

## **Fellowship with Professor W P R Gibson in Otology and Cochlear Implantation, Sydney, Australia, July to December 2010**

### **Introduction**

It is with great pleasure and fond memories that I write about my fellowship in Sydney between July and December 2010. I was extremely privileged to work with Professor W P R Gibson, one of the early pioneers of cochlear implantation, who is well known for his work in otological electrophysiology and also a world-renowned figure in Ménière's disease research (Figure 1). It was therefore with some anticipation that I travelled, with my family, to Australia in July 2010.

### **Preparation**

Although I had heard from previous fellows about the preparation required for a partly self-funded overseas fellowship in Australia, it is fair to say that I had no idea how stressful the process would be. Fortunately, all the visas and medical registrations came through in time, though not without a few late night phone calls and e-mails to Australia.

### **Arrival**

I am very grateful to my wife, Claire, who took a career break to come out to Australia with our two children Matthew, aged three years, and Rachael, 18 months. After a brief stopover in Bangkok, we reached Australia and moved into the house that had been used by the two previous fellows. Fortunately, and unusually for Australian rental properties, the house was fully furnished. We were met by Professor Gibson's wife, Alex, who was extremely kind to us and helped us make ourselves at home.

### **The location**

Sydney is an amazing city. Our house was situated in Birchgrove, a suburb of Sydney's Inner West. We found this to be an extremely welcoming place to live, and we made some good friends with other young families in the area. I vividly remember our first ferry ride from Birchgrove into the city, as we rounded the corner and passed under the Harbour Bridge (which I later climbed) and caught our first glimpse of the iconic Sydney Opera House. We bought an old Holden Commodore car that, despite

reservations, lasted the full six months, allowing us to spend some wonderful weekends further afield, including visits to the Blue Mountains, Hunter Valley and coastal retreats around Sydney.

One of the best aspects of our house was its location close to Professor Gibson's home. This enabled me to share a lift to work with Professor Gibson most mornings, allowing for some highly entertaining discussions, particularly whilst the Ashes were taking place! Professor Gibson has a genuinely inquisitive mind and loves to talk through his own and others' research and academic theories. I was also fascinated to hear his stories of the controversial early days of cochlear implantation. The pioneering work and personal sacrifice of Professor Gibson and his team are truly inspirational.

### **The fellowship**

Professor Gibson certainly lived up to his reputation as a patient and generous teacher. The fellowship allowed me the incredible opportunity to shadow Professor Gibson during his work as Chair of Otolaryngology at the University of Sydney and Director of the Sydney Cochlear Implant Centre. I was able to join Professor Gibson for his sessions at The Royal Prince Alfred Hospital, The Children's Hospital at Westmead, The Mater Misericordiae Hospital and the Sydney Cochlear Implant Centre, and in his private practice rooms in Camperdown.

#### *The Royal Prince Alfred Hospital*

On alternate weeks, I attended the out-patient clinic at The Royal Prince Alfred Hospital, and would either assist the registrars conducting a general otolaryngology clinic or join Professor Gibson for his otology clinic. There was also a weekly theatre session, which was usually attended by one of the registrars, together with medical students on their ENT placement. This allowed me a valuable opportunity to supervise and teach. I was also able to attend some sessions and weekly case presentations led by Professor Halmagyi's neurology team, allowing me to learn about dizziness from a different perspective.



FIG. 1

The author with Professor Gibson in his practice rooms.

### *The Children's Hospital at Westmead*

Some sessions at The Children's Hospital were used to investigate children with hearing loss, performing electrocochleography and transtympanic electrical auditory brainstem response tests under general anaesthesia. For this testing, Professor Gibson works closely with engineer Dr Halit Sanli, who designed and made most of the testing equipment himself. I learned a great deal from Dr Sanli and his team about the assessment of hearing loss, particularly regarding auditory dys-synchrony. It is a credit to the team that families regularly travelled from far afield to benefit from their experience in this field, which is unique in the world.

The rest of my time at The Children's Hospital was spent operating with Professor Gibson, usually performing cochlear implantation. I was also fortunate to join Professor Gibson's colleagues Dr Cathy Birman and Dr Simone Boardman and to gain the benefit of their teaching and experience. Towards the end of my fellowship, I was allowed to perform cochlear implant surgery 'skin to skin', and I was very lucky to observe the management of some more complex paediatric cases.

### *The Mater Hospital*

On alternate Fridays, Professor Gibson conducted a full day's surgery at the Mater Hospital in North Sydney, which usually allowed time for four cochlear implants. Professor Gibson was very generous in allowing me to be involved in the care of his private patients, and we would alternate roles, one assisting whilst the other operated. The opportunity to perform part of each case whilst also observing Professor Gibson's techniques was invaluable experience. Professor Gibson has a personal series of nearly 2000 implants, combined with an enjoyment of teaching and a patient nature, all of which made for an amazing learning environment. In addition to these

implantation procedures, I was also able to be involved in bone-anchored hearing aid surgery, stapedectomy, ossiculoplasty, blind sac closure, exostosis surgery and endolymphatic sac excision.

### *The Sydney Cochlear Implant Centre*

The Sydney Cochlear Implant Centre is located in an old psychiatric hospital in Gladesville, providing a modern clinic facility in a building and grounds packed with history and character. Professor Gibson's passion for cochlear implantation is clearly shared by the whole team at the Centre. Many, like Professor Gibson, were involved in the earliest days of, or have a strong personal link to, cochlear implantation.

At the Sydney Cochlear Implant Centre, I joined Professor Gibson for his weekly paediatric out-patient clinic, which included the assessment of children with complex needs who were being considered for cochlear implantation. I sat in on several implant programming sessions, and particularly enjoyed the opportunity to observe the progress of some of the patients whose surgery I had performed. Each week, I attended a team meeting for discussion of forthcoming cases, as well as any clinical or logistical problems. This included a video-conferencing link with the Sydney Cochlear Implant Centre 'satellite' centres in Newcastle, Canberra and Gosford. I was also able to attend several interesting events, including a music workshop, meetings with the research and development teams of all of the major cochlear implant manufacturers, and 'where are they now' style events, at which individuals and families who had been through the cochlear implant process presented their experience to the professionals at the Sydney Cochlear Implant Centre as well as to potential patients considering surgery. Some of the stories were extremely powerful and moving, and strengthened my resolve to continue to be involved with cochlear implantation in the future.

### *Professor Gibson's practice rooms*

Professor Gibson's clinic, situated opposite The Royal Prince Alfred Hospital, was his base for seeing both public and private patients. Many had been seeing him for years, and seemed more like friends than patients.

I was very fortunate to be able to observe Professor Gibson's management of all kinds of otological problems. However, he is best known for his experience with electrophysiology, both promontory stimulation in prospective cochlear implant candidates, and electrocochleography in the diagnosis of Ménière's disease, for which he received referrals from all over Australia.

Professor Gibson's passion for cochlear implantation is matched by his enthusiasm for trying to understand the pathophysiology, diagnosis and treatment of Ménière's disease. In six months, I saw more cases of advanced Ménière's disease than I will see for a very long time to come, and it was a privilege to observe the care and attention that Professor

Gibson gives to these patients. I learned a great deal about managing such difficult cases, including the use of intra-tympanic steroids and gentamicin injections.

In recent years, Professor Gibson has been instrumental in setting up the world's first research laboratory dedicated purely to Ménière's research, based in the Brain and Mind Research Institute at the University of Sydney. I enjoyed attending a fund-raising dinner that Professor Gibson organised in his role as President of the Balmain Rotary club, which raised a huge sum of money for future research.

I also travelled to Kyoto, Japan, to attend the 6th International Symposium on Ménière's Disease and Inner Ear Disorders, where I presented two posters, including a summary of Professor Gibson's own theory of the mechanism of Ménière's disease attacks.<sup>1</sup>

#### *Research*

Professor Gibson and his team have an extremely active research programme, and I was able to undertake several projects during my time in Sydney. It was a real challenge to design projects, secure ethical approval, and collect all the data in just six months. I was able to complete a study examining bilateral sequential cochlear implantation, and a further project assessing music perception in adult recipients of bilateral cochlear implants. I also collated the results of an ongoing study examining the role of magnetic resonance imaging in Ménière's disease. All these projects are currently in preparation for presentation and publication.

#### *Other educational activities*

Professor Gibson encouraged me to travel around and see as much as I could during my fellowship. Cochlear Corporation kindly invited me to tour their research and production facility, and I was fascinated to see the implant manufacturing process from design to packaging, and to discuss future implant

developments with the team. I was able to observe surgery at St Vincent's Hospital in Sydney, and also to join a Danish contingent on a visit to the Bionic Ear Institute in Melbourne.

#### **Summary**

Overall, this fellowship was by far the most rewarding professional experience of my career to date. The benefits of working so closely with Professor Gibson far exceeded my expectations. Apart from learning a great deal about otology and implantation, I have been inspired by Professor Gibson's welcoming nature and patient teaching style. I was privileged to work with teams of professionals who share Professor Gibson's passion and dedication, and I am very grateful to them all for everything they have taught me.

As well as being a fantastic professional opportunity, the fellowship in Australia was a hugely memorable personal experience for me and my family. We are extremely grateful to Professor Gibson and his wife for all their help in organising this opportunity, for being so welcoming, and for helping us to gain so many wonderful memories.

I am tremendously grateful to *The Journal of Laryngology & Otology* for supporting this fellowship. I would also like to thank Dr Carice Ellison and The Royal Society of Medicine (Ellison-Cliffe and Otology Section Travelling Fellowships), The Royal College of Surgeons of England (Ethicon Foundation Award), the HEAR Foundation, Manchester, the HCA International Foundation, Cochlear, and Med-El, for their support.

S J BROOMFIELD

Department of Otolaryngology, Salford Royal NHS  
Foundation Trust, Salford, UK

#### **Reference**

1 Gibson WPR. Hypothetical mechanism for vertigo in Meniere's disease. *Otolaryngol Clin North Am* 2010;**43**:1019–27.