalities, PET imaging provides incremental value in the staging and clinical management of larynx cancer.

LC68

IMAGING OF LARYNX CANCER: STRENGTHS AND LIMITATIONS

A/Prof Eddie Lau

Peter MacCallum Cancer Centre, Victoria, Australia

Purpose: Imaging plays a crucial role in staging and assessing the disease extent, enabling accurate evaluation of deep structures and spaces, and complements clinical and endoscopic examination findings. This presentation reviews the strengths and limitations of key imaging modalities- CT, MRI and PET. **Content:** Computed tomography (CT) is the most commonly performed imaging modality in the imaging of larynx. It is widely available and imaging acquisition is fast. However, larynx imaging requires optimal imaging technique to ensure adequate visualisation. CT is limited in its ability to detect small and superficial mucosal disease, and has a relatively low sensitivity in the detection of laryngeal cartilage invasion. Magnetic Resonance Imaging (MRI) provides more superior soft tissue contrast and accurate local disease extent. Imaging acquisition takes much longer than CT and image quality can be limited by motion artefacts. It is invaluable in assessment of pre-epiglottic and para-glottic space invasion and in the assessment of equivocal thyroid cartilage penetration, diagnosing T3 and T4 tumour with a high sensitivity and moderate specificity. The main indication of FDG PET/CT is detection of cervical nodal

disease, reported to be up to 20% more accurate than CT and MRI, but exclusion of distal metastases and synchronous primary is also a valuable utility. PET/CT is advantageous in radiotherapy planning, especially for locally advanced disease. There is however certain limitations and pitfalls, including physiologic uptake and movement artefacts. **Conclusion:** Accurate staging of larynx cancer requires a good understanding of various imaging modalities, and using each modality to its advantages.

LC84

COMPLICATIONS FOLLOWING CO₂ LASER SURGERY FOR EARLY GLOTTIC CANCER: AN INSTITUTIONAL EXPERIENCE

Dr Migie Lee, Mr Malcolm Buchanan, Dr Faruque Riffat,
A/Prof Carsten Palme

ENT Department, Westmead Hospital, Sydney, New South Wales, Australia

Purpose: Trans-oral laser microsurgery (TLM) of the glottis is increasingly utilized in the current management of early glottic cancer, its advantages being administrative ease, potential to be repeated, ability to keep radiotherapy and open laryngeal surgery available as salvage options, and low complication rate. The aim of this study was to assess the rate of complications in our 10-year cohort of patients undergoing TLM for early glottic cancer. **Methodology:** A retrospective chart review of prospectively-gathered data on all patients over a 10-year period who had undergone TLM for Tis or early (T1-3) glottic squamous cell carcinomas was analyzed, to examine the complications experienced. **Results:** Of 133 patients undergoing TLM, complications were: edema requiring tracheostomy (1), surgical emphysema (1), pharyngeal bruising (1), endotracheal tube cuff perforation (1), anterior glottic web (14), vocal cord granuloma (14), laryngocoele (1) and none of airway fire or intra- or post-operative hemorrhage. **Conclusion:** Our results suggest that for early glottic cancers, and in skilled hands, with appropriate anesthetic and theater staff support, TLM is a safe and repeatable procedure.

LC93

LYMPH NODE METASTASIS AND TREATMENT OUTCOME OF LARYNX CANCER ARE AFFECTED BY EXPRESSION LEVEL OF LYSYL OXIDASE IN PRIMARY TUMOR

Prof Yoon Se Lee, Prof Minsu Kwon, Prof Jong-Lyel Roh,
Prof Seung-Ho Choi, Prof Soon Yuhl Nam, Prof Sang Yoon Kim
Asan Medical Center, Korea

Purpose: Lymph node metastasis (LNM) and distant metastasis (DM) are important prognostic factors in laryngeal cancer. Fibrosis in primary tumor predisposes tumor progression and invasion. One of molecular markers related with fibrosis, lysyl oxidase (LOX) is an extracellular matrix-remodeling enzyme and regulates tumor invasion and metastasis. We investigated the prognostic significance of LOX expression in laryngeal cancer. **Methodology:** The enrolled patients (N = 100) underwent surgical treatment due to laryngeal cancer and had available specimen for tissue microarray. Upon immunohistochemistry, the proportion and intensity scores were measured and multiplied to get a total score. We defined LOX low group as low total score (≤ 4) and LOX high group as high total score LOX (> 4). We analyzed correlation between LOX expression

PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

and clinical factors as well as prognosis. **Results:** LOX was predominantly expressed in cytoplasm or perinuclear area rather than peritumoral tissue. The Kaplan-Meier analysis showed that LOX high group had worse overall survival rate and disease free survival rate than LOX low group ($p < 0.05$). LOX expression was correlated with LNM ($P = 0.091$). In the Cox regression analysis, LOX expression and LNM were significant factors affecting overall survival rate (OR = 4.352, 95% CI 1.512–12.522, $P = 0.006$ and OR = 2.337, 95% CI 1.118–4.887, $P = 0.024$, respectively) and disease free survival rate (OR = 6.838, 95% CI 1.611–29.031, $P = 0.009$ and OR = 2.483, 95% CI 1.145–5.383, $P = 0.021$, respectively). **Conclusion:** High expression level of LOX is associated with LNM or DM in larynx cancer and it predisposes poor prognosis in larynx cancer.

LC97 THE ROLE OF OPEN PARTIAL LARYNGEAL SURGERY

Dr Richard Lewis

Royal Perth Hospital, Western Australian, Australia

Transoral resection of early stage laryngeal cancers was first proposed by Strong and Jako in 1972. However it wasn't until Steiner published his experience in 1988, that CO₂ laser resection began to gain in popularity. This lecture looks at the decline in rates of partial laryngeal resections, and where they still have a role to play in the era of endoscopic surgery and chemoradiotherapy.

LC28 TISSUE ENGINEERING FOR LARYNX AND TRACHEA RECONSTRUCTION

Dr David Lott

Mayo Clinic Arizona, Arizona, United States of America

There are few options for reconstruction of laryngotracheal defects following cancer resection or trauma. Even the best of those options fails to restore true function in the same manner native tissue allows. Transplantation is a possibility but the requisite immunosuppression is associated with many severe side effects and cannot be used in cancer patients. Tissue engineering techniques have the potential to regenerate a patient's native tissue without the need for immunosuppression. Regenerated tissue may have the ability to restore true, native laryngotracheal function. This talk will highlight some of the regenerative medicine advancements for larynx and tracheal tissues.

LC68 MICROVASCULAR RECONSTRUCTIONS OF EXTENDED DEFECTS OF PHARYNX-ESOPHAGEOUS, LARYNX AND TRACHEA

Prof Adam Maciejewski

The Maria Skłodowska-Curie Memorial Cancer Center, Silesia, Poland

Own experience and results of the microvascular techniques and original modifications in the complex reconstructions of the extended defects after resections of cancer upper the hemilarynx, epiglottis are presented. Because for such defects' reconstructions, any gold standards nor algorithms do not exist, this paper presents based on own the author presents

clinical data including surgical and technical details based on 3D planning. Various flaps harvesting and inseting as well as functional and aesthetic outcome are presented. Steps of surgical procedures and Quality of Life results are shown on films, animations and photos. Problems of a proper qualification, possible complications and perioperative risks are also discussed in details.

LC02 TIME FACTOR AND DOSE-FRACTIONATION IN RADIOTHERAPY FOR CANCER OF THE LARYNX

Prof Boguslaw Maciejewski

Institute of Oncology – Maria Skłodowska-Curie Mem, Gliwice, Poland

In the eighties it was documented that extension of treatment time resulted in dramatic decrease in the LTC of T3-4N0M0 laryngeal cancer, treated with TCD50. One day extension produced about 1.0 ÷ 1.5% decrease in the LTC. Actual studies show about 15 increase in the LTC by shortening OTT to less than 40 days without change in total dose. Tumour repopulation begins around the end of second week and is not constant at depends on time itself and it balances 0.6 Gy/d on week 3 and increases to 1.4-1.6 Gy/d on week 6 and later. Few studies on concurrent chemoradiation show „d 3 yrs LTC benefit of 15-20% compared with conventional irradiation. It such combination of 60 Gy plus CHT could be equivalent to about 75-80 Gy given a sole therapy without change in the OTT, and it could be considered as effective challenger to radiation boost. Timing, dose intensity, tumour volume, gradient in the Hb likely important impact on therapeutic gain in radiotherapy for laryngeal cancer.

LC28 IS VOLUMETRIC STAGING A CHALLENGE TO THE TNM IN RADIOTHERAPY FOR LARYNGEAL CANCER. IMPORTANCE OF MOLECULAR PREDICTORS

Prof Boguslaw Maciejewski

Institute of Oncology, MSC Memorial Cancer Center, Gliwice, Poland

Purpose: Aim of this study is to evaluate practical value of the volumetric staging (TV) and of molecular profiling in radiotherapy for laryngeal cancer. **Material and Methods:** Over 300 cases of T2N0 glottic and supraglottic SqCC are analyzed. Volumes of primary tumour are related to radiation dose and treatment outcome (LRC). Results of 3 polish clinical trials („d 600 pts) are analyzed regarding molecular profiles vs. LRC. **Results and Comments:** Analysis of own supraglottic and glottic cancer data clearly show that volumetric stage (Tv) is a better predictor for treatment outcome than T stage of the UICC System. Within each T category there is a strong correlation between initial tumour volume and local tumour control after radiotherapy. For a given Total Dose (TD) an increase in Tv within each T category correlates with significant decrease in 3-year LTC. Moreover the results of molecular profiling (p53, Ki-67, nm-23, PTEN, EGFR and HPV) used to optimize postoperative radiotherapy for cancer of the larynx are presented and discussed.



PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

LC07

EPIDEMIOLOGY OF CANCER OF THE LARYNX IN POLAND COMPARED WITH EUROPEAN COUNTRIES

Prof Jolanta Lissowska, Prof Boguslaw Maciejewski

Cancer Center MSC Memorial Institute, Gliwice 1, Wa, Silesia, Poland

According to the WHO reports Poland belongs to the group of Middle European countries with relatively high incidence and mortality rate of laryngeal cancer comparing with Scandinavia and Australia with the lowest rates. However since 2000 significant decrease in the incidence rate in men is continuously noted, but not in women for whom the rate stays at very low level during the last decade. Among men in the age 20-44 mortality rates increased till 1983 and dramatically decreased thereafter to zero in 2000. Decreasing tendency has also been noted for men over 45 but it was not so strong as for younger population and with no change among women. This current situation can be explain reduction in tobacco consumption and change in structure of alcohol consumption. Smoking has been reduced by 2 fold after 1990, mainly due to prevention and prophylactic activities of National Program Against Cancer. This tendency is independent on men age, however in women only in the age group of less than 39, and daily smoking increases for those above 40. Although Poland belongs to the group with "harmful" consumption of the alcohol, since 1991 strong's spirits consumption dropped down in favour of beer and wine. Among 25 European countries, Poland is on 21st place regarding strong spirits and on 11th place for beer consumption.

LC70

SUBJECTIVE VS OBJECTIVE VOICE ASSESSMENT: WHAT SHOULD WE MEASURE AND WHO REALLY CARES?

Dr Catherine Madill

University of Sydney, New South Wales, Australia

Multidimensional voice assessment is considered the gold standard. This includes visual imaging, auditory-perceptual rating, aerodynamic measurement, functional assessment of voice, quality of life measurement and acoustic analysis. Each measure assesses a different dimension of the voice. All measures have both their strengths and weaknesses in terms of what information they collect, and how valid and reliable they are. The value of any measure will also vary depending on the stakeholder: patient, family /friend, surgeon, therapist, employer etc. Consideration also needs to be given to whether or not a measure is part of diagnostic criteria for intervention, as well as the conditions under which the measure is taken. This paper will provide an overview of voice assessments, with strengths and weaknesses presented for each. The value and relevance of each measure will also be discussed in relation to each of the stakeholders in a medical intervention. Specific attention will be given to comprehensive functional assessment of the voice as it is not well described in the literature. Guidelines will be proposed as to a standardized assessment protocol that acknowledges the perspective of all stakeholders in the medical interaction.

LC09

SPEECH PATHOLOGY ASSESSMENT OF VOICE USING ENDOSCOPY: IT'S NOT WHAT YOU'VE GOT, IT'S HOW YOU USE IT?

Dr Catherine Madill, Dr Daniel Novakovic

University of Sydney and Sydney Voice and Swallowing, New South Wales, Australia

When assessing the dysphonic patient it is essential to assess not only the anatomical features of the vocal system, but also the movement features and vocal output of the laryngeal structures during phonation. The vocal mechanism is well known for its redundancy and the same vocal outcome can be attained in different ways. As the anatomical appearance of the larynx doesn't necessarily predict vocal quality, power, comfort or stamina, comprehensive functional assessment of laryngeal function during endoscopic evaluation can provide invaluable guidance as to effective muscular manipulation of often suboptimal anatomy. A functional assessment of the voice evaluates how well a patient can manipulate or alter the functioning of their voice across different tasks and contexts. Functional assessment can be a useful guide in terms of recommendation for therapy and ultimately functional voice outcomes. This session will describe a comprehensive functional assessment protocol for endoscopic evaluation of laryngeal function that can guide recommendation for speech therapy. Video and specific case examples will be presented.

LC67

PALLIATIVE CARE IS NOT A DIRTY WORD(S)

Ms Linda Magann

St George Hospital Sydney, New South Wales, Australia

Even in the 21st Century there remain many myths and misconceptions surrounding Palliative Care and what Palliative Care has to offer to all patients with life limiting illness. Many teams fail to link in early with available Palliative Care supports as they are concerned about feeling that they have failed their patient or being concerned about how being known to Palliative Care is going to impact on the patient and their families. The reality is that an early and multidisciplinary link to Palliative Care improves pain and symptom management, improves quality of life for patients and those they love and allows the patient greater access to supports to allow them to be cared for in the environment of their choice. Failure to diagnose that a patient is deteriorating or that they are dying denies patients to chance to do the things that are important to them, this may include important conversations, sorting out finances and legal issues or even leaving memories for those they leave behind.

LC76

MANAGING COMPLEX SYMPTOMS AT THE END OF LIFE

Ms Linda Magann

St George Hospital Sydney, New South Wales, Australia

At the end of life every patients and families experience will be different. Having a highly skilled multidisciplinary team who are able to manage difficult pain and complex symptoms is essential. Careful consideration of the whole person, their previous experience and what is most important to them is a vital part of this process. Complex symptoms may include

PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

difficult to control pain, terminal agitation, respiratory secretions and nausea and vomiting. Careful consideration of medications, their route of administration and side effect profile is vital in delivering good care to patients at the end of life. Emotional and spiritual anguish may also be distressing symptoms for these patients and requires expert and sensitive intervention. Providing supportive communication to help patients and their families through this often distressing time is yet another important facet of end of life care.

LC60

TRANS ORAL ROBOTIC SURGERY FOR RECURRENT OROPHARYNGEAL CANCER

Dr Scott Magnuson

Florida, United States of America

This presentation will define which patients are candidates for salvage TORS and describe the benefits over traditional open surgery.

LC82

TRANS ORAL ROBOTIC SURGERY: THE TRAINING PATHWAY AND LEARNING CURVE

Dr Scott Magnuson

Florida, United States of America

This presentation will review recommendations for training in TORS and describe the learning curve for new surgeons.

LC17

LARYNGEAL CANCER IN THE NORTHERN EUROPEAN COUNTRIES

Dr PhD Timo Atula, Dr Aaro Haapaniemi, Prof Antti Mäkitie

University of Helsinki and Helsinki Univ. Hospital, Helsinki, Finland

Purpose: The Northern European countries with the population of 26 million inhabitants have approximately 700 new laryngeal cancer cases annually. The 5-year relative survival figures among men with laryngeal cancer have increased in these countries during the past decades. These countries (Denmark excluded) have the lowest laryngeal cancer mortality in both sexes in Europe. It is critical to investigate the reasons for the improved survival results for laryngeal cancer in this area. In Finland the treatment of head and neck malignancies, including laryngeal cancer, is centralized to the five university hospitals. All patients are managed according to national treatment guidelines, which are set and updated by the Finnish Head and Neck Oncology Working Group. **Methodology:** The present series consists of a total of 360 patients with squamous cell laryngeal cancer treated at the five university hospitals during 2001-2005. Three hundred and sixty-six patients with laryngeal cancer were identified, and 360 out of these had laryngeal SCC. **Results:** Treatment with curative intent was given to 95% of patients. Five-year disease-specific survival for T1a, T1b, T2, T3, and T4 glottic SCC was 100%, 95%, 78%, 79%, and 53%, respectively. The corresponding figures for T1 to T4 supraglottic SCC were 68%, 54%, 72%, and 59%, respectively. **Conclusions:** Nationwide series of laryngeal cancer are rare in the literature but may carry the potential of giving valuable feedback on the used treatment guidelines. Further studies are now conducted in Finland to address the questions raised by the present results.

LC76

DO PROBLEMS IN TNM CLASSIFICATION EXPLAIN POOR OUTCOME OF T2 LARYNGEAL CANCER IN FINLAND?

Dr PhD Timo Atula, Dr Aaro Haapaniemi, Prof Antti Mäkitie

University of Helsinki and Helsinki Univ. Hospital, Helsinki, Finland

Purpose: To evaluate outcome of treatment with curative intent for T2 glottic and supraglottic laryngeal squamous cell carcinoma in Finland. **Methodology:** All consecutive patients with laryngeal cancer who received treatment with curative intent in the five university hospitals in Finland during 2001-2005 were identified. Data on patient and tumor characteristics, treatment and outcome were recorded. After general analysis, a subset analysis of T2 patients was conducted. **Results:** Altogether 366 laryngeal cancer patients were identified, of which 342 had received treatment with curative intent. There were 62 glottic and 24 supraglottic T2 tumors (77 male, 7 female; mean age 65 years). The primary treatment was oncologic (no surgery) for 53 glottic (84%) and 11 (48%) supraglottic patients. The other patients underwent surgery as the only treatment or as a part of the primary treatment. Five-year DFS, DSS and OS for glottic and supraglottic T2 patients were 62%, 78%, 59% and 46%, 54%, 33%, respectively. For comparison, the corresponding figures for T3 tumors were 57%, 79%, 64% and 64%, 72%, 43%. No significant patient or tumor factors influencing the outcome for T2 tumor patients were found. **Conclusion:** The treatment outcome for T2 class was worse than expected when comparing with other T classes. No significant factors influencing treatment outcome were detected. The poor results may partly be due to the existing TNM classification deficits for T2 glottic tumors (e.g. correct defining of vocal cord movement), which may have led to understaging and thus, potential treatment-related issues in our series, e.g. the choice between radiotherapy or chemoradiotherapy.

LC61

A NOVEL ADDITIVE MANUFACTURED TRACHEAL GRAFT FOR RATS

Dr Philipp Jungebluth, PhD Mei Ling Lim, Dr Sebastian Sjöqvist,

Prof Jukka Seppälä, Prof Paolo Macchiarini, Prof Antti Mäkitie

University of Helsinki and Helsinki Univ. Hospital, Helsinki, Finland

Purpose: Transplantation of tissue engineered tracheal grafts has recently become clinical reality but the used methods are not applicable in urgent clinical scenarios. We have investigated if novel additive manufactured (3D printed) synthetic tracheal scaffolds can be seeded with stem cells and transplanted into rats. **Methodology:** The 3D tracheal grafts were fabricated by a self-made projection stereolithography. The scaffolds were investigated for their biocompatibility using cell viability and live/dead assays and structural properties prior to implantation. Allogeneic mesenchymal stromal cells (MSCs) from Sprague-Dawley rats were used to seed both surfaces of the scaffolds. A tracheal segment of 0.8 cm was replaced with either a non-seeded (Group I) or with MSC-seeded additive manufactured scaffolds (Group II) and animals were observed for 14 days. **Results:** The 3D-printed graft showed in vitro and in vivo biocompatibility. MSC seeding proved cell adhesion on both tracheal surfaces. Animals receiving non-seeded scaffolds were sacrificed at Day 2±2 due to significant breathing difficulties whereas all animals with a seeded scaffold reached the study end-point (Day 14) and were asymptomatic. All harvested scaffolds in Group I showed airway obstruction due to granulation tissue and inflammatory processes. In



PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

contrast, scaffolds in Group II showed epithelialization of their internal scaffold surface and no signs of adverse foreign body response. **Conclusion:** Our data suggest that the developed 3D-printed tracheal scaffolds with preoperative MSC seeding are biocompatible, and show initial evidence of early epithelialization on their internal surface.

LC02 STANDARD FOLLOW-UP OR PERSONALIZED SURVEILLANCE OF LARYNGEAL CANCER PATIENTS

Prof Henri Marres, Dr Rosella Hermens, Prof André Verbeek,
Dr Robert Takes

*Radboudumc, Department of ORL, Head & Neck Surgery, Nijmegen,
Netherlands*

Due to high impact treatment consequences, the care phase after treatment, 'the surveillance phase', is particularly important for laryngeal cancer patients. Previously, research has been focused on optimizing care in the diagnostic and treatment phase but research on optimizing the surveillance phase is lacking. Three crucial elements in the surveillance phase are: a) detection of recurrence; b) monitoring/treating side-effects; and c) monitoring/treating physical and psychosocial care needs. Despite a large diversity in laryngeal cancer with different recurrence risks, treatment related morbidity and patients' needs & preferences, the guidelines still mention basically one standard surveillance programs for all patients, primarily based on expert opinion and focused on early detection of recurrence. This actual surveillance practice is seen as suboptimal and not fitting to current ideas on person-centered quality of care, by both patients and care providers. In addition, the added value of stringent follow-up for all patients is debated since not all recurrent disease is treatable. Moreover, there is conflicting evidence whether survival is better after recurrence detected by routine follow-up than by patient report.

LC01 TREATMENT OF DYSPLASIA AND CIS

Prof Henri Marres, Drs Henrieke Schutte, Dr Robert Takes,
Dr Guido Van Den Broek

*Radboudumc, Department of ORL, Head & Neck Surgery, Nijmegen,
Netherlands*

There are significant differences in the management of premalignant lesions of the larynx, partly due to shortcomings of histopathologic analysis. On the other hand the best opportunity for cure should not be spoiled but on the other hand, treatment should not lead to unnecessary morbidity and loss of function. The main reason for the disparity in practice is the lack of high level of incidence to guide management. Also for this reason, the duration and frequency of follow-up remains a matter of debate. Although high and low risk patients can be defined, transformation into malignancy can occur late and does not appear to be dependent on histological grade. It is not clear whether a recurrence will be manifest by patients exhibiting any new symptoms; early discharge of patients with mild or moderate dysplasia can turn out to be disappointing. Digital video laryngoscopes may optimize current diagnostic processes among laryngeal cancer patients due to improved visibility of detail. These laryngoscopes will play also a new role in the treatment of premalignant lesions in an outpatient setting.

LC08 USE OF EXPERIMENTAL MODELS IN PREDICTING VOICE OUTCOMES AND TREATMENT PLANNING

Dr Timothy McCulloch

*University of Wisconsin-Madison, Wisconsin,
United States of America*

The difference between a good outcome and a poor outcome at times can be elusive when looking at standard clinical observational data. The use of experimental models, primarily the excised larynx model, allows for the testing of subtle changes in vocal fold manipulation to inform our clinical observations. This includes manipulation of vocal fold stiffness, length, arytenoid location, and implant configuration. Output variables of phonation pressure, vibration patterns, and acoustic measures are all available to educate clinical decision-making.

LC29 TRACHEOSOPHOGEAL PUNCTURE TECHNIQUES

Dr Timothy McCulloch

*University of Wisconsin-Madison, Wisconsin,
United States of America*

Tracheoesophageal puncture (TEP) is the primary method of communication restoration after total laryngectomy. It can be completed at the time of the initial cancer surgery, but for many good reasons is often times delayed until the patient has reached a point of stability after the completion of all necessary cancer treatments. There has been a general shift from operating room to the clinic for the creation of the fistula tract. The use of transnasal esophagoscopy and wire-guided catheter placement has simplified this surgical technique. Additional surgical techniques, including retrograde prosthesis or catheter placement can be useful to successfully complete TEP. Essential to all the surgical treatments is partnership with Speech Pathology. The Speech Language Pathologist has expertise in TEP voice production, prosthesis maintenance, and modification, as the patient clinical situation requires.

LC74 VOICE OUTCOMES IN EARLY LARYNX CANCER

Dr Timothy McCulloch

*University of Wisconsin-Madison, Wisconsin,
United States of America*

Early glottis cancer (Stage I and Stage II) has a very high long time cure rate when treated with either radiation therapy or surgery. The quality of the voice at the completion of treatment is a very important part of the treatment decision matrix. There are good observational data that in most patients, an acceptable voice will result for either treatment modality. Location and extent of disease, as well as the varied approaches used by the treating radiation oncologist or laryngeal surgeon are factors in the final voice outcome. Additional factors such as age, voice demands, employment, proximity to care, disease severity, etc. also impact the choice of a treatment in many patients. However, realistically determining and conveying the probable voice quality should be paramount in the pre-treatment counseling.

PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

LC77

TREATMENT OF LATE DYSPHAGIA

Dr Timothy McCulloch

*University of Wisconsin-Madison, Wisconsin,
United States of America*

Late dysphagia after treatment of laryngeal cancer is generally the extension of a progressive decline associated with the cancer and its initial treatment. In most cases radiation is a part of the treatment paradigm and with this we will often see widespread tissue modification that extends through the neck to include, vascular, neural, interstitial, and mucosal changes. Neural changes are progressive and can affect muscle strength and function over time. The connective tissue fibrotic changes are permanent once established. These effects are superimposed on the natural aging process, which has a general negative impact on swallowing function. In patients with increased aspiration events (major or subclinical), cumulative pulmonary damage will eventually manifest with repeat pneumonias and effective loss of pulmonary function. It is important to know the endpoints and permanent nature of these tissue changes when initially approaching treatment. Thus, with this understanding, treatment requires extensive commitment by the patient from the initial education, commencement of prophylactic exercises, clinical follow-up, and for most patients a life long modification of swallowing with strategies and guided swallowing therapy to prevent airway compromise.

LC98

SWALLOWING AFTER TREATMENT OF ADVANCED STAGE LARYNX CANCER

Dr Timothy McCulloch

*University of Wisconsin-Madison, Wisconsin,
United States of America*

When treating advanced laryngeal cancers multiple issues are considered when recommending a treatment: survival, curability with an intact larynx, and the post treatment voice, airway and swallow function. With all treatments, swallow function is negatively impacted. Although total laryngectomy will prevent aspiration it frequently leads obstructive symptoms and diet modifications. Chemo-radiation can create swallowing dysfunction due to chronic edema, fibrosis, glottic incompetence, and pharyngeal and high esophageal stenosis. Conservation surgeries in nearly all cases result in frequent micro-aspirations and in a "cured" patient may become the cause of severe pulmonary morbidity and finally mortality. Life-long, careful, and well-informed clinical care is essential to minimize the impact of this post-treatment dysphagia.

LC24

ASSESSMENT AND MANAGEMENT OF LYMPHOEDEMA IN THE HEAD AND NECK: CHALLENGES AND COMPLEXITIES

Dr Aoife McGarvey

Calvary Mater Newcastle Hospital, New South Wales, Australia

Head and neck lymphedema (HANL) may occur following treatment for head and neck cancer, particularly after surgery and radiation therapy. The negative effects of HANL on affected patients can be physical, psychological and social. Prevalence reports vary in the literature, with a recent study finding 75.3% having late-effect lymphedema (Deng et al, 2012). Accurate measurement of lymphoedema in the HAN region is challenging compared to lymphoedema of the limbs. Emerging research has addressed these measurement difficulties utilising a combination of tape measurements and a MoistureMeterD reading. This method termed "Assessment of Lymphoedema of Head and Neck" (ALOHA) has been found to have good intra- and inter-rater reliability (Purcell et al, 2014). Complexities arising from management of HANL include difficulties with applying compression garments in this region and reduced neck and jaw mobility resulting from treatment. A case study will be presented outlining the principles of lymphoedema management including mobility exercises of the face, jaw and neck; posture; lymphoedema massage; kinesiotape; deep breathing and general exercise. Further research is warranted in the form of interventional studies to investigate the effectiveness of these treatment modalities for HANL.

LC34

INTRA-OPERATIVE MONITORING OF THE SPINAL ACCESSORY NERVE: A SYSTEMATIC REVIEW

Dr Aoife McGarvey, A/Prof Gary Hoffman, Dr Peter Osmotherly, A/Prof Pauline Chiarelli

The Calvary Mater Newcastle Hospital, New South Wales, Australia

Objective: To investigate evidence that intra-operative nerve monitoring of the spinal accessory nerve affects the prevalence of post-operative shoulder morbidity and predicts functional outcome. **Methods:** A search of the Medline, Scopus and Cochrane databases from 1995 to October 2012 was undertaken, using the search terms 'monitoring, intra-operative' and 'accessory nerve'. Articles were included if they pertained to intra-operative accessory nerve monitoring undertaken during neck dissection surgery and included a functional shoulder outcome measure. **Results:** Only three articles met the inclusion criteria of the review. Two of these included studies suggesting that intra-operative nerve monitoring shows greater specificity than sensitivity in predicting post-operative shoulder dysfunction. Only one study, with a small sample size, assessed intra-operative nerve monitoring in neck dissection patients. **Conclusion:** It is unclear whether intra-operative nerve monitoring is a useful tool for reducing the prevalence of accessory nerve injury and predicting post-operative functional shoulder outcome in patients undergoing neck dissection. Larger, randomised studies are required to determine whether such monitoring is a valuable surgical adjunct.



PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

LC27

OFFICE VS. OPERATIVE MANAGEMENT OF LARYNGEAL DYSPLASIA

Dr Andrew McWhorter

Louisiana, United States of America

The rise of office based procedures in laryngology has resulted in pre-malignant lesions of the larynx often being handled outside of the operating room. The role of office based management should be complementary to traditional surgical resections rather than in lieu of them. Discussion of technique and management algorithms are presented.

LC81

ONCOLOGIC AND FUNCTIONAL OUTCOMES IN SALVAGE TRANSORAL LASER MICROSURGERY (TLM)

Dr Andrew McWhorter

Louisiana, United States of America

With the evolution of TLM in laryngeal cancer, its role in salvage surgery has become more widely accepted, but there remain limited published investigations. Oncologic outcomes are presented for both glottic and supraglottic salvage. A review of the literature and institutional experience are also reviewed for both swallowing and voice outcomes in salvage TLM.

LC80

PROGNOSIS AND LARYNGEAL PRESERVATION OF SUPRAGLOTTIC CANCER VERSUS GLOTTIC CANCER

Dr Shunsuke Miyamoto, Dr Meijin Nakayama, Dr Yutomo Seino, Dr Tabito Okamoto, Dr Koichi Kano, Dr Masayuki Hasebe

Kitasato University, Kanagawa, Japan

Objective: The improvement of prognosis is the most crucial goal for the treatment of laryngeal cancer, while the preservation of larynx is another important goal. However, supraglottic cancer is generally considered to have a worse prognosis than glottic cancer due to the more advanced T-stage and to the higher metastasizing potential. Therefore, we retrospectively investigated whether prognosis and laryngeal preservation of supraglottic cancer would be compromised as compared to glottic cancer. **Methods:** Among 392 cases with laryngeal squamous cell carcinoma undergone definitive therapy in our institution from February 2000 to December 2013, 386 cases were investigated after excluding six cases with subglottic cancer. There were 55 patients with supraglottic cancer and 331 patients with glottic cancer. The survival rates and the laryngeal preservation rates of those were analyzed using the Kaplan-Meier method. **Results:** Patients with a supraglottic tumor presented more often with advanced stage lesions than those with glottic tumor (49% versus 31%, $p=0.03$). The five-year overall survival was 77% in supraglottic and 86% in glottic cancer ($p=0.13$). The five-year disease-specific survival was 84% in supraglottic and 90% in glottic cancer ($p=0.40$). The five-year laryngeal preservation rate was 64% in supraglottic and 78% in glottic cancer ($p=0.06$). **Conclusion:** The prognosis of supraglottic cancer was favorable on an equality with glottic cancer. The laryngeal preservation rate tended to decrease, however, it would be within the acceptable level considering the high incidence of advanced disease in supraglottic cancer.

LC19

LARYNGEAL CANCER IN PAPUA NEW GUINEA

Dr Charles Paki Molumi

Port Moresby General Hospital, National Capital District, Papua New Guinea

Lying just south of the equator, 160 km north of Australia, Papua New Guinea (PNG). It is a young population with 38.2% under 15 years and 2.58% over 65 years. It is also a mainly rural population 87.5%, with 12.5% in urban areas. Traditional medicine is an important part of the health system in PNG, and the Government adopted the National Policy on Traditional Medicine in 2007. Health service delivery in PNG is mainly provided at government and church health facilities, funded by a mix of government tax revenues, out-of-pocket payments and donor funds. Total health expenditure is about 3.65% of the GDP. The central government is responsible for the national referral hospital, one specialist, 4 regional and 18 provincial public hospitals. The majority of health service delivery is carried out by provincial and local governments in rural health services, including rural hospitals, health centers, health sub centers, and aid posts. All of these services offer a mix of public health and primary and community care. PNG has 8 practicing ENT surgeons in the public and 1 in the private for the 7 plus million population. These ENT Surgeons serve in hospitals that lack basic diagnostic facilities, lack equipment, no support staff and poor radiation oncology services. This presentation highlights some of the challenges faced by ENT surgeons in PNG in managing Laryngeal cancers in a under-resourced, culturally diverse and difficult geographical environment.

LC16

IMPLEMENTING HEAD AND NECK CANCER NUTRITIONAL GUIDELINES: A NORTHERN TERRITORY EXPERIENCE

Ms Louise Moodie

Royal Darwin Hospital, Northern Territory, Australia

The Northern Territory of Australia is a sparsely populated area with the highest proportion of Indigenous Australians in the country (1), the majority of whom live in rural and remote areas. This in itself leads to many challenges to enable adequate health service provision. Add to this the fact that the Northern Territory has a higher incidence of, and mortality from, head and neck cancers compared to the rest of Australia (2). Additionally, the vast majority of head and neck cancer patients are malnourished on diagnosis, generally due to a combination of the presenting condition, other chronic health conditions, food insecurity and lifestyle factors. Utilising evidence-based practice guidelines, such as those for the nutritional management of adult patients with head and neck cancer (3) is an essential step to improving outcomes for patients. This presentation will highlight considerations for the implementation of these guidelines, and the provision of service, in a regional-remote area and amongst remote Indigenous Australians. (1) Australian Bureau of Statistics. Estimates of Aboriginal and Torres Strait Islander Australians, 2011 (cat. No. 3238.0.55.001). [Available from: <http://www.abs.gov.au>, cited 2015 May 26] (2) Zhang X, Condon J, Dempsey K, Garling L. Cancer in the Northern Territory 1991-2010: incidence, mortality and survival. Department of Health, Darwin, 2014 (3) Findlay M, Bauer J, Brown T, Head and Neck Guideline Steering Committee. [Version URL: <http://wiki.cancer.org.au/australiawiki/index.php?oldid=78769>, cited 2015 May 16].

PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

LC17

COMPARISON OF EFFECTS OF (CHEMO)TOMOTHERAPY VERSUS 3D CONFORMAL XRT ON THE NON SURGICAL LARYNX AND HYPOPHARYNX

Mrs Laura Moroney, Mrs Jennifer Helios, Mrs Clare Burns, Prof Liz Ward, Dr Brett Hughes, Dr Lizbeth Kenny

Royal Brisbane & Women's Hospital, Queensland, Australia

Purpose: Evidence reporting the swallowing outcomes and specific toxicities of HNC patients undergoing Helical Tomotherapy is still emerging. The aim of this study is to evaluate the extent and severity of swallowing impairment and side effects of patients with laryngeal and hypopharyngeal cancer undergoing (Chemo)Tomotherapy compared to 3D Conformal XRT. **Methodology:** Study design was a prospective study of 30 HNC patients diagnosed with laryngeal or hypopharyngeal tumour. Groups included chemoTomotherapy (n=7) Vs Tomotherapy (n=7) Vs 3D conformal XRT (n=16). Data on swallowing outcomes using the Functional Oral Intake Scale (FOIS) and radiation induced side effects (CTCAE v 4.0) were collected at baseline and weekly during treatment. **Results:** Incidence of mild, moderate, and severe dysphagia, as rated on FOIS scale, were:- chemoTomotherapy (14%, 14%, 71%), Tomotherapy (14%, 71%, 14%), and 3D Conformal (38%, 31%, 6%) respectively. Highest incidence of enteral nutrition was in the chemoTomotherapy group (71%) compared with Tomotherapy (14%) and 3D conformal XRT (6%). Incidence of Grade 2 xerostomia and dysphagia, as well as Grade 3 pharyngeal mucositis respectively were highest in the Tomotherapy group (86%, 100%, 14%) compared with chemoTomotherapy (71%, 86%, 75%) and 3D conformal XRT (31%, 25%, 25%). **Conclusion:** Results show patients experience significantly greater negative impacts to swallowing and related toxicities during Tomotherapy compared to 3D conformal XRT, and greater impacts on swallowing and mucositis with concurrent chemotherapy. These outcomes have implications for the timing and intensity of speech pathology services to support this population during treatment. Long term outcomes are being explored.

LC18

CURRENT STATUS AND FUTURE DIRECTION OF RADIOTHERAPEUTIC MANAGEMENT FOR LOCALLY ADVANCED LARYNGEAL CANCER, AIMING AT IMPROVEMENT OF LARYNX PRESERVATION

Dr Atsushi Motegi, Dr Tetsuo Akimoto

National Cancer Center Hospital East, Chiba, Japan

Radiation therapy with or without chemotherapy has been one of effective approaches for larynx preservation of locally advanced laryngeal cancer, however, there is much room for improvement, especially in local control rate and long-term functional outcomes. Non-surgical approaches for larynx preservation include radiation therapy alone with altered fractionated schema, concomitant chemoradiotherapy and induction chemotherapy followed by radiotherapy with or without chemotherapy. To date, the best approach for larynx preservation has yet to be defined. In these settings, we conducted a survey by distributing a questionnaire to the institutes that belong to the Japanese Radiation Oncology Study Group (JROSG) to investigate the indications including selection of patients and treatment approaches selected for laryngeal

preservation for advanced laryngeal cancer in Japan. In this symposium, we reviewed the results of clinical trials regarding larynx preservation including the clinical outcomes of the NCCHE to clarify the effectiveness and limitations of radiotherapeutic management aiming at preservation of functional larynx, and discuss future direction of larynx preservation strategies using radiation therapy.

LC82

CHALLENGES

Mrs Judith Muir

Gloucestershire Hospitals Trust, England, United Kingdom

This presentation examines the challenges the profession faces now and shows how far nursing has come.

LC74

CHANGES

Mrs Judith Muir

Gloucestershire Hospitals Trust, England, United Kingdom

This presentation looks at some of the changes in nursing care that have taken place in the UK over the past 40 years.

LC96

JEJUNAL FREE FLAP RECONSTRUCTION OF THE PHARYNGO-LARYNGECTOMY DEFECT: AN EXPERIENCE OF A LARGE DISTRICT GENERAL HOSPITAL

Dr Daniel Mulvihill, Mr Raghav Dwivedi, Mr Costa Repanos, Miss Emma Barker, Mr Graham Sutton, Mr Saliya Caldera
Queen Alexandra Hospital, Portsmouth, United Kingdom

Background: Advanced stage hypopharyngeal and laryngeal cancers carry a poor prognosis. There has been a trend towards organ-preservation however pharyngo-laryngectomy is still required for very advanced tumours. Reconstruction of circumferential resections can be achieved in numerous ways; Jejunal free-flap, tubed cutaneous free-flaps or tubed pectoralis major flap etc. The aim of this study was to look at the outcomes of pharyngo-laryngectomy and jejunal free-flap reconstruction in our hospital. **Methodology:** The hospital database was searched (from January 1999-December 2013) for patients who underwent jejunal free-flap reconstruction for laryngo-pharyngectomy defects. Outcome data of twenty-three consecutive patients with at-least 1-year post-treatment follow-up were retrospectively extracted and analyzed. **Results:** Mean age (SD) of patient cohort was 60.7 (8.8) yrs, range 49.0-84.0 yrs. Hypopharynx was the site of primary cancer in 87.0% and larynx in 13.0% cases. Seventy-percent cases had advanced T-stage (T3-4) while 78.3% cases had advanced overall stage (III-IV) disease at initial presentation. 30% of the cases underwent surgery as a salvage procedure. Postoperative radiotherapy was required in 65.2% cases. Overall survival rates at 1, 2 and 5 years were 87.0%, 69.6% and 40.0% respectively. Pharyngocutaneous fistula formation, wound infection, abdominal wound-dehiscence and chyle leak were seen in 13.0%, 13.0%, 4.3% and 4.3% cases respectively. All complications were managed conservatively. No patients died in the immediate 30 day post-operative period. The flap survival rate was 100%. **Conclusion:** The survival and complication rates from our hospital are comparable with the best reported rates in the literature.



PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

LC97

HOW TO ASSESS RESOURCE USE AND VALUE HEALTH OUTCOMES IN LARYNGEAL CANCER

Dr Virginia Mumford

Macquarie University, New South Wales, Australia

Health outcome measurement has changed dramatically from a focus on primarily medical outcomes such as morbidity and mortality. With patients now included as critical stakeholders in their care, additional questions have arisen on how to best measure concepts of health quality, rather than just focusing on health quantity. Some of these quality effects are difficult to measure directly but are critically important in informing patients facing difficult treatment decisions. A number of instruments to assess health status are now available and some of these are designed for specific diseases. However, the real challenge lies in how to effectively compare these quantity and quality outcomes and systematically assess and measure patient and medical outcomes. Recent research has been stimulated by the escalating cost and choices in medical care which have resulted in health care providers demanding a more transparent process for determining the most effective treatment pathways. This presentation will discuss the new tools available for both measuring and valuing health states. Examples from the Laryngeal cancer literature will be used to illustrate the importance of research design that incorporates both traditional methods of appraisal with recent advances in assessing the relative value of care.

LC05

SUPRACRICOID LARYNGECTOMY: 17 YEARS' EXPERIENCE IN JAPAN

Dr Meijin Nakayama, Dr Shunsuke Miyamoto, Dr Yutomo Seino, Dr Tabito Okamoto, Dr Koichi Kano, Dr Masayuki Hasebe

Kitasato University, Kanagawa, Japan

Purpose: Supracricoid laryngectomy with cricohyoidoepiglottopexy (SCL-CHEP) is a functional larynx preservation surgery indicated for early and selected advanced laryngeal cancers. In 1997, after initial surgical training at the Institut Gustave Roussy and University of Paris V in France, we performed the first case of SCL-CHEP in Japan. We reviewed the SCL-CHEP patients operated on during the past 17 years.

Methods: Between 1997 and 2013, 100 patients with glottic cancers underwent SCL-CHEP. We analyzed: 1) cancer-specific (CS) and overall survival (OS) rates, 2) the correlation between locoregional recurrence and OS, 3) T staging and larynx preservation (LP) rates, and 4) previous radiation history and LP rates. **Results:** Local recurrence was recognized in eight of the 100 patients (8%); all were initially staged as T3 or T4. Recurrence was identified in the submucosal regions of the ipsilateral arytenoid and/or infraglottis. Six patients were salvaged by completion total laryngectomy. CS at 5 years was 93%; OS at 5 years was 89%. There was no significant difference between OS and locoregional recurrence. There was a significant difference between LP in T1-2 and T3-4 patients. There was no significant difference between LP and the previous RT status. **Conclusions:** Our experience convinced us of the clinical potential of SCL-CHEP as one of the effective options for functional larynx preservation. SCL-CHEP is the most suitable for

unfavorable T2 and T3a cases and is applicable for appropriately selected radiation-failed patients. Thorough preoperative evaluation, proper surgical techniques, and careful follow-up are prerequisites for the success of SCL-CHEP.

LC86

WHEN SHOULD PATIENTS BE REFERRED FOR VOICE REHABILITATION?

Dr Daniel Novakovic, Dr Catherine Madill

University of Sydney, New South Wales, Australia

Functional voice rehabilitation is an increasingly important consideration in the treatment of laryngeal cancer. Our improved understanding of vocal physiology has led to the development of more advanced techniques in voice restoration. The primary goals of voice rehabilitation can be broadly aimed at either restoring glottal competence, improving mucosal wave or optimising functional use of the voice in the presence of suboptimal vocal fold physiology. Speech therapy plays an important role either alone or as an adjunct to surgical procedures which can be specifically targeted to address these goals. There is no "one size fits all" approach to voice restoration and a patient tailored, multidisciplinary approach works best. It is important for the rehabilitation team to have an appreciation of the underlying voice problem and how it relates to the patient as well as a sound knowledge of physiologically tailored available treatments. This talk will examine the decision making process when considering voice rehabilitation taking into account patients' functional requirements, quality of life outcomes and symptom scores, endoscopic and stroboscopic assessment of the larynx as well as considering the underlying pathophysiology of dysphonia and available / appropriate treatment options.

LC56

DYSPHAGIA IN SURVIVORSHIP

Dr Rebecca Nund

The University of Queensland, Queensland, Australia

The nature of survivorship in head and neck cancer (HNC) means that people are living longer with a number of significant treatment sequelae. Dysphagia is a common acute and long-term side effect among HNC survivors regardless of the type of treatment they receive. Swallowing difficulties have generally been reported in the literature in terms of their prevalence, severity, physiological characteristics and the associated effects on quality of life. Despite this, our understanding of the key factors that impact on the everyday lives of people with dysphagia following HNC is only just emerging. It has become increasingly apparent that to fully explore and understand the complexity of dysphagia post-treatment, clinicians need to take a multidimensional assessment approach incorporating multiple outcome measures designed to provide greater insight into the impact of dysphagia on HNC survivors. This holistic approach is consistent with the International Classification of Functioning, Disability and Health (ICF), which emphasises the importance of viewing health conditions using a biopsychosocial perspective. By exploring issues using a biopsychosocial approach research has highlighted those factors that have the greatest impact on oral intake for the individual, raised issues for service provision, and highlighted the need for additional professional involvement and better long term supportive care.

PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

LC85

RADIOTHERAPY DOSE TO THE CRICOPHARYNGEUS IS PREDICTIVE FOR DEATH FROM ASPIRATION PNEUMONIA

Dr Jolyne O'Hare, Dr Michal Szezesniak, Dr Julia Maclean, Dr Harry Quon, Prof Ian Cook, A/Prof Peter Graham
St George Hospital, Kogarah, Sydney, New South Wales, Australia

Purpose: Definitive radiotherapy in the management of head and neck cancers carry significant morbidity and mortality. Aspiration pneumonia is common sequela of treatment. The study aim was to investigate whether the dose delivered to the muscles involved in swallowing is predictive of mortality due to aspiration pneumonia. **Methodology:** A retrospective review of all patient records who received radical radiotherapy for head and neck cancer from 2004 to 2011 at a single institution was undertaken. Dose delivered to the pharyngeal constrictors, base of tongue and cricopharyngeus was calculated. The dosimetry of these muscles was compared between those patients who had died from aspiration pneumonia and those who are alive.

Results: From the total cohort of 201 patients, 83 patients died during follow up. Aspiration pneumonia was the cause of death in 11 patients. Where available and/or regions of interest were not previously contoured, archived radiotherapy plans were recontoured (n=75). The mean cricopharyngeus dose was significantly higher in those patients who died of aspiration pneumonia, 44.6Gy vs 26.6Gy (p <0.01). In a multivariate regression analysis, cricopharyngeus dose is a significant predictor of death from aspiration pneumonia. There was no statistically significant difference between both groups in terms of dose delivered to other muscle groups. **Conclusion:** The cause of dysphagia and aspiration pneumonia following high doses of radiotherapy is likely to be multifactorial, however in this small and retrospective study the dose delivered to the cricopharyngeus increased the risk of death due to aspiration pneumonia.

LC06

THE NEW "SMOKING" – ITS ROLE IN LARYNGEAL CANCER

Dr Kerry Olsen

Mayo Clinic, Minnesota, United States of America

The causative role of smoking in laryngeal cancer has been well defined. The dominant successful strategies to reduce tobacco use have come from policy implementation that bans smoking in the work place and most businesses, as well as increasing product cost from taxation and ongoing public education. Smoking numbers have now decreased in the United States to 18% of the adult population from a figure of 21% in 2005. Efforts must continue to eliminate tobacco as it is the main cause of larynx cancer and many other malignancies. However, another major public health challenge is the global obesity epidemic with its subsequent chronic diseases. The co-morbidities from obesity can affect overall survival outcomes in patients with cancer. Decreased daily energy expenditures and more processed obesogenic foods are contributing to obesity and lead to an overwhelmed health system with unsustainable health care expense. In the United States, obesity is directly associated with many cancers and three of the five most costly diseases in the U.S.: heart disease, diabetes, and hypertension.

Increased attention by all physicians to their overweight and obese patients' lifestyle activities is a necessary step in prevention and early intervention of the chronic co-morbid diseases from increased weight and inactivity. The potential beneficial effects of managing and reducing obesity should result in improved survival of patients with any cancer including laryngeal.

LC82

NON TMN FACTORS IMPORTANT TO LARYNGEAL CANCER

Dr Kerry Olsen

Mayo Clinic, Minnesota, United States of America

The TNM staging system for laryngeal cancer generally does not provide the necessary information needed for treatment planning. The TNM system is further hampered by an ongoing evolution in staging systems, different staging systems, and a reported confusing mixture of clinical, radiographic, pathologic, and retrospective input used for staging. Important factors not found in the TNM system that are useful in treatment planning include patient, tumor, pathologic, and surgeon factors.

Components of each of these will be presented. Finally, using the TNM staging information alone may have contributed to the disturbing results seen when advanced laryngeal cancer is treated by organ preservation strategies. This issue will also be presented.

LC25

THE PROGNOSTIC VALUE OF PRIMARY AND LYMPH NODE VOLUME IN LARYNGEAL CANCER TREATED WITH IMRT

Dr Wei Xu, Prof Brian O'Sullivan, Assist Prof Shao Hui Huang, Ms Susie Su, Dr John Waldron, Dr John Kim

Princess Margaret Cancer Centre, Ontario, Canada

Evidence suggests that tumor volume is a prognostic factor for laryngeal cancer beyond TNM. Lower neck lymph node (LWNLN) has also been linked to risk of distant metastasis (DM) in head and neck cancer. We hypothesized that primary GTV (GTV-1) and lymph node GTV (GTV-LN) may differentially impact survival (OS) and distant metastasis (DM) and that LWNLN may be a surrogate for GTV-LN without independent prognostication. We studied all laryngeal cancers undergoing IMRT from 2005-2013. GTV-1 and GTV-LN were delineated for IMRT treatment and peer-reviewed at quality assurance meetings. GTV-LN was the summed lymph node volume receiving tumoricidal dose. Multivariate analysis (MVA) confirmed the prognostication of GTV-1, GTV-LN, and LWNLN on OS and DM. 456 glottic and 179 supra/subglottic cancers were studied. GTV-LN was relevant in 131 cases. 55 had LWNLN, all of which had LN in the upper neck (levels 2 +/- 3). Larger GTV-1 correlated with GTV-LN (p<0.01). Larger GTV-1 and GTV-LN also predicted for reduced OS (HR 1.01 for both, p<0.01) in MVA after TNM stage adjustment (III/IV vs I/II: OS: HR 2.54; DM: HR 6.57, both p<0.01), but GTV-1 was stronger for DM (HR 1.02, p<0.01) compared to GTV-LN (p=0.13). LWNLN was predictive for OS and DM in univariate analysis but not in MVA. The TNM classification remains the strongest prognostic factor but GTV-1 and GTV-LN are also prognostic. GTV-1 appears stronger for OS and DM over GTV-LN. LWNLN is a surrogate for lymph node burden and seems to lack impact on DM and OS if controlling for GTV.



PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

LC00

PHILOSOPHIC CONSIDERATIONS IN SALVAGE TREATMENT OF LARYNGEAL CANCER: POTENTIAL ROLE FOR RE-IRRADIATION

Prof Brian O'Sullivan, Assist Prof Shao Hui Huang
Princess Margaret Cancer Centre, Ontario, Canada

Management of recurrent laryngeal cancer following (chemo-) radiotherapy (RT/CRT) is challenging. Choice of salvage treatment should take into account the anticipated overall prognosis of the individual patient and a careful balance of treatment efficacy and normal tissue toxicities. Surgery is the main-stay of salvage treatment and may require the use of adjuvant re-irradiation (reRT)+/- chemotherapy. Definitive reRT plays a limited role due to a high risk of egregious consequences, such as cartilage necrosis, which presents a relatively unique concern in this disease. Currently no randomized trial data are available specific for laryngeal cancer reRT to guide management. Extrapolating data from several retrospective series where laryngeal cancer comprised a small proportion of the study cohorts suggests that reRT could be considered if patients are unsuited for surgical resection. Optimizing the therapeutic ratio of reRT requires consideration of several strategies that may facilitate the goal of disease control with reduction of morbidity. These include employing smaller than usual fraction sizes, twice daily treatment delivered with a minimal interval of 6 hours apart to minimize late toxicity, uninterrupted radiation course to avoid tumor repopulation, total dose ≥ 60 Gy to have the possibility of disease control, limited reRT target volumes to spare normal tissue, high conformality of dose distribution by using IMRT/IGRT and/or use of hadrons; and the addition of systemic agents to provide augmented radiosensitivity. Careful review of prior treatment volumes and prescription details in order to minimize overlapping in high dose region is also paramount. Other innovative strategies should also be explored.

LC65

EXPLORING OPPORTUNITIES TO IMPROVE THE PERFORMANCE OF THE UICC/AJCC TNM FOR GLOTTIC CANCER

Prof Brian O'Sullivan, Assist Prof Shao Hui Huang, Ms Susie Su, Dr Wei Xu

Princess Margaret Cancer Centre, Ontario, Canada

Although TNM is one of the strongest prognostic factors, it does not embrace all dimensions of tumor prognosis. This presentation addresses how non-anatomic factors might be introduced into prognostic grouping algorithms for laryngeal cancer. We identified 484 patients with glottic cancer treated with either primary surgery+/-adjuvant radiotherapy (RT) or primary RT +/- chemotherapy from 2005-2013. 7th Edition TNM stages I/II/III/IV showed acceptable performance with 3-year overall survival (OS) of 93%, 86%, 72%, and 71%, respectively ($p < 0.01$). Multivariate analysis revealed age (HR 1.06, $P < 0.01$) and smoking pack-years (PY) (HR 1.01, $p = 0.02$) as additional strong survival predictors (HR for II vs I: 1.5; III vs I: 3.52; IV vs I: 5.49, $p < 0.01$). Recursive partitioning analysis including TNM stage (I, II, III, IV), age (≤ 60 , 60-70, > 70), and smoking PY (≤ 20 , 20-40, > 40), derived the following prognostic groups: Group I: stage I-II_age ≤ 70 ; Group II: stage I-II_age > 70 or stage III-IV_age ≤ 20 PY; Group III: stage III-IV_age > 20 PY. The 5-yr OS were 90%, 67%, and 47% for Groups I, II, and III, respectively. Multivariate analysis

showed improved OS prediction with these Prognostic Groups (Group II vs Group I: HR 3.23; Group III vs Group I: HR 8.42, both $p < 0.01$) after adjusting for treatment and ECOG performance. The 7th edition UICC/AJCC TNM is acceptable for prognostic assessment in glottic cancer but incorporating non-anatomic factors may improve prognostic differentiation further.

LC22

MALIGNANT TRANSFORMATION FOR LARYNGEAL DYSPLASIA: RISK, INTERVAL AND ROLE OF NEW IMAGING MODALITIES

Prof Vinidh Paleri

Newcastle upon Tyne Hospitals, Newcastle upon Tyne, United Kingdom

This talk will summarise the current thinking on the risk factors that promote malignant transformation of laryngeal dysplasia and the time taken for malignant transformation, supported by data from recent systematic reviews. This session will also explore, from an evidence based perspective, the role of emerging imaging modalities that will be applicable in this setting.

LC73

REACTIVE NG VS PROPHYLACTIC PEG

Prof Vinidh Paleri

Newcastle upon Tyne Hospitals, Newcastle upon Tyne, United Kingdom

The vast majority of patients undergoing concurrent chemoradiation therapy need nutritional supplementation, which can be provided by mouth or via an enteral feeding tube. A gastrostomy tube is espoused by many physicians on the basis that it is easy to care for, less prone to blockage and is cosmetically appealing. The widespread availability of expertise for gastrostomy placement with a perception of low complication rate has seen an increase in the use of gastrostomy tube feeding for patients undergoing this treatment. However, there remains a lack of consensus about when and which enteral feeding routes (gastrostomy or nasogastric tube) should be used and controversy about the long-term effects on swallowing function as well as quality of life for patients. This talk will address the existing evidence base on the subject and the ongoing trials.

LC95

TREATMENT AND FOLLOW UP OF LARYNGEAL DYSPLASIA: RECOMMENDATIONS BASED ON UK WIDE CONSENSUS AND EXISTING EVIDENCE BASE

Prof Vinidh Paleri

Newcastle upon Tyne Hospitals, Newcastle upon Tyne, United Kingdom

Laryngeal dysplasia is an important pre-malignant lesion that occurs in 2-10 people per 100,000 population. Only retrospective series and prospective datasets exist to influence management decisions. In the absence of higher level evidence, a clear need to harmonise management protocols was identified. Based on a meta analysis of observational series and a consensus generation meeting, a consensus statement by otolaryngologists and pathologists was published outlining the management and follow up of patients with laryngeal dysplasia. This talk will summarise the management and follow up principles arrived at following this exercise.

PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

LC15

SURVIVAL OUTCOMES OF SALVAGE LARYNGECTOMY FOR RECURRENT LARYNGEAL AND HYPOPHARYNGEAL CARCINOMA FOLLOWING PRIMARY RADIO/CHEMORADIOTHERAPY FOR ADVANCED STAGE DISEASE

Prof Vinidh Paleri, Mr Jaigesh Manickavagasm, Miss Hannah Wong, Mr David Meikle, Mr Andrew Welch, Mr Mark Puvanendran
Freeman Hospital, Newcastle Upon Tyne, United Kingdom

Purpose: A significant subset of patients who initially undergo radio/chemoradiotherapy for laryngeal/hypopharyngeal squamous cell carcinoma (SCC) will have recurrent disease. The mainstay of treatment for this population is salvage surgery. In this study, the survival outcomes of patients undergoing salvage laryngectomy for post radio/chemoradiotherapy SCC recurrent disease were analysed. **Aim:** To determine the oncological outcomes of salvage laryngectomy after failure of radiation or chemoradiation over 10-year course and to evaluate the overall and disease specific survival rates for patients requiring salvage total laryngectomy. **Methodology:** A retrospective review was carried out on all patients undergoing salvage laryngectomy at the Freeman Hospital, Newcastle, a tertiary referral unit. All patients initially presented with T3 or T4 laryngeal SCC and underwent salvage laryngectomy between 2000 and 2013. **Results:** Seventy seven patients underwent salvage laryngectomy in the 13 years under consideration, Sixty-eight were males and nine were females. Primary sites encompassed, Larynx (50), hypopharynx (22) and other (5). The indications for laryngectomy were; laryngeal dysfunction (6) and disease recurrence (71). Staging at presentation of recurrence were, rT4 (34), rT3 (6) and rT2 (6). The staging for 22 patients with recurrent disease could not be retrieved. **Conclusions:** The 2, 3, and 5 year survival rates for patients who received salvage surgery following primary radio/chemoradiotherapy treatment were 64%, 57% and 46% respectively. The disease specific survival at 2 and 5 years was 59% and 52% respectively, these figures are in keeping with the published literature.

LC12

HEAD AND NECK CANCER PATIENT EDUCATION AND SUPPORT NEEDS – A SINGLE INSTITUTION STUDY

A/Prof Carsten E Palme FRACS, A/Prof Clark FRACS,
Dr Joe Jabbour MBBS

The Chris O'Brien Lifehouse RPA Sydney, New South Wales, Australia

Background: The provision of clear and accessible information is a key principle when managing head and neck cancer (HNC) patients and their carers.¹ Patients desire comprehensible information that has been shown to be proportional to the overall satisfaction with care given by healthcare professionals.² There is evidence demonstrating that current patient information leaflets are poor and inadequate.³ Development of accurate, comprehensive and comprehensible information can enlighten patients and encourages them to be an active partner in therapeutic decision-making. **Objectives:** The aim of this study was to evaluate information needs for patients with HNC. **Methods:** The study design consisted of a mixed questionnaire completed by 231 patients post treatment. The questionnaires consisted of 28 questions (Types: closed, open & Likert scale) covering the following: Patient demographics; Tumour characteristics (site, stage, primary treatment & follow up time post treatment); Health literacy; Anxiety and depression (6 questions adapted from the Kessler 10 Psychological

Distress Scale); Quantity of information using a four point Likert scale of none (1), a little (2), quite a bit (3) and a lot (4). Topics covered included the type of HNC, stage of cancer, prognosis of HNC, treatment, survivorship concerns, quality of life & patient support groups; Decision making process regarding treatment; Comprehensibility of information; Current formats of information; and Ideal formats of information. Descriptive statistics and ordered logistic regression for multivariate analysis was undertaken on SPSS. The alpha level was 0.05. **Results:** Two hundred and thirty one patients completed the questionnaire. The average age was 60 (Range: 21-94) with an equal number of males to females. The information received about the type of head and neck cancer and stage of cancer was quite substantial in 77% (177) and 68% (156) of patients respectively. Areas of survivorship concern that were identified included: how to cope with physical appearance post treatment (44%, 101); psychosexual health (56%, 129) and access to patient support groups (58%, 133). Most patients (70%, 164) reported preferring multiple formats of information delivery about their cancer and treatment with the preferred information format equally divided between one-on-one meetings with a health educator (49%, 114) and pamphlets and booklets (49%, 114). Other popular formats included internet based information (45%, 104), DVD or CD (38%, 88) and internet based videos (27%, 63). The majority of patients (78%, 180) had access to the internet. **Conclusion:** Head and neck cancer patients report preferences for multiple media formats available through a website as an adjunct to guide them through their diagnosis and management. Areas of survivorship that need supplementation to current resources are psychological wellbeing, coping with physical appearance post treatment, availability of patient support groups and psychosexual health.

¹Edwards D. Head and neck cancer services: views of patients, their families and professionals. *Br J Oral Maxillofac Surg* 1998; 36:99-102. ²Semple CJ, McGowan B. Need for appropriate written information for patients, with particular reference to head and neck cancer. *J Clin Nurs* 2002; 11:585-593. ³Smith C. The role of health professionals in informing cancer patients: findings from The Teamwork Project (phase one). *Health expectations : an international journal of public participation in health care and health policy* 2000; 3:217-219.

LC72

TRANSORAL LASER MICROSURGERY FOR EARLY GLOTTIS CANCER

A/Prof Carsten E Palme

University of Sydney, Crown Princess Mary Cancer Centre, Westmead Hospital, Chris O'Brien Lifehouse RPA, New South Wales, Australia

Background: The oncologic role of endoscopic laser surgery in the management of early glottic cancer (EGC) is well established. Major challenges remain when introducing this approach as a fundamental component of any successful multidisciplinary head and neck clinic. We propose that setting up an endoscopic laser service (ELS) requires a thoughtful and coordinated approach, which includes a number of fundamental infrastructure and human resource components. **Methodology:** We describe setting up an ELS and present our clinical data over the past 10 years. The medical literature on the evidence and challenges of setting up such a service was reviewed. **Results:** A successful ELS requires fundamental and coordinated structural, human and health care system components. These



PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

foremost include dedicated specialists involved in all aspects of managing upper aerodigestive tract disease, allied health professionals and nursing staff. Major infrastructure components include an appropriate practice environment, documentation and specialized surgical equipment. Appropriate systems need to be in place ensuring state of the art training, education, research and audit. We have treated over 100 patients with EGC and our results in terms of complication rates and disease specific outcome are comparable to the wider surgical literature. **Conclusions:** We highlight that setting up a successful endoscopic laser service within a tertiary multidisciplinary head and neck clinic is a complex task, which requires multiple components and resources. State of the art disease specific outcomes can be achieved.

LC93

THE FUNCTIONAL AND ONCOLOGICAL OUTCOME OF NEAR TOTAL LARYNGECTOMY FOR LARYNGOPHARYNGEAL CARCINOMA

Dr Min Woo Park, Prof Young-Soo Rho

Department of Otorhinolaryngology - Head and Neck, Seoul, Korea

Objectives: Tracheoesophageal puncture and voice prosthesis insertion has become the gold standard for voice restoration after total laryngectomy. However, the voice prosthesis should be changed routinely and has complications. The objective of this study was to evaluate the functional and oncological results in patient laryngohypopharyngeal carcinoma with near total laryngectomy (NTL). **Methods:** We reviewed the medical records of patient with laryngohypopharyngeal carcinoma treated with NTL and NTL with free flap at Hallym University Medical Center Kangdong Sacred Heart Hospital and Ewha Womans University Mokdong Hospital by single surgeon, between 1997 and 2014. **Results:** Total 30 patients was enrolled in this study. 17 patients were treated with NTL and 13 patients were treated with ENTLP. 8 patients were treated surgery alone and 18 patients were treated with post operative radiotherapy and 4 patients were treated with postoperative concurrent chemoradiotherapy. Consistent saliva leakage and aspiration led to conversion to total laryngectomy in one patient. Shunt stenosis was observed in one patient. 28 patients could use shunt speech post operatively. 6 patients had recurrent tumor, one patient had stomal recur and 5 patients had distant metastasis. Acoustic analysis showed high fundamental frequency and mean maximum phonation time was 9.36 seconds. **Conclusion:** NTL is an alternative procedure for resection of advanced unilateral laryngohypopharyngeal carcinoma with preservation of a natural functioning neoglottis. In order to optimize the results, proper selection of patients and the performance of operative technique should be considered.

LC53

PATTERN OF LYMPH NODE METASTASIS IN HYPOPHARYNGEAL SCC: WHEN DO WE NEED PARATRACHEAL LYMPH NODE DISSECTION?

Prof Young-Soo Rho, Dr Min Woo Park, Prof Eun Jae Jung

Ilseong Memorial Institute of Head and Neck Cancer, Seoul, Korea

Purpose: The aim of this study was to analyze the prevalence and prognostic importance of paratracheal lymph nodes metastasis in hypopharyngeal squamous cell carcinoma (SCC).

Methods: A retrospective review of 89 previously untreated

patients with SCC of the hypopharynx that underwent central compartment neck dissection (CCND) was performed. Thirteen patients (14.6%) underwent CCND based on the positive preoperative image (clinically positive group) and 76 patients (85.4%) for the potential risk of occult metastasis group (T4a or pyriform sinus apex invasion). Primary tumor was removed using conservative laryngeal surgery with partial pharyngectomy in 28 cases, near total/total laryngectomy with partial pharyngectomy in 37 cases, and total laryngopharyngectomy in 24 patients. **Results:** Ipsilateral paratracheal lymph node metastases occurred in 25.8% (23 out of 89). The disease-specific survival rate was significantly different according to level VI node metastasis (70.2% vs 40.9%). The yields of pN+ in these cases were 12/13 (92.3%) vs. 11/76 (14.5%) for cN+ and cN0, respectively. Pyriform sinus apex invasion, extralaryngeal spread, preoperative positive level VI node, advanced T stage, extracapsular spread, and ipsilateral multilevel involvement were correlated with level VI nodal metastasis. Multivariate analysis revealed that pyriform sinus apex invasion, preoperative positive level VI node, advanced T stage, and extralaryngeal spread were an independent factor for level VI nodal metastasis. **Conclusions:** Ipsilateral level VI lymph node dissection should be considered in pyriform sinus apex invasion, or extralaryngeal spread case.

LC23

INNOVATION, EXCELLENCE AND PRAGMATISM: THE CHALLENGES OF HEAD AND NECK CANCER MANAGEMENT IN ABORIGINAL PEOPLE IN THE NORTHERN TERRITORY

Dr Hemi Patel

Royal Darwin Hospital, Northern Territory, Australia

Aboriginal People in the Northern Territory have many risk factors for head and neck cancer. With amongst the highest rates of tobacco smoking and alcohol consumption globally, the incidence of Head and Neck Cancer is much higher than in non-Aboriginal Australians. At the same time, Aboriginal patients with Head and Neck Cancer face many challenges in their treatment. These cross many domains: culture, language, traditional healing vs. modern medicine, stigma, geographical remoteness and availability of therapies. As a result, Aboriginal patients, present later, have suboptimal treatment and have worse outcomes. These challenges provide the perfect environment for innovation. We present our experience of these challenges at Royal Darwin Hospital. A low volume, remote centre in the Northern Territory.

LC96

LATE EFFECTS OF (CHEMO)RADIOTHERAPY ON SWALLOWING

Dr Joanne Patterson, Prof Elaine Mccoll, Prof Paul Carding, Prof Janet Wilson

Sunderland Royal Hospital, Tyne and Wear, United Kingdom

Recent evidence suggests that persistent dysphagia following (chemo)radiotherapy ((C)RT) for head and neck cancer (HNC) is a serious medical concern and is an independent predictor of survival. Dysphagia is strongly related to quality of life and is a priority concern for patients. Understanding the incidence of persistent dysphagia is difficult due to inherent problems in long-term follow up. This paper reports on swallowing outcomes over five years following (C)RT. HNC patients treated

PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

by (C)RT were prospectively recruited in 2005-2007 (n=179). Outcomes included 1) swallowing questionnaire, 2) timed water swallow test, 3) dietary restrictions, 4) instrumental swallowing assessment. Data were collected pre and three, six, twelve months and six years post-treatment. At one year, 142 patients were retained. By six years this had dropped to 56 due to death (58) declined (23) palliative (2) pneumonia (1) and lost to follow up (3). Of this sample, three had a laryngectomy for dysfunctional larynx and 5 had a gastrostomy. Two thirds reported swallowing difficulties and the majority (82%) were taking a soft diet. Eleven patients had aspiration, five of whom had a history of chest infections. Dysphagia remains a common problem many years post-treatment. Aspiration occurred in approximately 20%, but attrition rates negate a true estimation. Management of persistent aspiration is problematic. Previous work reports that aspiration pneumonia accounts for 19% of non-cancer related deaths. However, in this sample, some remained asymptomatic, others reported chest infections whereas a small number required a laryngectomy. Assessment and management of persistent dysphagia will be discussed.

LC08

OROPRESS: A SAFE, VALID AND RELIABLE TOOL FOR ORAL TONGUE PRESSURE MEASUREMENT WITH HN CANCER PATIENTS

Ms Molly Manning, **Prof Alison Perry**, Dr Vincent Casey, Dr Richard Conway, Dr Adam De Eyto, Ms Joanne McCormack
University of Limerick, Co Limerick, Ireland

Purpose: Intervention in dysphagia is hampered by the lack of a taxonomy of normal swallowing which, in part, is caused by an absence of valid, reliable, instrumental measurement tools. We have developed OroPress – a new, non-obtrusive and highly accurate wireless tool used to record both isometric and swallowing pressures in adults. **Methodology:** OroPress has a sensor and headset, linked through wireless technology to a laptop computer and software system. It enables accurate measurement of oral tongue force (pressure) during (i) bolus swallowing and (ii) isometric ('tongue pushing') tasks. OroPress was used to measure oral tongue pressures in a sample of norm participants across both sexes, purposefully recruited across decades (20-80+years). OroPress was also used with a sample of HNC patients having VFSSs to correlate tongue pressures with swallowing safety and efficiency measures.

Results: We have isometric orolingual pressure data (during tasks to generate maximum pressure and endurance) from over 100 norm participants, and swallowing data (liquid and semi-solid boluses) from 57 of these, which will be presented and discussed. OroPress clinical data from 10 HNC patients will also be discussed. **Discussion:** OroPress study results have implications for re-examining the oral phase of swallowing as we establish this highly accurate tool as a criterion standard for orolingual pressure measurement. OPA better represents the 'effort' in swallowing than does Pmax, and OroPress has potential for use in designing proactive and principled therapy. **Conclusions:** The use of OroPress improves accurate measurement and can enhance specificity of interventions. We now have a clinic-ready prototype that is safe and reliable for use.

LC21

RICH MAN, POOR MAN, BEGGAR MAN, THIEF: LARYNGECTOMEE REHABILITATION AND GLOBAL ECONOMIES

Prof Mershen Pillay, Ms Zandile Peter

University of KwaZulu Natal, KwaZulu Natal, South Africa

Purpose: To analyse factors impacting on laryngectomee rehabilitation especially in economically developing countries via a case exemplar; South Africa. **Methodology:** This qualitative, single case study is informed by two Speech Therapists working at an acute care hospital in Durban, KwaZulu-Natal (South Africa). Data was collected using a semi-structured interview schedule in a focus group discussion. Transcribed data was analysed using content analysis. Computerised software (Atlas.ti) was used to develop themes. **Results:** Significant themes about cultural, economic, social and political factors that affect clinical practices in poor, resource constrained contexts are described. Practices, resources and policies from Minority world countries (e.g., in Europe, North America and Australasia) are examined for their impact on how laryngectomee rehabilitation occurs in economically developing, Majority world countries like those in South America, North and Sub-Saharan Africa, and South Asia. This includes an analysis of the consumption of globally branded medical products and devices (e.g., dysphagia food thickeners, electrolarynxes, voice prostheses) and availability of rehabilitation services for effective voice restoration, communication and dysphagia management. **Conclusion:** Laryngectomee rehabilitation in poorer countries is compromised by how global economies are configured. This results in untenable relations between global economic forces from the North and clinical practices in the South. Strategies are discussed regarding the development of best practices in context of global fiscal forces and local resource constraints.

LC39

DATABASES FOR LARYNGEAL CANCER – A QUEENSLAND PERSPECTIVE

Prof Michael Poulsen

Radiation Oncology Mater Centre, Queensland, Australia

Databases are an integral part of cancer care and provide valuable information about the quality of care provided by institutions. They allow comparison of results with other centres and may be able to answer specific research questions. Availability of data bases allows experience to be gained in research methodology. Ideally, data collection should be prospective rather than retrospective to improve the accuracy of data collection and to minimise missing data. Data needs to be cleaned prior to analysis and this is time consuming and expensive. This type of data base has limited potential to answer scientific questions due to the heterogeneity of the patient population and treatment provided. Prospective clinical trials provide a higher level of evidence to answer specific scientific questions. The Trans Tasman Radiation Oncology Group has been the lead clinical trials group in Australia and New Zealand that has provided investigator lead research in radiation oncology. It has completed a number of randomised controlled trials in head and neck cancer which have included laryngeal cancer and these



PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

trials have been recognised internationally. The Queensland Cancer Control Team (QCCAT) provides a software platform that facilitates the participation of clinicians and administrators in the review, monitoring and evaluation of cancer services. Analysis of data is fed back to identify potential quality gaps as well as assisting in strategic planning of cancer services. Data is obtained from 34 systems including the Cancer Registry. Each of these types of data bases has strengths and weaknesses and cancer institutions need to decide where they will invest their efforts to gain the greatest reward.

LC78

RADIATION THERAPY – THE MOST EFFECTIVE TARGETED THERAPY

Prof Michael Poulsen

Radiation Oncology Mater Centre, Queensland, Australia

Radiation treatment has been part of the cancer treatment landscape in Australia for over 50 years. Currently, it contributes to 40% of cancer cures and has a well defined role in all of the major common malignancies that affect our society. It is estimated that 48% of patients will require radiotherapy at some point in their illness. Along with surgery it remains one of the cornerstones of local therapy for cancer. The success of radiation therapy relies on the accurate definition of the target which is the site of the tumour. The profession has undergone spectacular change which has largely been driven by technological improvements in imaging of tumours as well as the delivery of more conformal therapy to minimise the treatment of normal tissues. Radiation therapy is non invasive and allows the function of the organ to be preserved in selected cases. For organs such as the larynx, radiation therapy has an important role. "Effectiveness" should not only include tumour response but should also take into account the toxicity of treatment and its impact on quality of life. Financial impacts and societal costs can also be considered. Target definition has improved through the better staging of cancers, stabilisation during treatment, image registrations, control of motion during treatment, better image guidance and more conformal planning and treatment delivery. Radiation therapy remains a safe and cost effective treatment that allows for organ preservation in carefully selected cases.

LC09

THE ROLE OF CONSERVATION LARYNGEAL SURGERY IN HYPOPHARYNEAL CANCER

Dr Young Soo Rho

Hallym University, College of Medicine, Seoul, Korea

Background: The purpose of this study was to assess the clinical outcomes of patients with hypopharyngeal squamous cell carcinoma (SCC) treated with conservative laryngeal surgery with partial pharyngectomy. **Methods:** Sixty-nine patients with hypopharyngeal SCC who underwent laryngeal preservation surgery were enrolled. The tumors were classified as cT1 in 7 (10.1%) patients, cT2 in 39 (56.5%), cT3 in 18 (26.1%), and cT4a in 5 (7.2%) patients. **Results:** Surgical outcomes: 5-year overall and disease-specific survival rates were 73.9% and 76.8%. Recurrent disease developed in 18 patients (26.1%). Multivariate analysis revealed that level VI metastasis confirmed by histopathological analysis, close (< 5 mm) histologic margin, advanced N stage, and posterior pharyngeal wall tumor were independent factors associated with poor disease specific

survival. Functional outcomes: 60 patients (87%) could obtain all their nutritional needs orally. Nine patients needed the assistance of a percutaneous endoscopic gastrostomy tube. Oral re-alimentation was achieved within a mean of 26.1 days after surgery. Sixty-one patients (88.4%) could be decannulated after a mean of 43.8 days postoperatively. **Conclusion:** The oncological and functional outcomes of hypopharyngeal cancer after conservative laryngeal surgery are fairly acceptable, making this a reasonable initial treatment option for selected patients.

LC05

THE ROLE OF CAREGIVERS IN SMOKING CESSATION

Miss Amy Richardson, Prof Randall Morton,
Dr Elizabeth Broadbent

The University of Auckland, Auckland, New Zealand

Purpose: Few studies have investigated psychological factors associated with smoking behaviours in patients with head and neck cancer (HNC). The purpose of this study was to examine the relationship between psychological distress, coping strategies, and smoking behaviour in patients with HNC and their caregivers. **Methodology:** Ninety eight patients and 80 caregivers completed a questionnaire booklet assessing smoking behaviour, depression, and coping at diagnosis. A chi square analysis was used to investigate smoking behaviour among patient-caregiver dyads. Mann-Whitney U tests were conducted to compare differences in psychological distress and coping behaviours between smokers and non-smokers. **Results:** Nineteen percent of patients were current smokers at diagnosis compared to 8% of caregivers. Patients who were smokers at diagnosis were significantly more likely to have a caregiver who also smoked in comparison to non-smokers. Interestingly, smokers (including both patients and caregivers) had lower depression scores than non-smokers. However, they were also more likely to engage in substance use and self-blame at diagnosis. The use of these coping strategies was predictive of high depression scores. **Conclusion:** Relatively few patients continue to smoke after being diagnosed with HNC. However, for those that do, caregivers have an important influence on smoking behaviour. Furthermore, patients who smoke are more likely to use maladaptive coping strategies, which contribute to the experience of depression.

LC07

PSYCHOLOGICAL FACTORS THAT CONTRIBUTE TO POST-TREATMENT QUALITY OF LIFE IN PATIENTS WITH LARYNX CANCER

Miss Amy Richardson, Prof Randall Morton,
Dr Elizabeth Broadbent

The University of Auckland, Auckland, New Zealand

Purpose: Few prospective studies have investigated the psychological factors that contribute to post-treatment health-related quality of life (HRQL) in patients with head and neck cancer (HNC), including larynx cancer. The objective of this study was to prospectively examine how coping strategies used at HNC diagnosis were related to patient HRQL six months later. **Methodology:** Sixty five patients with HNC completed a questionnaire booklet assessing HRQL and coping strategies at diagnosis and again six months later. A regression analysis was performed to determine the contribution of coping to future HRQL, after controlling for tumour stage and baseline

PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

HRQL. Results: There was a significant change in HRQL scores from diagnosis to follow-up, with lower HRQL post-treatment in comparison to diagnosis. The use of maladaptive coping strategies at diagnosis was predictive of low HRQL six months later, even after controlling for tumour stage and baseline HRQL. Substance use and self-blame made the greatest contribution to patient HRQL. **Conclusion:** The results suggest that assessment of coping strategies at HNC diagnosis could identify patients at risk of reduced HRQL following treatment. These individuals may benefit from the provision of targeted psychological interventions designed to improve coping.

LC12

AN OUTCOMES TOOLBOX FOR HEAD AND NECK CANCER CLINICAL TRIALS

Dr John Ridge

Fox Chase Cancer Center, Pennsylvania, United States of America

Clinical research in head and neck cancer traditionally focused on tumor control. As survival improves and treatment-associated toxicity rises, it is increasingly recognized that the side-effects of multimodality therapy can be profound and enduring. Thus, clinical trials require patient-reported and functional outcomes. These have been assessed by teams working under the auspices of the National Cancer Institute [NCI]. They have included a working group from a Symptom Management and Health-Related Quality of Life Planning Meeting and a subcommittee of the Previously Untreated, Locally Advanced Task Force of the Head and Neck Steering Committee of the Coordinating Center for Clinical Trials to identify core symptoms, health-related quality of life domains, and a set of instruments suitable for widespread application in the conduct of clinical trials for head and neck cancer. Based on existing literature and expert opinion and including core issues with: swallowing, oral pain, skin changes, xerostomia, dental health, trismus, taste changes, excess or thick mucous saliva, and shoulder dysfunction some 20 main areas of concern were identified. For each, measures suitable for use in multicenter clinical trials were recommended on the basis of validity, feasibility, and clinical acceptance. Suitable instruments exist for most, but not all, head and neck cancer concerns, but gaps require further development. Future efforts should be made to harmonize measurement across trials.

LC52

DATABASES AND MODERN LARYNX CANCER TREATMENT

Dr John Ridge

Fox Chase Cancer Center, Pennsylvania, United States of America

In North America both the national government and nongovernmental organizations maintain databases that are useful in evaluating temporal trends in cancer treatment and survival. Initiated in 1973, the Surveillance, Epidemiology, and End Results [SEER] Program of the National Cancer Institute [NCI] is a significant source of information on cancer incidence and survival in the United States. SEER collects cancer incidence and survival data from population-based cancer registries covering approximately 28 percent of the US population. The SEER Program registries routinely collect data on patient demographics, primary tumor site, tumor morphology and stage at diagnosis, first course of treatment, and follow-up for vital status. The SEER-Medicare data link the SEER program with Medicare claims for covered health care services. Recently,

Medicare Part B payments to individual physicians and surgeons have been released to the public. These data are not linked to individual patients, but afford opportunities to evaluate practice patterns as well. The National Cancer Data Base [NCDB] is clinical oncology database sourced from hospital registry data jointly sponsored by the American Cancer Society and the American College of Surgeons. It covers approximately 70 percent of all cancers in the United States from more than 1500 facilities. There are some 30 million historical records. The reports in the literature are necessarily based upon retrospective analysis of prospectively acquired data, and potentially important information may not be available for analysis. Apparently conflicting findings have been reported, and results should be interpreted with care.

LC66

ISSUES IN STAGING OF LARYNX CANCER

Dr John Ridge

Fox Chase Cancer Center, Pennsylvania, United States of America

Oncologists justifiably view determination of a cancer's stage as an essential preface to management of the disease. The stage, defined by T, N, M and selected nonanatomic factors, is held to possess prognostic significance. Patients with cancers of higher stage are more likely to succumb to their malignancy than those with tumors of lesser stage. However, the modern staging systems reflects generations of experience in cancer treatment—which informs the survival. Consequently, improvements and refinement in therapy (enhancing survival) may lead to revisions in the staging system. Such considerations are of particular relevance with regard to the larynx. Limited lesions of seemingly similar stage may be best treated by different means (with dissimilar acute morbidity and sequelae). The issues are more profound with more advanced primary tumors, when the alternative to radiotherapeutic management may be total laryngectomy; decisions are based upon clinical and radiographic staging alone. Concerns surrounding successful non-surgical management have prompted increasing attention to imaging studies, introducing refinements. Despite evaluation of lesions and imaging with great care, the choice of treatment is often informed by other aspects than tumor stage. Survivorship may not be the dominant consideration for patients, leading to breakdown in linkage between stage and survival.

LC47

INTRODUCTION OF A DISCHARGE CHECKLIST FOR HEAD AND NECK CANCER PATIENTS IN A TERTIARY REFERRAL HOSPITAL

Dr Samuel Roberts, Dr Peter Ryan, Mr Arjun Mahadevan, A/Prof Kelvin Kong

John Hunter Hospital, New South Wales, Australia

Purpose: Head and Neck Oncology Patients (HNOP) undergoing surgery represent a complex group with contributions from multiple teams including medical oncology, radiation oncology, speech pathology, physiotherapy, tracheostomy specialist nurses, psychiatry, drug and alcohol services, dieticians, occupational therapy and social workers. Input from this array of individuals is of great benefit to the patient but does add to the complexity of co-ordinating discharge care. **Methodology:** We conducted a historical cohort study to report on the introduction of a head and neck cancer discharge checklist into routine practice in



PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

discharging HNOP. The form was created with input from all teams involved and allows each team to put in writing their follow up plans and specific instructions on a single piece of paper which is distributed to the patient and also scanned into the electronic medical record. 20 patients who were treated prior to the introduction of the form were compared with 20 patients who had access to the form. Primary outcomes were attendance at follow up appointments and compliance with recommended behaviours and secondary outcomes were length of stay and staff satisfaction which was assessed with a survey at the completion of the study. **Results:** Preliminary results of the forms introduction are encouraging. It is well tolerated by medical, surgical and allied health teams and is well received by patients. Formal results from data collection will be available in June 2015. **Conclusions:** Introduction of a HNOP discharge checklist is well tolerated by both patients and staff and may increase compliance with recommended behaviours and attendance at follow up appointments.

LC40

OUTCOMES OF PRIMARY TRACHE-OESOPHAGEAL FISTULA WITH VOICE PROSTHESIS INSERTION AT THE TIME OF SURGERY IN LARYNGECTOMY PATIENTS AT PRINCE OF WALES HOSPITAL

Mrs Rachelle Robinson, Mrs Virginia Simms, Miss Molly Barnhart, Mrs Sophie Chandler, Prof Elizabeth Ward, A/Prof Robert Smee
Prince of Wales Hospital, New South Wales, Australia

Purpose: To evaluate the implementation of inserting voice prostheses (VP) at the time of surgery for the laryngectomy population. Although it has been implemented in European settings for over 2 decades, the application of this procedure is not standard practice within Australia (Hilgers and Schouwenburg, 1990). A recent national survey showed only 6 of 35 sites had adopted an early insertion approach. **Methodology:** Since 2012 at Prince of Wales Hospital (POWH), trial of VP insertion and placement of HME system at the time of surgery began. All were inserted with a 17Fr Provox Vega VP at the time of surgery. Based on surgeon preference all laryngectomy patients were managed using either the traditional or new insertion protocol. Between 2012 and 2015 10 patients had VP's inserted after surgery and 8 at the time of surgery. Outcomes regarding VP's inserted, duration of first VP, duration until voicing, and any early complications were monitored to 12 months.

Results: Patients with VP at the time of surgery achieved voicing earlier, their initial device life was almost 5 times longer, and required fewer VP's in the first 12 months. No differences in early complications were observed between the two groups. Only 1 patient in the new protocol required downsizing for their second VP compared to all patients in the traditional protocol (reduction between 2mm to 8mm). **Conclusion:** Evidence from this small trial is consistent with previous published data. Due to positive patient outcomes, minimal complications, and cost savings, POWH has now adopted this protocol for all laryngectomy patients.

LC13

OUTCOMES OF DIFFERENT LARYNX PRESERVATION STRATEGIES FOR TREATMENT OF LOCALLY ADVANCED LARYNX CANCER

Prof David Rosenthal, Prof Randal Weber, Dr Abdallah Mohamed, Prof Charles Lu, Prof Adam Garden, Dr Clifton Fuller
The University of Texas, MD Anderson Cancer Center, Texas, United States of America

Purpose: We evaluate outcomes and survival of patients treated for locally advanced larynx cancer with non-surgical larynx preservation (LP). **Methodology:** We retrospectively reviewed patients treated with LP for AJCC stage III/IV larynx cancer between 1983 and 2013. We used Cox proportional hazards modeling to determine disease control and overall survival (OS) for patients treated with various chemotherapy/radiotherapy combinations. **Results:** 354 patients were included; 71% were men and median age was 60 years. The majority were T3 (81%) and of supraglottic origin (70%). The 5- and 10-year rates of OS were 58% and 34%; laryngectomy free survival (LFS), 48% and 26%; LRC, 72% and 70%; and freedom from distant metastasis (FDM), 88% and 83%, respectively. 4 treatment cohorts were identified: concurrent chemo-RT (CRT, 33%), induction chemotherapy followed by RT (induction-RT, 19%), induction chemotherapy followed by CRT (induction-CRT, 11%), and RT-alone (37%) with median follow-up of 71, 140, 49, and 135 months for surviving patients in the four cohorts, respectively. In multivariate analysis, induction-CRT cohort had better laryngectomy free survival (LFS) compared to induction-RT (HR 0.4, $P=.003$), CRT (HR 0.4, $P=.003$), and RT-alone (HR 0.3, $p<.0001$). Likewise, induction-CRT cohort had better OS compared to induction-RT (HR 0.5, $P=.02$), CRT (HR 0.4, $P=.004$), and RT-alone (HR 0.3, $p<.0001$). **Conclusion:** All three chemotherapy treated cohorts had better outcomes than RT-alone. The newest and least common induction-CRT cohort had the most favorable outcomes compared to other strategies. Longer follow up and additional investigation is needed to confirm this and identify the most appropriate selection criteria for this strategy.

LC18

QUALITY OF LIFE AFTER TRANSCERVICAL CONSERVATION LARYNGEAL SURGERY

Dr Babak Sadoughi

Weill Cornell Medical College, New York, United States of America

The preservation of quality of life has become a fundamental goal of treatment in the management of laryngeal carcinoma. While established treatments of reference, such as total laryngectomy and chemoradiation protocols, have placed the emphasis on survival or anatomic preservation of the larynx, they still generate considerable functional morbidity with detrimental effects on quality of life. Transcervical partial laryngectomy techniques can present significant advantages when employed prudently and according to proper patient selection criteria. Their growing relevance in the management of advanced and recurrent laryngeal carcinoma deserves particular attention, with potential for improved quality of life without compromising on oncologic outcomes.

PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

LC20

LONG-TERM SWALLOWING OUTCOME AND DISPLACEMENT OF PRESERVED LARYNX AFTER SUPRACRICOID LARYNGECTOMY WITH CRICOHYOIDEPIGLOTTO-PEXY

Dr Yutomo Seino, Dr Meijin Nakayama, Dr Makito Okamoto, Dr Shunsuke Miyamoto, Dr Koichi Kano

Kitasato University, Kanagawa, Japan

Purpose: Supracricoid laryngectomy with cricohyoidepiglotto-PEXY (SCL-CHEP) is an organ preservation surgery for treating laryngeal cancers. The aims of this study were to evaluate long-term swallowing outcome and laryngeal displacement in patients who underwent SCL-CHEP. **Methodology:** We reviewed eleven patients examined by videofluoscopic swallow study (VFSS) in one, five and ten years after SCL-CHEP. Long-term clinical outcomes were reviewed. Distances from the anterior point of the hyoid bone to the mental spine and the top of tracheal air column as mandible-hyoid and hyoid-larynx distance were measured. The results were compared between the points of each time. **Results:** All patients were male. Mean age was 64 years old as of SCL-CHEP. Radiation therapy was performed as a radical treatment in eight patients preoperatively. All patients can eat out throughout ten years. No patients decline to PEG dependent. There were no significant differences in both mandible-hyoid and hyoid-larynx distances between one, five and ten years after SCL-CHEP. **Conclusion:** The concern that the swallowing function after SCL-CHEP may deteriorate gradually was denied in this study. Preserved larynx did not drop for a many years that can make good swallowing function maintain long after SCL-CHEP.

LC17

RELATIONSHIP BETWEEN RADIOTHERAPY AND GASTROESOPHAGEAL REFLUX IN VOICE REHABILITATION FAILURE

Prof Agostino Serra, Prof Luigi Maiolino, Dott.Ssa Paola Di Mauro, Dott. Salvatore Cocuzza

ENT Dept. University of Catania, Catania, Italy

Objective: The objective was to analyze the association of radiotherapy with gastroesophageal reflux as determinant of fistula related pathology, in voice prosthesis patients. Study Design: Retrospective study. **Methods:** Sixty-one laryngectomy patients were enrolled between 2005 and 2012. All patients underwent phonatory rehabilitation with voice prosthesis, along with evidence of gastroesophageal reflux disease, for which proton pump inhibitors (PPIs) were prescribed. We analyzed the occurrence of fistula-related problems among patients who received postoperative radiotherapy and those patients who did not. **Results:** We observed a higher rate of failure of speech rehabilitation in laryngectomy patients with gastroesophageal reflux: this occurred when they had a history of postoperative radiotherapy (45%) compared with patients who did not (17%) ($P < 0.05$), although all patients were treated with PPIs.

Conclusion: Our results seem to confirm the importance of postoperative radiotherapy with gastroesophageal reflux for the determinism of fistula-related problems.

LC41

SUPRACRICOID LARYNGECTOMY: OUR EXPERIENCE

Prof Agostino Serra, Prof Luigi Maiolino, Dott.Ssa Paola Di Mauro, Dott. Salvatore Cocuzza

ENT Dept. University of Catania, Catania, Italy

Purpose: Supracricoid partial laryngectomies (SCPL) is a type of function-preserving surgery for the treatment of early or locally advanced laryngeal tumors. SCPL, provides good control and preserves laryngeal function. Retrospective review was performed assessing oncologic and functional outcomes of patients who received cricohyoidepiglotto-PEXY (CHEP) or cricohyoido-PEXY (CHP) in ENT Dept. of University of Catania (Italy). **Methodology:** A total of 173 patients who received SCPL with 54 CHP (31.3%), 12 CHP + A (with arytenoidectomy) (6.9%), 94 CHEP (54.3%) and 13 CHEP + A (7.5%), from 1998 to 2013 were involved. Neck dissection (ND) was performed in 123 patients (71%), monolateral in 75 (43.3%) and bilateral in 38 (21.9%) cases. Neck dissection was elective in 85 (49%) cN0 patients, and curative in 28 cN>0 patients (16%). The age of the patient cohort ranged from 38 to 73 years, with a median of 55.5 years; 157 patients were male (91%) and 16 females (9%). According to the classification criteria, 71 patients were diagnosed with supraglottic cancer (56 with stage T2, 15 with T3) and 102 with glottis cancer (2 with T1a, 37 with T1b, 49 with T2 and 14 with T3). The mean follow-up time was 96 months, with a minimum observational of 60 months. **Results:** The observed results were: 3, 5-years overall and disease-free survival: 98.7%, 94.3% and 89%, respectively. The local recurrence rate was 10% and the regional control was obtained in 95 patients (84%). Acute complications during hospitalization occurred in 9.2% of patients. The overall preservation of laryngeal function was 95.4%. **Conclusion:** Our data indicated that SCPL was a well-tolerated procedure with generally good oncologic and functional outcomes.

LC57

PALLIATIVE CARE – TIMING IS EVERYTHING

Dr Caitlin Sheehan

St George Hospital Kogarah, New South Wales, Australia

Although Palliative Care is often thought to be synonymous with end of life care by both practitioners and the community at large, the World Health Organisation defines Palliative Care as “an approach that improves the quality of life of patients and their families facing the problems associated with life-threatening illness”. It goes on to highlight that Palliative Care is applicable “early in the course of illness, in conjunction with other therapies that are intended to prolong life”. While it has been shown in numerous studies across a variety of tumour types that Palliative Care improves patients’ quality of life, a recent study showed that early referral to Palliative Care at point of diagnosis with metastatic lung cancer, was a survival advantage of a comparable magnitude to some of the targeted systemic treatment options. While these findings are yet to be replicated in the context of head and neck cancer, they can be taken as a signal to consider referral for any patient with complex symptoms who could benefit from specialist Palliative Care input. The presentation will highlight the benefits of referral to Palliative care earlier in the course of illness and outline some of the complex pain and symptom issues, caused by the disease or the treatment, in which Palliative Care may offer expertise.



PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

LC19

TOBACCO CONTROL PROGRAM IN INDIA AND ITS IMPACT ON HEAD AND NECK CANCER

Prof Ashok Mohan Shenoy

Kidwai Memorial Inst. of Oncology, Bangalore, India

Tobacco consumption in India has a diverse pattern based on cultural, social, economic and regional influences. Today smokeless tobacco has found its way by means of sophisticated marketing as indigenous betel nut masala ("gutka") a social custom which is ubiquitously prevalent across the Indian subcontinent amongst men and women. According to the index of industrial production data, output of tobacco declined by 12.1% in March 2015 from a year ago. The government's anti-tobacco campaigns, stiff hike in excise duty on cigarettes and penalties for smoking in public spaces has worked in its favour. In the year March 2015 the Indian government earned Rs 18,000 million from tobacco taxes. This is dwarfed by the Rs 1.04 trillion burdens in 2011 of treating ailments related to tobacco consumption estimated by the Health Ministry study last year. The government, has increased the size of pictorial warnings on all forms of tobacco products, banned "gutka" sale in all states, and have passed a legislation to have a ticker tape advisory whenever tobacco product use features in public media. All community medicine departments in medical colleges/ community rural centres have to compulsorily abide by health advisory issued by the Government of India in its public health gazette. While all these trends seem encouraging and indicate that the actual incidence of tobacco use is on the decline, its impact on Larynx cancer control may not be immediately evident in form of hard data until after a decade.

LC89

NEED FOR RELOOK AT PRIMARY SURGERY IN THE INITIAL MANAGEMENT OF T3-4A ADVANCED CANCERS OF THE LARYNX

Prof Ashok Mohan Shenoy

Kidwai Memorial Inst. of Oncology, Bangalore, India

Since the RTOG 91-11 (2003) the management of advanced laryngeal cancers has unequivocally swung towards non-surgical chemo-radiation (CT-RT) with initial evidence of equivalent disease control vis-à-vis total laryngectomy sans the associated "mutilation and functional loss". The 10 year ASCO update of this study with significant attrition of the initially reported overall survival rate (OS) yields little information as to the 30% non disease or treatment related censoring events that have compromised the OS. This scenario differs vastly from superior and sustained control observed after long term follow up of those who had been primarily treated by Surgery +/- adjuvant Radiotherapy. Multidisciplinary tumor boards need to identify other important pre-treatment disease/patient characteristics that can predict "Chemo-radiocurability" and differentiate them from lesions that lend themselves to better loco-regional disease control by primary surgery. Tumor morphometry, extension to deep spaces of larynx, volume measurement by cross sectional radiology as well the diffusion gradient MRI, molecular markers, and functionality of the larynx need to be factored in the decision making process. Those deemed primary surgical candidates need intensive pulmonary therapy and

hypernutrition to ensure a speedy convalescence with early swallowing, speech and pulmonary rehabilitation. In the absence of a Level 1 evidence attesting to superior disease control with CT-RT, speech restoration with supracricoid and near total laryngectomy needs to be reintroduced in the repertoire of primary management of T3-4a larynx cancer and patient should benefit from these less morbid treatment options.

LC99

SPEECH RESTORATIVE SURGERY AS PRIMARY MODALITY IN ADVANCED CANCERS OF LARYNX – NEED WE RETHINK?

Prof Ashok Mohan Shenoy, Prof Bayappa Krishnamurthy Reddy, Dr Tanveer Pasha, Dr Purushottam Chavan, Dr Linu Jaccob, Dr Bindhu Joseph

Kidwai Memorial Inst. of Oncology, Bangalore, Karnataka, India

Partial laryngectomy (hemi/frontolateral /supraglottic/) was advocated traditionally in early T1-2 (also select T3) lesions if resection permitted "safe" preservation of one innervated arytenoid without disrupting continuity of the cricoid cartilage in individuals without pulmonary dysfunction; today it is rarely performed as primary treatment for early lesions. The author recounts his experience in 66 supracricoid laryngectomy (Piquet & Labyle) in more advanced T2b (20), T3 (39) and T4a (7) glottic / supraglottic lesions (considered to be unsuitable for concurrent chemoradiotherapy by Tumor board) achieving a 5 year disease free survival (DFS) of 70% in these lesions with paraglottic space and /or cord fixity. The high level of success depends on careful case selection and aggressive pulmonary and swallowing rehabilitation. In lateralized T3-4a lesions with transcricoid extension, the author strongly recommends that performance of Near Total Laryngectomy (modification of Pearson Technique) based on his experience with more than 250 procedures carried out over three decades. The 5 yr DFS was 68% and overall survival (OS) was 58%. Speech acquisition was noted in 80% with shunt stenosis of 5%, a shunt insufficiency in 12% and stomal stenosis 15%. Fistula and wound infection were encountered in 12% and 18% respectively. Almost 70% of those that underwent near total laryngectomy as a primary procedure required adjuvant radiation therapy which was tolerated without overt problems. The dismal OS recounted in 10 year ASCO update of RTOG 91-11 (Forestiere A.) has prompted the need for this critical re-appraisal and need for treatment individualization.

LC90

PROPHYLACTIC BILATERAL SELECTIVE NECK DISSECTION (SND) IN ADVANCE CARCINOMA LARYNX

Prof Belayat Hossain Siddiquee, Dr MD Mosleh Uddin, Dr MD Abdus Sattar

Bangabandhu Sheikh Mujib Medical University, Dhaka, Bangladesh

Introduction: Treatment of advance carcinoma Larynx (T3&T4) is a condition where lots of controversies are still present. We have treated 108 cases of T3&T4 carcinoma larynx with No neck over twelve years (2001 - 2012). 55 glottic and 53 were supraglottic carcinoma. Method & materials: Surgery done both in primary and irradiated cases. Two types of surgery offered (i) Total Laryngectomy, (ii) Total Laryngectomy + bil. SND (Level-II, III, IV). All the primary cases received postoperative radiotherapy. Few irradiated cases received 2nd course radiotherapy

PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

postoperatively. Total Laryngectomy done in 47 cases (glottic 26, supraglottic 21), total Laryngectomy + bil. SND in 61 cases (glottic 29, supraglottic 32). Surgery done primarily in 51 cases (glottic 23, supraglottic-28) and in 57 irradiated cases (glottic-32, supraglottic-25). **Discussion:** All the cases were followed up for > 2 years, 79 cases > 3 years and 52 cases > 5 years. Recurrence detected in 15 cases of glottic carcinoma, Laryngectomy - 11 (42.31%) and Laryngectomy + bil. SND - 4 cases (13.8%). ($p=0.018$) In supraglottic carcinoma recurrence found in 17 cases, Laryngectomy -11 (52.38%) and Laryngectomy + SND -6 cases (18.75%). ($p=0.016$). **Conclusion:** Prophylactic bilateral SND in advance carcinoma of the Larynx with No neck has significant influence in reducing recurrence.

LC11

LARYNX CANCER IN BANGLADESH

Prof Belayat Hossain Siddiquee, Dr MD Mosleh Uddin,
Dr MD Abdus Sattar, Dr Kazi Shameemussalam,
Dr Syed Farhan Ali Razib, Dr Shafiul Akram

Bangabandhu Sheikh Mujib Medical University, Dhaka, Bangladesh

Laryngeal carcinoma is the commonest head and neck malignancy in Bangladesh. The overall incidence of head-neck carcinoma is 150 person in 100000 population (0.15%) (Siddiquee BH et al, 2006). Among the head-neck cancers, Laryngeal cancer contributes about 25.22 %. In male population this is very high (34.07 %) and in female 11.65 %. Last 10 years data (2005 to 2014) from Head-Neck Oncology clinic, BSM Medical University, Dhaka reveals majority patient present in 6th (44.49%) and 5th (31.34%) decades. 94.12% are Squamous cell carcinoma. Among the new cases, status of primary site lesion at presentation are as follows: T3—42%, T4—31%, T2—15%, T1—12%. Neck node metastasis present in 69.04% patients at presentation. Clinically evident distal metastasis present in 2.40% cases. 36.69% patients were in Stage III and 31.16% in Stage IV during 1st visit. Surgery offered only in 13.69% patients. Rest of the patients were referred for RT/CT. Overall presentation of Larynx cancer in Bangladesh is in advance stages.

LC12

CAN WE MAKE RADIOTHERAPY ANY BETTER IN TREATING LARYNX CANCER

A/Prof Robert Smee

New South Wales, Australia

Larynx Cancer will continue to be treated by radiotherapy, with, where appropriate, high local control rates. There will be increasing emphasis on function as a determinant of an appropriate outcome. Thus leaving an anatomical larynx but one that doesn't function properly to protect against aspiration is not a worthwhile goal. Of concern is that the move towards non-surgical management may result in a lower likelihood of survival. The clinical trial that have been performed have strict eligibility criteria, and extrapolating that population to all patients is not appropriate and may lead to this well quoted lower survival rate. It is important that the Radiation Oncologist recognise the contribution of other treatment approaches. Working in multi-disciplinary groups is likely to provide the best outcome for the patient. This presentation will focus what we do well now, what we don't do well, and how the next 10yrs is likely to develop.

LC58

LOCAL CONTROL IS NO LONGER THE ONLY ENDPOINT

A/Prof Robert Smee, Miss Claire Hanna, Ms Janet Williams

Prince of Wales, New South Wales, Australia

Whilst administrators may judge success as coming in or below an arbitrarily determined budget for a Head & Neck Cancer service, others will have very different definitions of "success". However, a patient will have a very different view of success, it will be "my chance of cure", hopefully with retention of anatomy and function. The discussion of "cure" can be years after treatment with the final admission in retrospect, or at presentation based on published data from other centres, or more responsibly, from that centres prospectively collected data. Components thus of providing the patient with information re the likelihood of success include, commitment to collect and audit data, database management, statistical evaluation and overview of outcomes (publication). This process enables the utilisation of past patients experience to provide information to the next patient regarding: Extent of disease, Utility of investigations, Type of best treatment, Likely benefit to initial treatment, Salvage options, Functional consequences, Risk of subsequent malignancy, Function including input from others involved in managing the patient, i.e., speech therapists and dieticians. The evaluation process to provide this information groups the data into three broad categories: patient, disease, treatment. Following the patient on the management journey helps to define what happens to the patient. The collection of this data over the whole population enables then description of best/worst case scenario for the next patient. Thus, success in this context is judged as providing information that can be deemed a patient related outcome.

LC13

THE FATE OF FOLLOW-UP: "WHEN AM I CURED DOC?"

A/Prof Robert Smee, Ms Janet Williams, Miss Claire Hanna

Prince of Wales, New South Wales, Australia

Given the high smoking rate for patients who present with Larynx Cancer there are significant risks that a patient cured of that cancer may die from some other significant medical event. Using the Prince of Wales Head & Neck Cancer database, all disease sites were scrutinised to determine the Conditional probability of Survival, i.e. the probability of being alive at a specific time point. Thus, for a patient who presents with a larynx cancer and survives to 2 years, there is an 88% chance of survival for another 3-5 years free of recurrent larynx cancer. At 4 years, there is a 95% chance that the patient's larynx cancer is cured. However, the patient only has an 81% chance of being alive at 4 years after initial diagnosis due to impact of other diseases. Other malignancies do occur in these patients with one study reporting that 11% of patients presenting for treatment of a larynx cancer had already had another cancer treated. Subsequent to treatment of the larynx cancer there is progressively increasing likelihood of the cured patients developing another cancer, with 20% of patients at 10 years having developed another cancer with no plateau on this probability curve. Follow-up helps define the fate of the patients treated. It enables documentation of whether the patient is cured by the treatment delivered, whether another cancer occurs, and the impact of previous treatment on treatment of the new cancer, as well as providing a statement on the post-treatment quality of life of the survivor.



PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

LC63

WHEN RADIOTHERAPY CAN'T CURE

A/Prof Robert Smee, Ms Janet Williams, Miss Claire Hanna
Prince of Wales, New South Wales, Australia

A referred patient may have incurable disease following initial treatment or at presentation. At presentation a patient may have incurable disease because of the advanced nature of the disease (e.g. Bulky nodal surrounds the carotid artery or because of significant co-existing medical problems (e.g. severe chronic airways disease). For the former patient, high dose radiotherapy may still provide longer lasting benefit with more likely ultimate progression. For the latter patient, a brief hypo-fractionated course (eg. Quadshot) may provide some limited benefit. More specific clinical circumstances that may warrant palliative radiotherapy include: severe pain from large primary/nodal mass airway obstruction, ulceration/bleeding from peri-stomal recurrence. Temporary benefit may be gained from a short course of treatment. Even single fraction radiotherapy can be useful and can be repeated at a subsequent time. This provides patients with time to spend with family. Sadly there are few quality of life studies evaluating this palliative approach.

LC91

SUPRAGLOTTIC LARYNGEAL CARCINOMAS

A/Prof Robert Smee, Ms Janet Williams, Miss Claire Hanna
Prince of Wales, New South Wales, Australia

Aim: To evaluate a single centres experience with the management of patients presenting with supraglottic laryngeal carcinomas. **Methods:** The Head and Neck database at Prince of Wales Hospital was audited for those who had – initial presentation to POWH with biopsy confirmed SCC of the supraglottic larynx and definitive treatment at this facility. The database contains patient, disease and treatment factors sourced from Hospital notes, referencing doctor's correspondence and cancer registry information. The same powers provided follow-up data. Statistical evaluation is with SPSS using Chi-square association for univariate analysis and Kaplan-Meier Method to estimate survival. **Results:** From 1967-2013, there were 392 eligible patients, 322 (82%) males and 70 (18%) females, of median age 62. Ex-smokers made up 92% of the population. In 95%, cancer was operable with 15% of patients being unfit for surgery even if surgery was not considered, 70% of patients had T2-T3 disease with 40% of patients being node positive. Vocal cords were fixed in 27% of patients. Surgery +/- radiotherapy had local control (LC) of 90% with radiotherapy only a LC rate of 59%. However, all patients who were unfit for surgery and had radiotherapy fared poorly in terms of both LC and cancer specific survival. Patients who had radiotherapy treatment interruption of >1 week did poorly. **Conclusion:** Patients treated by radiotherapy alone fared worse than those patients having surgery, however, the radiotherapy population were not the same as those having surgery.

LC49

PATIENT EQUALITY IS A MYTH

A/Prof Robert Smee, Ms Janet Williams, Miss Claire Hanna
Prince of Wales Cancer Centre, New South Wales, Australia

More typically when outcomes are presented relating to patients with Larynx Cancer (or any Head & Neck [H&N] site), they relate to Disease/treatment factors. Thus, TNM and surgery/radiotherapy factors are revaluated and are deemed to be determinants of an end result. However, this excludes the patient as an outcome influencing variable. Given the variability there can be in determining a patient's physical "wellness", various scoring systems have been developed "rating" patients. The most commonly used system is the Charlson Co-morbidity index (CCI), applicable across all disease sites. A more specific H&N system is the JF Piccirillo developed Washington University H&N Comorbidity Index. This scoring system was validated in an independent H&N population at Leiden University, demonstrating that 36% of 1371 patients had a defined co-morbidity and in 5.5% this was severe. Using a subjective dichotomous "fit or not" format, the H&N database of Prince of Wales Hospital was audited to determine the impact of non-fit on outcome. For disease sites Oral Cavity, Oropharynx, Hypopharynx & Larynx, the surgically unfit patient had a statistically inferior ultimate local control and Cancer Specific Survival. For the Supraglottis this was applicable at univariate and multivariate level. This outcome was validated when the CCI index was applied. Whilst disease stage and treatment have a significant impact upon outcome, a patient presenting with multiple co-morbidities, irrespective of the treatment delivered will have a worse outcome. There is usually insufficient time pre-treatment to modify these factors. Thus a worse outcome for this patient could relate to the patient him/herself rather than the treatment provided.

LC67

STATISTICS & NECK DISEASE

A/Prof Robert Smee, Ms Janet Williams, Miss Claire Hanna
Prince of Wales Hospital, New South Wales, Australia

Lymph node spread in Larynx Cancer occurs in a defined pattern, with knowledge of this pattern able to be used to define treatment approaches. To begin with, the absence of any lymphatics on the vocal cords defines that the likelihood of any nodal disease in a patient with a glottis origin cancer is considerably lower. For patients with Supraglottic origin cancer, lymph node presentation is frequent and patterned. Levels 2 and 3 are the more likely sites involved with level 4 less likely. Levels 1 & 5 are infrequently involved. The spread may be bilateral. Utilising conditional probability statistical evaluation the likelihood of lymph node combinations can be evaluated. This can then influence where treatment is directed avoiding unnecessary extension of treatment. Thus if level 2 is involved, there is high likelihood of level 3 being involved. If level 3 is involved, then there is significant risk of level 4 being involved. However, if level 3 is not involved, then the likelihood of level 4 involvement is very low. The same methodology can be used to determine the risk of contralateral nodal disease. The number of patients with Level 1 involvement is very low thus for both

PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

surgery and radiotherapy this can then spare the submandibular salivary glands. Basing the nodal sites to be treated on the actual sites involved rather than as anatomical lymph node groups renders it more relevant as to how patients present and require treatment.

LC14

OUTCOMES OF LARYNGEAL CANCER CARE IN THE ELDERLY AND THE IMPACT OF SPEECH PATHOLOGY CARE

Mrs Heather Starmar, Dr Harry Quon, Mrs Donna Tippet, Ms Kimberly Webster, Mrs Marissa Simpson, Dr Christine Gourin
Johns Hopkins University, Maryland, United States of America

Purpose: To examine associations between Speech-Language Pathology (SLP) care and pretreatment variables, short-term and long-term swallowing and airway impairment, and survival in elderly patients treated for laryngeal squamous cell carcinoma (SCC). **Methodology:** We evaluated longitudinal data from the Surveillance, Epidemiology, and End Results (SEER) Medicare database for 2,370 patients diagnosed with laryngeal SCCA from 2004-2007 using cross-tabulations, multivariate logistic regression, and survival analysis. **Results:** SLP care was documented in 24% of patients. Pretreatment tracheostomy tube, total laryngectomy, and dysphagia during treatment were the only significant predictors of SLP care during the initial treatment period. SLP care was significantly more likely during the first year and second year following initial treatment. Pretreatment tracheostomy tube placement, initial treatment with total laryngectomy, dysphagia, stricture, interval tracheostomy tube placement and salvage surgery were significantly associated with long-term SLP care. After controlling for patient, tumor, and treatment-related variables, SLP care was associated with significant relative reductions in the risk of dysphagia (50%), stricture (26%), weight loss (20%), and pneumonia (21%). **Conclusions:** SLP care is underutilized in elderly laryngeal SCCA patients and largely reserved for select patients in anticipation of total laryngectomy or after the onset of impaired airway and swallowing function. SLP care, however is associated with improved outcomes. These data suggest a need for treatment guidelines that incorporate the routine use of SLP care during the initial treatment period and beyond.

LC91

SYSTEMIC THERAPY: SOMETIMES GOOD VALUE, SOMETIMES LOW COST

Dr Brian Stein

Adelaide, South Australia, Australia

The European Society for Medical Oncology (ESMO) has recently published guidelines on the value of medical oncology therapies[1]. Using this metric we find that the addition of cisplatin and cetuximab to radiotherapy in the curative setting to be of high value [grade A], but the addition of cetuximab to cisplatin-fluorouracil is of grade 2 in a scale from 1 to 4, 4 being most valuable. The data-set on the use of any palliative therapy versus supportive care alone is very limited; it is likely that palliative chemotherapy is of grade 2, or perhaps 3. The question of cost for this value naturally arises. All closed finite systems, such as the Earth, involve limits on resources. Health systems are thus guaranteed to involve unmet needs. The trivial question is

to find unmet needs, the deeper question is how to prioritise them and how to value potential solutions. Several countries have decided on a cost threshold for the latter, typically choosing about a year of renal dialysis [a universally provided service in such countries] as a benchmark of willingness to pay. Using such a system, Australia provides cetuximab essentially free for curative treatment [a "good" value treatment] but provides no reimbursement for its use in the recurrent metastatic setting [a "poor value" therapy at AU\$200 000/year of life]. Resource poor countries have pointed out interesting options for low cost regimens such as the Tata metronomic chemotherapy protocol, and the idea of repurposing drugs fits into this niche. [1] Cherny Ann Oncol 2015

LC06

AVOIDING DIMINISHING RETURNS FROM AGGRESSIVE THERAPY: LESSONS FROM GERIATRIC ONCOLOGY

Dr Brian Stein

Adelaide Cancer Centre, South Australia, Australia

Addition of chemotherapy to radiation in HNSCC is associated with improved outcomes, but there is no free lunch. Toxicity is doubled, and 2--9% die from or during such treatment. This is associated with a gradient of decreasing effect with age, so by 70 benefits in the general HNSCC trial population disappear. The basic view from a geriatric oncology perspective is that age is a surrogate marker for more fundamental issues that correlate more closely with outcome and toxicity. Frailty and co-morbidity both rise significantly with age: the former associated with chemotherapy toxicity and both with surgical morbidity. The intemperate living of many with HNSCC leads to the commonplace observation that a 60 year old with larynx cancer is more akin to a 75 year old with bowel cancer, accelerating this gradient of intolerance. Individual centres have reported excellent tolerance and good results through to major difficulties in completion of treatment in keeping with the expected heterogeneity of the unselected elderly. The central issue is can we do a better job of picking those likely to benefit from aggressive treatment than by looking at their age? Use of geriatric assessment tools can predict the risk of chemotherapy toxicity. Adequate assessment of the H&N patient over 60 requires consideration of the geriatric variables of independence, cognition, nutrition, mobility and falls, polypharmacy and drug interactions as well as performance status. Such geriatric variables also predict surgical outcomes, but have scarcely been examined in radiation therapy.

LC71

VOICE OUTCOMES FOLLOWING TRANSORAL LASER MICROSURGERY FOR EARLY GLOTTIC CANCER – CONSIDERING SIGNAL TYPE AND SMOOTHED CEPSTRAL PEAK PROMINENCE

Dr Catherine Madill, Ms Danielle Stone, Dr Patricia McCabe, Dr Carsten E Palme, Dr Robert Heard, Dr Faruque Riffat

The University of Sydney, New South Wales, Australia

Objectives/Hypotheses: This study investigated voice outcomes following Transoral laser microsurgery (TLM) for early glottic carcinoma (EGC), using acoustic measures validated for aperiodic voices. It was hypothesized the majority of participants would



PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

have signal types unsuitable for perturbation analysis. As an alternative, smoothed cepstral peak prominence was used for the first time in this population. **Methods:** All medically fit patients presenting for primary treatment for early glottic carcinoma were included. Participants performed a series of vocal tasks. Narrowband spectrograms were generated and classified into one of four signal types. Only periodic or near-periodic signals underwent perturbation analysis. Smoothed cepstral peak prominence for sustained vowel (CPPS-/a/) and connected speech (CPPS-s) was calculated. The relationship between voice outcomes and surgical variables was investigated. **Results:** Nine of 14 participants had an aperiodic type 3 signal. Three of the 14 had voices considered reliable for perturbation analysis. Absolute jitter, % jitter, % shimmer and signal to noise ratio were all low; however, CPPS-/a/ and CPPS-s amplitudes were below the normal range for most participants. Involvement of the anterior commissure, number of TLM episodes and time post surgery were associated with worse voice outcomes. There were strong correlations between signal type and CPPS-/a/. **Conclusion:** The limitations of perturbation analysis should be considered when analyzing the voice following TLM. Signal type should be considered prior to conducting perturbation analysis and CPPS-/a/ and CPPS-s may be more reliable acoustic outcome measures for this population.

LC51 VOICE-SPECIFIC AND HEALTH-RELATED QUALITY OF LIFE FOLLOWING TRANSORAL LASER MICROSURGERY FOR EARLY GLOTTIC CANCER

Ms Danielle Stone, Dr Patricia McCabe, Dr Cate Madill, Dr Carsten Palme, Dr Robert Heard, Dr Edwin Yiu
The University of Sydney, New South Wales, Australia

Purpose: This study examined voice-specific and health-related quality of life (QoL) following transoral laser microsurgery (TLM) for early glottic cancer (EGC), considering the International Classification of Impairments, Activities and Participation (ICIDH-2) framework and the relationship between QoL domains. The potential impact of number of laser episodes and extent of resection on QoL were investigated. **Methodology:** A cross-sectional, descriptive study of 16 participants with Tis-T2 glottic cancer treated with TLM completed the Voice Activity and Participation Profile (VAPP) and the Functional Assessment of Cancer Therapy-General (FACT-G). QoL scores were compared with normative data. The correlation between QoL domains and between the ICIDH-2 components of impairment, activity, and participation was measured. The relationships between QoL and extent and number of laser resections were also investigated. **Results:** Voice-specific and health-related QoL were comparable to normative data. There were no significant correlations between QoL constructs or the ICIDH-2 components of impairment, activity, and participation. QoL was favorable despite extent of resection, but a higher number of resections were associated with worse voice-specific QoL. **Conclusion:** QoL is favorable in patients following TLM for EGC, despite voice impairment and extent of resection. Given the unique information each construct provides, multidimensional QoL evaluation facilitates deeper understanding of patient-perceived outcomes following TLM. Number of laser resections may be more relevant than extent of resection when considering postoperative QoL.

LC59 HIGHLIGHTING 14 YEARS OF THE FIRST COMPOSITE MULTI-ORGAN HEAD AND NECK

Dr Marshall Strome

Mount Sinai New York, New York, United States of America

Transplant Featured will be data detailing the clinical course of our patient. Videos will document the time related changes in laryngeal anatomy and voice quality. Thyroid and parathyroid anatomy and functional correlates will be outlined. The clinical effects of chronic rejection will be sequenced and end stage chronic rejection histology presented. A program will be outlined that has the potential to enable laryngeal transplantation following extirpation for cancer. Highlighted will be pulsing regimens, the impact of immature dendritic cells and the integration of Everolimus. Concluding the attendees will have an understanding of what the future for head and neck transplantation holds.

LC62 BENEFITS AND DRAWBACKS OF OPEN PARTIAL HORIZONTAL LARYNGECTOMIES: EARLY-INTERMEDIATE STAGE GLOTTIC CARCINOMA

Prof Giovanni Succo, Dr Erika Crosetti, Dr Andy Bertolin, Dr Marco Lucioni, Dr Alessandra Caracciolo, Dr Giuseppe Rizzotto
Otorhinolaryngology Service, Department of Oncology, Turin, Italy

Background: Laryngeal squamous cell carcinoma (SCC) accounts for 1.9% of cancers worldwide. Most of these (up to 60%) are diagnosed in the early stages (T1-T2, N0). For these, a larynx preserving/conserving option is preferable. Beyond transoral laser microsurgery (TLM), open partial horizontal laryngectomy (OPHL) is a function-sparing surgical technique used to treat laryngeal SCC. **Methods:** We retrospectively analyzed the clinical outcomes of 216 patients who underwent OPHL for glottic cT2 laryngeal cancer between 1995 and 2011. **Results:** Five-year overall survival, disease-specific survival, locoregional control, local control, laryngeal function preservation, and laryngectomy-free survival rates were 93.1%, 98.0%, 97.1%, 97.5%, 97.8% and 98.5%, respectively. Disease controls were significantly affected by previous treatment and type of surgery employed. **Conclusions:** Although TLM for cT2 laryngeal cancer with unimpaired vocal cord mobility still represents a sound option, OPHL with a modular approach offers higher local control and laryngeal preservation rates for selected patients with impaired mobility of vocal cords combined with involvement of the paraglottic space.

LC64 BENEFITS AND DRAWBACKS OF OPEN PARTIAL HORIZONTAL LARYNGECTOMIES: INTERMEDIATE AND SELECTED ADVANCED STAGE LARYNGEAL CARCINOMA

Prof Giovanni Succo, Dr Erika Crosetti, Dr Andy Bertolin, Dr Marco Lucioni, Dr Giulia Arrigoni, Dr Giuseppe Rizzotto
Otolaryngology Service, Oncology Department, San, Turin, Italy

Background: Cancer of the larynx in the intermediate/advanced stage still presents a major challenge in terms of controlling the disease and preserving the organ. Among therapeutic options, open partial horizontal laryngectomy (OPHL) is proposed as a function-sparing surgical technique. **Methods:** We analyzed the clinical outcomes of 555 patients with laryngeal cancer

PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

staged pT3⁺CpT4a who underwent OPHL. **Results:** 5-year overall survival, disease-free survival, locoregional control, local control, laryngectomy-free survival and laryngeal function preservation rates were 84.6%, 84.2%, 86.3%, 90.6%, 93.3% and 91.2%, respectively. Disease-free survival, locoregional control and laryngeal function preservation rates were significantly affected by pT4a staging (68.1%, 71.7% and 78.0% respectively), while pN+ influenced only disease-free survival (iü72.6%) and locoregional control (iü79.6%). **Conclusions:** OPHL with a modular approach can be considered effective in terms of prognostic and functional results in intermediate stage and selected advanced stage laryngeal cancers, even with subglottic extension.

LC61

TELEPHONIC VOICE INTELLIGIBILITY: DOES THE THERAPEUTIC APPROACH MAKE A DIFFERENCE? A COMPARISON STUDY

Prof Giovanni Succo, Dr Erika Crosetti, Dr Marco Fantini, Dr Alessio Atzori, Os, Mt Agata Lombardo, Dr Antonio Schindler
Otorhinolaryngology Service, Department of Oncology, Turin, Italy

Background: Different therapeutic approaches for larynx cancer can determine voice alterations affecting patient's quality of life. The study aims to investigate telephonic voice intelligibility in patients treated with different therapies. **Methods:** 90 patients were randomly recruited. 20 had undergone radiotherapy alone (RT) or chemo-radiotherapy (CT/RT); 70 had been treated with various types of surgery: total laryngectomy (TL), open partial horizontal laryngectomies (OPHL type I – III) and transoral laser microsurgery (TLM). Each patient was asked to read a randomly selected list, 20 words and 5 brief sentences, during a telephone call. Four trained normal hearing listeners wrote down the words and the sentences they understood. **Results:** Regarding words, the worst intelligibility rate was found for patients who underwent type II OPHLs (50,5%), followed by TLs (66%). The best intelligibility rate was found for patients who underwent TLM (94,1% and 89,6% respectively), followed by RT (88,6%). Regarding sentences, the worst intelligibility rate was found for patients who underwent type II OPHLs (55,9%), followed by RT+CT (74,2%). The best intelligibility rates were found for patients who underwent RT (98,4%) and TLM (98,2% and 96% respectively). **Conclusions:** Surgery such as TL, but also type II-III OPHLs, as well as organ-sparing protocols with RT+CT correlate with significantly worse outcomes. TLM or RT alone ensure significantly best outcomes in terms of telephonic voice intelligibility.

LC03

IMPROVEMENT OF THE RADIOTHERAPY OUTCOME BY USE OF ADVANCED TECHNIQUES

Prof Chris H. J. Terhaard

UMC Utrecht, Netherlands

Accelerated radiotherapy, combined chemoradiation or incorporation of biology in the treatment, all may improve the outcome of radiotherapy. However, before a treatment will be planned the gross target volume (GTV) should be indicated. The weakest link in the chain at this moment is the drawing of the tumour by the radiation oncologist. Advanced imaging techniques, in the future possibly matching of virtual laryngoscopy by CT or MRI with endoscopic laryngoscopy, may increase the accuracy of the delineation of the GTV. Since

the final planning target volume (PTV) is 5 to 10 times larger than the GTV, exact delineation of the GTV is essential. Besides, laryngeal tumors will move during the treatment. An estimation of the extent of this movement may be gained by pre-treatment 4D CT scanning or cine MRI. Based on these data an extra margin should be added. Ideally imaging during radiotherapy should be used to record and to compensate for this motion. The combination of MR imaging during radiotherapy, in the future, may enable smaller margins and adaptive radiotherapy (for instance based on diffusion weighted MRI) during treatment. On the one hand smaller margins may result in fewer complications, on the other hand adaptive radiotherapy may lead to higher cure rates. Nowadays there is increased interest in the use of protons in radiotherapy. In silico planning with pencil beam proton therapy indicate a possible decrease in swallowing and salivary NTCP. However, the depth of the Bragg peak strongly depends on the density of the tissues. In laryngeal cancer the airtightness of the laryngeal region may differ from fraction to fraction. This requires daily online imaging, what at this moment is not available in proton treatment facilities.

LC18

THE IMPORTANCE OF VALIDATION OF CURRENT AND NEW IMAGING TECHNIQUES FOR TUMOR DELINEATION AND TUMOR GUIDANCE DURING RADIOTHERAPY

Prof Chris H. J. Terhaard

UMC Utrecht, Netherlands

Intensity modulated radiotherapy (IMRT) makes it possible to treat laryngeal cancer more precisely, and to better spare the normal structures at risk, as is demonstrated in many studies. This makes an accurate delineation by the radiation oncologist of the tumor (GTV), an accurate knowledge of the presumed subclinical spread of the tumor, and a valid delineation of the critical structures, a crucial part in the planning of the radiotherapy of the patient. In most institutes only planning CT-scans are used for delineation purposes. However, functional information obtained from FDG-PET and anatomical and functional information of MRI might improve the accuracy of the delineation. MRI has the advantage that the soft tissues are more visible compared to CT. Here, it is crucial that the interpretation of the new images obtained from the MRI scan can be verified with the help of the gold standard: tissue examination. In Utrecht CT, MRI and FDG PET scans are made in the radiation mask. The value of using imaging to determine the GTV can be demonstrated in comparative studies. In Utrecht, for 30 patients who had their larynx removed because of cancer, PET, CT and MRI images had been linked to tissue examination. Before surgery, the scans were made in a radiation mask. After surgery, before and after fixation, a CT scan was made of the specimen. The specimen was sliced and the slices were linked to the images of the CT, MRI and FDG-PET scans. A pathologist has drawn the tumour on the specimen. Two radiation oncologists and a radiologist have drawn on the CT and MRI images. GTV delineation of FDG-PET images was automatically performed. Results of the study will be shown. Tumor and inflammation reaction are probably easier to distinguish with MRI than with CT. On the basis of the link of the discovered tumour expansion in the specimen to signal intensity differences discovered with MRI, guidelines are drawn up to guide the radiation oncologist when drawing the tumour. The increased precision of the radiation also requires more precise control of the radiation setting at the time



PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

the patient is effectively undergoing radiation treatment. This will become possible in the near future, thanks to the introduction of the MRI accelerator. The combination of a MRI (1.5 Tesla) and the accelerator makes online monitoring possible of the tumour, normal structures as salivary glands and swallowing muscles, and motion during radiation treatment. The treatment delivery may be adapted based on these findings. By optimal use of imaging, the margins used with radiotherapy of head and neck tumours can be made smaller. In addition, improvement of radiation technology and putting into service the MRI accelerator will lead to better cures for head and neck tumours, with fewer complications.

LC73

SELECTION FOR PRIMARY RADIOTHERAPY

Prof Chris H. J. Terhaard

UMC Utrecht, Netherlands

Preservation of a natural voice and swallowing function are the main objectives in the treatment of glottis cancer. For early glottic cancer radiotherapy and endoscopic laser surgery results in equal cure rates. For superficial T1a glottic cancer in general laser is the preferred treatment, with radiotherapy as a good alternative. However, for more bulky lesions more extensive laser treatment results in worse voice quality, involvement of the anterior commissure to increased recurrence rates. In general, the determination of the extension and volume of early glottic cancer is difficult with CT. The possible value of high quality MRI images in these cases will be shown. In many institutes for the radiation of early glottic cancer conventional wide field techniques are used. However, with IMRT and or stereotactic techniques with image guidance much smaller fields may be used, with shorter treatment time and less toxicity. For the intermediate stage glottis cancer primary, accelerated, radiotherapy is generally accepted as treatment of choice. For T4a advanced glottic cancer primary (chemo)radiotherapy may still be considered, unless there is extensive involvement of the cartilage and/or no function of the larynx before treatment. Even with accelerated radiotherapy alone the Dutch ARCON study showed an 80% local cure rate, independent of tumor volume. In the Netherlands most T3 glottic cancers are treated with accelerated radiotherapy, some centers add chemotherapy in case of a volume of >3 cc. In case of nodes >3cm and/or extranodal extension, seen on CT-and or MRI, chemotherapy will be added in most centers. Results of the use of an accelerated fractionation schedule of 69.5 Gy in 5 weeks in Utrecht¹ will be presented. 1 Terhaard CH, Kal HB, Hordijk GJ. Why to start the concomitant boost in accelerated radiotherapy for advanced laryngeal cancer in week 3. *Int J Radiat Oncol Biol Phys.* 2005 May 1;62(1):62-9.

LC27

VOCAL FOLD MECHANIOBIOLOGY, WOUND HEALING AND STEM CELLS

Dr Susan Thibeault

University of Wisconsin, Wisconsin, United States of America

It is well known that the biomechanical microenvironment of a tissue is a potent mediator of wound healing and cell differentiation. Both fibroblasts and mesenchymal stem cells (MSC) have been shown to alter their behavior in response to biomechanical stimuli; the mechanosensitivity of MSC can

alter highly relevant aspects of their behavior. Currently little is known about how vocal fold fibroblasts (VFF) or MSC respond to biomechanical forces found in the larynx during periods of health, injury, or repair because of the lack of appropriate models. Candidate cell sources for vocal fold scar treatment include MSC from bone marrow (BM-MSC) and adipose tissue (AT-MSC). Utilizing an optimized bioreactor that can expose cells to vibration up to 1000 Hz, amplitudes of 1-2 mm and accelerations of 200-300 G, we can evaluate MSC as a potential cell source for vocal fold tissue engineering in a mechanically relevant context. Using a vibratory strain bioreactor and cDNA microarray we evaluated the similarity of AT-MSC and BM-MSC to the native cell source, vocal fold fibroblasts (VFF). Posterior probabilities for each of the microarray transcripts fitting into specific expression patterns were calculated, and the data were analyzed for Gene Ontology (GO) enrichment. Significant wound healing and cell differentiation GO terms are reported. Additionally, proliferation and apoptosis were evaluated with immunohistochemistry. Results revealed that VFF shared more GO terms associated with epithelial development, extracellular matrix (ECM) remodeling, growth factor activity, and immune response with BM-MSC than with AT-MSC. Similarity in glycosaminoglycan and proteoglycan activity dominated the ECM analysis. Analysis of GO terms relating to MSC differentiation toward osteogenic, adipogenic, and chondrogenesis lineages revealed that BM-MSC expressed fewer osteogenesis GO terms in the vibrated and scaffold only conditions as compared to polystyrene. Immunostaining for Ki67 and cleaved caspase 3 did not vary with cell type or mechanical condition. We conclude that VFF may have a more similar wound healing capacity to BM-MSC than to AT-MSC in response to short-term vibratory strain. Furthermore, BM-MSC appear to lose osteogenic potential in the vibrated and scaffold only conditions as compared to polystyrene, potentially attenuating the risk of osteogenesis for in vivo applications. The genomic characterization of VFF, AT- and BM-MSC in response to mechanical stimuli provides us with a better understanding of their ultimate behavior. Furthermore, determination of genotypes of unstimulated and stimulated human VFF from multiple cell lines will inform innumerable, far-reaching areas of vocal fold biology.

LC83

TRENDS IN TREATMENT AND SURVIVAL OF ADVANCED LARYNX CANCER: A 20-YEAR POPULATION-BASED STUDY IN THE NETHERLANDS

Miss Adriana Timmermans, Dr Boukje Van Dijk, Dr Lucy Overbeek, Dr Marie-Louise Van Velthuysen, Prof Frans Hilgers, Prof Michiel Van Den Brekel

Netherlands Cancer Institute, Amsterdam, Netherlands

Purpose: Determining time trends for primary treatment modalities in advanced larynx cancer, overall survival (OS) and laryngectomy-free interval (LFI) over the last two decades in the Netherlands. **Methodology:** Analysis of T3-4 larynx cancer data from two national (one population-based, and one pathology-based) cancer registries. **Results:** 2,072 (14.7%) T3, and 1,722 (12.2%) T4 cases were identified. Total laryngectomy (TL) as primary treatment modality decreased, whereas radiotherapy (RT) increased. For T3 disease, 5-year OS after primary TL (+/- adjuvant RT), RT and chemo-radiotherapy (RT-CT) was 49%, 47% and 45% respectively. For T4 this was 48%, 34% and 42% (overall

PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

$p < 0.0001$) respectively. 5-year LFI for T3 were 81% (RT) and 77% (RT-CT), and for T4 81%, and 87%, respectively. **Conclusion:** From 1991-2010 TL as primary treatment modality for advanced larynx cancer decreased and RT increased. T3 disease showed similar survival rates for all primary treatment modalities. For T4 disease TL (+adjuvant RT) showed the best survival.

Conflict of Interest Declaration: The Department of Head and Neck Oncology and Surgery of The Netherlands Cancer Institute receives an unrestricted research grant from Atos Medical, Sweden.

LC35

ASSESSMENT OF TUMOR VOLUME AS PROGNOSTIC FACTOR FOR LOCAL AND LOCO-REGIONAL CONTROL, AND OVERALL SURVIVAL IN ADVANCED LARYNX CANCER

Miss Adriana Timmermans, Dr Charlotte Lange, Dr Erik Van Werkhoven, Dr Olga Hamming-Vrieze, Prof Frans Hilgers, Prof Michiel Van Den Brekel

Netherlands Cancer Institute, Amsterdam, Netherlands

Purpose: Tumor volume has been postulated to be an important prognostic factor for oncological outcome after radiotherapy or chemoradiation. This postulate was retrospectively investigated in a consecutively treated cohort of T3-T4 larynx cancer patients. **Methodology:** Of 182 patients with T3-4 larynx cancer (1999-2008), pre-treatment CT and MRI scans of 166 patients were available for tumor volume delineation. Patients were treated with radiotherapy (RT), chemoradiotherapy (CCRT) or total laryngectomy (TL) with postoperative RT (PORT). Both a dedicated head and neck radiologist and the first author determined all tumor volumes. Statistical analysis: Kaplan-Meier plots and Cox proportional hazard models. **Results:** Patients with T3 larynx cancer had significantly smaller tumor volumes than patients with T4 larynx cancer (median: 8.1 cc respectively 15.8 cc; $p < 0.0001$). Neither in the group treated with RT, nor in the group treated with TL+PORT an association between tumor volume and local, loco-regional control or overall survival was found with univariable and multivariable analyses. In the CCRT group however, a significant impact of tumor volume was found on local control (HR 1.07 (95% CI 1.01-1.13; $p = 0.028$)). No significant cut-off point was found by a systematic search over the range of possible volumes. **Conclusion:** tumor volume was not significantly associated with local control, loco-regional control or overall survival for patients with T3-T4 larynx cancer treated with TL or RT. However, in patients treated with CCRT a significant impact of tumor volume on local control was found.

Conflict of Interest Declaration: The Department of Head and Neck Oncology and Surgery of The Netherlands Cancer Institute receives an unrestricted research grant from Atos Medical, Sweden.

LC55

BIOFILM FORMATION ON THE PROVOX ACTIVEVALVE: COMPOSITION AND INGROWTH ANALYZED BY ILLUMINA PAIRED-END RNA SEQUENCING, FLUORESCENCE IN SITU HYBRIDIZATION, AND CONFOCAL LASER SCANNING MICROSCOPY

Miss Adriana Timmermans, Dr Hermie Harmsen, Dr Marcus De Goffau, Prof Michiel Van Den Brekel, Prof Frans Hilgers, Prof Bernard Van Der Laan

Netherlands Cancer Institute, Amsterdam, Netherlands

Purpose: The most frequent cause of voice prosthesis failure is microbial biofilm formation on the silicone valve, leading to

destruction of the material and transprosthetic leakage. The Provox ActiValve valve is made of fluoroplastic, which should be insusceptible to destruction. The purpose of this study was to determine if fluoroplastic is insusceptible to destruction by Candida species. **Methodology:** Thirty-three dysfunctional Provox ActiValves (collected 2011-2013). Biofilm analysis was performed with Illumina paired-end sequencing (IPES), assessment of biofilm-material interaction with fluorescence in situ hybridization (FISH), and confocal laser scanning microscopy (CLSM). **Results:** IPES ($n = 10$) showed that Candida albicans and Candida tropicalis are dominant populations on fluoroplastic and silicone. Microbial diversity is significantly lower on fluoroplastic. Lactobacillus gasseri is the prevalent bacterial strain on most voice prostheses. FISH and CLSM ($n = 23$): in none of the cases was ingrowth of Candida species present in the fluoroplastic. **Conclusion:** Fluoroplastic material of Provox ActiValve seems insusceptible to destruction by Candida species, which could help improve durability of voice prostheses.

Conflict of Interest Declaration: The Department of Head and Neck Oncology and Surgery of The Netherlands Cancer Institute receives an unrestricted research grant from Atos Medical, Sweden. Atos Medical paid for the biofilm analyses used in this study.

LC31

VIDEOLARYNGOSCOPY – DIFFICULT & IMPOSSIBLE AIRWAYS Prof André van Zundert

Royal Brisbane & Women's Hospital, Queensland, Australia

The use of videolaryngoscopy has revolutionized airway management during anaesthesia and showed clear advantages over classic direct laryngoscopy. Advantages include a much larger angle of view; more successful laryngoscopies and endotracheal intubation; less need for adjuncts; potentially creating less trauma for teeth and mucosae; more successful in patients with normal and difficult airways (neck immobility, limited oral access, acute oral infections, oral carcinomas); less haemodynamic responses during endotracheal intubation; and a better profile for teaching, learning and monitoring purposes. Years of experience with the use of different videolaryngoscopes proved – in our hands – that indirect non-channeled videolaryngoscopes with Macintosh blade designs are safe and effective devices in the overall majority of patients that need an endotracheal intubation. The recording options (videoclips and still images) are added values for teaching, research and reporting features for all anaesthetists. We report the merits of videolaryngoscopy in some of our patients with difficult airways.

LC03

ENTERAL FEEDING AND THE HEAD AND NECK CANCER PATIENT – A SINGLE CENTRE'S EXPERIENCE

Miss Belinda Vangelov, Miss Claire Hanna, A/Prof Robert Smee
Prince of Wales Hospital, New South Wales, Australia

It has been well established that patients with head and neck cancer are at increased risk of malnutrition. In many patients, oral nutrition may be inadequate to meet nutritional requirements and tube feeding may be required as a result of nutrition impact symptoms of treatment eg: dysphagia and odynophagia, potentially leading to dehydration and/or significant weight loss during or following treatment. There are risks associated with the insertion of feeding tubes, however these are often outweighed with the benefits eg: prevention of malnutrition,



PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

reduced weight loss, reduced hospital admissions. The optimal method of feeding remains unclear and whether tubes should be inserted as a prophylactic measure or reactively as needed, remains a debated subject within our institution. Currently at Prince of Wales Hospital, there are no standardised guidelines or established criteria for prophylactic gastrostomy tube placement, and the decision is made on an individual basis depending on clinical presentation. At present, patients who are more likely to be considered for a prophylactic tube are those with oropharyngeal tumours about to commence concurrent chemoradiotherapy and will have bilateral neck nodes treated. However, not all patients proceed to having a tube inserted prior to treatment. A large 10 year retrospective review is being conducted to investigate current enteral feeding practices in patients who have received radiotherapy +/- chemotherapy/surgery, compare nutritional outcomes with the use of different feeding methods and determine whether trends or variables exist that can be used as valid predictors for the need for a feeding tube in this patient population.

LC60

WEIGHT LOSS IN PATIENTS WITH LARYNX CANCER UNDERGOING RADIOTHERAPY – SHOULD WE BE MORE CONCERNED?

Miss Belinda Vangelov, Miss Claire Hanna, A/Prof Robert Smee
Prince of Wales Hospital, New South Wales, Australia

Purpose: Patients with laryngeal cancer undergoing radiotherapy are generally thought to be at less risk of weight loss during treatment as nutrition impact symptoms seem to be less severe, especially in those with early stage (T1/T2) cancer. The use of enteral feeding during and post treatment is not common. Current nutrition surveillance of patients with larynx cancer is less frequent in our institution than those with other head and neck tumours. This study aims to investigate whether significant weight changes occur in this population, the use of enteral feeding and the potential impact on disease specific survival (DSS). **Methodology:** This study is a retrospective review of patients who received radiotherapy +/- chemotherapy at the Prince of Wales Hospital as a primary or adjuvant treatment for larynx cancer between 2005-2014. Parameters of pre-treatment weight loss, weight changes during treatment and at intervals up to 6 months post treatment, use of enteral feeding, and follow up status were analysed. **Results:** Of the 120 patients in the study, 63% had early stage disease (T1/T2) with the majority being glottic tumours (73%). Patients with T2 and T3 tumours were more likely to lose >5% of their body weight (BW) during treatment ($p < 0.05$) with the mean loss being highest in the T3 group (4.5%BW loss). There was a correlation between DSS and a weight loss >5%BW during treatment ($p < 0.05$). Reactive enteral feeding was used in 13% of patients and was associated with a reduction in the likelihood of DSS ($p = 0.003$). **Conclusion:** Significant weight loss (>5%BW) during radiotherapy in patients with larynx cancer should be of concern and more regular nutritional monitoring, especially in patients with T2/T3 tumours, is recommended.

LC62

THE STOMA AFTER A TOTAL LARYNGECTOMY, ARE THERE FACTORS THAT INFLUENCE A GOOD OUTCOME?

Dr Eddy Wy Wong, Dr Sk Ng, Dr Jason Yk Chan,
Prof C Andrew Van Hasselt, Dr Alexander Vlantis

The Chinese University of Hong Kong, Hong Kong, Hong Kong

Purpose: To analyze factors that influence the long term outcome of a laryngectomy stoma **Methodology:** A retrospective medical chart review at an academic hospital in Hong Kong was done. Patients who underwent a total laryngectomy for laryngeal carcinoma between January 2000 and December 2014 were identified from the department database. **Results:** Eight two patients (M:F 75:7) with a mean age of 67 years (range 41 to 93 years) were included in the study. Thirty five of the patients had undergone prior radiotherapy. Seventeen patients had a tracheostomy at the time of laryngectomy. The tumour was glottic in 37 patients, transglottic in 22, supraglottic in 17 and subglottic in 6. The T-stages were T1-5, T2-7, T3-27 and T4-43. Twenty five patients had nodal disease. Twelve patients developed stomal stenosis, 7 had previous radiotherapy and 2 a tracheostomy. Six underwent a stomoplasty and all required a stomavent at some point in time. The stoma had been fashioned as a star as in two patients and silk had been used as opposed to our usual monofilament nylon in 2 patients. **Conclusion:** An adequate laryngectomy stoma is the ideal, allowing for tube free living while facilitating voice rehabilitation. In this series, 14% of patients developed a stenosis requiring intervention. Initially interdigitating the stoma or using silk may contribute. Meticulous surgical technique and postoperative stomal care are essential to ensure a satisfactory outcome.

LC95

PRIMARY PHARYNGEAL CLOSURE AND ITS MANAGEMENT AFTER TOTAL LARYNGECTOMY

Dr Eddy Wy Wong, Dr Sk Ng, Prof C Andrew Van Hasselt,
Dr Alexander Vlantis

The Chinese University of Hong Kong, Hong Kong, Hong Kong

Purpose: To analyze the management and outcome of primary pharyngeal closure in patients undergoing a total laryngectomy. **Methodology:** A retrospective medical chart review at an academic hospital in Hong Kong was done. Patients with laryngeal carcinoma who underwent a total laryngectomy and primary closure of the pharynx between January 2000 and December 2014 were identified from the department database. **Results:** Eight two patients (M:F 75:7) with a mean age of 67 years (range 41 to 93 years) were included in the study. Thirty five of the patients underwent the laryngectomy as salvage after previous radiotherapy. The tumour was glottic in 37 patients, transglottic in 22, supraglottic in 17 and subglottic in 6. The T-stages were T1-5, T2-7, T3-27 and T4-43. Twenty five patients had nodal disease. The primary pharyngeal closure was vertical in 87% of cases and 2 layers in 66%. Fifty seven patients had a water soluble contrast swallow between 1-3 weeks postoperatively to assess the integrity of the pharyngeal repair prior to resuming an oral diet. **Conclusion:** In patients undergoing a total laryngectomy, the pharynx can be closed primarily where adequate pharyngeal mucosa remains. Our usual

PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

practise of using a vertical running Connell suture to close the mucosa reinforced with a second running suture through the fascia results in a low fistula rate of 10% in the first postoperative month and an eventual pharyngeal stricture rate requiring dilatation of 6% in this series.

LC44

OFFICE-BASED SECONDARY TRACHEOESOPHAGEAL PUNCTURE USING TRANSNASAL ESOPHAGOSCOPY

Dr David Vokes, Dr Silvia Marinone, Dr Bren Dorman

Auckland City Hospital, Auckland, New Zealand

Purpose: To determine the efficacy of office-based secondary tracheoesophageal puncture using transnasal esophagoscopy (TEP-TNE) for speech rehabilitation post total laryngectomy.

Methodology: Retrospective review. **Results:** 42 TEP-TNE procedures were performed on 39 subjects and 41 were completed successfully. 18/39 had received radiotherapy and 13/39 had free flap reconstruction. In this cohort the two most common indications for TEP-TNE were a history of radiotherapy or chemoradiotherapy (18/39) and revision of a previous GA TEP (10/39). 3/39 subjects required revision TEP-TNE. The speech outcome was good in 29/38 subjects and poor in 6/38. There were four complications: failure to complete the procedure (1), vasovagal syncope (1), delayed haemorrhage (1) and endoscope malfunction (1). **Conclusion:** Secondary TEP is often preferred in patients with a history of previous RT and/or those requiring free flap reconstruction. TEP-TNE is an effective and safe technique that is quick and simple, avoiding the need for general anaesthesia.

LC56

LARYNGEAL SQUAMOUS CELL CARCINOMA OUTCOMES AT AUCKLAND CITY HOSPITAL: 2002-2009

Dr James Johnston, Dr David Vokes, Dr Kevin Smith

Auckland City Hospital, Auckland, New Zealand

Purpose: To determine the 5-year survival for an 8 year cohort of laryngeal SCC patients treated by the Auckland City Hospital Head and Neck Oncology Group. Secondary outcome measures include disease recurrence and laryngeal preservation rates, stratified by primary treatment intent. **Methodology:** A prospective H&N database was reviewed to identify patients with laryngeal SCC treated from 2002 to 2009. Data was extracted from electronic patient records. Kaplan-Meier survival methodology was employed, and relative survivals calculated. Multivariate association analysis was undertaken with Cox proportional hazards modelling. **Results:** 185 patients were treated for laryngeal SCC: 148 males and 37 females (M:F = 4:1). The age range was 32-89 years, with a mean of 62.5 years. The median overall survival was 6.5 years (95% CI: 5.58-6.92). The 5-year relative survival was 72.8%. In the final Cox hazards model increasing age, ECOG=3, nodal stage >N1, and moderate tumour differentiation were associated with a significantly worse prognosis. **Conclusion:** Subsite distribution, overall stage distribution and survival were comparable to published international series. The 5-year relative survival was 72.8% with a high rate of total laryngectomy.

LC16

"SCREENIT": TECHNOLOGY-ASSISTED SCREENING OF SWALLOWING, NUTRITION AND DISTRESS STATUS IN HEAD AND NECK CANCER PATIENTS AND THEIR CARERS DURING (CHEMO)RADIOTHERAPY

Ms Laurelie Wall, Dr Bena Cartmill, Prof Elizabeth Ward, Dr Anne Hill, Prof Elizabeth Isenring, A/Prof Sandro Porceddu
Centre for Functioning & Health Research / Princess Alexandra Hospital, Queensland Health, Queensland, Australia

Purpose: Dysphagia following (chemo)radiotherapy (CRT) for head/neck cancer (HNC) is associated with nutritional and psychological comorbidities. Emotional sequelae and distress are also significant issues for carers of HNC patients. To address growing demand for services, routine screening using self-reported outcome measures has been proposed to enhance patient triage for face-to-face intervention. "ScreenIT" is an online system developed to screen swallowing/nutrition status in HNC patients and distress in both patients and their carers. This project aimed to evaluate the reliability and validity of the ScreenIT tools. **Methods:** Cross-sectional cohorts of 100 HNC patients referred for speech pathology/dietetic (SP/DN) services during CRT, and 40 of their carers, were recruited. ScreenIT contained questions relating to side-effects, self-reported FOIS, PGSGA and Distress Thermometer. Data from ScreenIT Patient/Carer tools were compared with subsequent blinded face-to-face assessment by SP/DN clinicians. Agreement between ScreenIT and clinician ratings was analysed using agreement statistics. **Results:** Analysis revealed overall acceptable agreement between ScreenIT tools and clinician ratings. Highest agreement was observed for weight and FOIS measures. Completing the Distress Thermometer via ScreenIT tools enabled more sensitive detection of mild-moderate distress in both patients and carers, compared to clinician judgement. **Conclusion:** Findings suggest that the ScreenIT tools can be valid and reliable measures for detecting swallowing, nutritional and distress status in HNC patients and carers, with potential to optimise patient triage and provide a clinical adjunct for multidisciplinary management of distress.

LC10

SPEECH AND SWALLOWING MANAGEMENT FOLLOWING LARYNX CANCER: WHERE TO FROM HERE?

Prof Elizabeth Ward

Centre for Functioning and Health Research, Queensland, Australia

This presentation will be a synthesis of the highlights from the conference, specific to the areas of speech and swallowing management. It will reflect on the question "where to from here?" This will be addressed in relation to some of the key clinical issues, and discuss existing barriers to research translation and highlight what's needed to help facilitate change and enhanced practice. Discussion will reflect on new knowledge, and the knowledge we need to better inform prognostic decision making, optimize treatment supports, enhance patient care both during and in the long term post treatment and find new models of care that enhance patient access to services.



PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

LC36

REFINING OUR UNDERSTANDING OF VOCAL FOLD SCAR PATHOPHYSIOLOGY

Prof Nathan Welham

*University of Wisconsin-Madison, Wisconsin,
United States of America*

Surgical and radiation therapies for laryngeal cancer can achieve desired oncologic outcomes but can also result in collateral impairment of voice, swallow and airway. Impaired voice due to vocal fold mucosal injury, fibrosis and/or tissue loss is especially problematic as this highly specialized tissue is difficult to regenerate or replace. A growing body of literature over the past 15 years has characterized wound healing and scar formation in vocal fold mucosa, with a long-term goal of identifying therapeutic candidates and pathways to restoration of normal tissue function. Here, I will briefly review classic (histologic) work in the area and then discuss new biotechnologies and research tools that are facilitating a more complete understanding of injury progression, scar formation, and loss of function. These tools include 'omics technologies and strategies from systems biology, genetic engineering and use of transgenes, and advanced in vivo models. New data, generated using such research tools, are refining our understanding of vocal fold scar pathophysiology and promoting the development of new molecular therapies.

LC53

SWALLOWING AND VOICE OUTCOMES IN PHARYNGOLARYNGECTOMY: FASCIO-CUTANEOUS FREE FLAPS VERSUS JEJUNUM

Ms Sarah Wilson, Mrs Belinda Lehn, Dr Robert Hodge,
Dr Martin Batstone

Royal Brisbane and Women's Hospital, Queensland, Australia

Purpose: Various reconstruction methods are utilised in pharyngolaryngectomy and demonstrate diverse voice and swallowing outcomes. Many studies do not report on specific results in these areas. The aim of this study is to compare swallowing and tracheoesophageal voicing between jejunal and fascio-cutaneous reconstruction in pharyngolaryngectomy.

Methodology: Prospective non-randomised trial of 12 patients treated with pharyngolaryngectomy utilising anterolateral thigh (ALT) (n=4), radial artery forearm flap (RAFF) (n=2) or jejunal (n=6) reconstruction at the RBWH between 2012 and 2014. Standardised outcome measures collected included the Performance Status Scale for Head and Neck Cancer (PSS). Swallowing and voice outcomes were collected for 12 months. Data was also collected on surgical complications and length of stay (LOS). **Results:** Lower acute complications and average LOS were evident in the fascio-cutaneous cohort (0%, 17.5 days) compared with the jejunal cohort (50%, 39.5 days). Swallow function was poorer in fascio-cutaneous (average PSS 33) versus jejunal reconstruction (average PSS 43) from 3 months due to the incidence of anastomotic stricture. Similarly, voicing was functional in a higher number of the jejunal group. Within the fascio-cutaneous group, swallowing outcomes and voicing potential were poorer following ALT repair than for RAFF repair. **Conclusion:** Whilst no acute surgical complications

occurred in the fascio-cutaneous cohort compared with jejunal reconstructions, the functional outcomes in voice and swallowing were significantly impacted by the stricture rate. Despite the small size of this group, differences were noted in voice and swallowing between the ALT and RAFF reconstruction methods.

LC70

MATCHING TUMOR BIOLOGY TO TREATMENT IN ADVANCED LARYNGEAL CANCER IMPROVES SURVIVAL

Dr Gregory Wolf, Dr Francis Worden, Ms Emily Bellile,
Dr Susan Urba, Dr Carol Bradford, Dr Avraham Eisbruch

*University of Michigan, Ann Arbor, Michigan,
United States of America*

The introduction of neoadjuvant chemotherapy into routine management of patients with advanced head and neck cancers led to a major paradigm change in the treatment of laryngeal cancer. Although application of chemotherapy and radiation strategies as alternatives to laryngectomy has been widespread, treatment results have been inconsistent and the original premise of matching tumor response to subsequent treatment has not been generally followed. As a result, the routine use of neoadjuvant chemotherapy and chemoradiation has been challenged by outcomes that do not show improved survival and are often associated with a non-functioning larynx, long term significant dysphagia with aspiration and chronic tracheostomy. Such results do not justify poorly conceived efforts at maintaining the larynx. This presentation will focus on the rationale for combined chemoradiation as an organ preservation strategy and the clinical trial results of proof of principal trials over two decades at the University of Michigan (1995-2005) and subsequent new standard of care survival results (2002-2012) in patients with advanced (Stage III and IV) laryngeal cancer. The introduction of new biomarker based clinical trials will be discussed along with potential solutions to improving overall results which should include: 1.) better patient selection, 2.) improved conformal and adaptive radiation treatments to reduce normal tissue toxicity, 3.) comprehensive management by a skilled treatment team, and 4.) systemic adjuvants for disseminated disease.

LC21

TUMOR VOLUMES AND OUTCOMES IN LARYNGEAL CANCER (LC)

Dr Gregory Wolf, Mr Mohamad Issa, Ms Emily Bellile,
Dr Stuart Samuels, Dr Avraham Eisbruch

*University of Michigan, Ann Arbor, Michigan,
United States of America*

A reliable method to predict a patient's response to radiation would be a significant advance in personalized treatment for LC and allow better selection for organ preserving strategies. The classic reasons why radiation fails in LC were summarized Fletcher in 1975 and included 1.) geographic miss; 2.) unfavorable cancer extensions; 3.) dose too low for tumor volume; 4.) failures of technique; 5.) sigmoid dose response curve for radiation; and 6.) new cancer development. Many studies suggest that tumor volume is a strong prognostic factor that

PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

also predicts failure of radiation in laryngeal cancer. Although reasons for failures are influenced by tumor extent, direct correlations of outcomes with volume measures have generally been less accurate than clinical tumor staging characteristics. In a 1983 study of volume factors in 410 supraglottic cancers, Harwood et al. reported local control in only 70% of T1,2 and 50% of T3,4 cancers. These rates were not influenced by dose or field size although neck failure was higher with small field size. Mendenhall (1998) reported local control of 65% of T3 glottic or supraglottic cancers and 50% for T4. In a small Japanese study (Kawashima, et al), local control was significantly better for small diameter supraglottic cancers compared to larger (>4cm) tumors. With improved anatomic and functional imaging, combined with improved radiation delivery, can we expect clearer association of tumor volume measures with treatment outcomes? This presentation will address whether tumor volumes can predict outcomes better than staging or other biologic markers and contribute to personalized treatment selection.

LC04 TUMOR INFILTRATING LYMPHOCYTES AND PROGNOSIS

Dr Gregory Wolf, Mr Nghia Nguyen, Ms Emily Bellile,
Dr Daffyd Thomas, Dr Jonathan Mchugh, Dr Laura Rozek
*University of Michigan, Ann Arbor, Michigan,
United States of America*

Immune responses within the tumor microenvironment are increasingly important predictors of tumor biology and outcome. To determine correlations with clinical variables and evaluate the impact of specific TILs on patient outcomes, 278 previously untreated patients were studied including a subset of 48 patients with cancers of the larynx. **Methods:** Infiltrating levels of CD4, CD8, FoxP3, CD1a and CD68 cells were measured in tumor parenchyma by immunohistology in tissue microarrays. Kruskal-Wallis testing was used for clinical variables and Cox models tested associations with patient overall (OST), relapse free (RFT) and disease specific (DSS) survival. For the larynx cohort, median follow up was 40.4 months. **Results:** Each TIL subset differed significantly by tumor site and HPV status. Higher CD4 and CD8 TIL levels were associated with improved overall (HR 0.77 [0.65 -0.93] $p=.005$ and HR 0.77 [0.64-0.94] $p=.008$ respectively), and RFT ($p=.03$ and $.05$ respectively). In the overall Cox model controlling for all prognostic variables, higher CD4 levels remained significant for improved overall and DSS ($p=.003$ and 0.004 respectively). In univariate analysis of the larynx subset, CD8 levels correlated with comorbidity ($p=.01$) and lower CD68 levels were associated with improved RFT and DSS (HR 1.04 [1.00-1.09]; $p=.04$ and HR 1.06[1.00-1.12]; $p=.05$ respectively). Only CD68 infiltrates remained significantly associated with RFT in multivariable analysis. **Conclusions:** Host immunity in the tumor microenvironment in HNSCC is a significant independent prognostic factor. The findings suggest that lower levels of CD68 myeloid derived suppressor cells in laryngeal cancer may predict improved disease specific survival.

LC50 ENDOLUMENAL FUNCTIONAL LUMEN IMAGING PROBE (ENDOFLIP) PROVIDES A VALID AND SENSITIVE DIRECT MEASUREMENT OF THE UPPER OESOPHAGEAL SPHINCTER COMPLIANCE IN PATIENTS WITH RADIOTHERAPY-RELATED PHARYNGEAL DYSPHAGIA

Dr Peter Wu, Dr Michal Szczesniak, Dr Julia Maclean,
Dr Harry Quon, Dr Teng Zhang, Prof Ian Cook
St George Hospital, New South Wales, Australia

Background: Chemo-radiotherapy in the treatment of Head and Neck Cancer (HNC) with/without laryngectomy commonly causes dysphagia. Upper oesophageal sphincter (UOS) stricturing is an important contributor. The accuracy of indirect indicators of impaired UOS compliance, including manometry and radiography remains unclear. A direct quantitative technique of UOS compliance is needed. Hypotheses: i)UOS compliance is reduced in dysphagic HNC patients; ii)EndoFLIP is valid and sensitive in quantitation of UOS compliance and its alteration by endoscopic dilatation. **Methods:** We prospectively studied 16 patients with dysphagia following radiotherapy for HNC and compared them with 16 asymptomatic healthy controls. EndoFLIP calculates 16 crosssectional areas (CSA) across an 8-cm fluid-filled bag and its corresponding intra-bag pressure during distension. The EndoFLIP measurements of the UOS were performed under sedation before and after endoscopic dilatation. **Results:** 2 of 16 (12.5%) HNC patients vs. 14 of 16 (87.5%) controls reached the maximal distension volume of 50ml ($p<0.005$). At the distension volume of 40ml, the mean CSA was lower in the HNC group vs. controls (95-mm² vs. 191-mm², $p<0.001$). Compliance (CSA/mmHg) at the same distension volume was lower in HNC group vs. controls (2.29-mm²/mmHg vs. 7.05-mm²/mmHg, $p=0.003$). Of the 15 patients who underwent endoscopic dilatation, 13 patients (86.7%) had increased CSA, with a mean increment of 35.6-mm² (95%CI [11.7-59.58], $p=0.007$). **Conclusions:** 1) Radiotherapy-related dysphagia is associated with poor UOS compliance, which is partly reversible by endoscopic dilatation. 2) EndoFLIP is a minimally-invasive, valid and sensitive method

LC21 VOICE REHABILITATION FOLLOWING TOTAL LARYNGECTOMY BY PERSONALIZED TEXT-TO-SPEECH SYNTHESIS

Dr Michal Zabrodsky, Dr Barbora Repova, Dr Jan Romportl,
Prof Jan Betka

Department of Otorhinolaryngology, HNS, FH Motol, Czech Republic

Outcome Objectives: The objective of our work is to set up a system for detection of patients with a high likelihood of losing voice and to archive and thus maintain their unique voice so it can be used for personalised speech synthesis. **Methods:** Patients record their own speech, which is stored in a database. Those who have already lost their voice can choose from previously created voices. In personalised speech synthesis, representative segments of recorded speech are used to create a synthetic voice. It has the ability to express words and phrases not previously recorded. **Results:** In years 2011-2015, 6 patients diagnosed with laryngeal cancer recorded their own speech, and



PRESENTATION ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

personalised computer speech synthesis was developed to each one of them. Three patients with severe dysphonia refused the recording and previously recorded voice was chosen for speech synthesis. Four patients out of total number of nine are using this communication tool in their daily life. **Conclusion:** The project is designed for people who are going to lose ability to speak. It allows patients to record and store their voice and it offers them a synthetic version of their own voice or the possibility to use already existing voice from our voice bank.

POSTER ABSTRACTS

Alphabetical order by presenting author's surname.

LC57P

THE IMPACT OF LARYNGEAL BIOPSY ON VOICE OUTCOMES

Ms Liza Bergstrom, Prof Liz Ward, Prof Caterina Finizia

University of Queensland, Queensland, Australia

Purpose: Several studies have suggested that type of laryngeal biopsy may impact vocal function. This study directly examined the impact of the biopsy procedure on voice outcomes for early glottic (Tis-T2) cancer patients. **Methodology:** This prospective, cohort study was conducted at Sahlgrenska University Hospital, Gothenburg, Sweden. Fifteen patients diagnosed with early glottic cancer underwent voice recordings within six weeks pre and post biopsy. A control group (n=15), matched for gender and comparable for age and smoking status, was assessed once only. Multidimensional voice analyses were conducted with both groups including (1) Grade, Roughness, Breathiness, Asthenia, Strain (GRBAS) perceptual rating, (2) acoustic measures of harmonics to noise ratio, jitter, shimmer, mean spoken fundamental frequency and (3) maximum phonation time.

Results: In comparison to the control group, most perceptual and acoustic parameters were significantly ($p < 0.05$) more impaired both pre and post biopsy. No significant difference ($p > 0.05$) in the patient cohort was observed between pre and post biopsy voice parameters. At an individual level, half of the patients showed a perceived change in voice post biopsy, of which four demonstrated improvement and three a deterioration in function.

Conclusion: Although group level analysis failed to show a biopsy-voice impact, individual data suggests that multiple biopsies may negatively impact vocal function for some individuals. Given the emerging discussions regarding the preferable biopsy technique, the nature and extent of tumour/tissue removal on functional outcomes is an area of further research.

LC33P

DETERMINING THE NEED FOR NECK DISSECTION IN CLINICALLY NODE-NEGATIVE LARYNGEAL SQUAMOUS CELL CARCINOMA

Dr Crystal Cheong, Professor Thomas Loh

National University Health System, Singapore, Singapore

Purpose: To determine the frequency of occult lymph node metastases in patients undergoing oncological laryngeal surgery, and the factors that predict the likelihood of positive lymph nodes.

Methodology: A retrospective case study of all patients diagnosed with laryngeal squamous cell carcinoma and clinically negative

necks who underwent neck dissection between Jan 2001 to Dec 2014 at a single institution was performed. **Results:** There were 48 patients with clinically node-negative necks who underwent neck dissection, of which 46 were bilateral (i.e. 94 neck dissections were done). The cases ranged from T1b-4N0M0, with 81.3% of the neck dissections done for T3-4 disease. 14.6% of patients were found to have positive lymph nodes (7 unilateral necks); all were T3-4 transglottic tumours involving the midline. Metastatic lymph nodes were contralateral to the epicentre of disease in 28.6% of cases. The frequency of occult nodal metastases in non-irradiated necks was 18.9% ($p = 0.179$). All 11 patients who had prior radiotherapy were histologically node-negative. Extra-laryngeal spread was seen in 57.1% of those with node-positive necks vs 25.6% of node-negative necks ($p = 0.183$). Tumour differentiation (poor vs moderate/well) did not influence likelihood of occult metastases ($p = 0.480$). Occult lymph node metastases most often occurred in level III (4 of 6 cases). **Conclusion:** The incidence of occult nodal metastases in clinically node-negative necks is relatively low, but not insignificant (14.6% of patients, 7.4% of all neck dissection specimens). Almost 30% of these occult metastases may occur in the neck contralateral to the epicentre of the tumour. We recommend performing bilateral neck dissections whenever a laryngectomy is done.

LC28P

ANTI-CANCER EFFECTS OF COLCHICINE ON HYPOPHARYNGEAL CANCER

Dr Jung-Hae Cho, Prof Young-Hoon Joo, Researcher Eun-Jee Park, Prof Kwang-Jae Cho, Dr Chung-Su Kim, Prof Min-Sik Kim

The Catholic University of Korea, Seoul, Korea

Colchicine is an alkaloid that has been widely used for the treatment of inflammatory diseases such as gout. It has been also known to suppress cell division by inhibiting mitosis. This study was to investigate the anti-cancer effects of colchicine on human hypopharyngeal cancer cells and their anti-cancer mechanisms. Human hypopharyngeal cancer cells (FaDu and SNU1041) were treated with varying colchicine concentrations. Cell viability and invasion, metastatic ability of hypopharyngeal cancer cells were evaluated after colchicine treatment. Inhibition of matrix metalloproteinase (MMP)-2, 9 and urokinase-type plasminogen activator (uPA) activity, uPA receptor (uPAR) were measured by gelatin zymography, uPA assay, and RT-PCR. FAK, Src, and paxillin expression were detected using Western blot analyses. Nude mouse study using oral colchicine administration was conducted to confirm the inhibition of tumor growth. Colchicine inhibited the growth and proliferation of hypopharyngeal cancer cells in a dose- and time-dependent manner. It was also shown to inhibit the abilities of migration, invasion and adhesion in a dose-dependent manner. Expression of levels or activities of MMP-9, uPA and uPAR were decreased after colchicine treatment. Colchicine inhibited phosphorylation of FAK, Src, and paxillin in a dose-dependent manner. Colchicine-treated mice had lower increased tumor volume ratios than control mice. **Conclusion:** colchicine could suppress cell adhesion, migration and invasion through decreasing expression of MMP-9, uPA system and FAK/Src complex in hypopharyngeal cancer cell lines. Our study suggests that colchicine may have the potential to prevent disease progression in hypopharyngeal cancer.

POSTER ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

LC55P

T2 GLOTTIC SCC TREATED WITH RADIOTHERAPY; IMPACT OF ANTERIOR COMMISSURE INVOLVEMENT

Dr Graeme Dickie, Dr Tuan Ha, Mr Lee Tripcony

Royal Brisbane & Women's Hospital, Queensland, Australia

Aim: To assess the laryngectomy free survival of patients with T2 glottic carcinomas treated with external beam radiation at our institution. To assess whether location of the tumour namely anterior commissure tumours influenced rate of recurrence.

Methods: This is a single institution retrospective analysis of all patients with stage T2N0 glottic cancer treated from 1998 to 2012. There were 74 eligible patients treated with 6MV linear accelerator based external beam radiotherapy to 66Gy in 33 fractions over 6.5 weeks. The main end points were local control or relapse free survival. **Results:** A total of 74 patients with T2N0 glottic tumours were treated with definitive EBRT. The median age was 63 years, with 72 male and 2 female. Median follow up was 28.5 months. Relapse free survival was 65%. Disease specific survival, following salvage treatment disease specific survival for the cohort was 85% at 5 years. Tumour location, specifically anterior commissure involvement was not a factor influencing local control $p=0.15$.

LC42P

PROLONGED ASPRIATION OF BLOM-SINGER INDWELLING VOICE PROTHESIS

Ms Kristin Fulton, Dr Cameron Hunter

Tasmanian Health Organisation South, Tasmania, Australia

A 59 year old gentleman underwent a total laryngectomy for transglottic squamous cell carcinoma. Four weeks post op a Classic Blom-Singer indwelling 8mm 16fr tracheoesophageal prosthesis (TEP) was inserted. Three days following placement he presented with loss of the TEP. He was unaware of the dislodgement and complained of no new respiratory symptoms. Chest and abdominal radiographs were taken and reported as showing no radio-opaque lesion. He was reviewed by an ENT who assisted the speech pathologist to re-open the tracheoesophageal fistula and a Classic Blom-Singer 6mm, 16fr TEP was inserted. Six months later he presented with likely recurrence at the stoma. A CT of the neck and thorax was arranged. As well as confirming likely recurrence, the thorax CT report noted an apparent foreign body in the right bronchus intermedius with normal appearance of the right middle and lower lobes. He continued to have no respiratory symptoms. Bronchoscopy was carried out via the tracheostoma which identified the foreign body in the right bronchus intermedius. It was easily removed by forceps. Inspection post removal confirmed this to be the missing Blom-Singer TEP. Inspection of the bronchus post removal showed only minor mucosal irregularity from the flange of the TEP. Careful review of the initial chest radiograph with knowledge of the site of the TEP showed the TEP was present but obscured by overlying mediastinal structures and ribs. When a tracheoesophageal prosthesis is dislodged and missing, we now refer for bronchoscopy.

LC24P

A CASE OF LARYNGEAL VISCERAL LEISHMANIASIS

Dr Sumit Gupta

Homi Bhabha Cancer Hospital, Punjab, India

Purpose: Leishmaniasis, a vector borne disease caused by obligate intramacrophage protozoa, is characterized by diversity and complexity. Laryngeal Leishmaniasis has been rarely reported in the literatures around the world. Hence we should keep this in a differential diagnosis if a patient presents with hoarseness.

Case Report: Here we present a 70 years old male patient who presented with progressive hoarseness for three months and stridor for five days. He underwent emergency tracheostomy and was admitted with a provisional diagnosis of laryngeal malignancy and investigated for the same. Because of inconclusive reports, the case was of diagnostic dilemma. Finally subsequent biopsy from larynx revealed Visceral Leishmaniasis and the patient was successfully managed. **Conclusion:** This is a rare presentation of Visceral Leishmaniasis and here we are going to highlight about the diagnostic dilemma, differential diagnosis and management.

LC44P

RADIOCHONDRONECROSIS OF LARYNX AND ITS MANAGEMENT: A SINGLE INSTITUTE CASE SERIES

Dr Sumit Gupta, Dr Akshay Kudpaje, Prof Ashok Shenoy, Dr Purshottam Chavan

Kidwai Memorial Institute Of Oncology, Karnatka, India

Purpose: Aim of the present study is to describe a rare but serious cases of radiotherapy induced chondroradionecrosis of larynx which usually occurs within 1 year. Review of literature showed only few cases of radiation induced clinical radiochondronecrosis. This condition can mimic local recurrence and severe and life threatening involvement requiring aggressive surgical management as reported in present cases. There are several complications encountered during radiotherapy such as laryngeal edema, skin damage, perichondritis and cartilage necrosis. We report a rare severe cases of clinical chondroradionecrosis of larynx mimicking recurrence. **Results:** 7 cases with grade III-IV radiochondronecrosis with Tracheostomy presented to our institute. CECT Neck and Direct Laryngoscopy and biopsy done with showed gross cartilage erosion with negative histopathology. All the cases were previously positive for squamous cell carcinoma before definite treatment. So All cases were having dysfunctional Larynx with skin fungation anteriorly. All the cases underwent Salvage Laryngectomy with Spiral Pectoralis Major Myocutaneous Flap after ruling out distant metastasis. **Conclusion:** These cases highlights one of few rarest severe forms of symptomatic late radiation sequelae affecting the larynx ever reported in literature which mimicked recurrence, which was confirmed only after histopathologic study. The reason for surgical management by total laryngectomy, partial pharyngectomy and pectoralis major myocutaneous flap was because larynx was dysfunctional with tracheostomy clinical and radiological strong suspicion of recurrence.



POSTER ABSTRACTS (CONT'D) Alphabetical order by presenting author's surname.

LC49P

ROLE OF INTRAOPERATIVE BRACHYTHERAPY DURING SALVAGE HEAD AND NECK SURGERY- CASE SERIES AND REVIEW OF ARTICLE

Dr Sumit Gupta, Prof Ashok Shenoy, Dr Tanveer Pasha
Kidwai Memorial Institute Of Oncology, Karnatka, India

Purpose: Locoregional recurrence/residual of head and neck carcinoma in a previously irradiated area is a frequent clinical situation. In selected previously irradiated cases salvage surgery is feasible and the 5 years survival rates reported in the literature may reach 30%. We hypothesized that intraoperative brachytherapy may improve the local control in patients treated with salvage surgery for head and neck cancer. **Material & Methods:** In this prospective study 6 cases were recruited which were having residual/recurrent squamous cell carcinoma nodal disease after definite radiotherapy or Radiochemotherapy ($>60\text{Gy} \pm 6$ cycles of cisplatin) / Surgery+Radiotherapy/ \pm Radiochemotherapy. All of them received salvage surgery and neck node was adherent to surrounding structures. Brachytherapy of 40Gy (2.5-2.9 per fraction twice daily in 7-8 cycles) to the tumour bed given. Median follow up after brachytherapy was 24 months. **Results:** During the brachytherapy course skin infection were seen in 2 cases and one patient had wound gaping. Out of 6 patients 4 patients were having level 5 recurrent lymph node which was adherent to underlying muscles, 2 patients were having residual lymph node at level 2. The 2 year Locoregional control after intraoperative brachytherapy was 84%. Overall survival at 3 years of follow up is 68%. **Conclusion:** Brachytherapy after salvage surgery in high risk patients with head and neck cancer is feasible with acceptable toxicity and led to a relatively good 3 year survival rate. Further study with larger group of patients is required.

LC66P

WHEN LIGHTNING STRIKES TWICE: THE IMPACT OF LOCAL FAILURE ON SURVIVAL IN PATIENTS WITH LARYNGEAL CARCINOMAS

Miss Claire Hanna, Ms Janet Williams, A/Prof Robert Smee
Prince of Wales Cancer Centre, New South Wales, Australia

Purpose: To evaluate the survival outcomes of patients with recurrent or persistent laryngeal cancer. **Methodology:** This is an ethically approved retrospective review of patients who presented with and were treated for a laryngeal SCC and who failed locally, at Prince of Wales Hospital between 1967-2012. Patient, disease and treatment factors were obtained and evaluated using the Head & Neck database, patient notes and the Cancer Registry. Outcomes investigated include treatment modality, Cancer Specific Survival (CSS) and the 2- and 5-year conditional probability of survival. **Results:** Of 1136 newly diagnosed patients, 165 (15%) had local recurrence and 85 (7%) had progressive/ persistent disease. Thus, of 250 eligible patients, 177 had known treatment for recurrence-130 (52%) patients had surgery, 20 (8%) had radiotherapy only, 13 (5%) had Surgery+Radiotherapy and 14 (5%) patients had chemotherapy. The majority of surgical patients had a total laryngectomy (69%). Ultimate Local Control was achieved in 129 patients (73%). Conditional Probability of survival was higher for those with glottic carcinomas for both 2- and 5-years. Glottic patients had significantly longer survival (mean-14 years) than supraglottis (7 years) & multi-regional (2 years) ($p=0.000$). Bivariate analysis revealed an association between CSS and T-stage, tobacco consumption and treatment for recurrence ($p<0.000$). Overall,

147 patients died due to disease (58.8%) compared to a Cancer Specific Death of 10% for those without recurrence. **Conclusion:** Survival factors for patients with recurrent or persistent disease include initial t-stage, tobacco consumption and recurrent treatment type. Despite higher rates of recurrence, patients with glottic SCC survive longer.

LC59P

THE ROLE OF P300 IN THE TUMOR PROGRESSION OF HEAD AND NECK SQUAMOUS CELL CARCINOMA

Prof Seong-Doo Hong

School of Dentistry, Seoul National University, Seoul, Korea

Background: EP300 gene encoding p300 is a candidate tumor suppressor gene. This study investigated p300 expression and gene alteration in head and neck squamous cell carcinoma (HNSCC) specimens to assess its role in HNSCC development. **Methods:** Genomic DNA extracted from 13 human HNSCC cell lines and 40 HNSCC patient specimens was subjected to methylation-specific PCR and exon sequencing. Immunohistochemical staining with primary antibodies against p300 and p53 was performed in 48 patients with HNSCC. We analyzed the association between the data and clinicopathological factors of HNSCC patients. **Results:** Methylation-specific PCR revealed that the EP300 promoter region was not hypermethylated in HNSCC. Only one cell line demonstrated a point mutation at exon 31. On immunohistochemical examination, patients with metastatic lymph nodes ($P=0.009$) and advanced clinical stage ($P=0.046$) tended to show increased expression of p300. There was no statistically significant relationship between p300 expression and p53 accumulation in HNSCC tissue samples. Patient survival was not correlated with p300 expression. **Conclusions:** EP300 is not a tumor suppressor gene because there was neither epigenetic inactivation of the gene nor a mutation resulting in functional impairment. Based on p300 overexpression and its association with clinical factors in patients with HNSCC, it is likely that either EP300 itself or one of its target genes functions as an oncogene.

LC30P

CHARACTERIZATION OF RADIORESISTANT HEAD AND NECK CANCER CELL LINE AND CANCER STEM CELLS

Prof Young-Hoon Joo, Prof Min-Sik Kim

The Catholic University of Korea, Kyunggi-do, Korea

Background: To evaluate the impact of cancer stem cells (CSC) on insensitivity to radiotherapy in head and neck squamous cell carcinoma (HNSCC) using in vitro and in vivo model. **Material and Methods:** A radioresistant cell line, FaDu-R, was established by fractionated ionizing radiation. Cells with high and low CD44/ALDH activity (CD44high/ALDHhigh and CD44low/ALDHlow) were isolated. In vitro motility was assessed using a wound healing assay and matrigel invasion assay. CD44high/ALDHhigh and CD44low/ALDHlow populations were implanted into NOD/SCID mice and monitored for tumor development. **Results:** FaDu-R cells demonstrated significantly increased cell viability compared with parental cells after radiation exposure. CD44high/ALDHhigh FaDu-R cells demonstrated significantly faster wound closure ($p<0.05$) and more efficient invasion ($p<0.05$) compared to the CD44high/ALDHhigh FaDu cells or CD44low/ALDHlow FaDu-R cells. There was a significant difference in tumor volume between CD44high/ALDHhigh FaDu-R cells and CD44high/ALDHhigh

POSTER ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

FaDu cells ($p < 0.05$) and CD44low/ALDHlow FaDu-R cells ($p < 0.05$). **Conclusion:** The CSC was related to invasion and tumorigenesis in radioresistant HNSCC cell line. This concept might help to improve understanding of mechanism and to develop drugs to overcome radioresistance during radiotherapy.

LC46P

RELATIONSHIP BETWEEN PARAGLOTTIC SPACE INVASION AND CERVICAL LYMPH NODE METASTASIS IN PATIENTS UNDERGOING SUPRACRICOID PARTIAL LARYNGECTOMY

Prof Young-Hoon Joo, Prof Min-Sik Kim

The Catholic University of Korea, Kyunggi-do, Korea

Background: To investigate the relation between paraglottic space (PGS) invasion and lymph node metastasis in patients undergoing supracricoid partial laryngectomy (SCPL). **Methods:** The study included 98 subjects with squamous cell carcinoma of the glottis. **Results:** The PGS invasion rate was 60.2% (59/98), and a significant correlation was found between PGS invasion and cervical lymph node metastasis ($p = 0.022$). Fifteen of the 59 patients (25.4 %) with PGS invasion, only 3 of the 39 patients (7.7%) without any evidence of PGS invasion had lymph node metastasis. Furthermore, a significant correlation was also found between PGS invasion and T stage ($p < 0.001$), vocal cord mobility ($p < 0.001$), and subglottic extension ($p = 0.014$), and patients with no evidence of PGS invasion possibly had a survival benefit (5-year disease-specific survival rate, 84% vs. 64%; $p = 0.118$). **Conclusion:** This study shows that PGS invasion is significantly related to cervical lymph node metastasis in patients undergoing SCPL.

LC62P

TWO CASES OF LARYNGEAL SCHWANNOMA RESECTED BY DIFFERENT APPROACHES

Dr Koichi Kano, Dr Shunsuke Miyamoto, Dr Meijin Nakayama, Dr Yutomo Seino, Dr Masayuki Hasebe, Dr Makito Okatomo
Kitasato University School of Medicine, Kanagawa, Japan

Schwannoma is benign tumor, originating from the Schwann cell. Laryngeal schwannoma is uncommon. We present two cases of laryngeal schwannomas located in the different regions resected by cervical incision and endoscopic laryngo-pharyngeal surgery (ELPS). The first case was a 70-year-old woman who presented with a 4-year history of hoarseness. Computed tomography (CT) and magnetic resonance imaging (MRI) showed a tumor in the right paraglottic space. Through the endoscopic biopsy, the histopathology revealed the schwannoma. Considering the location of the tumor, we selected the cervical incision with tracheotomy. The second case was a 59-year-old woman who presented with hoarseness and dyspnea. CT and MRI showed a tumor in the left arytenoid region. The tumor was diagnosed as schwannoma histologically. We selected tracheotomy and ELPS because of the location and symptoms. Both of the two cases showed vocal cord paralysis without dysphagia. There have been no finding of recurrence in both cases. The curative treatment for schwannoma is surgical resection. Generally, laryngeal tumors are removed by transoral surgery or cervical incision. We successfully resected laryngeal schwannoma by the both approaches. The size and location of the tumor should be considered in determining operative method. It is suggested that ELPS is one of the less-invasive method for the tumor located in the arytenoid region.

LC64P

UTILITY OF 18F-FDG PET/CT IN SUPRACRICOID PARTIAL LARYNGECTOMY

Dr Choung Soo Kim, Dr In Chul Nam, Dr Sang Yeon Kim, Prof Young-Hoon Joo, Prof Kwang Jae Cho, Prof Min Sik Kim
The Catholic University of Korea, Seoul, Korea

18F-FDG PET/CT is a useful technique for the evaluation of paraglottic space invasion and lymph node metastasis in patients with supracricoid partial laryngectomy (SCPL). Primary SUVmax values (using 7.0 as a cut-off) and nodal SUVmax values (using 2.2 as a cut-off) are important for recurrence and poor prognosis. **Objectives:** The purpose of this study was to evaluate the usefulness of 18F-FDG PET/CT for paraglottic space invasion and lymph node metastasis and the prognostic significance in SCPL. **Methods:** The medical records of 42 patients who underwent 18F-FDG PET/CT for SCPL before surgery were reviewed. **Results:** The median primary SUVmax was 6.63 ± 5.07 and the median nodal SUVmax was 1.25 ± 1.86 . The primary SUVmax values with paraglottic space invasion (8.34 ± 5.92) and without (4.57 ± 2.74) were significantly different ($p = 0.015$). The 18F-FDG PET/CT had an accuracy of 87% for the identification of cervical metastases on a level-by-level basis. A median primary SUVmax value of 7.0 and nodal SUVmax of 2.2 were associated with recurrence ($p = 0.022$ and $p = 0.009$, respectively) and 5-year disease-specific survival ($p = 0.021$ and $p = 0.041$, respectively).

LC48P

RISK FACTOR FOR LOCAL RECURRENCE IN EARLY GLOTTIS CANCER: LONG-TERM RESULT

Dr Sang-Yeon Kim, Prof Kwang-Jae Cho, Dr Yong-Suk Choi, Prof Min-Sik Kim
Seoul St. Mary's Hospital, Seoul, Korea

Introduction: LASER cordectomy through transoral approach could be a good option for the early glottis cancer and 5-year local control rate was reported from 76% to 100%. But we sometimes encounter local recurrence after few years disease free interval. **Methods:** A retrospective review of the medical record of the patients who were diagnosed with glottis cancer and had LASER cordectomy in T1 and T2 stage from 2000 to 2010. 138 patients enrolled to this study and we classified these patient to three group (no recurrence group/early recurrence group within 2 years/late recurrence group after 2yrs) **Results:** In 138 patients 18 patients (13%) showed local recurrence, and 12 patients recurred within 2 years following surgery, 6 patients recurred after 2 years following surgery. In early recurrent group, we found more frequent paraglottic space invasion in pre-op imaging and ant. commissure involvement in physical examination than non recurrent group (33.3% vs 10.5% with pre-op imaging paraglottic invasion/ 57.3% vs 18.3% with ant. commissure involvement). In late recurrent group, all 6 patients salvage laryngectomy and all the patients showed ant. commissure invasion pre-operatively in physical examination. Interestingly, 4 patients out of 6 in late recurrence group were current smoker after surgery and it had statistical impact (p -value=0.04%). **Conclusion:** From the result of our study, we concluded that paraglottic space and ant. commissure involvement would be the risk factor for early or late recurrence, respectively. So we should closely review the pre-op imaging and physical finding to decreased the local recurrence in LASER cordectomy.



POSTER ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

LC56P

THE EFFICACY OF 18F-FDG PET/CT IMAGING FOR EXTRACAPSULAR SPREAD OF THE LARYNGEAL SQUAMOUS CELL CARCINOMA

Dr Sang-Yeon Kim, Prof Byung Joon Chun, Prof Kwang-Jae Cho, Prof Min-Sik Kim

Seoul St. Mary's Hospital, Seoul, Korea

Background: We evaluated the use of FDG PET/CT for the identification of extracapsular spread (ECS) with supporting histologic correlations in laryngeal cancer. **Methods:** We reviewed the medical records of 89 laryngeal cancer patients who underwent FDG PET/CT before surgery. **Results:** ECS was present in 38.2% (18/47) of dissected necks and in 32.2% (20/62) of dissected cervical levels. There was a significant difference in the SUVmax between cervical lymph nodes with and without ECS (6.39 \pm 4.53 vs. 1.21 \pm 1.70, $p < 0.001$); the cutoff value for differentiating nodes with ECS from those without ECS was 2.8, with a sensitivity of 85.7% and specificity of 85.6%. **Conclusions:** A median SUVmax cutoff value > 2.8 was associated with an increased risk of cervical lymph node metastasis and ECS in patients with laryngeal cancer.

LC52P

SCORE TO PREDICT DISEASE-SPECIFIC SURVIVAL AFTER TREATMENT OF LOCAL RECURRENCE OF LARYNGEAL CANCER

Prof Luiz Paulo Kowalski, Mr Genival Carvalho, Mr André Caralho, Mr Ansarin Mohssen, Mr Fausto Chiesa, Mr Hugo Kohler

AC Camargo Cancer Center, São Paulo, Brazil

Purpose: To develop and validate a simple prognostic score that would help predict disease-specific survival after treatment of local recurrence of laryngeal cancer. **Methodology:** Multicenter retrospective cohort with 784 patients with resectable, squamous cell, larynx cancer treated in three referral institutions for cancer treatment from 1995 to 2007. Patients with a local recurrence after treatment were analyzed to develop the score. We included variables deemed clinically relevant and those with statistical significance. The model was developed using the Cox proportional hazards model in a bootstrap with 2,000 replications for coefficient estimation and validated on the original series. A recursive partitioning approach was used to stratify the patients in four risk groups. The score had a concordance index in the original series of 0.73. **Results:** There were 91 cases of local recurrence with 43 cases of death due to disease progression. The included variables were cT, cN, previous tracheostomy, preoperative hemoglobin, initial treatment modality and age. Based on these variables, we could stratify patients according to the risk of cancer specific-death. Patients in the very-high risk group suffered death from disease progression in the first 24 months after salvage surgery while those in the low risk group had a 57 % 5-year disease-specific survival. **Conclusions:** The score has a good predictive power for patients submitted to salvage surgery for laryngeal squamous cell carcinoma. External validation would provide substrate for ampler use.

LC31P

CLINICAL ANALYSIS FOR LATE RECURRENCE OF EARLY GLOTTIC CANCER

Dr Tack-Kyun Kwon, Dr Jae Joon Han, Dr Min-Su Kim, Dr Seong Keun Kwon, Dr J Hun Hah, Dr Hong-Gyun Wu
Seoul National University Hospital, Seoul, Korea

Purpose: to analyze the tendency of late recurrence in early glottic cancer according to treatment modality, CO₂ Laser cordectomy and definitive radiotherapy. **Methodology:** A cohort of 299 patients who treated with CO₂ Laser cordectomy (n=135) or definitive radiotherapy (n=164) for early glottis cancer (Tis, T1, T2) from January 1990 to March 2014 at a single institution was retrospectively analyzed. Fifty-four patients who had recurrence of disease within 5 years were deemed early recurrence group (18.1%), and fourteen patients who had recurrence over 5 years after initial treatment were deemed late recurrence group (4.7%). The patients who showed no recurrence of disease were deemed non-recurrence group (77.2%). **Results:** The overall 5-year/10-year disease-free survival was 79.3%/69.6% respectively. Early recurrence group had more stage of T2 and radiotherapy compared with non-recurrence group ($p < 0.05$). Otherwise late recurrence group was not different in treatment modality and stage of disease compared with non-recurrence group ($p > 0.05$). Follow-up duration was significantly different between late recurrence and non-recurrence group (112.6 \pm 440.5, 68.1 \pm 449.0, months, $p < 0.01$). In late recurrence group, 6 patients had laser cordectomy, and 8 patients had radiotherapy. Among 14 cases of late recurrence, 3 patients showed discordance of localization of tumor between initial state and recurrence. **Conclusion:** Radiation therapy for early glottic cancer did not increase the risk of late recurrence compared with laser cordectomy. There were no significant prognostic factors for late recurrence except follow-up duration. Persistent examination on larynx over 5 years would be essential for glottic cancer.

LC25P

A CASE THAT IS SUPERFICIAL HPC RESECTED BY HYBRID APPROACHES

Dr Hasebe Masayuki, Dr Miyamoto Syunsuke, Dr Kano Kouichi, Dr Okamoto Tabito, Dr Meijin Nakayama, Dr Okamoto Makito
Kitasato University, Kanagawa, Japan

Background: Superficial hypopharyngeal cancer (HPC) has been increasingly detected owing to Narrow Band Imaging (NBI) combined with gastrointestinal endoscopy. To manage those disease, various endoscopic approaches have been developed. In our institution, we have treated the superficial HPC by endoscopic approaches including endoscopic submucosal dissection (ESD) and endoscopic laryngo-pharyngeal surgery (ELPS) since 2006. We reported a case with the superficial HPC resected by hybrid approaches, using ELPS and ESD. **Case report:** A 64-year-old man presented with screen-detected superficial HPC. The gastrointestinal endoscopy showed a superficial tumor in the posterior wall between hypopharynx and the cervical esophagus. We conducted the transoral endoscopic surgery in collaboration with a gastroenterologist. The tumor was successfully resected en bloc without tracheostomy, in which the anal side was resected

POSTER ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

with ESD by the gastroenterologist and the oral side was done with ELPS by otolaryngologist. This case showed no postoperative complication including vocal cord paralysis and dysphagia, and has been free of recurrence. **Conclusions:** We believe that the hybrid endoscopic surgery is one of the useful and less-invasive transoral technique in case of the superficial cancer between the hypopharynx and the cervical esophagus.

LC45P

RECRUITMENT PATTERNS & LIMITATIONS OF INTENSIVE DYSPHAGIA REHABILITATION AT A METROPOLITAN TERTIARY HOSPITAL

Ms Felicity Megee, Prof Danny Liew, Ms Neha Kaul, Mr Tim Iseli
Royal Melbourne Hospital, Victoria, Australia

Purpose: This report examines key factors limiting participation in an intensive dysphagia rehabilitation program for patients following head and neck surgery to design and plan future services. **Methodology:** The combined study database was reviewed to determine specific and key factors preventing participation in the rehabilitation program. **Results:** Twenty-five patients between July 2013 and February 2015 were identified through outpatient services. All patients underwent surgery as part of their treatment with 84% undergoing adjuvant radiotherapy +/- chemotherapy. Of 25 participants identified 32% were ineligible. One declined nasogastric tube (NGT) insertion; 1 awaiting further surgery; 2 confirmed persistent disease; and 4 were not using their percutaneous endoscopic gastrostomy (PEG) tubes. Of the 17 eligible participants, 18% were reliant on enteral nutrition via NGT and 82% via PEG, with 9 participants recruited to date. Females comprised 67% of the participant group compared to 25% of those unable to participate. Key factors preventing participation include: 75% (6) distance and travel time; 12.5% (1) preferred to direct own therapy; 12.5% (1) requested intervention at local community therapy service. **Conclusion:** These data suggest travel time and distance is a major barrier to participation in intensive rehabilitation programs. People living in rural Victoria have been reported to have worse swallow outcomes than those living in metropolitan areas. Overcoming the travel barrier is crucial to ensure equity of service and allow all patients to reach their optimal outcomes. Further review of telehealth services and rural rehabilitation programs in Victoria is warranted.

LC36P

FRONTOLATERAL LARYNGECTOMY: SIRIRAJ EXPERIENCE

Dr Piboon Sureepong, Prof Choakchai Metheetrairut
Department of Otolaryngology, Faculty of Medicine-Siriraj Hospital, Mahidol University, Bangkok, Thailand

Purpose: To report the functional results and oncologic outcome of patients undergoing frontolateral laryngectomy in Siriraj hospital. **Methodology:** A retrospective review of T1 and T2 squamous cell glottic carcinoma patients undergoing frontolateral laryngectomy in the department of Otolaryngology, Faculty of medicine-Siriraj hospital from 1986 to 2006 was conducted and all patients had minimum five years followed up period. **Results:** Out of 55 patients underwent frontolateral laryngectomy, 50 cases that fitted to the criteria were recruited in this study. After surgery,

all patients but one could have tracheotomy decannulation and recover good respiratory function. Forty three patients (87.8%) among successful decannulated patients had tube decannulation within 14 days. The mean duration of feeding via nasogastric tube was 11.4 days (ranged 5 to 22 days). Forty eight patients (96%) resumed oral feeding before discharge from the hospital and most of them but 2 had grade 1 subjective functional speech during hospitalization. The 1, 3, 5 years overall survival rate in our study were 98%, 92%, 92% respectively. The 5-year tumor control rate was 97.1% for T1 and 75% for T2 tumors and the larynx preservation rate was 90%. **Conclusion:** Frontolateral laryngectomy is one of the excellent therapeutic options for treatment of T1 and T2 glottic cancer especially having anterior commissure involvement. It conserves reasonably laryngeal function with short hospitalization. Its local tumor control rate was above other treatment modalities and the survival rates were impressive.

LC32P

COMPARISON OF QUALITY AND RESOURCE IMPACT OF THREE DIFFERENT RADIATION THERAPY PLANNING TECHNIQUES FOR LARYNGEAL CANCER

Mr Cesar Ochoa, Dr Myo Min, Dr Philip Vial, Mr Jim Yakobi, Mr Glenn Dinsdale, Dr Dion Forstner

Liverpool Hospital, New South Wales, Australia

Purpose: To compare three different state-of-the-art radiation therapy planning techniques for treating laryngeal cancer. **Methodology:** The three planning techniques being compared include: i) Intensity-modulated radiation therapy (IMRT), ii) Volumetric-modulated radiation therapy (VMAT), iii) TomoTherapy® (Tomo). Three previously treated Larynx patients were included in the study. The prescription, CT dataset and volumes were kept constant and clinical protocols were adhered to for each technique. Techniques were ranked from best to worst based on plan quality and time taken to prepare and deliver treatment. Plan quality was compared using standard metrics for target coverage and organ at risk doses. Time taken to prepare and deliver each plan was measured where possible or estimated based on clinical experience. **Results:** For target coverage, Tomo was marginally superior on average but there were no clinically significant differences between the three techniques. Similarly for organ at risk sparing, Tomo was slightly better at minimizing dose to carotid arteries and spinal cord without compromising target coverage. Ranking techniques from shortest to longest time taken for plan preparation was IMRT, Tomo and then VMAT. For delivery time, VMAT was the quickest, followed by Tomo and IMRT. **Conclusion:** Tomo provided the best plan quality, while VMAT and IMRT were equivalent. VMAT was the most resource efficient technique overall, with IMRT the least efficient. The absolute differences across the three techniques were small and unlikely to be of any clinical significance. On balance Tomo was considered the preferred radiation therapy technique for the management of larynx cancer patients.



POSTER ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

LC22P

"WHEN CAN THIS TUBE COME OUT?" IDENTIFYING FACTORS TO A SUCCESSFUL GASTROSTOMY REMOVAL

Ms Louise Moodie

Royal Darwin Hospital, Northern Territory, Australia

Gastrostomies should be considered for those head and neck cancer patients who are expected to be at higher nutritional risk during and after their treatment. However, it is not clear as to when gastrostomies should be removed. At our centre, decision making around this process is based on three factors: (1) weight maintenance for one month on an oral diet, (2) the ability to safely swallow foods, fluids and medications and (3) no clinical signs of residual disease at 3 months. Other factors are considered, such as accidental removal and infection. The aim of this study is to determine if those who had their gastrostomy removed met these criteria. A retrospective chart review was undertaken of all patients with a diagnosis of a head and neck cancer that underwent a gastrostomy placement and underwent curative intent IMRT \pm chemotherapy \pm surgery at the Alan Walker Cancer Care Centre / Royal Darwin Hospital between 1 July 2013 and 30 June 2014. The review will determine the percentage of patients who had their gastrostomy removed, continued to use the tube or who had passed away with it in situ. Those who had their gastrostomy removed will be analysed to determine if the criteria were met and why those who did not meet the criteria had their tube removed. Ongoing weight loss post removal and/or a need for re-insertion will also be determined as these could be considered failed removals. The average duration of gastrostomy insertion will also be determined.

LC43P

PROPHYLACTIC GASTROSTOMIES IN CURATIVE-INTENT HEAD AND NECK TREATMENT: DETERMINING APPROPRIATE GUIDELINES FOR THE NORTHERN TERRITORY POPULATION

Ms Louise Moodie

Royal Darwin Hospital, Northern Territory, Australia

Dietitians and Speech pathologists involved with the Head and Neck Cancer clinics at our centre have been using the Royal Brisbane and Women's Hospital (RBWH) Swallowing and Nutrition Guidelines for Patients with Head and Neck Cancer (1) to guide practice on prophylactic gastrostomy insertion. These guidelines were developed based on patients receiving conformational radiotherapy. The purpose of this study is to determine if the RBWH Guidelines are a suitable guide for the insertion of prophylactic gastrostomies in the Northern Territory head and neck cancer population receiving IMRT \pm chemotherapy \pm surgery. A retrospective chart review was undertaken of all patients with a diagnosis of a head and neck cancer undergoing curative intent IMRT \pm chemotherapy \pm surgery at the Alan Walker Cancer Care Centre / Royal Darwin Hospital between 1 July 2013 and 30 June 2014. The chart review will determine the nutritional/swallowing risk category of each patient as determined by the guidelines. It will also review the number of patients recommended for gastrostomy insertion and how many used the tube to supplement their oral intake. An analysis of those who did not have a gastrostomy will also be undertaken to determine whether they required an admission due to reduced oral intake or had a naso-gastric tube inserted and percentage weight loss during treatment. Other factors leading to gastrostomy insertion or non-insertion will also be considered. (1) Brown T, et al. Head Neck. 2012

LC39P

METHOTREXATE-ASSOCIATED DIFFUSE LARGE B CELL LYMPHOMA OF THE VOCAL CORD

Dr Matthew Ng, Mr Patrick Guiney

Box Hill Hospital, Eastern Health, Victoria, Australia

Background: Lymphoma of the vocal cords is an uncommon laryngeal malignancy. **Methods:** We review the literature surrounding vocal cord lymphoma secondary to immunosuppressive therapy, and present a case of methotrexate-driven diffuse large B cell lymphoma of the vocal cords. **Results:** A 77-year-old woman developed diffuse large B cell lymphoma of the vocal cords after five years of methotrexate for rheumatoid arthritis. This was diagnosed on microlaryngoscopy and biopsy and treated with cessation of methotrexate and commencement of combination R-CHOP chemotherapy. **Conclusion:** Methotrexate has been implicated in the development of lymphoma, but this is the first reported case of methotrexate-driven diffuse large B cell lymphoma of the vocal cords.

LC37P

FUNCTIONAL ANALYSIS OF SWALLOWING AFTER FRONTOLATERAL HEMI-LARYNGECTOMY IN PATIENTS DIAGNOSED WITH EARLY STAGE CA GLOTTIS

Dr Sunun Ongarg, Assistant Prof Phawin Keskkool, Prof Choakchai Metheetrakul, Dr Navamon Plasen, Assoc Prof Cheerasook Chongkolwatana

Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand

Frontolateral hemilaryngectomy (FHL) is a type of conservative laryngeal surgery that is an alternative treatment for patients with early stage glottic carcinoma. FHL has a high local control rate ranging from 86 to 91%. Since this resection involves the glottis, which carries out sphincter action of swallowing, it may cause negative effect in swallowing and quality of life. **Purpose:** To objectively evaluate swallowing ability in patients treated with FHL by using scientific methodology and to find out factors that could influence swallowing outcomes. **Methodology:** Medical records of thirty-two patients who underwent FHL from 2004-2014 were reviewed and their swallowing skills were assessed by Fiberoptic Endoscopic Evaluation of Swallowing (FEES) technique. Premature spillage, retention of food, and laryngeal penetration with coughing ability were assessed and scored. A score of five in each aspect or fifteen scores in total are considered good swallowing. **Results:** By the time of hospital discharge, 30 patients (93.75%) achieved oral feeding with the median time of the nasogastric tube insertion of 10 days (range 6-45 days). The mean FEES scores after FHL surgery are 14.6 ± 0.8 ; 23 patients (71.9%) achieved good FEES scores (≥ 8 ; 15). Nine patients with abnormal FEES scores (< 15) were observed to have mild degree of retention of food. Infected surgical wound ($p=0.017$) and age of more than 65 years ($p=0.049$) were factors influencing poor swallowing outcomes. **Conclusions:** The functional evaluation of swallowing after FHL demonstrates satisfactory results. The age of the patients and surgical wound infection significantly increased deglutition problem.

POSTER ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

LC27P

AN ANATOMIC STUDY ON THE DIMENSIONS OF CADAVERIC LARYNGEAL SINUS

Dr Ashwin Rai

Kasturba Medical College, Manipal University, Karnataka, India

Purpose: Objective of the present cadaveric study is to measure the dimensions of the laryngeal sinus of adult Indian population. Height and anteroposterior diameter of laryngeal sinus was done to evaluate the morphometry of laryngeal sinus. Information of size and proportions of the laryngeal sinus is essential for the diagnosis and treatment of certain laryngeal disorders and in prevention of unnecessary injuries to the larynx during surgical procedures in this region. **Methodology:** Forty four sagittal section of head and neck region was taken from the cadaver. Out of which 22 of right and 22 of left side was studied. The measurements were taken with the help of digital vernier caliper and scale. Data was analyzed using software GraphPad Instat 3 for each of the parameters and the mean, standard deviation and standard error was calculated. **Results:** It was found that antero-posterior diameter of laryngeal sinus on right side was 11.69 ± 1.66 mm and 11.44 ± 2.05 mm on the left. Height of sinus from midpoint of vestibular fold to midpoint of vocal fold on the right side was 3.88 ± 0.85 mm and 3.75 ± 1.25 mm on the left side. **Conclusion:** Morphometric data of the laryngeal sinus may be very useful in otorhinolaryngology, laryngeal microsurgery, and evaluation of various diagnostic procedure of concerned region.

LC51P

SACRIFICE OF DURAL SINUS VESSELS IN HEAD AND NECK ONCOLOGY SURGERY

Dr Samuel Roberts, Dr Robert Eisenberg

John Hunter Hospital, New South Wales, Australia

Purpose: Malignant tumours of the head and neck can invade locally into the cerebral vault and occasionally involve the intra-cerebral vessels. Resection may be necessary for local control. Tumour resection can become very difficult when these vessels are involved and there is no consensus as to when sacrifice may be appropriate, despite experience with this technique in the neurosurgical literature. **Methodology:** We conducted a thorough search of the medical literature in both Medline and PubMed. The head and neck literature was reviewed systematically and the neurosurgical literature was also examined. This information was synthesised into a protocol for managing this difficult condition. **Results:** A thorough examination of the head and neck literature revealed only case reports which made mention of dural sinus sacrifice for head and neck oncological resections with the notable exception of the cavernous sinus. Within the neurosurgical literature there was a great deal more experience, particularly in meningioma surgery. Sacrifice of some of these vessels may be safe in certain patients, and its safety can often be assessed pre-operatively. We propose a protocol to guide pre-operative planning. **Conclusions:** There is limited experience with the sacrifice of dural sinus vessels in head and neck oncological resections. Some vessels can be safely sacrificed and pre-operative planning may be helped by the use of a protocol. Final decisions are best made with the involvement of a neurosurgeon in a head and neck multidisciplinary team.

LC26P

A RETROSPECTIVE CASE STUDY: DOES STRATAXRT SILICONE GEL REDUCE RADIATION DERMATITIS SKIN REACTIONS ON HEAD & NECK CANCER PATIENTS?

A/Prof Robert Smee, Ms Natasha Bissell

Tamworth Base Hospital, New South Wales, Australia

Purpose: Minimising skin hydration loss and preventing radiation dermatitis is paramount for a patient's skin integrity during a course of radiation treatment. This Case-Study review evaluated the effectiveness of using a Therapeutic Goods Administration approved silicone wound-dressing gel (StrataXRT), on patients with Head & Neck (H&N) radiation dermatitis, applied during the course of their treatment at Tamworth Base Hospital. **Methods:** This New England Area Health Ethics approved study, reviewed 16 cases of XRT gel application to H&N patients undergoing radiotherapy. Patients were evaluated at the conclusion of treatment to determine the level of radiation dermatitis. Monitoring of irradiation skin reactions was charted weekly, based on the RTOG Skin Reaction Scale, graded from 0-4. After each treatment, the patient's dermatitis area was bathed, dried and assessed for radiation dermatitis reaction. Treatment was delivered 4-5 days per week, duration being 4-6 weeks. Upon consent, photos of the irradiated area were photographed at commencement and completion of treatment. **Results:** H&N sites included: ear-3, parotid-6, cheek+ear-1, other sites-6. Scores ranged between 1-2, with 56% of patients including ear, parotid, nose, neck and larynx sites demonstrating a toxicity level of 2, whilst 44% patients had level 1 toxicity. **Conclusion:** Radiation dermatitis occurs in the majority of patients undergoing radiation therapy, irrespective of the skin site. Results from this small population sample using the silicone-dermatitis gel, showed low reactionary scores with minimal radiation dermatitis, thus potentially implying the positive impact of the use of the gel during radiation treatment, important in patient quality care.

LC63P

UNSEDATED TRANSNASAL ESOPHAGOSCOPY AS A SCREENING TOOL IN AN OUTPATIENT CLINIC

Dr Premasuda Sombuntham, Dr Worawat Rawangban

Chulalongkorn University, Bangkok, Thailand

Purpose: We evaluated indication, outcome and complication of unsedated transnasal esophagoscopy (TNE) among patients who receive this procedure in our hospital. **Methodology:** This retrospective, descriptive study reviews recorded data from patients underwent in-office transnasal esophagoscopy (TNE) without sedation at ENT department. Demographic data, indication and clinical record were collected. **Result:** A total of Retrospective chart-review studies of 58 patients was recorded. Mean age was 57.4 years (range 18-84), 43 male and 15 female. Indications for TNE were second primary cancer surveillance (47.2%), swallowing problem (37.5%), Head and neck clinical staging (11%) and voice problem (4.1%). 8.62% (5/58) was found positive tissue biopsy for esophageal cancer. 2 patients (3.4%) had major complication. **Conclusion:** Transnasal esophagoscopy is a safe and practical screening tool for detection of esophageal cancer. This procedure allows otolaryngologist to early detection of second primary head and neck cancer in an office setting.



POSTER ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

LC29P

ASSOCIATIONS OF FOXP3 GENE POLYMORPHISMS WITH SEVERE RECURRENT RESPIRATORY PAPILLOMATOSIS IN KOREAN PATIENTS

Dr Eun Young Song, Dr Eun Youn Roh, Dr Sue Shin,
Dr Myung-Whun Sung, Dr Tack-Kyun Kwon

Seoul National University Hospital, Korea

Purpose: Although, human papillomavirus (HPV) types 6 and 11 are the predominant HPV viruses that cause recurrent respiratory papillomatosis (RRP), it is unclear why only a very small fraction of HPV-exposed individuals develop RRP. FoxP3 is still the most reliable marker for regulatory T cells which play an important role in immune tolerance and viral reactivation. Recently, Foxp3 gene polymorphisms have been reported to be associated with autoimmune disease and clearance of viral infections. Therefore, we analyzed the association of Foxp3 polymorphisms (rs5902434 del/ATT and rs3761548 C/A) in Korean severe RRP patients.

Methodology: DNA was extracted from peripheral blood of 21 Korean patients who underwent surgery for severe RRP during the year 1990-2004 in Seoul National University Hospital and 103 healthy controls. Foxp3 polymorphisms (rs5902434 del/ATT and rs3761548 C/A) were determined by polymerase chain reaction and sequencing. **Results:** Genotype frequencies (GF) of rs5902434 del/ATT and rs3761548 in healthy controls were: 20 del/ATT (19.4%); 83 ATT/ATT (80.6%) at rs5902434 and 76 CC (73.8%); 17 AC (16.5%); 10 AA (9.7%) genotype at rs3761548. The GF of rs5902434 del/ATT was significantly higher in severe RRP patients than controls (52.4% vs 19.4%, $P = 0.001$). The GF at rs3761548 showed no difference between severe RRP patients and controls. **Conclusion:** We showed that Foxp3 polymorphism of rs5902434 del/ATT may be an important factor in the susceptibility of severe RRP in Koreans. Further studies including other Foxp3 polymorphisms on larger number of patients are needed to clarify the association.

LC40P

NECK METASTASIS IN PATIENTS WITH T1-2 SUPRAGLOTTIC CANCER

Dr Tomoyasu Tachibana, Dr Yori-hisa Orita, Dr Hidenori Marunaka,
Dr Sei-Ichiro Makihara, Dr Misato Hirai, Dr Kentaro Miki

Himeji Red Cross Hospital, Hyogo, Japan

Purpose: Hoarseness is the most common presenting symptom among patients with laryngeal cancer. Unlike glottic cancer, T1-2 SC cases are often diagnosed with neck metastasis, which may be partly explained by the distance from the primary lesion to the vocal fold. We have hypothesized that some SC cases may have the characteristics of oropharyngeal cancer. The objective of this study is to delineate the characteristics of T1-2 SC cases with neck metastasis, and to observe the HPV infection among cases with and without neck metastasis. **Methodology:** A hundred and three patients with SC who visited Himeji Red Cross Hospital and its affiliated hospitals between 1994 and 2012 were included in the study. Fifty-one patients had a T1-2 tumor. Twenty-five cases (20 with and 5 without neck metastasis) were examined immunohistochemically for anti-p16INK4a antibody as HPV infection marker. **Results and Conclusion:** At the first presentation, Neck metastasis was found in 12 (23.5%). The 5-year disease free

survival rate was 55.6% and 94.7% in patients with and without neck metastasis ($p=0.0044$). Univariate analysis indicated that patients <65 years old ($p=0.0051$), without hoarseness ($p=0.0342$), and with located in epiglottis ($p=0.0135$) or epilarynx ($p=0.0160$) had significantly high positive rate of neck metastasis. Multivariate analysis identified age <65 years as independently associated with neck metastasis ($p=0.0206$), and showed that SC located in epiglottis had a tendency to cause neck metastasis. There was no significant difference in anti-p16INK4a antibody-positive staining rate among cases with and without neck metastasis.

LC23P

A CADAVERIC STUDY OF THE ADULT HUMAN THYROID CARTILAGE

Dr Rajanigandha Vadgaonkar

Kasturba Medical College, Manipal University, Karnataka, India

Purpose: The aim of the present study is to estimate and evaluate certain basic parameters of thyroid cartilage in adult male human cadavers in Indian population. **Methodology:** A total number of 44 sagittal sections of formalin fixed head and neck specimens were taken in this study from which the thyroid cartilage was dissected from the larynx and the morphometric analysis was done. The measurements were taken with the help of digital vernier caliper. Data was analyzed using software GraphPad Instat 3 for each of the parameters, the mean, standard deviation and standard error was calculated. **Results:** The mean height of the thyroid laminae between the upper border and the lower border was $27.55\text{mm} \pm 3.4\text{mm}$ on right side and $24.47\text{mm} \pm 3.9\text{mm}$ on the left side. The mean width of the thyroid lamina from the midpoint of anterior border to midpoint of posterior border was $27.90\text{mm} \pm 4.7\text{mm}$ on right side and $26.72\text{mm} \pm 4.5\text{mm}$ on the left side. The mean thickness of thyroid cartilage was measured between the midpoint of upper and lower border of the lamina and it was found to be $4.23\text{mm} \pm 1.4\text{mm}$ on right side and $3.99\text{mm} \pm 1.8\text{mm}$ on left side. **Conclusion:** A detailed knowledge of thyroid cartilage is necessary in planning laryngeal surgeries, constructing biomechanical models and also in analyzing radiological images.

LC60P

THE TENACIOUS HEAD & NECK RESEARCHER

Ms Janet Williams, Miss Claire Hanna, A/Prof Robert Smee

Prince of Wales Hospital, New South Wales, Australia

Purpose: In September 1990, the Head and Neck (H&N) Researcher at POWH, commenced the development of a H&N Cancer Statistical Database for presentation at the 2nd World Laryngeal Congress, 1994. In 2015, this evolving database contains multiple H&N cancer sub-site databases and 8,000 patient data variables. Comprising mostly of carcinoma of the larynx, this database reflects the travels of the H&N researcher through the patients' journey at POWH from presentation, treatment obstacles to survival outcomes. **Methodology:** This Ethics approved project is the largest retrospective study on larynx cancer-1650 records (1967-2014) within our Area Health Service. Features include: patient demographics, treatment modalities, complications, follow-up, recurrences and ultimate-survival. Another dimension was added – the "T intersection" – the treatment journey and

POSTER ABSTRACTS (CONT'D) *Alphabetical order by presenting author's surname.*

the impact of these parameters on patients. Data was sourced from the Departmental Patient-Information-System and Medical professionals, and housed in SPSS (v11-22). **Results:** The databases comprise of 7 H&N sites: larynx-1650 Nasopharynx-366 Paranasal Sinus-458 Oral Cavity-939 Oropharynx-801 Hypopharynx-478 Salivary Glands-271 records. The Larynx infra-structure sites were: supraglottic-370, glottis-752, subglottis-12. Singular treatment for surgery/RT were 120/759, respectively and combination therapy was 1007. Chemo-rads population comprised of 33 patients. Survival outcomes were 262-alive, dead with-disease-236, dead with-out disease-622, dead cause-unknown-7. **Conclusion:** The H&N researcher is pivotal in the creation and ongoing expansion of this database. Its existence has enabled important scientific analysis and will continue to be a useful tool for treatment planning.

LC34P

DIET RE-INITIATION POST FLAP RECONSTRUCTION OF PHARYNGOLARYNGECTOMY DEFECTS

Dr Nilay Yalcin, Mr Derek Neoh

Austin Health, Victoria, Australia

Purpose: To analyze anastomotic leak rates post flap reconstruction of the pharynx and larynx. **Methodology:** Total of 76 patients undergoing pharyngectomy/laryngectomy were identified via medical records within a ten-year period between 2005 to 2014. Of these, 17 patients underwent flap reconstruction of the resected defect and were included in the study. **Results:** The average age of the patients was 67 years, with 4 females and 13 males. Of the 17 patients, 15 underwent immediate flap repair whereas 2 had delayed flaps to manage complication of mucocutaneous fistulas. The fistula defects were covered with pectoralis major flaps. The flaps used for immediate coverage included 6 anterolateral thigh, 4 jejunal, 2 anteromedial thigh, 2 radial forearm and 1 deltocephalic flaps. All but one patient had the surgery to manage a malignancy, the most common pathology being SCC. Only in one instance the resection was due to stricture. Diet was safely recommenced in 13 patients. Post-operatively, 10 of these patients showed convincing patency of the luminal anastomosis and 3 had minor leakage on gastrograffin swallow test (GGS) which, after a few weeks, self-resolved. Unfortunately 4 patients never recommenced diet. Of these, three patients could not be assessed on GGS, one due to aspiration, two due to dysphagia. The fourth patient had a breakdown of jejunal anastomosis. After a prolonged admission with multiple medical complications this patient was palliated and passed away. All other patients were discharged from the acute admission either home or to a sub-acute facility for ongoing rehabilitation. **Conclusion:** Flap reconstruction post pharyngolaryngectomy is a reliable means of establishing oral intake post-operatively.

LC38P

LARYNGEAL CHONDROSARCOMAS – DIAGNOSIS AND TREATMENT OPTIONS

Dr Michal Zabrodsky, Dr Kristina Strakova, Dr Petr Lukes, Prof Jan Plzak, Prof Jan Betka

Department of Otorhinolaryngology, HNS, FH Motol, Czech Republic

Outcome Objectives: Chondrosarcoma of the larynx is a fairly uncommon laryngeal tumour and predominantly affects the cricoid cartilage. The clinical presentation includes hoarseness, stridor, dyspnea, or a neck mass and largely depends on the exact location and extent of the tumour. The objective of our work is to summarize a single institution experience with the diagnosis and treatment of patients diagnosed with cartilaginous tumours of the laryngeal framework. **Methods:** A retrospective study of 15 consecutive patients diagnosed and treated for above mentioned diagnoses between 2000-2013. Electronic charts were reviewed for details regarding patients' personal data, treatment options and oncologic outcomes. **Results:** Nine patients were treated by means of minimally invasive or conservative endoscopically controlled resection, six patients were laryngotomized, and two of them refused conservative surgical procedure. 60% of patients were treated by a laryngotomy approach; no patient out of these patients is tracheostomy dependent. Five patients underwent adjuvant oncologic therapy including proton beam radiotherapy in one patient. All patients but one are living, three of them with a persistent, slowly growing disease. **Conclusion:** Extent of the surgery should be driven by the size and location of the tumour. Its biological behaviour predestinates an attempt for organ and function preservation surgery. Radiotherapy has established its place in the treatment protocol as an adjuvant therapy. This paper was supported by grant NT11544 of the Internal Grant Agency of the Ministry of Health of the Czech Republic.



WORLD CONGRESS ON LARYNX CANCER 2015

26-30 JULY 2015 • CAIRNS CONVENTION CENTRE
CAIRNS • QUEENSLAND • AUSTRALIA



AUSTRALIAN AND NEW ZEALAND
HEAD & NECK
CANCER SOCIETY

CONGRESS ORGANISERS

Conferences and Events Management
Royal Australasian College of Surgeons
College of Surgeons Gardens
250 – 290 Spring Street
East Melbourne VIC 3002
Australia

T: +61 3 9249 1260
F: +61 3 9276 7431
E: wclc2015@surgeons.org
W: www.wclc2015.org