

## CURRICULUM VITAE

### PERSONAL DETAILS

|                 |   |
|-----------------|---|
| Name            | Melville John da Cruz   |
| Date of Birth   | 23rd August, 1962   |
| Contact Address | Department of Surgery<br>Westmead Hospital<br>Westmead 2145 NSW<br>t 02 96351030<br>f 02 96351737 |

### ACADEMIC RECORD

|                 |            |  |
|-----------------|------------|--|
| Secondary       | 1974 -1979 | Music Scholarship to Perth Modern School                     |
|                 | 1979       | School Dux, Index of Academic Standing: 100.0                |
| Tertiary        | 1980-86    | University of Western Australia (MBBS)                       |
|                 | 1994       | Master Medical Science, University of WA (Physiology)        |
|                 | 1991-95    | RACS Trainee in Otolaryngology                               |
| Post fellowship | 1996       | Fellowship, Royal Australasian College of Surgeons           |
|                 | 1997-1999  | Otological and Skull base fellowship, Addenbrooks Hospital   |
|                 | 1998       | Research Fellowship, King's College, University of Cambridge |
|                 | 2003       | Doctor of Medicine, University of Sydney                     |

### SENIOR PROFESSIONAL APPOINTMENTS

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| 1999-2005 | Conjoint Senior Lecturer/Staff Specialist in Surgery, Westmead Hospital                          |
| 2003-     | Senior Research Fellow, Department of Linguistics, Macquarie University, NSW                     |
| 2003-     | Director and Area Head, ENT Department, Western Sydney Area Health Service                       |
| 2005-     | Associate Professor Otolaryngology, University of Sydney   |
| 2009-     | VMO – cochlear implantation, otology and skull base surgery, The Children's Hospital at Westmead |

## **PUBLICATIONS**

### **THESES**

1. **Quantification of the Fundamental Mechanisms Leading to Cochlear Hearing Loss.** MJ da Cruz. M. Med Science Thesis (Physiology). University of Western Australia. March 1995.

This work adds to the well established technique of round window electrocochleography (ECOG) used to record potentials from the inner ear. Data was recorded by ECOG from a live animal model deafened by a variety of agents (ototoxic medications, loud sound, hypoxia and hypothermia) to characterise common clinical examples of cochlear hearing loss in terms of alteration in function of hair cells and Organ of Corti. An overall model of normal and deafened cochlea was constructed by characterising and quantifying the degree of hearing loss derived from damaging the various known intracochlear transduction pathways. The nature of hearing loss in several human examples was then correlated with particular animal examples to infer the nature and possible mechanism, at a hair cell level, which may have produced the deafness. This work has broadly increased knowledge about common presentations of sensorineural hearing loss: sudden hearing loss syndrome, Menieres disease, age related hearing loss, ototoxicity and profound hearing loss.

2. **Outcome Measurement following Vestibular Schwannoma Surgery.** MJ da Cruz. Doctor of Medicine Thesis. University of Sydney. April 2003.

This thesis, through a series of themed publications and abstracts, summarises a series of sophisticated measures of outcome which have documented new concepts in acoustic neuroma (vestibular schwannoma) treatments. The theme of outcome allows benchmarking the treatment results of an increasing number of specialised centres dealing with complex surgery of the skull base. The same measures also document the learning curve of surgeons in training and allow meaningful comparison between the three dominant treatment modalities available for treating patients with skull base tumours. The work highlights the difficulties in collecting, analysing and comparing clinical data over long intervals and between different treatment centres. The potential of standardised tools to measure outcome is demonstrated with acoustic neuroma treatment, an experience that can be extrapolated to many areas of contemporary medicine.

### **BOOK CHAPTERS & Essential Reading**

1. Tumours of the temporal bone. MJ da Cruz; DA Moffat. In Management of Head and Neck Cancer. Editors: Evans P; Gullane P; Marandas P. ISIS Medical Media Ltd. (1998).
2. Squamous Cell Carcinoma. DA Moffat; J Chissone-Kerdel; MJ da Cruz. In Tumours of the Ear and Temporal Bone. Eds. Robert K Jackler, Colin L W Driscoll. Lippincott Wilkins and Williams. 2000: pp 67-83.
3. Cancer and the ENT Surgeon. TP Makeham, J Crawford, MJ Smith, M da Cruz, CE Palme. In when cancer crosses disciplines – a physicians handbook. Cancer Council NSW and University of Sydney. World Scientific Books. November 2009: pp 673-702.
4. The book chapter “Squamous Cell Carcinoma” of the temporal bone (2) and the publication “Post Operative Quality of Life in Vestibular Schwannoma Patients Measured by the SF 36 Health Questionnaire” (13) have been included in the essential reading reference in the chapters on Acoustic neuroma and skull base surgeries in the European Manual of Medicine-Otorhinolaryngology. Published by Union of European Medical Societies. Springer. 2010. Pgs 41 and 92. The Manual outlines the syllabus for the European Otolaryngology training programmes.

### **ORIGINAL PEER REVIEWED ARTICLES**

1. Veratridine-stimulated central synapses in culture: a quantitative ultrastructural analysis. MJ da Cruz, Z. Janka, DG Jones. Journal of Neurobiology, 1983, January 14 (1), pp 77 - 85.
2. A Simple Prosthesis for Ready Access to the Closed Afferent Limb of a Hepatico-Jejunostomy. MJ da Cruz, DC Cameron, EGC Tan, I Johnston, E Swarts, T Jones. Australian Radiology, February 1991 Vol 25 (1).

3. Reversible Suction and Drill Induced Hearing Loss in Ear Surgery. MJ da Cruz. Australian Journal of Otolaryngology. July 1995, 2, pp 182-185. Jean Littlejohn Prize, 1995.
4. The Facial Nerve in Mastoid Surgery: a video teaching presentation. MJ da Cruz, PA Fagan. St Vincent's Hospital, Sydney, July, 1996.
5. Noise Induced Hearing Loss in the Non-Operated Ear. MJ da Cruz., PA Fagan, MD Atlas, C McNeill. Otolaryngology Head and Neck Surgery. Nov 1997, vol 117, 5, pp 555-559.
6. Clinical Acumen and Vestibular Schwannoma Surgery. DA Moffat; D M Baguley; GJ Beynon; MJ da Cruz. American Journal of Otology; 19: 82-87. 1998.
7. An Alternative Method for Dealing with CSF Fistulae in Inner Ear Deformities. MJ da Cruz; SM Ahmed; DA Moffat. American Journal of Otology, 19: 288-291, 1998.
8. Use of Autologous Osteocyte Containing Bone Pate for Closure of Tegmental Defects. DA Moffat; MJ da Cruz; A. Batten; DG Hardy. American Journal of Otology, 19 (6):819-823. 1998.
9. Does Choice of Hearing Selection Criteria and Reporting Criteria Affect the Hearing Preservation Rate in Vestibular Schwannoma Surgery? MJ da Cruz; DA Moffat; DM Baguley; GJ Beynon; DG Hardy. Otolaryngology Head and Neck Surgery, vol 121(3), pp 313-317. September 1999.
10. Hearing Preservation in Solitary Vestibular Schwannoma Surgery using the Retro sigmoid Approach. DA Moffat; MJ da Cruz; DM Baguley; GJ Beynon; DG Hardy. Otolaryngol Head Neck Surg 1999 Dec;121(6):781-8.
11. Recurrence of symptoms following treatment of posterior semicircular canal benign positional paroxysmal vertigo with a particle repositioning manoeuvre. Beynon GJ, Baguley DM, da Cruz MJ. Otolaryngol 2000 Feb; 29(1): 2-6.
12. Cavernous Haemangioma of the Internal Auditory Canal. Shaida AM, McFerran DJ, da Cruz M, Hardy DG, Moffat DA. J Laryngol Otol 2000 Jun; 114(6):453-5.
13. Post Operative Quality of Life in Vestibular Schwannoma Patients Measured by the SF 36 Health Questionnaire. MJ da Cruz, DA Moffat, DG Hardy. Laryngoscope 2000 Jan;110(1):151-5
14. Clinical Presentations of a Group of NF2 Patients to a Tertiary Referral Skull Base Unit. MJ da Cruz; DG Hardy; DA Moffat. Br J Neurosurgery. 2000; 14(2): 101-104.
15. Unilateral hearing loss: could this be an acoustic neuroma? MJ da Cruz. Medicine Today. September 2001, pp 51-56.
16. Acoustic Neuroma – an important cause of unilateral hearing loss. MJ da Cruz. Medical Progress. January 2002, pp 38-42.
17. The discharging ear. MJ da Cruz. Medicine Today. February 2003, 32-36.
18. Otitis media in Aboriginal children. Letters to the Editor and Reply. MJ da Cruz. Medicine Today. June 2003, pp 116-117.
19. Otosclerosis and Stapedectomy Surgery. Patient education pamphlet and informed consent pamphlet. MJ da Cruz, R Payten, V Cousins. Royal Australasian College of Surgeons. Mi-tec Publishing. July 2003.
20. Cholesteatoma and Mastoidectomy Surgery. Patient education pamphlet and informed consent pamphlet. MJ da Cruz, R Payten, V Cousins. Royal Australasian College of Surgeons. Mi-tec Publishing. July 2003.
21. Exostosis and Canalplasty Surgery. Patient education pamphlet and informed consent pamphlet. MJ da Cruz, R Payten, V Cousins. Royal Australasian College of Surgeons. Mi-tec Publishing. November 2003.
22. Myringoplasty Surgery. Patient education pamphlet and informed consent pamphlet. MJ da Cruz, R Payten, V Cousins. Royal Australasian College of Surgeons. Mi-tec Publishing. November 2003.

23. Asymmetric tonsil hypertrophy: Case report of lymphangioma of the tonsil. S Boardman, J Curotta, MJ da Cruz. *Australian Journal of Otolaryngology*. 7(1) May 2004. pp41-42.
24. Skull Base Choroid Meningioma: Imaging features and Pathology. MYS Soo, T Ng, L Gomes, M Dexter, M da Cruz. *Australas Radiol*. 2004 Jun;48(2):233-6.
25. The discharging ear. MJ da Cruz. *Modern Medicine of South Africa*. March 2004, 16-26.
26. Lasers in Otorhinolaryngology. Book review. MJ da Cruz. *ANZ Journal of Surgery*. Volume 75, Issue 9, September 2005, Pages: 837-837.
27. Cervical chordoma presenting as retropharyngeal mass and dysphonia: Case report and literature review. N Singh, MYS Soo, MJ da Cruz, L Gomes, F Maclean, G Dandie. *Australas Radiol*. 2007 Dec;51 Suppl:183-8.
28. Swimmer's ear and differential diagnoses. MJ da Cruz. *Medicine Today*. Vol 8 (12). December 2007.
29. Bacterial biofilm adherence to middle-ear ventilation tubes: scanning electron micrograph images and literature review. M Barakate, E Beckenham, J Curotta, MJ da Cruz. *J Laryngol Otol*. 2007 Oct;121(10):993-7.
30. Ear and Temporal Bone Surgery - edited by Richard J. Wiet. Book review. MJ da Cruz. *ANZ Journal of Surgery*. Volume 77, Issue 4, April 2007, Pages: 252-252.
31. Swimmer's ear and differential diagnoses. MJ da Cruz. *Medicine Today*. Vol 8 (12), December 2007.
32. Endoscopic transnasal decompression for management of basilar invagination in osteogenesis imperfecta. MA Hansen, MJ da Cruz, BK Owler. *J Neurosurg Spine*. 2008 Oct;9(4):354-7.
33. Tinnitus and Acoustic Neuromas-review for the Australian Tinnitus Association. *ATA Newsletter* November 2008.
34. Nasal Obstruction. L Kalish, MJ da Cruz. *Medicine Today*. Vol 10 (3), March 2009.
35. Temporal Bone Chondroblastoma. S Cheng, L Gomes, T Ng, MJ da Cruz. *Otol Neurotol*. 2009 Aug;30(5):688-9.
36. Quality of life in post-operative Vestibular Schwannoma Patients. S Cheng, Y Naidoo, MJ da Cruz, M Dexter. *Laryngoscope*. 2009 Nov;119(11):2252-7.
37. Sweet's disease and profound, bilateral, sensorineural hearing loss. S Cheng, MJ da Cruz. *J Laryngol Otol*. 2010 Jan;124(1):105-7. Epub 2009 Oct 20.
38. The emergence of antineutrophil cytoplasmic antibodies may precede the clinical onset of Churg-Strauss syndrome: comment on the article by Zwerina et al, *Arthritis and Rheumatism* 2009. 60: (2); 626-629. N. Manolios, D. Tong, I. Agahari, MJ da Cruz, N. Gilroy, J. Koutts.
39. Pseudogout Mimicking an Infratemporal Fossa Tumour – a case report. LH Kalish, T Ng, I Kalnins, MJ da Cruz. *Head and Neck Surgery*. 2010 Jan; 32(1):127-32.
40. Skull-base osteomyelitis: fungal vs. bacterial infection. CC Blyth, L Gomes, TC Sorrell, MJ da Cruz, A Sud, SC Chen. *Clin Microbiol Infect*. 2010 Apr 2. [Epub ahead of print]

## REFEREED MEETING ABSTRACTS, PRESENTATIONS, POSTERS AND PANEL DISCUSSIONS

### International Meetings

1. Advances in Tinnitus Research – panel discussion: D Robertson (Chair), P Jastrebroff, R Patuzzi, M da Cruz, J Vernon, M Meiklc, J Sheldrake. 7th International Tinnitus Seminar. Fremantle, March 2002.
2. Post operative Quality of Life in Vestibular Schwannoma Patients Measured by the SF36 Health Questionnaire. MJ da Cruz, DA Moffat, DG Hardy. Presented at the 4th International Conference on Vestibular Schwannoma Surgery. Cambridge, July 2003.

3. Hearing Preservation Vestibular Schwannoma Surgery – panel discussion: MJ da Cruz (Chair), N Dwyer (co chair), R Jackler, S Selesnick, R MacFarlen. 4th International Conference on Vestibular Schwannoma Surgery. Cambridge, July 2003.
4. Quality of Life assessment in Vestibular Schwannoma surgery – panel discussion: G O'Donahughe (chair), MJ da Cruz, R Macfarlin, S Selsenick, R Jackler. 4th International Conference on Vestibular Schwannoma Surgery. Cambridge, July 2003.
5. Chair and participant multiple panels. 6th Asia Pacific Scientific Conference on Cochlear implants and applied Sciences. Sydney, June 2007.
6. Surgical Management of Basilar Impression in OI type IV by transnasal clivectomy. B Owler, MJ da Cruz, E Everingham, J Holmes-Walker, D Sillence. Departments of Neurosurgery, Surgery, Endocrinology, Genetic Medicine, Westmead Hospital and Clinical School, Neurosciences, Westmead Private Hospital, Westmead NSW Australia. Abstract for 10th International OI, Ghent Belgium, October 2008.

### **National Meetings**

7. The Cambridge Skull Base Fellowship. MJ da Cruz. Presented at the 49th Annual Scientific Meeting of the Australian Society of Otolaryngology. Canberra, March 1999.
8. The Westmead Skull Base Unit. MJ da Cruz. Presented at the 50th Annual Scientific Meeting of the Australian Society of Otolaryngology. Melbourne, March 2000.
9. Virtual Otoendoscopy. MJ da Cruz; L Gomes. Presented at the 51st Annual Scientific Meeting of the Australian Society of Otolaryngology. Adelaide, March 2001.
10. Outcome Reporting in Hearing Preservation Vestibular Schwannoma Surgery. MJ da Cruz. Presented at the 51<sup>st</sup> Annual Scientific Meeting of the Australian Society of Otolaryngology. Adelaide, March 2001.
11. Intracochlear Hearing Loss. MJ da Cruz. Presented at the 11th Annual Scientific Meeting of the Neurotology Society of Australia, Sydney, October 2001.
12. Treatment of Visual Defects in Empty Sella Syndrome with a Detachable Balloon. Young N, Chauhan T, da Cruz MJ. Poster presentation at Cardiovascular and Intervention Radiologic Society of Europe meeting, September 2001, Gothenburg, Sweden and 52nd Annual Scientific meeting Royal Australian and New Zealand College of Radiologists October 2001, Melbourne, Australia.
13. Acoustic Neuroma Surgery at the Westmead Skull Base Unit, University of Sydney. MJ da Cruz, M Dexter. Presented at the 52nd Annual General Scientific Meeting, Australian Society of Otolaryngology Head and Neck Surgery, Perth, March 2002.
14. Jugular Foramen Tumours, Westmead Skull Base Unit, University of Sydney. MJ da Cruz, M Dexter. Presented at the 52nd Annual General Scientific Meeting Australian Society of Otolaryngology Head and Neck Surgery, Perth, March 2002.
15. Quality of life outcomes following acoustic neuroma removal. Presented at the 54th Annual General Scientific Meeting Australian Society of Otolaryngology Head and Neck Surgery, Sydney, March 2004.
16. Total transnasal endoscopic pituitary surgery. Presented at the 54th Annual General Scientific Meeting Australian Society of Otolaryngology Head and Neck Surgery, Sydney, March, 2004.
17. The inner ear and how it works. Australian Tinnitus Association 20th Anniversary Symposium. Garvan Institute, Sydney, August 2004.
18. Facial nerve outcomes following temporal bone and vestibular schwannoma surgery. 4th International Skull Base Congress. Sydney, October 2004.

19. Vertigo. Invited lecture for Meniere's Support Group. NSW State Library, Sydney, June 2004.
20. Lateral canal fistula – a clinico-pathological correlation. Presented at the 57th Annual General Scientific Meeting Australian Society of Otolaryngology Head and Neck Surgery, Adelaide, April 2007.
21. Stapedectomy surgery and the learning curve. Presented at the 58th Annual General Scientific Meeting Australian Society of Otolaryngology Head and Neck Surgery. Perth, April 2008.
22. Auditory brainstem implant update. Sydney Cochlear Implant Centre. Sydney, August 2008.
23. Neurotology for nurses. Medtronic. Sydney, 12<sup>th</sup> August, 2010.
24. Neural monitoring in lateral skull base surgery. Head and Neck Scientific Meeting. Sydney, 4<sup>th</sup> September, 2010.
25. Imaging case studies for Audiologists. Westmead, October 2010.

## **COLLABORATIVE GROUPS**

### **The Skull Base Unit at Westmead**

A tertiary referral multidisciplinary surgical unit dealing with the complex anatomy and pathologies involving the skull base. Principal inputs from ENT surgery, neurosurgery, anaesthesia, imaging, neurophysiology, and clinical genetics. Since its inception in January 1999 over 500 cases have been referred for management. The most common pathologies involved are vestibular schwannoma and other tumours of the temporal bone, lateral skull base and cerebello-pontine angle.

### **The Westmead Auditory and Vestibular Testing Laboratory**

A comprehensive diagnostic testing unit with open plan referral for patients with disorders of the auditory and vestibular systems. The laboratory runs in collaboration with the Department of Audiology at Macquarie University. This hospital based clinic for some time served as the primary training placement for the Master's of Audiology programme.

### **Westmead Implant Programme in Collaboration with Sydney Cochlear Implant Centre (SCIC)**

The programme aims to provide a comprehensive surgical and rehabilitation service for profoundly deafened adults as a node in the state wide network centred at the *Sydney Cochlear Implant Centre* at Gladesville. Relationships have been established with industry through Cochlear Limited in Sydney, the Collaborative Research Centre for Cochlear Implant and Hearing Aid Innovation at the University of Melbourne and the Department of Audiology at Macquarie University. The unit has performed 140 cochlear implants in adults and its first auditory brainstem implant (ABI) in 2010. There is a plan to extend the indication for ABI to adults and children with severe cochlear dysplasia and absent auditory nerves, who are not candidates for standard cochlear implants.

### **Neurofibromatosis (NF2) Multidisciplinary group at Children's Hospital, Westmead**

This multidisciplinary group is centred at the department of genetics at the *Children's Hospital at Westmead*. It manages the complex and potentially morbid familial disorders of NF2 and NF1. Patients are commonly diagnosed as children and young adults with bilateral acoustic neuromas and multiple cranial nerve and central nervous system tumours. Major inputs from otology/skull base surgery, neurosurgery, ophthalmology, and imaging and clinical genetics are required to manage these patients with the aim of minimising the impact of their disease and treatments on quality of life.

### **Transnasal minimally invasive Cranio-cervical junction surgery**

Through this multidisciplinary project involving neurosurgery, ENT surgery, anaesthesia and clinical genetics a novel approach to decompression of the brainstem and upper cervical cord in patients with severe osteogenesis imperfecta and extreme platybasia has been developed. This has been achieved through a minimally invasive endoscopic trans nasal approach<sup>1</sup> eliminating the approach related morbidities of the traditional surgical approaches through the face and palate. Patients have previously been sent to London for this surgery which was performed through the traditional transoral approach.

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<sup>1</sup> Endoscopic transnasal decompression for management of basilar invagination in osteogenesis imperfecta. Hansen MA, da Cruz MJ, Owler BK. J Neurosurg Spine. 2008 Oct;9(4):354-7.

## **TEACHING AND CURRICULUM DEVELOPMENT**

Teaching at all levels has formed a major part of my contribution to the Western clinical school and Westmead Campus. Within the restricted opportunities of the GMP, Medical Students are exposed to Otolaryngology via themed SCORPIOs and integrated clinical attachments. Interns and Residents, through the hospital surgical teaching programmes and clinical rotations, are introduced to the nature of more advanced evaluation and treatment in Otolaryngology, facilitated by my appointment to the Surgery Subdean position at Westmead. Advanced Trainees rotating through the two accredited posts at Westmead as well as the 21 trainees rotating through the NSW Australasian College of Surgeons regional training scheme for Otolaryngology are intensely exposed to the subspecialty of Otolaryngology in preparation for their future careers as subspecialty surgeons. This is facilitated through my role in the Regional Training Scheme. International level Post Fellowship subspecialty trainees have their specialised skills groomed, through the Skull Base Unit Fellowship programme, in preparation for substantial appointments in their home University Hospitals. Senior Consultant ENT hospital staff use the fortnightly academic unit meetings, which I initiated and run, as a forum to practice their Continuing Medical Education requirements, necessary for registration with the NSW Medical Board.

## **GRADUATE MEDICAL PROGRAMME**

### **Lecturing**

During the early years of my senior lectureship the teaching methodology which had been recommended was didactic class room lectures to 50-60 students at a time. It became apparent that this way of teaching was unsuitable for the speciality of Otolaryngology and other surgical subspecialties because of time constraints, large class numbers and the breadth of information that needed to be conveyed to the students. This led to my experimentation with a series of teaching methods and the subsequent development of three computer based, multimedia, multi station, rotational ENT SCORPIOs. This teaching methodology, described in detail below, allows active learning by large groups of medical students with sufficient breadth and depth to acquire the fundamentals of ENT to general practice level. The method has made it possible for ENT teaching to fill a void in the curriculum and has had significant impact.

### **Themed ENT SCORPIO's within the Graduate Medical Programme.**

These teaching activities require the assistance and supervision of 6 ENT clinicians. The method uses an innovative computer based multi media presentation of various clinical concepts. Each station is brief in duration, lasting 20 minutes, and aims to deliver a single clinical concept or illustrative example within the overarching theme for the session. The teaching material is presented in words, by video clips or through the simulation of sensory and motor deficits in hearing reception or voice production. In some stations all three modes of presentation are used. The current themes are ear and hearing; nose, smell and breathing; pharynx, speech and swallowing. The stations presenting the simulation of various degrees of conductive and neural hearing loss are particularly innovative allowing the students to experience sensory deficits in a novel and informative way. These experiences are unique to the GMP teaching curriculum at Westmead. Without these simulations the concept of various auditory dysfunctions (hearing loss, tinnitus) could have only been taught by the telling of vicarious experiences by patients. Currently there are 36 multimedia teaching stations in the portfolio, although only 6-7 relevant themed stations are chosen for each teaching session. Each rotational station teaches 6-8 students, and lasts 20 minutes. Around 50 students can be accommodated in each teaching session. Student feedback has been highly encouraging.

| Table 1. Student feed back from ENT SCORPIO's during 2008 GMP academic year. |                 |      |                        |                                |      |      |
|--|-----------------|------|------------------------|--------------------------------|------|------|
|  | Ear and Hearing |      | Nose, Smell, Breathing | Pharynx, Speech and Swallowing |      |      |
|  | mean*           | SD   | mean                   | SD                             | mean | SD   |
| Teaching/consolidation of theory & practical knowledge                       | 4.73            | 0.52 | 3.94                   | 1.00                           | 4.82 | 0.39 |
| Presentation   | 4.50            | 0.86 | 3.88                   | 1.20                           | 4.68 | 0.55 |
| Interaction & feedback   | 4.00            | 0.67 | 4.38                   | 0.72                           | 4.79 | 0.42 |
| Usefulness   | 4.73            | 0.52 | 4.06                   | 1.06                           | 4.75 | 0.44 |
| * ratings 1-5, 1=poor 5=excellent.   |                 |      |                        |                                |      |      |

The SCORPIO teaching methodology has also allowed the other ENT surgeons and registrars within the department to become involved with the GMP programme, without the need to prepare the teaching material. The time commitment necessary for preparation of the teaching material has been the major reason preventing their previous participation. Their enjoyment and enthusiasm for teaching, as well as their personal teaching skills have greatly improved as a result of their involvement.

The multi modality computer based teaching SCORPIOS have stimulated great interest within the other surgical units at the hospital as an effective teaching methodology as they allow the effective transfer of surgical knowledge and experiences to large groups of students within the unpredictable restrictions of busy surgical timetables. Surgical subspecialties which use intraoperative photo documentation as a standard technique (urology, ophthalmology, general surgery, and neurosurgery) are particularly suited to short video presentations in their teaching stations.

Involvement with the organisation and delivery of the SCORPIO sessions has allowed the Educational Coordinator at the Western Clinical School, Karen Garland, to fulfil the requirements of her enrolment in the Masters of Education (USyd) with distinction.

### **Integrated clinical attachments (ICA) in Otolaryngology**

I have organised and run these clinical attachments in the style of vocational apprenticeships. The attached student (1-2 per attachment) attends all activities within the department including patient clinics, operating sessions, academic teachings sessions as well as exposure to administrative activities. Two students who have gone through the ICA have chosen to emphasise their exposure to the academic activities of the department by subsequently enrolling and successfully completing honours projects within the GMP programme.

### **STUDENT ASSESSMENT**

Each year I have set several short answer and multiple choice questions in otolaryngology for the GMP summative assessments as part of a two stage process. The first stage involves writing sample questions, along with best answer examples, based on commonly encountered disease processes within the speciality of otolaryngology. Questions are commonly targeted to those areas taught within the rotational SCORPIO teaching sessions: middle ear pathology, giddiness, sinusitis, neck lumps, and laryngeal disorders. My part in the second stage of this process is one of collating submitted questions, a system of peer review to reaffirm their suitability for the examination process and benchmarking of the best possible answers. This process occurs within a central examinations committee for setting the GMP3 examinations. Considerable restructuring of the submitted questions is sometimes required.

I am involved in the GMP short and long clinical examinations at the Western Clinical School.

### **SURGERY SUBDEAN at WESTMEAD**

This recently formed position at Westmead aims to support in-hospital teaching to newly appointed graduates at Westmead Hospital, bridging the gap from the structured GMP to advanced training programmes. Graduates are introduced to the clinical pathways that operate at Westmead, through a series of weekly lectures. This programme allows them to deliver care as part of their employment as new health professionals. They are encouraged to gradually assume independence in clinical decision making and implement these decisions based

on best practice principles in the hospital environment. The ongoing lecture programme is delivered by senior hospital staff: medical, laboratory and technical, pharmacy and administration. As the first appointee to this new position within the teaching structure of Westmead and the Clinical school there is considerable scope to develop the nature of the position. I have encouraged a wide array of hospital personnel to be involved with teaching. I occupied the position from January 2003-2006.

## **SUPERVISION OF HONOURS AND HIGHER DEGREES**

### **SUPERVISED THESES**

1. Master of Surgery Thesis: Quality of Life in elderly cochlear implant recipients. Sheila Cheng, University of Sydney, submitted for examination, May 2009.

This thesis reports on a comprehensive study of Quality of Life of 400 cochlear implant recipients over the age of 50 using the validated SF36 QoL survey. The results show that elderly cochlear implant recipients rate their QoL close to that of a matched normal population. Age is no barrier to cochlear implantation in the severe to profoundly deafened population.

2. MD thesis: Staging and prognosis in metastatic cutaneous squamous cell carcinoma of the head and neck. Carsten Palme, University of Sydney, to be submitted for examination 2011.

The discussion in this series of publications reports the development of a disease specific data base of patients presenting with metastatic cutaneous head and neck SCC (mSCC). The information collated demonstrates the importance of disease extent in directing treatment and determining prognosis. The data analysis was the key part of the body of work that has led to the modification of the TNM staging system for mSCC as it appears in the current 7<sup>th</sup> Edition of the AJCC manual and handbook (American Joint Committee on Cancer 2010)<sup>2</sup>.

3. Eva Wong completed an honours project (November 2001) aimed at characterising and quantifying the exposure of operating theatre personnel to high levels of noise generated by compressed air-driven surgical instruments. The project involved measuring free field sound levels at various distances from the noise generating high speed drill systems commonly used during skull base and ENT surgery. Collaboration was required with the National Acoustic Laboratory scientific staff to calibrate sound level meters, and quantify the noise generated in terms of loudness, duration and frequency spectrum. The findings that only moderate levels of noise exposure were experienced by theatre personnel, insufficient to lead to temporary or permanent threshold shifts in hearing, has added to the evidence for safe continuing use of these tools with regard to Occupational Health and Safety. The project also introduced the concept of "noise annoyance" and discussed its effect on effective communication within the operating theatre. The data collected is of a high standard and is likely to make a contribution to the debate about work place safety for employees in noisy environments. The student has expressed a strong desire to pursue an ENT specialist training pathway in the future as a result of her experiences within the department.
4. Scott Turner has completed an honours project aiming to characterise hearing outcomes following stapedectomy surgery for otosclerosis. The work involves extracting and arranging data from the departmental clinical database for patients who have undergone stapedectomy surgery at Westmead over the last 5 years. The aim of the project is to express and report outcomes in terms of internationally accepted hearing parameters. The hearing outcomes can then be meaningfully compared to outcomes from established international otological units and further used to benchmark the success of stapedectomy outcomes at Westmead Hospital. A second part of the project aims to present, in a novel and creative way, the effect of second sided stapedectomy surgery and its overall contribution to binaural hearing.

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<sup>2</sup> Cancer Staging Handbook. From the American Joint Cancer Committee on Cancer, Staging Manual 7<sup>th</sup> Edition. Springer 2010

## **FELLOWSHIP PROGRAMME in SKULL BASE SURGERY**

This training programme is a focused 12 month period designed to further skill accredited ENT surgeons in the clinical, operative and academic techniques needed to practice the subspecialty of skull base surgery. The teaching method used during the fellowship is that of an advanced vocational apprenticeship, and attempts to emulate my own experiences during Fellowship training in Sydney, Cambridge and California. To date I have trained two internationally accredited candidates through the programme. As a result of their exposure both have been successful in gaining academic surgical positions in their home Universities, one at the University of Lausanne, Switzerland, and the second returned to the Head and Neck unit at Westmead after a further 18 months of training in Toronto and Göttingen. There have been numerous further expressions of interest to participate in the program from candidates in South-East Asia, Western Europe, Israel and Britain. There is every indication that this Fellowship will continue to thrive and attract overseas funded trainees to Westmead and the University of Sydney.

## **Post Graduate Teaching Commitments**

Westmead hosts two accredited advanced trainees in Otolaryngology for a 12 month rotation as part of the 4 year NSW training programme. Through my formal appointment to the NSW regional training scheme I am directly responsible for the transference of clinical, operative and research skills to the trainees. Clinical and operative skills are transferred during the day to day working environment of Westmead, the operating sessions, University clinic and on call commitments. The fortnightly academic teaching sessions which I initiated are attended by the entire unit (senior staff from Westmead and Western Sydney hospitals, accredited trainees, residents and GMP students completing their integrated clinical attachments). A Consultant Radiologist or Pathologist, who helps benchmark the accuracy of information discussed, attends the meetings. Their presence helps foster greater collaboration between the various clinical units on the Westmead Campus. I am also responsible for hosting the NSW training session that is held weekly, rotating once per month through Westmead. The 19 accredited trainee registrars in NSW compulsorily attend this meeting. My continuing duties in training include assessment of the Westmead Registrar's performance, certifying them suitable to progress to the next stage of training and eventually to sit the exit Fellowship Examination, which licences them to practice as surgical specialists. The opportunity for senior clinicians to attend these teaching sessions is particularly important as it forms part of the professional peer review structure of the unit, with participation monitored by the Continuing Professional Development section of the College of Surgeons, allowing them to earn CPD points.

## **SERVICE and LEADERSHIP in the HOSPITAL, UNIVERSITY and COMMUNITY**

### **EDITORIAL ACTIVITIES**

#### **Editorial Boards**

*Medicine Today-board member (2006- )*

The peer reviewed journal of general practice in Australia

Skull base Surgery – a multi disciplinary approach (2005-2010)

A multidisciplinary journal dealing with all aspects of Skull Base pathology

#### **Review Panels**

*Otolaryngology Head and Neck Surgery*

The official journal of the American Academy of Otolaryngology-Head and Neck Surgery

*Australasian Journal of Otolaryngology*

The official journal of the Australian Society of Otolaryngology

*Otology and Neurotology*

The official Journal of the American Otological Society, American Neurotology Society, European Academy of Otology and Neurotology American Society of Otology and Neurotology

*Australian and New Zealand Journal of Surgery*

The official Journal of the Australasian College of Surgeons

### **LEGISLATED REGULATORY BODIES**

#### **Collaborating Hospitals' Audit of Surgical Mortality (CHASM) – first line assessor**

As a *first line assessor* for CHASM, I have had the opportunity to review de-identified clinical histories of patients who have died in hospital while under the care of surgeons in NSW. This has given me insight to the sequence of steps which have lead to inpatient surgical deaths and the possible actions that may have prevented death from occurring.

#### **Medical Services Advisory Committee (MSAC), Department of Health and Ageing**

As the *RACS nominee on the advisory panel* of experts for Middle ear implants I had a major role in defining the indications for implantable middle ear prosthesis in the treatment of sensorineural, conductive and mixed hearing losses. Final report submitted to the federal Minister of Health in June 2010.

### **STATE COMMITTEES**

#### **NSW Greater Metropolitan Transition Taskforce 2003 – working party on cochlear implantation**

This multidisciplinary state-wide group has been convened to consider the needs of profoundly deafened adults and children who would benefit from cochlear implantation. My role has been to collate information concerning the prevalence of profound, post linguallly deafened adults, their social demographic and the geographic distribution of their homes, as well as the current dollar costs of the implantation process. These costs are encountered during the phase of assessment, the medical episode (the cochlear implant device itself and the associated inpatient hospital cost), and the ongoing process of rehabilitation. The information has been used as a guide to providing an insight into the needs of this small but greatly disabled group of patients. With other members of the small working group I have prepared a final document which incorporates all the previous information into a final series of recommendations considering the ongoing demands for cochlear implantation in

NSW. The methods of service provision and best location of service nodes within the proposed state wide cochlear implant network are discussed and outlined in detail.<sup>3</sup> This document has been responsible for the recent successful increase in funding for adult implantees within NSW (\$1.5M/year). A formal 2 yearly ongoing process of review is also maintained to ensure that fluctuations in demand for implantation are met by the sufficient provision of resources.

### **Royal Australasian College of Surgeons NSW Regional training committee-Otolaryngology**

My involvement with this committee requires short listing, interviewing and selecting candidates for advanced surgical training in Otolaryngology. I am also directly involved in supervising and mentoring the progress of their training, dealing with disciplinary measures, and finally signing off their log books and performance appraisal allowing the trainee to sit the final licensing fellowship examination. My involvement with the training committee has broad influences on future manpower planning and work force distribution. Appointment to this committee allows an opportunity to identify particularly talented trainees for future leadership roles within the specialty.

## **COMMUNITY BASED ACTIVITIES**

### **Patron, Australian Tinnitus Association**

As Patron of this state wide, patient organised group, my primary role is to provide medical support to the association and tinnitus sufferers. This has led to opportunities to speak to the lay community on the nature and character of tinnitus through the various community based meetings organised by the association. I am also required to provide direct medical advice to the association about various medical and surgical therapies which may cause tinnitus or worsen the distress experienced by patients who already have tinnitus. This particularly concerns the use of commonly prescribed medications (antibiotics, anti-inflammatory medication, antidepressants), exposure to medical investigations such as MRI scanning and surgery of various kinds. The majority of discussions with member of the association centres around dispelling the various community myths concerning tinnitus, its cause and treatment and to more effectively help patients cope with their symptoms based on widely accepted contemporary understandings of tinnitus generation and perception.

### **Acoustic Neuroma Association of Australia**

My involvement with this patient lead group has been in a supportive and advisory role. I have attended support group meetings in the capacity of "medical advisor" and delivered two lectures on the nature of Acoustic Neuromas and their treatment. Both of these lectures have been transcribed into their newsletter and distributed to members both nationally and internationally. A particular contribution has been to introduce the concept of "Quality of Life" as a formal measure of outcome following treatment for acoustic tumours, and to show how this measure more accurately reflects the patient's perceptions of their own outcomes. This has been invaluable in more closely aligning surgeon's perceptions of their treatment outcomes with the patients own perceptions of quality of life following surgery.

## **GRANTS/FUNDING/AWARDS**

### **Peer Reviewed Research Grants, Scholarships and Fellowships**

1. Raine Foundation Scholarship, University of Western Australia (A\$2,500; 1983). This grant supported my student vacation placement within the Department of Anatomy, culminating in the publication of a paper on cell membrane recycling.<sup>4</sup>
2. Eva K Nelson Trust, University of Western Australia (A\$24,000; 1992). This grant supported my time as an enrolled MSc (Med) student resulting in a thesis in the field of cochlear physiology.<sup>5</sup>

<sup>3</sup> NSW Cochlear Implant Working Group 2003– final report. Greater Metropolitan Transition Taskforce.

<sup>4</sup> Veratridine-stimulated central synapses in culture: a quantitative ultrastructural analysis. MJ da Cruz, Z Janka, DG Jones. *Journal of Neurobiology*, 1983, January 14 (1), pp 77 - 85.

3. Garnett Passe Post Training Fellowship, Australian Society of Otolaryngology (UK£40,000; 1996). This competitive grant was held concurrently with the Research Fellowship at King's College, Cambridge. The grant supported my Skull Base training in the UK, and visits to the University of California at San Francisco. A large portion of the publications themed in the Doctor of Medicine thesis were completed during the period of this grant.<sup>6</sup>
4. Research Fellowship, King's College, Cambridge (1998). This internationally competitive Regent House Fellowship at the University of Cambridge provided broad and unrestricted access to the academic, teaching and research resources of King's College and the University. The conferred privileges are life long.
5. Cambridge Hearing Trust (£500, 1998), Dept of Radiology, University of California at San Francisco (US\$5,000, 1998). These two grants supported a site visit to the Skull Base Unit at the University of California.
6. Educational grant from Faculty of Medicine at University of Sydney to further develop multimedia SCORPIO teaching DVD's suitable for rollout across the clinical schools IT network.

#### **Awards and Prizes**

7. Jean Little-John Prize and Gold Medallion (1995). Awarded by the Australasian Society of Otolaryngology for scientific achievement. This annual award is given to the best registrar research publication from the Australian and New Zealand trainees. My study quantified the temporary hearing loss that is produced by noise in the operated ear, generated by high speed drills.<sup>7</sup>

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<sup>5</sup> Quantification of the Fundamental Mechanisms Leading to Cochlear Hearing Loss. MJ da Cruz. M. Med Science Thesis. (Physiology). *The University of Western Australia*. March 1995.

<sup>6</sup> Outcome Measurement following Vestibular Schwannoma Surgery. MJ da Cruz. Doctor of Medicine Thesis. *University of Sydney*. April 2003.

<sup>7</sup> Reversible Suction and Drill Induced Hearing Loss in Ear Surgery. MJ da Cruz. *Australian Journal of Otolaryngology*. March 1995, 2, pp 182-185. *Jean Littlejohn Prize, 1995*.