

## Cardiac surgery training in the United Kingdom

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Kardiochirurgia i Torakochirurgia Polska 2005; 2 (4): 85

The cardiac surgical training in the UK has witnessed a wave of change during the last decade with more emphasis on structured learning.

Ten years ago, prior to the introduction of the Calman system for specialist training, cardiothoracic surgical trainees spent a significantly long period of time as a Senior Registrar (SR). This had the advantages of a trainee being at the top of the training ladder and effectively working as a consultant without having to bear the true pressures of consultancy. The trainee would be expected to perform most, if not all, of the consultant's workload. This provided a great surgical operative exposure. However, as most of these cases were performed without supervision, most SRs learnt through their own mistakes. Eventually, they all became excellent surgeons with very valuable skills.

Since the introduction of the Calman Specialist Registrar (SpR), training under supervision has greatly improved. The training programme has become more standardised and better assessed. SpRs in cardiothoracic surgery enrol on a six-year training programme with a curriculum set by the Joint Committee for Higher Surgical Training (JCHST) and the Specialist Advisory Committee (SAC). SpRs are allocated to consultant trainers who would coach, supervise, advise and promote the SpR training the speciality. This represents an important responsibility for the consultant as well as for the SpR as it becomes a joint agreement between trainer and trainee to plan the progress and development of the trainee.

The six-year training programme is structured so that as the years go by, the SpRs theoretical knowledge continues to expand while his operative repertoire takes him to the dizzy heights of the more complex cardiac and thoracic procedures. The SpR's performance is assessed on a yearly basis by the *RITA (Regular In Training Assessment)*. The operative and educational skills which are developed include:

Year 1: *Operative* – median sternotomy, harvesting of bypass conduits (SVG, LIMA, RIMA, radial artery), aortic cannulation and decannulation, establishment and cessation of

cardiopulmonary bypass, performing aorto-saphenous anastomosis and chest closure.

*Theoretical* – cardiac surgical anatomy, physiology and pharmacology, understanding myocardial preservation, the CPB machine and management of the pre- & post op cardiac patients.

Year 2: *Operative* – progression to performing CABG and AVR under supervision.

*Theoretical* – consolidation of year 1 knowledge with understanding of valvular heart disease.

Year 3: Most usually represents the thoracic surgical exposure.

Year 4: *Operative* – performing CABG and AVR with confidence, at times without supervision. Learning the OPCAB techniques.

*Theoretical* – Development of sub-speciality interest such as valve repairs, AF surgery, organ failure management.

Year 5: *Operative* – exposure to valve repairs, AF surgery, heart and lung transplantation, mechanical assist devices and paediatric surgery.

However, not all centres in the UK provide these expertise and out-of-programme training may need to be arranged.

*Theoretical* – development of non-surgical knowledge such as management, teaching skills, medical law and ethics.

Year 6: *Operative* – performing most if not all cardiac and thoracic surgical procedures without supervision and development of sub-speciality interest.

The above scheme represents the opportunity available to the Welsh trainee. This is coupled with a good academic programme including formal lectures on a monthly basis, case discussions and journal club meetings. With the development of our Wet Lab, there will be an even better opportunity to develop surgical skills. There is also an abundant opportunity to be involved with local clinical trials and audit projects. In the last 12-months, trainees have had at least a dozen publications (case-reports, clinical experience, randomise trials) accepted by the peer-reviewed journals.

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