BWT Ritchie Scholarship Interim Report – Dr Amanda Dawson, 2005 recipient

I am now reaching the end of the seventh month of my cardiothoracic fellowship at Papworth Hospital, National Health Service Trust, Cambridge, United Kingdom and am happy to report my fellowship is going according to plan.

Nature of work undertaken
Papworth has an annual turnover of around 1400-1500 cardiothoracic cases a year with a diverse range of elective and acute work. As a quaternary specialist referral centre, Papworth treats pathology at the more severe end of the clinical spectrum. The quality of the clinical workup at the referring hospital varies so diagnostic uncertainty adds to the challenges faced by the Papworth team. A government initiative, where patients choose the centre in which they wish to have their operation, means the majority of patients come from outside the local catchment area. Papworth is also the only surgical centre in the UK offering pulmonary thromboendarterectomy (PTE) for pulmonary hypertension secondary to recurrent thromboembolic disease. PTE is done in only a few centres around the world, Brisbane being the closest centre to New Zealand, set up by a former Papworth surgeon, Mr J Dunning.

So far, I have been involved in over 100 cardiothoracic cases, the majority being cardiac in nature. Thanks to a recent guideline from the Royal College of Anaesthetists advising that fellows should do 30-40% of their work with level 3 supervision, I have been fortunate to work independently for ~35% of my caseload. Anaesthetists are allocated by theatre, not acuity of cases on the list and therefore the diversity and acuity of cases has been challenging and educational.

During the 12-month fellowship, three months are spent in the intensive care unit. This is where the majority of experience with postoperative care of the transplant patients, end-stage heart failure patients with ventricular assist devices in situ and PTE patients is gained. I have been fortunate to be involved in the implantation of a number of double-lung transplants but due to the nature of the call roster have yet to do any heart transplants. I have been more successful with PTEs, which are routinely done once a week and I have now done seven cases. These cases incorporate the challenges of deep hypothermic arrest, low-flow bypass with cerebral infrared oximetry and the usual anaesthetic challenges of prolonged anaesthesia, each case taking up to 8-9 hours to complete. As a referral centre for end-stage heart failure, there is generally always a patient on the ICU with a ventricular assist device (VAD) in situ either as a bridge to transplant, recovery or in a small number of trial patients with a view to destination therapy with the small portable “Heartmate” VAD.

The nature of intensive care management is somewhat different to the Australasian model. In the UK, ICUs are still run by general anaesthetists or surgeons with an interest in intensive care. As yet there is no formal requirement to have an ICU qualification though the UK college is trying to establish a separate intensive
care discipline. In an isolated specialist environment like Papworth, this makes little difference to patient care due to the high level of skill and expertise at such a centre. As an aside, Emergency Medicine (ED) is also not a fully established separate discipline in the UK, tending to be more of a triage facility rather than a diagnostic, therapeutic intervention area in its own right.

As a stand-alone cardiothoracic five theatre unit, the Papworth anaesthesia department tends to rely on having a number of senior fellows, operating level 2 supervision in at least two of the five theatres daily. The more junior trainees rotating through Papworth for three months, are expected to get up to speed quite quickly to enable them to be left alone for short periods of time. All 12 of the consultant anaesthetists are part time, doing 2-3 days a week. Consultants do 24-hour call, which covers acute theatre commitments after 5pm and the dedicated 23-bed cardiothoracic intensive care unit overnight. During the working week one consultant is dedicated to the intensive care unit during the day and acutes are fitted in where able. There is a surgical and anaesthetic registrar in intensive care at all times, staffed in 12-hour shifts. In addition, a senior anaesthetic registrar is on 24-hour call each day to cover acutes after hours including transplants with appropriate consultant cover.

Training in anaesthesia in the UK is regional, a trainee having a base hospital and rotating around a number of other hospitals scattered over several hundred miles to cover specialist rotations. Pay and conditions, as everywhere, are a continual source of frustration. In comparison with the RDA-negotiated conditions of New Zealand, I get the impression that the medical hierarchy and the future job market have a much bigger influence on junior doctor conditions. There certainly seems to be a lack of uniformity between hospitals, let alone between departments within hospitals! I certainly look back with appreciation at the clear, transparent and consistent terms and conditions I worked under in New Zealand.

Working within the NHS is currently a continually changing dynamic. A recent governmental European Directive has meant employers are no longer free to fill vacancies with whomever they see as most suitable for the job. A job vacancy must be filled by an applicant from the EU if they are capable of doing the job despite a better candidate from a non-EU country also applying. This has significant implications for the future of medical fellowships. Non-EU applicants now require sponsorship from the employer to apply for a work permit and medical licensing with the GMC. In addition, traditional permit-free specialist training for doctors from other nations, especially India and the subcontinent, has been withdrawn, many such doctors left part way through their specialist training unable to return as a specialist to their native countries and unable to find jobs within the NHS due to the EU directive.

Being immune to the current changes, watching the upheaval has certainly made me appreciate the fact that the government in New Zealand has comparatively little to do with the medical workforce. I rejoice at the fact that it is the colleges who decide how many specialist registrar positions there are and which hospitals have training accreditation rather than government public health policy and the latest PR campaign. As a whole the medical profession in New Zealand is far more self-governing and in my opinion the better for it.

Projects engaged in
At present I have a number of projects under way:

1) GTC AT HD 012-04: A multi-centre, multi-national study to assess the safety and efficacy of antithrombin alpha in hereditary antithrombin (at) deficient patients in high-risk situations for thrombosis. I am participating in the study as a clinical investigator for the Papworth site. As hereditary antithrombin III deficiency is a rare condition, the study hopes to recruit 17 patients world-wide. We have been fortunate enough to recruit the first patient in Europe through our PTE
referral service. The complexity of an international study has been a novel experience for me, made practical by the excellent research and development department at Papworth hospital.

2) Arrowsmith JE, Dawson AJ. “Advanced cardiovascular monitoring”. *Surgery 2006; 24(10)*: I have helped to write this paper and it is scheduled for publication shortly.

3) “Current myths surrounding blood product use in cardiac anaesthesia, a literature review and presentation of Papworth Hospital blood product use audit” – ACTA Spring Meeting, June 23, 2006, Cambridge, United Kingdom. I am first author on this paper, written with the assistance of several colleagues and hope our paper is selected for verbal presentation at the ACTA spring meeting in June.

4) Management of anticoagulation for pulmonary thromboendarterectomy in a patient with hereditary antithrombin III deficiency – ACTA Spring Meeting, June 23, 2006, Cambridge, United Kingdom. Again I am first author on this paper, written with the assistance of several colleagues and hope our paper is selected for verbal presentation at the ACTA spring meeting in June.

5) Elective type A dissection repair – a case report. About to be submitted to *Anaesthesia and Analgesia Echo Rounds*.

**Deviations from initial plans**

Thus far I have been fortunate in that my fellowship has gone according to plan. I am gaining superb clinical experience in a centre of excellence for cardiothoracic anaesthesia. The work is challenging and is extending my previous skill set and preparing me well for the future I plan in cardiothoracic anaesthesia. There is strong emphasis on clinical research and publication within the department and I have received encouragement and opportunity to pursue these areas as evidenced above.

My primary objective for the year was to sit and pass the PTEexAM in perioperative transoesophageal echocardiography. I can report that I have traveled to Dallas, Texas, and sat the PTEexAM on May 21, 2006. Results are due in the next 10 weeks.

During the remainder of the year I intend to focus on gaining more clinical experience, especially in the areas of thoracic anaesthesia and transplantation, furthering my transoesophageal echocardiography skills and working towards completion of a book chapter.

**Scientific meetings attended and talks given**

**Meetings**

1) Papworth Hospital TOE course January 30 to February 2. A national course run at Papworth several times a year.

2) The 9th Annual Perioperative Transoesophageal Echocardiography Comprehensive Review and Update, San Diego, USA, February 13-18. Run by the Society of Cardiovascular Anaesthesia (SCA), this course is an essential preparation week for all those wishing to sit the PTEexAM in echocardiography.

3) Difficult Airway Management Education (DAME), Cardiff, Wales, UK, April to 26-28 April. A dedicated difficult airway symposium for enthusiasts and those wishing to improve their advanced skills.

**Talks**

- CRP and its utility in ICU. A PowerPoint presentation to the department as part of the scheduled in house teaching programme.
- Implications of residual neuromuscular blockade in cardiac patients. A PowerPoint presentation to the department as part of the scheduled in house teaching programme.
Social aspects of the tenure
Since the arrival of our first baby, Grace, social events have really no longer been a priority! Grace was six-weeks-old when we arrived in the UK in September and just three-months-old when I started work. To say it has been tricky to juggle my fellowship, my husband’s urology fellowship and childcare is putting it mildly. We were blissfully naïve when planning this year and had no idea how much of a juggle it would be.

My fellowship has been very time intensive with a heavy on call commitment and studying for the PTEeXAM, leaving my husband as solo parent a lot of the time. Fortunately his fellowship has been more predictable in terms of hours and we have managed to arrange childcare at the crèche at his hospital. Suffice to say we have resigned ourselves to the fact that we won’t be taking advantage of all the cheap flights to Europe each weekend or tripping off around the countryside as often as we would like.

However, we have managed to squeeze in a trip to Sharm el Sheikh in Egypt for a week in the sun and have taken advantage of my conference in San Diego and my husband’s conference in Paris to do a little sightseeing. Now that my exam is over hopefully the few weekends we have off together will lend themselves to a bit more tripping around.

Anticipated place of employment and date of return to New Zealand
At present, I am applying for a position as a consultant cardiac anaesthetist at Auckland City Hospital. Short listing and interviews are still to take place. If successful, the start date for the position is negotiable. Our immediate plans for the future are uncertain, pending the outcome of my job application. Come what may, we intend to return to New Zealand within the next 18 months.

In conclusion, I am enjoying this year, hard work though it is and hope to continue to gain experience and skill to facilitate my career in the future.

Amanda Dawson, May 2006