

Title: Paediatric Anaesthesia at the Royal Brompton Hospital

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ABSTRACT BODY:

The Royal Brompton Hospital forms part of the Royal Brompton and Harefield NHS Trust, a tertiary referral centre specializing in all aspects of cardiac and thoracic diseases in both adults and children. It is the United Kingdom's leading post-graduate specialist centre for the treatment of heart and lung disease.

The Royal Brompton was recognised as a place of study by the College of Physicians and Surgeons as early as 1894. It is linked primarily to the National Heart and Lung institute, a part of Imperial College, London.

A Brief History.....

The Royal Brompton Hospital (RBH) can boast a history spanning over 160 years. It was founded in 1842 as a tuberculosis hospital by a young solicitor named Philip Rose. The "*Hospital for Consumption and Diseases of the Chest*" was to provide an asylum for patients with tuberculosis and to make available opportunities for the more careful study of pulmonary consumption, in the hope of a cure. By 1844 it was clear the hospital needed to enlarge and work began on a new hospital on the Fulham Road. This was fully functional by 1855, and although no longer part of the current hospital, the building still stands today. South Block opened in 1882 as an extension of the new Hospital, doubling the bed capacity, and still forms part of the current hospital. In 1991 Queen Elizabeth II opened the Sydney Wing and the hospital was granted Royal Charter.

John Desmond Mortimer was the first anaesthetist at RBH appointed in 1915. Sir Ivan Magill was appointed as a second anaesthetist in 1926 and his technique of endotracheal intubation greatly improved the safety of thoracic surgery. In developing skills to match the advances of their surgical colleagues the Brompton anaesthetists, particularly Sir Ivan Magill and Michael Nosworthy, were to have a major influence on the course of British thoracic anaesthesia.

Cardiac surgery began at RBH with the Blalock shunt operation in 1947 and by the mid 1950's the main surgical workload was cardiac rather than thoracic. The anaesthetists at this time included Robert Machray, Ruth Mansfield MBE, Bernard Lucas and Ian English, who were instrumental in developing techniques (such as central venous cannulation) and equipment (such as the Brompton Manley ventilator) needed to facilitate surgical advances.

The growth in paediatric diagnosis and surgery resulted in RBH being established as a major centre for paediatric cardiology and this continued in the 1970s with the appointment of Elliott Shineborne. Surgery on increasingly smaller patients was being undertaken by Christopher Lincoln with Michael Scallan and later John Gothard providing anaesthetic support.

The Department of Anaesthesia

The Department of Anaesthesia at the Royal Brompton provides anaesthetic services to five operating theatres, four cardiac catheter laboratories, the CT scanner, and the adult and paediatric intensive care units. It thus provides anaesthesia for cardiac and thoracic surgery, diagnostic and interventional cardiology, and respiratory medicine procedures. One thousand two hundred paediatric anaesthetics are performed annually. The paediatric work is supported by 8 paediatric intensive care beds, 8 paediatric high dependency beds and a dedicated paediatric bay in the post anaesthesia care unit. The department also provides a paediatric pain relief service.

The department of anaesthesia consists of seventeen consultant anaesthetists.

Ten of these consultants provide the paediatric anaesthesia service:

Dr J Gothard (Chairman Department of Anaesthetics)

Dr C Morgan (Lead Clinician in Anaesthesia and Intensive Care)

Dr D Macrae (Lead Clinician Paediatric Intensive Care)

Dr M Scallan

Dr C Gillbe

Dr B Keogh

Dr A Petros

Dr A Kelleher

Dr R Stenz

Dr S Jaggan

There are two fellows in cardiothoracic anaesthesia and eight senior trainees in anaesthesia who work as part of the anaesthesia team. Specialist Registrar positions are filled by trainees from all London schools of anaesthesia and the Fellow posts are appointed from National and International applications.

Training in Paediatric Cardiothoracic Anaesthesia at RBH

Trainees can expect first hand experience in all aspects of paediatric cardiothoracic anaesthesia with a competency based training programme.

Protected weekly departmental teaching and meetings supplement monthly multi-disciplinary academic days as forums for education. These include journal club, case-based teaching, audit and governance and a broad spectrum of cardio-thoracic topics. All trainees experience a dedicated one to one week-long training programme in transoesophageal echocardiography. Opportunities for training in management, governance and other areas impacting on direct patient care are available. There is a multi-disciplinary approach to all aspects of peri-operative patient care and regular attendance at joint clinical care meetings is encouraged.

1195 Paediatric Anaesthetics in 2006 at RBH

Paediatric Cardiac Surgical Cases 2006: 460

Neonates	Infants	1-5 years	6-10 years	11-16 years
78	157	132	48	45

- 92 isolated repair of midline defect (ASD,VSD, AVSD)
- 41 arterial switch procedures
- 30 repair tetralogy of Fallot
- 17 repair of aortic coarctation
- 20 completion TCPC
- 16 bidirectional Glenn shunt
- >200 further cases from simple PDA ligation to complex reconstructive procedures such as the Ross procedure.

Paediatric Cardiac Catheter Laboratory cases 2006: 411

	< 1 year	1-5 years	6-10 years	11-16 years
Diagnostic	54	68	28	22
Interventional	58	79	21	31
Electrophysiology	2	6	10	32

Paediatric Flexible Bronchoscopies 2006: 166

<1 year	1-5 years	6-10 years	11-16 years
19	60	41	46

Regional Empyema Referral Service for Chest drains 2006: 41

<1 year	1-5 years	6-10 years	11-16 years
3	24	8	6

Paediatric non-cardiac surgical cases 2006: 117

	<1 year	1-5 years	6-10 years	11-16 years
Rigid Bronchoscopy	1	4	2	1
Thoracotomy	2	7	3	17
Others	24	22	13	21

The 80 other cases include routine work such as tonsillectomy and adenoidectomy, dental surgery and Nissen's fundoplication as well as emergency surgery including laparotomy and vascular access procedures.

We have close links with local hospitals whose specialist surgeons travel to us if surgery is required on our high risk patients. They provide non cardiothoracic surgical services for both elective and emergency work.

The Adult Congenital Heart Programme: Providing a seamless service for congenital heart disease.

A unique aspect of care at the Royal Brompton Hospital is the integration of clinical services across the age range from birth to adulthood. This is particularly true of cardiology services. The Royal Brompton Adult Congenital Heart Programme was one of the first of its kind in Europe and is the largest outside of Toronto. It encompasses a National and International tertiary referral centre providing care for the increasing number of adolescents and adults with congenital heart disease. This provides an exceptional training opportunity in the care of all patients with congenital heart disease.

Three Consultant cardiologists work with an expanding multi-disciplinary team of experts from cardiology and allied disciplines including electrophysiology, radiology, cardiac surgery and anaesthesia and intensive care to provide state-of-the-art care for adolescents and adults with congenital heart disease. Anaesthesia for these patients is provided by the paediatric anaesthetists.

In conjunction with foetal and paediatric cardiology, the programme ensures a seamless transition from infancy through to adulthood, providing a lifelong commitment to the welfare of its patients.