

David Murdoch Memorial Travelling Fellowship Report

Dr Tony Stanton

I was awarded a David Murdoch Travelling Fellowship in summer 2007. This award supported my Advanced Imaging Fellowship at The Princess Alexandra (PA) Hospital in Brisbane [Figure1], Australia from August 2007 to August 2009. At the time I had just completed the 3rd year of my cardiology SpR training. The imaging unit there is headed by Professor Tom Marwick, and the unit is at the forefront in the application of new imaging techniques.

Queensland has a population similar to Scotland but has a geographical area 22 times greater. The PA hospital itself is one of 3 tertiary referral centres in the state of Queensland. The imaging unit was based at the PA hospital with 2 nearby cardiac MRI scanners at the Wesley Hospital and Greenslopes Hospital.

Echocardiography

The echo lab provided a comprehensive service for both transthoracic and transoesophageal echo. At any one time up to 7 scans could be done simultaneously in different rooms by accredited sonographers. These scans were then reviewed by reporting physicians in a central viewing station and signed off electronically.

Newer echocardiographic techniques such as tissue velocity and deformation imaging (strain) were used as needed in the reporting of scans. 3D echo was used to assess ventricular function and for valvular heart disease patients.

A particular strength of the unit was its use of stress echo. Both dobutamine and exercise stress echo was undertaken. Clinical volume was roughly 50 per week of both clinical and research patients. We each supervised up to 10 per week and reporting was done from 6 -8 pm every night by a group of at least 3 cardiologists including myself. All stress echo's were ultimately reviewed by Professor Marwick.

I was in charge of the unit's cardiac resynchronization therapy (CRT) echocardiographic optimization programme. Patients were optimized at 6 monthly intervals. Clinical assessment was undertaken by myself in conjunction with a heart failure specialist and an electrophysiologist. This one stop approach allowed us to review patients from all over the state effectively.

The lab had routine audit and quality control procedures which we all participated in. We had twice weekly imaging meetings where challenging cases were reviewed and teaching undertaken. Patient cases were reviewed and the best imaging modalities chosen to address each particular patient's clinical question.

Clinical

The PA has a large 12 –bedded CCU and 24 bedded cardiology ward. I participated in CCU on-call at consultant level with supervision from Professor Marwick.

My main daily duties were to report and supervise in the echo lab using each different echo modality (TTE, TOE, stress).

Research

The laboratory was staffed by both clinical and research physicians [figure 2]. In amongst routine clinical work many patients were consented to participate in ongoing clinical research. Every patient going through the lab was viewed as a potential candidate for research and subsequently the unit was highly productive in terms of research. A particular interest was the clinical application

of new echocardiographic techniques. I was involved in proving the incremental prognostic value of both 3D echo and strain over standard 2D echo techniques.

Through the CRT programme we also conducted research looking at the best ways to optimize CRT. Despite incorporation in clinical trials CRT optimization is not routinely carried out in many institutions. I was involved in research looking at the possible benefits of optimization and whether this should be carried out echocardiographically at rest (as normally occurs) or on light exercise (when patients are often most symptomatic).

Despite a high clinical workload I had a productive research time with 7 clinical papers in peer-reviewed journals and numerous abstracts published to date.

CMR

One of the problems the unit had was the lack of an onsite dedicated CMR scanner. We had to travel to one of 2 nearby hospitals to access these facilities. Reporting was undertaken again as a group and there were monthly meetings for review. Particular interests were in cardiomyopathy assessment and fibrosis.

Brisbane

Brisbane is a large, sub-tropical city which is growing rapidly. The climate is hot and relatively dry all year round. Though not actually located on the coast there is easy access to both the Sunshine and Gold Coasts to the north and south respectively where the beaches and watersports are excellent.

The support of the David Murdoch Travelling Fellowship was instrumental in allowing me to undertake this Advanced Imaging Fellowship. I learnt many new techniques which, at that time, were not available to me in Scotland. I have brought these back and applied them to my daily work hopefully to some clinical benefit. In turn I would hope to pass these on to other trainees. I am very grateful for opportunity the Fellowship has given me and would like to express my thanks to the College and the Fellowship committee.

Figure 1 : Imaging Unit Staff



Figure 2 : Princess Alexandra Hospital, Brisbane



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