

2006 ANNUAL MEETING

President

Mr Patrick Magee (2004–2006)

Honoured Guests

Dr Tim Gardner
Detroit, USA

Dr Doug Wood
Washington, USA

The Society for Cardiothoracic Surgery in Great Britain and Ireland
Annual Scientific Meeting 2007 will be held at the MICC, Manchester
11th–14th March 2007

The Society for Cardiothoracic Surgery in Great Britain and Ireland
Annual Scientific Meeting 2008 will be held at the EICC, Edinburgh
9th–12th March 2008

Programme Sponsors



Medtronic
When Life Depends on Medical Technology





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GENERAL INFORMATION

The 2006 Annual Meeting of the Society will be held at the CityWest Hotel and Conference Centre Dublin Eire from Monday 13th March to Thursday 16th March 2006.

CONTINUING PROFESSIONAL DEVELOPMENT

Delegates will be awarded 21 credits from EACCME for attendance at the whole meeting. Please note that certificates of attendance will be available for collection at registration at the end of the conference. You will need to complete a feedback form in order to collect your certificate.

The Annual Meeting of The Society for Cardiothoracic Surgery in Great Britain & Ireland is accredited by The European Accreditation Council for Continuing Medical Education (EACCME) to provide the following CME activity for medical specialists: a maximum of 21 hours of European external CME credits. Each medical specialist should claim only those hours of credit that he/she has actually spent in the educational activity. EACCME is an institution of The European Union of Medical Specialists (UEMS) www.uems.be.

ANNUAL SOCIAL EVENT

The SCTS Annual Social Event will take place on Thursday 16th March between 19:00hrs and 23:30hrs at the Guinness Storehouse, Dublin. A memorable evening not to be missed, it will take the form of a black-tie dinner with entertainment; transport will be provided, leaving the CityWest Hotel from 18:00hrs. Tickets are £50 per head and can be purchased from the registration desk until 18:00hrs on Tuesday 14th March. We strongly advise you to book early because we anticipate that this will be a popular event. Although, as usual, we would like gentlemen to wear a dinner suit, you might like to consider wearing a spotted bow tie to fit in with the mood of the event.

BUSINESS MEETINGS 1 AND 2

Annual Business Meeting 1 will be held on Monday 13th March 2006 between 18:00 and 19:30hrs. Annual Business Meeting 2 will be held on Wednesday 15th March 2006 between 13.45 and 15.15hrs.

Please note that the Business Meetings are open to Society members only.

HEART RESEARCH UK LECTURE

Dr Tim Gardner will deliver his lecture on Wednesday 15th March 2006 at 11.45hrs.

THE PULSE SURGICAL LECTURE

Dr Doug Wood will deliver his lecture on Tuesday 14th March 2006 at 11.45hrs.

MESSAGES

Messages may be left and collected from the registration desk. To leave a message from outside the Meeting (between 13th and 16th March 2006 only): Tel: +353 (1) 401 0500

REFRESHMENTS AND LUNCH

Complimentary tea and coffee will be provided during the official breaks in the exhibition hall. A buffet lunch is included in the registration fee, and will also be served in the exhibition hall.

REGISTRATION

Monday 13 th March	16:00–20:00hrs
Tuesday 14 th March	08:30–18:00hrs
Wednesday 15 th March	08:30–18:00hrs
Thursday 16 th March	08:30–12:00hrs

POSTERS

All posters should be mounted in their indicated space before 08:30hrs on Tuesday 14th March and should be removed between 15.15hrs and 16:00hrs on Thursday 16th March. Any posters not collected after 16:00hrs will be disposed of.

KEY TO BADGES

Badges should be worn at all times during the conference. Exhibitors will be easily identified by their yellow badges.

<input type="checkbox"/> White	– attending entire conference	<input type="checkbox"/> Green	– attending Tuesday only
<input type="checkbox"/> Red	– attending Wednesday only	<input type="checkbox"/> Blue	– attending Thursday only

SATELLITE MEETINGS

Monday 13th March

19:30–19:45hrs Presentation Assessors & Session Chairmen Briefing
Auditorium
Chairman: Graham Cooper

Wednesday 15th March

18:00–20:30 UK Medical Ltd Evening Symposium
Ballroom

Thursday 16th March

09:00–10:00 Scholarship Award Meeting
Slade Suite
Chairman: Pat Magee
(attending: Honorary Secretary, President-elect, Cardiothoracic Dean
Chairman of the SAC)

10:45–11:45hrs Exhibitors Meeting
Slade Suite
Chairman: Simon Kendall
(attending: Graham Cooper, Rachel Woolf)

15:30–16:00hrs Presentation Grading Meeting
Slade Suite
Chairman: Graham Cooper
(attending: President, President-elect, Chairman of the
Intercollegiate Board Chairman of the SAC Cardiothoracic Dean)

SPEAKER'S ROOM

All presenters are requested to review their audio-visual material in the Speaker's room at the following times:

Morning presentations – by 15:00hrs on the day before presentation

Afternoon presentations – by 09:30hrs on the day of presentation

TRADE EXHIBITION

The Annual Trade Exhibition will be held in conjunction with the Meeting and will be open from 08:30hrs Tuesday 14th March to 16:00hrs on Thursday 16th March 2006.

WELCOME RECEPTION

There will be a Welcome Reception in the registration area on the evening of Monday 13th March 2006 between 19:30 and 21:00hrs. The Welcome Reception is included in the registration fee.

SCTS 2005 Prize Winners

Ronald Edwards Medal	E Soo
John Parker Medal	E Lim
Society Thoracic Medal	Redmond

The winners will be presented with their medals at the annual dinner

SCTS 2006 Awards

Ronald Edwards Medal	–	best scientific oral presentation
John Parker Medal	–	best interactive presentation
Society Thoracic Medal	–	best scientific thoracic presentation

The winners will be announced at the annual dinner

SCTS 2005 Scholarships

St Jude Scholarship	P Hayward
Society Thoracic Scholarship	S Stamenkovic
The Marian & Christina Ionescu Travelling Scholarship	D Pagano

SCTS 2006 Scholarships

St Jude Scholarship
Society Thoracic Scholarship
The Marian & Christina Ionescu Travelling Scholarship

The winners of the 2006 scholarships will be announced at the annual dinner

COMMITTEES

Executive Committee 2005–2006

Mr Patrick Magee	<i>President</i>	2004–2006
Prof Sir Bruce Keogh	<i>President elect</i>	2004–2006
Mr James Roxburgh	<i>Honorary Secretary</i>	2004–2009
Mr Babulal Sethia	<i>Honorary Treasurer</i>	2004–2009
Mr Graham Cooper	<i>Meeting Secretary</i>	2002–2007
Mr Christopher Munsch	<i>Chairman of the SAC</i>	2005–2008
Mr Leslie Hamilton	<i>Chairman of Inter-Collegiate Board</i>	2004–2007
Mr Steven Hunter	<i>Cardiothoracic Dean</i>	2004–2009
Mr Sunil Ohri	<i>Publishing Secretary</i>	2004–
Mr Jonathan Hyde	<i>Cardiothoracic Tutor</i>	2004–2007
Mr Malcolm Dalrymple-Hay	<i>Young Consultant's Representative</i>	2005–2008
Mr Freddie Wood	<i>Representing the Republic of Ireland</i>	2003–
Mr Michael Lewis	<i>Trainee representative</i>	2002–2005
Mr Richard Page	<i>Elected member</i>	2003–2006
Mr Simon Kendall	<i>Elected member</i>	2003–2006
Mr Graham Venn	<i>Elected member</i>	2004–2007
Mr Steven Livesey	<i>Elected member</i>	2004–2007
Mr David Taggart	<i>Elected member</i>	2006–2009
Mr Samer Nashef	<i>Elected member</i>	2006–2009

Working Group Chairs

Mr Richard Page	<i>Thoracic Surgical audit</i>	2004– continuing
Mr James Roxburgh	<i>Consultant Contracts</i>	2001– continuing
Mr David Richens	<i>NHS Ombudsman/SCTS (Cardiothoracic consent)</i>	2004– continuing
Mr Graham Cooper	<i>Review of the Constitution and working of the Executive</i>	2004– continuing
Mr Graham Venn	<i>Bloodborne Infection</i>	2004– continuing
Mr Steven Livesey	<i>NCEPOD study (1st time CABG mortality)</i>	2004– continuing

Programme Committee 2006 Meeting

Mr Graham Cooper	<i>Meeting Secretary</i>	Lead Reviewers	
		Mr Steve Clark	<i>Transplantation</i>
		Mr Malcolm Dalrymple-Hay	<i>Adult Cardiac</i>
		Mr John Duffy	<i>Thoracic</i>
		Mr Brian Fabri	<i>Adult Cardiac</i>
		Mr Adrian Marchbank	<i>Experimental & Miscellaneous</i>
		Mr Andrew Parry	<i>Congenital</i>

Abstract Reviewers 2006 Meeting

<i>Adult Cardiac</i>	Mr Brian Fabri (lead)	<i>Thoracic</i>	Mr John Duffy (lead)
	Mr Malcolm Dalrymple-Hay (lead)		Mr Sion Barnard
	Mr David Jenkins		Mr David Waller
	Mr Unnikrishnan Nair		
	Mr Sunil Ohri		
	Mr Dominic Pagano		
<i>Congenital</i>	Mr Andrew Parry (lead)	<i>Transplantation</i>	Mr Steve Clark (lead)
	Mr David Barron		Mr Stephan Schueler
	Mr Kevin Watterson		Mr Ian Wilson
<i>Experimental</i>	Mr Adrian Marchbank (lead)		
	Mr Jonathan Hyde		
	Mr Alex Shipolini		

Specialist Advisory Committee in Cardiothoracic Surgery 2005–2006 (A Sub-committee of the Joint Committee for Higher Surgical Training)

Mr Christopher Munsch	<i>(Chairman) Royal College of Surgeons</i>	2005–2008
Prof Peter Goldstraw	<i>Outgoing chairman</i>	2005–2006
Mr Steven Hunter	<i>Cardiothoracic Dean</i>	2004–2009
Mr Leslie Hamilton	<i>Chairman of the Intercollegiate Board</i>	2004–2007
Mr James Roxburgh	<i>Secretary Society for Cardiothoracic Surgery</i>	2004–2009
Mr Jim McGuigan	<i>Joint Royal College Representative</i>	2003–2008
Mr Steven Livesey	<i>Society for Cardiothoracic Surgery</i>	2004–2009
Mr Frank Wells	<i>Society for Cardiothoracic Surgery</i>	2001–2006
Mr Tim Graham	<i>Vice Chairman and representative for Royal College of Surgeons of Edinburgh</i>	2001–2006
Mr Vincent Young	<i>Royal College of Surgeons in Ireland</i>	2004–2009
Mr Jim Pollock	<i>Royal College of Physicians & Surgeons of Glasgow</i>	2001–2006
Dr David Sowden	<i>Lead Dean</i>	For term of office
Mr Michael Lewis	<i>SpR Representative</i>	2002–2005

Intercollegiate Board in Cardiothoracic Surgery 2005–2006

Mr Leslie Hamilton	<i>Chairman (2005–2007) and Representative of the Royal College of Surgeons of England</i>	2005–2007
Mr James Roxburgh	<i>Representative of the Society for Cardiothoracic Surgery</i>	2003–2008
Mr Christopher Munsch	<i>Chairman SAC in Cardiothoracic Surgery</i>	2005–2008
Mr Thomas Aherne	<i>Representative of the Royal College of Surgeons in Ireland</i>	2003–2008
Mr Kenny MacArthur	<i>Honorary Secretary (2003–2006) Representative of the Royal College of Physicians and Surgeons of Glasgow</i>	2001–2006
Mr Tim Graham	<i>Representative of the Royal College of Surgeons of Edinburgh</i>	2003–2008
Mr Steven Hunter	<i>Cardiothoracic Dean Representative of the Society for Cardiothoracic Surgery</i>	2004–2009

MEETING HISTORY

List of Presidents of the Society since 1934

1934	Mr H Morrison Davies	1977	Mr H R S Harley
1936	Mr J R H Roberts	1978	Mr R Abbey Smith
1938	Mr A Tudor Edwards	1979	Mr R P Moore
1945	Mr J B Hunter	1980	Mr J R Belcher
1947	Mr W M Anderson	1981	Mr M Bates
1948	Mr R B Purse	1982	Mr J M Hill
1950	Mr A Graham Bryce	1983	Mr J F Dark
1952	Sir Clement Price Thomas	1984	Mr D N Ross
1954	Mr H Reid	1985	Mr M Paneth
1956	Mr B Dick	1986	Mr M V Baimbridge
1958	Sir Russell Brock	1987	Sir Keith Ross
1959	Mr G A Mason	1988	Professor W H Bain
1961	Sir Thomas Holmes Sellors	1989	Mr W G Williams
1963	Mr R F J Henry	1991	Professor D I Hamilton
1964	Mr N R Barrett	1992	Professor G H Smith
1966	Mr V C Thompson	1994	Mr B Ross
1968	Mr P R Allison	1995	Mr J Bailey
1969	Mr A L d'Abreu	1996	Professor H Matthews
1970	Mr A Logan	1997	Professor D Wheatley
1971	Mr O S Tubbs	1999	Mr J Dussek
1972	Mr F R Edwards	2001	Mr J Monro
1973	Mr J L Collis	2003	Mr C Hilton
1974	Mr R H R Belsey	2005	Mr P Magee
1975	Mr R S Barclay		
1976	Mr W P Cleland		

SCTS Annual Meeting's 10-Year History

1997	<i>Royal College of Surgeons</i>	Dublin
1998	<i>Edinburgh International Conference Centre</i>	Edinburgh
1999	<i>East Midlands Conference Centre</i>	Nottingham
2000	<i>Business Design Centre</i>	London
2001	<i>East Midlands Conference Centre</i>	Nottingham
2002	<i>Bournemouth International Centre</i>	Bournemouth
2003	<i>Edinburgh International Conference Centre</i>	Edinburgh
2004	<i>Beau Sejour Centre</i>	Guernsey
2005	<i>Olympia Conference Centre</i>	London
2006	<i>CityWest Conference Centre</i>	Dublin



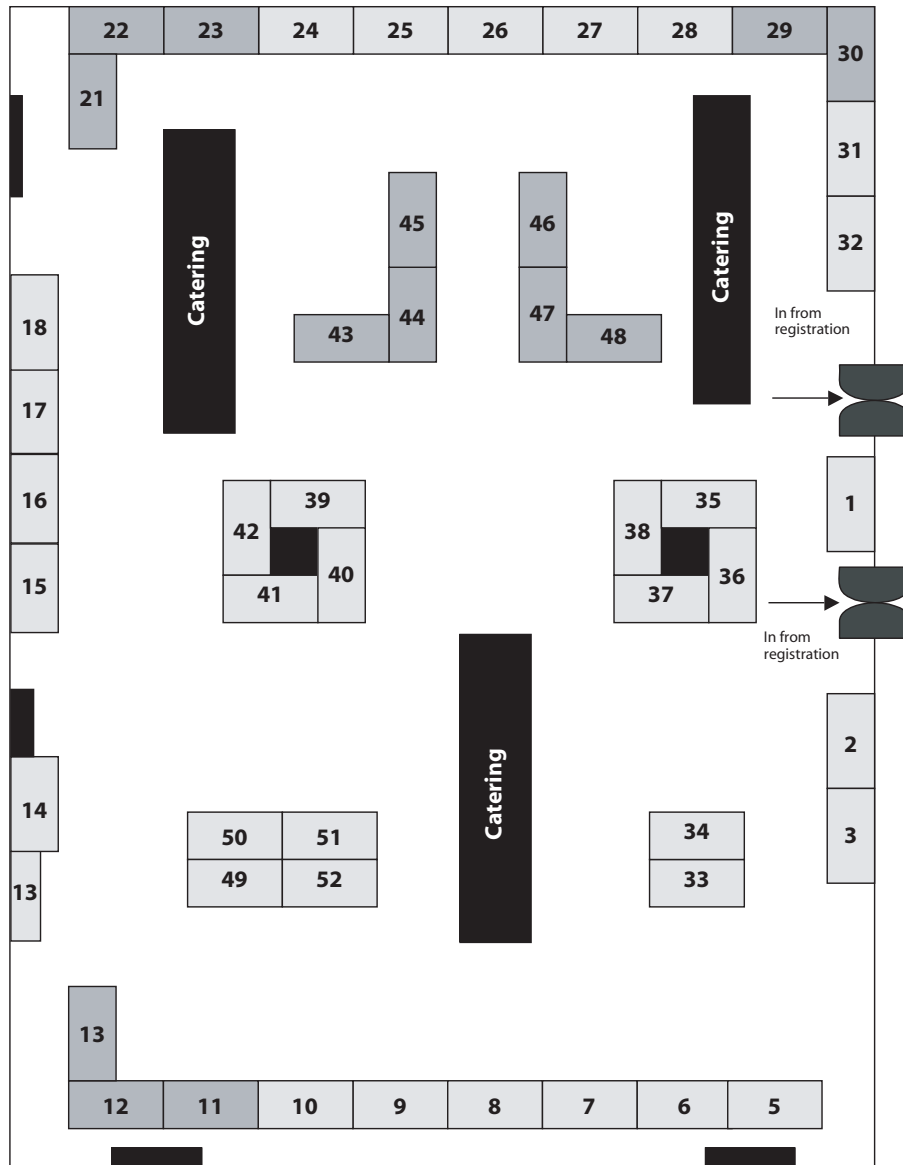
**SOCIETY FOR CARDIOTHORACIC SURGERY
IN GREAT BRITAIN AND IRELAND**

2006 ANNUAL MEETING

EXHIBITION CATALOGUE



Exhibition Plan



CATALOGUE OF EXHIBITORS

Stand	Company Name	Stand	Company Name
51	Astra Tech Ltd	42	Johnson & Johnson
38	Atrium Medical Corporation	33	Jotec
37	Baxter Healthcare Ltd	1	Koehler Medical Ltd
35	Bayer	6	Medihoney
5	BVM	43, 44, 45	Medtronic
34	Caledonian Medical Ltd	49	Pierson Surgical
50	Cardio Solutions (UK) Ltd	40	Pulse Surgical Ltd
52	Cardiologic Ltd	16	Royal College of Surgeons
3	Cardiothoracic ALS Course	28	Scanlan International Inc
29, 30	Chalice Medical	11, 12, 13	Sorin Group UK Ltd
41	Cryolife	21, 22, 23	St Jude Medical UK Ltd
10	CTSNNet	15	Synthes
8	Datascope Medical Co Ltd	17	Thoratec Europe Ltd
2	Dendrite Clinical Systems	31	Tomcat Clinical Systems
46, 47, 48	Edwards Lifesciences Ltd	24, 25	Tyco Healthcare
7	Emmat Medical	26	Tyco Healthcare
32	Ethicon	39	UK Medical Ltd
18	Eurosets	36	Vascutek Ltd
27	Guidant	13a	Wisepress Online Bookshop Ltd
9	JKC		

ASTRA TECH LTD

Stand 51

Brunel Way, STONEHOUSE, Gloucestershire GL10 3SX
 Tel: +44 (0)1453 791763 Fax: +44 (0)1453 791001
 Email: info.uk@astratech.com Website: www.astratechuk.com

Contact: Simon Talbot, Product Manager – Surgery

Astra Tech began its commitment to blood management over 25 years ago and we believe that success in this field should be characterised by strong customer partnerships and the ability to support marketing claims by using solid clinical documentation. Astra Tech is a company in the Astra Zeneca Group and our close connection with the pharmaceutical industry has a significant impact on the way we develop and market our products.

In our day-to-day work we are guided by three important core values: simplicity, reliability and superlative customer support. This has made the Astra Tech blood management products some of the fastest-growing systems in the world.

Please come and visit us on stand number 51, where our sales support team will be glad to discuss our blood management products with you.

ATRIUM MEDICAL UNITED KINGDOM**Stand 38**

Peter House, Oxford Street, Manchester M1 5AN
Tel: +44 (161) 209 3675 Fax: +44 (161) 209 3676
Email: atriumuk@atriummed.com Website: www.atriummed.com

Atrium Medical is happy to celebrate its first year in the United Kingdom with a direct sales organisation, and would like to thank you for making it happen!

Visit us at stand 38 in Dublin, to (re)discover our full range of innovative chest drainage solutions, including our compact, wearable and waterless operation systems such as the Express Mini™ 500 and the Pneumostat™ Chest Drain Valve for rapid patient ambulation.

We will also present to you the new Pleuraguide™ **Chest Tube Insertion Kit, easy and economical** with virtually everything needed for bedside chest tube insertion.

Atrium is also dedicated to bring you the **best education resources and support** with our continuously updated website www.atriummed.com, nursing education videos, handbooks, and quarterly Clinical Updates newsletters.

We look forward to meeting you again!

BAXTER HEALTHCARE LTD**Stand 37**

BioScience, Wallingford Road, Compton, Newbury, Berkshire, RG20 7QW
Tel: +44 (0)1635 206074 Fax: +44 (0)1635 206126

Baxter Healthcare's mission is to apply our expertise in medical devices, pharmaceuticals and biotechnology to make a meaningful difference in patients' lives.

Baxter BioSurgery's mission is to improve surgical practice by the development and use of novel biomaterials for hard and soft tissue repair.

Baxter Healthcare Ltd invites you to discover their spectrum of products for perioperative haemostasis – TISSEEL KIT q Two-Component Fibrin Sealant, FloSeal Matrix Haemostatic Sealant and CoSeal Surgical Sealant.

For further information, please visit our stand or contact us at the address above.

BAYER PLC**Stand 35**

Strawberry Hill, Newbury, Berkshire RG14 1JA
Tel: +44 (0)1635 563000 Fax: +44 (0)1635 563662
Email: bernard.murray.bm@bayer.co.uk

Contact: *Bernard Murray, Marketing Manager, Trasylol UK*

Bayer has long had a presence in the UK pharmaceutical market with brands such as Adalat LA (nifedipine once-daily) and Ciproxin (ciprofloxacin). The Biological Products Division is well known for its activity in the haemophilia market with Kogenate and, most recently, Kogenate Bayer.

Trasylol (aprotinin) is promoted for patients at high risk of major blood loss during open-heart surgery with extracorporeal circulation, and is the subject of research into other areas associated with cardiac surgery.

BVM**Stand 5**


BVM Medical, BVM House, Trinity Lane, Hinckley, Leicestershire LE10 0BL
Tel: 44 (0)1455 614 555 Fax: 44 (0)1455 614 546
E-Mail: info@bvmmedical.com Web: www.bvmmedical.com

Contact: *Hitesh Tailor*

BVM Medical Limited was established on the 12 July 1989 and started trading on the 1 November 1989.

The core business of BVM Medical Limited is to distribute medical devices in the United Kingdom. BVM Medical is primarily focused on Interventional Congenital Cardiology, Interventional Radiology and General, GI, Cardio Thoracic and Vascular Surgery, utilising both Implantable and disposable devices.

BVM believes that a personal service to the customer is paramount and will endeavour to provide a 24-hour cover for delivery or advice on products.

At the BVM stand you will be able to see demonstrations of: 

The Next Generation Thoracic Stent-Graft specifically designed for aortic arch applications and long-term durability. The Relay Stent Graft is Arch Compatible; it has a Spiral Support Strut and is designed for endurance

BVM is also very pleased to announce the launch of the unique new generation of Fibrin Sealants using Autologous or Allogeneic Plasma - The CroySeal FS System and the TPD.

CryoSeal FS System

A semi-automated, customizable system that enables the production of autologous fibrin sealant components from a single unit of a patient's blood plasma, in about 60 minutes.

Thrombin Processing Device (TPD)

The TPD™ is an easy-to-use, hand-held, disposable device designed for the rapid production of autologous thrombin in a busy operating room.

We look forward to seeing you at the SCTS Annual Scientific Meeting in Dublin.

CALEDONIAN MEDICAL LTD**Stand 34**

Unit 1, Phoenix Crescent, Strathclyde Business Park, Bellshill, Scotland ML4 3NJ
Tel: +44 (0)1698 845511 Fax: +44 (0)1698 845456
Email: info@calmed.co.uk Website: www.calmed.co.uk

Contact: Gordon R Wright, Managing Director

Caledonian Medical Limited have now been established for 12 years. We manufacture custom procedure trays at our facility in Scotland. We are able to do this for all surgical disciplines to hospitals throughout the UK.

We also distribute a range of cutting-edge technology products for Cardiovascular Surgery. These include:

ATS Medical – the only open pivot bileaflet heart valve, Guidant – who manufacture a range of products for OPCAB, 3F – a new technology equine pericardial stentless valve, A&E – who have a vein artery harvesting system, as well as a range of sternal wires.

CARDIO SOLUTIONS UK LTD**Stand 50**

Cardio Solutions UK Ltd, Claro Business Centre, 15 Claro Road, Harrogate HG1 4BA
Tel: 01423 875 787 Fax: 01423 501 112
Email: customer.services@cardiosolutions.co.uk Website: www.cardiosolutions.co.uk

Contacts: Mark Bailham: 07725 365 552; mark.bailham@cardiosolutions.co.uk
Wayne Wright: 07725 365 550; wayne.wright@cardiosolutions.co.uk
Mark Woolley: 07725 365 551; mark.woolley@cardiosolutions.co.uk

Cardio Solutions Ltd is a UK-based company dedicated to the supply and sales management of Cardiovascular Equipment to the UK health market. It is our business to build and nurture relationships with key figures within the medical industry to ensure the highest quality of service in the delivery of Cardiovascular Equipment, education and support to surgeons, NHS trusts and hospitals.

Our product portfolio encompasses some of the finest innovations in medical technology, including St Jude Heart Valves, Conduits and Mitral Repair Rings, Medical Concepts Temporary Pacing Wires, Jotec Vascular Grafts and TAA Stentgraft systems and FLEXIGRIP-Nitinol Sternal Closure Clips from Praesidia.

CARDIOLOGIC LTD**Stand 52**

Hillside House, Cowesby, Thirsk, North Yorkshire YO7 2JL
Tel: +44 (0)184553787 Fax: +44 (0)1845537872
Website: www.cardiologic.co.uk

Contact: Andrew Coane, Sales and Marketing Director: Mobile 07870 255 758;
andrewcoane@cardiologic.co.uk

Cardiologic Ltd will be exhibiting the complete range of Atricure AF ablation products, including the new LHP4 Handpiece, Max3 Transpolar pen and the Minimally Invasive AF Handpieces and PV Dissector.

The TRISAVR surgical ventricular reshaping system will be on show, which has been shown to provide more reproducible, predictable clinical results in heart failure patients.

The exciting new Enpath Fas Tac Flex epicardial lead surgical implant tool will also be on display. This is the state-of-the-art implantation device for when the ventricular lead for an ICD needs to be placed surgically.

The new proximal and distal anastomosis devices from Cardica, also on display, represent a major step forward in this area. Follow-up studies have shown a 98% patency at 6 months for the Pas-Port proximal device.

CARDIOTHORACIC ALS COURSE**Stand 3**

L R Associates, 58 Kiln Close, Kalvert, Buckingham NK18 2FD
Tel: 01296 733 823 Fax: 01296 733 823
Email: lrassociates@lycos.co.uk

Contact: Lorraine Richardson: 07050 051 096

Have you ever felt out of your depth when a patient post-cardiac surgery arrests or is critically-ill? Or do you trust your staff to treat these patients competently as you would have treated them? This highly innovative 3-day course teaches all aspects of the treatment of critically-ill patients post-cardiothoracic surgery. The course features lectures and a manual but the emphasis is on practical training. A mock-up ICU with manikins and all the necessary theatre equipment is used for cardiac-arrest training, and for the critically-ill surgical patient, manikins with laptop-simulated monitors and one-to-one training is used. We also feature hands-on IABP training, tracheostomy emergencies, CXR, ECG and blood gas interpretation.

This course is intended for both doctors and nursing staff interested or likely to be involved in the care of the critically ill patient. Surgical assistants, nurse practitioners, SHOs and junior registrars have all benefited from attendance on our last 3 courses. Our course has been described in the November 2005 BMJ, and a paper on our excellent results accepted for the Annals of Thoracic Surgery. We have 3-courses this year, all being held in the heart of the Lake district. Course dates: 27th April, 20th July, 16th November.

CHALICE MEDICAL LTD**Stands 29, 30**

Coach Crescent, Shireoaks, Worksop, Nottinghamshire S81 8AD
Tel: +44 (0)1909 47077 Fax: +44 (0)1909 470888
Email: enquiries@chalicemedical.com Website: www.chalicemedical.com

Chalice Medical Ltd was established in 1998 to import high-quality medical products from suppliers in Europe and the USA specifically for the Cardiac Surgery and Perfusion market within the UK and Ireland.

From our head office in Nottinghamshire, Chalice manufacture customised extra-corporeal tubing packs, cannula and cardiotomy reservoirs within its two state-of-the-art clean-rooms. The sales and marketing suites, climate-conditioned warehousing and distribution centre are also located here.

Our products range includes:

Ventricular Assist Devices

- Levitronix® CentriMag® short-term Ventricular Assist device
- Medos® VAD and HD8® new portable driving console for medium-term assist
- Syncardia® Total Artificial Heart

Delacroix Chevalier® Surgical Instruments

- Full range of retractors, including Carpentier mitral valve retractors, IMA retractors, Dubost, adult and paediatric ranges
- Instruments for minimally invasive surgery
- Needleholders, Micro-instruments, Resano forceps
- Titanium instruments

Medos® and Gish® Oxygenators and Extracorporeal Tubing Packs

- Minimised Bypass and conventional systems
- Adult and paediatric ranges
- Conventional and Long-Term ECMO ranges
- Cardioplegia delivery systems

Cannulae

- Surge Medical® (formerly Chase Medical Products)
- Medos®
- Andacor®
- Origen®

CRYOLIFE EUROPA LTD**Stand 41**

Bramley House, The Guildway, Old Portsmouth Road, Guildford, Surrey GU3 1LR
Tel: +44 (0)1483 441030 Fax: +44 (0)1483 452860
Email: Europa@cryolife.com

CryoLife Europa Ltd will be demonstrating BioGlue Surgical Adhesive. BioGlue can be used as a sealant, as an adhesive and for tissue reinforcement. Clinically proven in over 210,000 procedures worldwide, BioGlue is now available in a fully disposable syringe system in 10ml, 5ml and 2ml volumes.

The smaller profile of the syringe improves site access and visualisation, and the all-inclusive packaging saves time and storage space. BioGlue Surgical Adhesive is CE-marked for cardiac, vascular, pulmonary, dura mater repair and general surgery.

CryoLife Europa Ltd will also be demonstrating the CryoLife–O'Brien Porcine Bioprosthesis. The CryoLife–O'Brien Bioprosthesis is a stentless porcine aortic valve with proven durability and performance out to 10 years. The supra-annular implant position and single-suture-line implant technique offers many benefits to both surgeons and patients.

CTSNet**Stand 10**

CTSNet, Inc., 3108 Queeny Tower, Barnes-Jewish Hospital Plaza, St. Louis, MO 63110, USA
Tel: +1 (314) 361 6084 Fax: +1 (314) 367 0585
Email: blasbergc@wustl.edu Website: www.ctsnet.org/

Contact: *Carol L. Blasberg*

CTSNet is the premier electronic community and portal of information for cardiothoracic surgery, providing the most comprehensive, most heavily trafficked and most reliable online source of information about cardiothoracic surgery available worldwide. CTSNet's many resources include the full text and graphic of all articles for the major journals in the field. Cardiothoracic surgery is unique among medical specialties in having a single, collaborative Web resource created by and including the major professional associations around the world. This backing by the recognised professional societies throughout the world gives CTSNet a level of credibility and an authoritative voice unmatched by any other online source.

DATASCOPE MEDICAL CO LTD**Stand 8**

Lakeview Court, Ermine Business Park, Huntingdon, Cambs PE29 6XR
Tel: 01480 423600

Datascope UK are pleased to announce the launch of our range of Thoracic Grafts. Features include:

- Exclusive weave design which produces woven grafts that handle and suture like a knitted graft
- Outstanding strength and long-term durability
- A complete range of sizes, including speciality grafts for aortic arch and thoracic aorta repair and replacement
- Proven clinical safety and efficacy

Datascope produce the linear 7.5Fr IAB Catheter. Features include a Durathane Membrane for significantly increased abrasion resistance, no step down from membrane to catheter, significantly reduced force of insertion compared to previous IAB catheters and better tracking and handling, particularly in tortuous vessels. The true 7.5Fr gives the Linear IAB a 12% reduction in in-dwelling cross-sectional area compared with previous 8Fr products.

Datascope also produce the fully automated CS100 Intra-Aortic Balloon Pump.

DENDRITE CLINICAL SYSTEMS LTD**Stand 2**

59A Bell Street, Henley-on-Thames, Oxfordshire RG4 9QT
Tel: 01491 411 288 Fax: 01491 411 377
Email: info@e-dendrite.com Website: www.e-dendrite.com

Head Office Contact: Dr Peter K H Walton, Managing Director

With installations in 40 UK cardiothoracic centres, Dendrite is the leading supplier of database and analysis software for both cardiac and thoracic surgery. Visit our exhibition stand to see Dendrite's web-based database system and meet the team to see the latest developments and discuss your requirements.

EDWARDS LIFESCIENCES**Stands 46, 47, 48**

2 Toomers Wharf, Canal Walk, Newbury, Berkshire RG14 1DY
Tel: 0870 606 2040 Fax: 0870 606 2050
Website: www.edwards.com/europe

Edwards Lifesciences is a global leader in products and technologies to treat advanced cardiovascular disease. Edwards continues to lead in the promotion of education for valve repair techniques and to innovate in valve replacement solutions. Visit our stand to learn more about the new Carpentier-Edwards Perimount **Magna™** valve with Thermafix™, now available for the **Mitral** position.

EMMAT MEDICAL LTD**Stand 7**

5a Newton Court, Pendeford Business Park, Wobaston Rd, Wolverhampton WV9 5HB
Tel: 01902 788 777 Fax: 01902 788 555
Email: sales@emmat.co.uk Website: www.emmat.co.uk

Formed in 1995 Emmat medical is now a well-known supplier of fine general surgical and endoscopic instruments, specialising in the cardiothoracic and cardiovascular field. We have the UK exclusivity for the Geister range of cardiac instruments from Germany, and also market the Wexler range of instruments from the USA

Amongst other items we will be demonstrating Geister's new innovative range of minimally invasive instruments for valve surgery. These are ultra lightweight, perfectly balanced, with durable hard anodised aluminium handles and integrated cleaning ports.

We will also be demonstrating Geisters re-usable 'flexible arm', which can be used with various attachments for beating heart surgery.

Please come and see our range of top quality micro instruments which retail for a lot less than you might imagine, or contact us for a demonstration in your department.

ETHICON LIMITED**Stand 32**

JOHNSON & JOHNSON MEDICAL LIMITED, PO Box 1988, Simpson Parkway, Kirkton Campus Livingston EH54 0AB
Customer Services: Tel. 0800 864060
Fax 01344 864122
Websites: www.ethiconproducts.co.uk and www.jnjgateway.com

Beating cardiovascular disease is a declared goal of JOHNSON & JOHNSON, the world's most comprehensive and broadly based manufacturer of healthcare products. The JOHNSON & JOHNSON companies represented on the stand are: CardioVations [minimally invasive cardiovascular products and technologies for valve and vessel management] and ETHICON.

ETHICON, a division of JOHNSON & JOHNSON MEDICAL LIMITED, is the worldwide leader in suture products and suture technology and is one of the most recognisable and well-respected brand names in the hospital environment. The division has a long history of innovation in providing products – including sutures, topical adhesives, surgical meshes and wound drains – that improve lives by advancing the standard of care in tissue repair.

EUROSETS

Stand 18

Eurosets s.r.l., Strada Statale 12, No. 143, 41036 Medolla (MO), Italy
Website: www.eurosets.it/eng/eng_eurosets.html

Contact: *Andrea Chierici*

EUROSETS, located in the north part of Italy, since 20 years collaborates with consolidated companies in the biomedical arena.

Today **EUROSETS** offers **directly to its Customers** an high quality customization service with its **own brand** medical devices, in the following fields:

Cardiopulmonary, completely customizable **tubing set** including filters such as **arterial filter SHERLOCK™** and every Cardioplegia set even with **VISION** blood heater exchanger.



Active generation inert layer for E.C.C.

PC coating available for Cardiopulmonary tubing set.

Autotransfusion, with **CARDIO P.A.S.** innovative Post Operative Autotransfusion CLOSED system allowing multi reinfusion with closed circuit and, thanks to a patented sterilizing and hydrophobic membrane, maintaining the sterility of the blood collected.

EuroDrain single and dual collection chamber chest drainage.

GUIDANT

Stand 27

Guidant Ltd, Hampshire International Business Park, Crockford Lane, Chineham, Basingstoke Hants RG24 8WH
Tel: 01256 374 000 Fax: 01256 374 101
Website: www.guidant.com

Guidant are delighted to be exhibiting at the SCTS Annual Scientific Meeting. We have recently set up a direct operation in the UK for our Ablation product line. Guidant pioneer in Microwave Cardiac Surgical Ablation Systems and Minimal Invasive System offers unbeaten flexibility and consistent performance for today's cardiac patient.

Also GUIDANT Cardiac Surgery, a pioneer in minimally invasive technologies, offers products for OPCAB surgery, endoscopic conduit harvesting, as well as clampless solutions for proximal anastomosis. These products are distributed by Calmed in the UK.

Please come and visit Paul McLean, General Manager, Guidant and the team at stand 27.

JKC

Stand 9

JKC Video Conferencing Limited, The Studio, Silverwood Farm, Landford Wood, Salisbury, Wiltshire SP5 2ES

Tel: 08700 275 470 Fax: 08700 275 471

Email: johncooper@jkcit.co.uk Website: www.jkcit.co.uk

Contact: *John Cooper*

JKC, a specialist video conferencing company, is delighted to be exhibiting for the first time at the annual scientific meeting of the Society for Cardiothoracic Surgery in Great Britain and Ireland. For the past 3 years we have been working very closely with East Sussex hospitals and have developed a vital video communication link that enables Cardiology consultants to communicate instantly with remote surgeons in emergency situations. The launch of this product takes place at this Society event.

The product itself utilises video streaming technology to achieve high quality transmission connecting both the video images of the consultant and surgeon as well as the vital Fluoro video feed directly from the hospital equipment. Touch screen displays at each end enable ease of use and instant communication.

The solution has been designed with a dual purpose. As well as providing the emergency link it also provides the ability to review vital patient data remotely by video. This eliminates the need for surgeons and consultants to travel to a single meeting point. The system enables both locations to control the data stream for accurate reviews.

We invite you to view this new innovation at stand 9.

JOHNSON & JOHNSON

Stand 42

Wound Management, Coronation Road, Ascot, Berkshire SL5 9EY

Tel: 01344 871 13 Fax: 01344 621 247

Email: obarnett@medgb.jnj.com

Contact: *Oliver Barnett*

Johnson & Johnson Medical is the world's largest and most diverse healthcare company. The company manufactures healthcare products and equipment for consumer, professional, diagnostic and pharmaceutical markets. Johnson & Johnson operates in more than 50 countries and employs over 100,000 people worldwide.

One of the major growth markets within Johnson & Johnson is Wound Management. The Surgical Wound Care Business Unit within Wound Management deals in specialist operating theatre medical devices and pharmaceuticals, which control bleeding and prevent infection. Much of Surgical Wound Care's success is in the Topical Absorbable Haemostats market, notably SURGICEL* and now the extension brands SURGICEL* Fibrillar and SURGICEL* NU-KNIT. With the introduction of QUIXIL® Human Surgical Sealant, Surgical Wound Care has really built up a portfolio that can assist a surgeon's every need when trying to achieve haemostasis.

We would also like to take this opportunity to highlight the release of our newest product, Ethicon OMNEX Surgical Sealant. A completely synthetic sealant, Ethicon OMNEX is a very exciting development for Vascular reconstructive surgery. It combines exceptional Strength, Safety, Simplicity and Speed to produce a very impressive product. We look forward to talking to you more over the next few days.

JOTEC**Stand 33**

Jotec UK, Lynton House, 7–12 Tavistock Square, London WC1H 9LT
Tel: 00 44 7980 296846 Fax: 01727 840 501
Email: paul.jeffers@jotec.net Website: www.jotec.net

Contact: Paul Jeffers

JOTEC is a medical device company that provides *Solutions for Vascular Disease* by offering vascular and interventional implants for vascular and cardiac surgeons, radiologists and cardiologists.

JOTEC's product portfolio includes the polyester graft lines FlowNit and FlowWeave with Bioseal® impregnation and the ePTFE graft lines FlowLine Bipore and FlowLine Bipore Heparin.

The interventional products range from Thoracic stentgrafts E®-vita and peripheral stents E®-njoy to guide wires and introducers.

The unique endoluminal Stent Graft System E®-vita Open for open heart surgery, allows an optimized 'elephant trunk' procedure through combination of conventional and interventional techniques.'

KOEHLER MEDICAL LTD**Stand 1**

Astley Lane, Swillington, Leeds LS26 8XT
Tel: 0113 287 1122 Fax: 0113 287 3087
Email: www.koehler-medical.com

Contact: John Mc Kenna

Koehler Medical Ltd – celebrating 25 years of valve manufacture in Leeds.

Headquartered in Leeds, Koehler Medical offers a unique range of Valve products created by and based on the knowledge of GB & I surgeons. Aspire stented, Elan and Elan Root stentless as well as our full Adult Root provide a comprehensive Biological Valve package. The "MRS" Mitral Repair System has proven highly effective during its 11 year history in Mitral Repair, while the Ultracor Mechanical valve now in its 22nd Anniversary Year continues the great tradition of excellent tilting disc valve performance.

UK valves crafted by our own technicians here in the UK. Implanted by surgeons worldwide. Supported by an experienced sales and service team.

Carol, Bob and John are delighted to be with you in Dublin.

MEDIHONEY**Stand 6**

Medihoney (Europe) Ltd, 200 Brook Drive, Green Park, Reading, Berkshire RG2 6UB
Tel: 0118 949 7647 Fax: 07900 080863
Email: f.mcgregor@medihoney.co

Contact: Fiona McGregor

MediHoney™ is the world leader in the clinical research and marketing of medical products utilising the antibacterial and anti-inflammatory properties of medical honeys.

MediHoney™ derives from Australia's unique floral diversity that produces exceptional antibacterial activity in honey for the treatment and management of acute and chronic wounds. The *Leptospermum* species in particular has shown additional unique antibacterial properties. Studies have proved that these products have been successful in combating drug resistant infections such as MRSA and VRE.

MediHoney™ Wound Gel and Antibacterial Honey products not only offer protection against a wide range of invading bacteria but also act as an effective cleaning and debriding agent rapidly lifting slough and necrotic tissue from the wound bed.

MediHoney™ creates an ideal wound healing environment by its unique action on the wound bed. Because of high glucose content an osmotic pull occurs 'drawing' excess fluid from the wound bed thus restoring moisture balance and reducing inflammation. Once dilution occurs, the enzyme, gluconic oxidase is released which then produces low levels of hydrogen peroxide.

All MediHoney™ product are sterilised, standardised for their antibacterial activity, CE marked and proven safe and effective for the treatment of a wide range of complex wounds.

MEDTRONIC LTD**Stands 43, 44, 45**

Cardiac Surgery Division, Sherbourne House, Croxley Business Park, Watford WD18 8WW
Tel: +44 (0)1923 212213 Fax: +44 (0)1923 241004
Websites: www.medtronic.com and www.heartvalverepair.net

Contact: Mrs Bettina Fitt

Medtronic offer a comprehensive range of tissue and mechanical valves, repair products, DLP cannulae, OPCAB products and Atrial Fibrillation pens and generators. We offer the latest tissue technology in the 3rd generation stented Mosaic and the unstented Freestyle valves as well as unparalleled 20-year data on our second generation Hancock 11 stented tissue valves. In addition, we have built on the outstanding results of the MedHall valve to bring you the latest technology in a bileaflet valve, the Advantage, available in both standard and supra-annular, aortic and mitral.

Please visit our stand, where the team will be happy to show you all of the above along with some other exciting new products.

PIERSON SURGICAL LIMITED**Stand 49**

North Bradley House, North Bradley, Trowbridge, Wiltshire BA14 0TA
Tel: +44 (0)7785 295594 Fax: +44 (0)7092 315510
Email: annie@piersonsurgical.com

Contacts: Annie Pierson, Ross Pierson

Pierson Surgical Ltd was formed by Annie Pierson in 2002 as a specialist surgical products distributor with a primary focus on Cardiac and Vascular products. Current products include:

- Péters Sutures – a wide spectrum of high-quality sutures for all aspects of surgery. This includes the Cardionyl and Cardioflon ranges for Mitral Valve surgery.
- Landanger and Delacroix–Chevalier Surgical Instruments – France's largest manufacturer of surgical instruments with a specialisation in CardioThoracic and Vascular instruments.
- Diamond Knives
- Stainless Steel Sternal closing Wires
- Perouse – Polyester Patches and Thoracic Grafts
- Sensipull Aortic Punch, a unique, innovative design that gives you excellent tactile feedback to ensure that every punch is effortless and perfect.
- Keeler Magnification Loupes

Annie also works with Atrium Medical, specialising in Chest Drains.

We look forward to seeing you on the stand.

PULSE SURGICAL LTD**Stand 40**

32A Station Road, Chinnor, Oxon OX39 4PZ
Tel: +44 (0)1844 352220 Fax: +44 (0)1844 354322
Email: steve@pulsesurgical.co.uk Website: www.pulsesurgical.com

Contact: Mr Steve Chaplin

Pulse continues to be one of the most focused and successful cardiac companies in the UK. As independent distributors, we can offer a unique mix of complementary products. These include the On-X heart valve range, Boston Scientific bipolar and unipolar ablation systems, Medi-Stim's flow meter with vessel location option, the Djumbodis Dissection System for Type A dissections, two specialist haemostatic sealant products, Vivostat autologous fibrin and Arista microspheres for acute bleeds, Flothru shunts and Estech stabiliser devices (with and without vacuum), mitral retractors and long instruments for minimally invasive surgery.

We also promote Starion's unique vessel harvesting devices, Keeler loupes, German surgical instruments and many unique niche products to assist you in surgery.

ROYAL COLLEGE OF SURGEONS OF ENGLAND**Stand 16**

35–43 Lincoln's Inn Fields, London WC2A 3PE
Tel: +44 (0)20 7869 6340 Fax: +44 (0)20 7869 6329
Email: pmaden@rcseng.ac.uk Website: www.rcseng.ac.uk

Contact: Pauline Maden, Education Specialty Co-ordinator

The Cardiac Surgical Wet Lab Project

By now all society members should have received their wet lab 'packs'. The packs consist of 1) a guide to establishing and running a wet lab, 2) a trainees guide to using the wet lab and 3) a series of DVDs demonstrating 18 commonly performed cardiac procedures. If you don't have the full set please contact Pauline.

Having now taken care of production and distribution the project moves into the implementation and evaluation phases. We are obviously keen that as many trainees as possible are able to take advantage of the material we have produced, and we hope that all cardiac surgical units would now want to explore ways in which they can develop their own wet labs. We are happy to provide any practical help we can to achieve this.

John Wright has agreed to lead an evaluation of the project, to test its surgical relevance and its educational value. Teams from Dundee Medical School and the Open University will also be involved. We feel that a formative evaluation is essential and we do need feedback from trainers and trainees to ensure the success of the project. Please, therefore, cooperate fully with the evaluation team and feel free to be as honest as you like.

SCANLAN INTERNATIONAL INC**Stand 28**

One Scanlan Plaza, Saint Paul, Minnesota 55107, USA
Tel: +001 651-298-0997 / 800-328-9458 Fax: + 001 651-298-0018
Website: www.scanlaninternational.com

Highest quality specialty surgical products designed and manufactured by the Scanlan family since 1921. Offering over 3,000 instrument designs in stainless steel and titanium including CardioVasive and Thoracoscopic instrumentation, Super Cut™ / Ultra Sharp® scissors which feature razor sharp cutting edges, Premier™ spring style micro scissors, Diamond Dust™ instrumentation which prevents tissue slippage and needle rotation, new Resano™ valve forceps in both titanium and stainless steel styles, full line of titanium micro clamps providing lightweight atraumatic occlusion and Heifetz™ temporary occlusion clips, new and improved Surg-I-Loop® Plus Occlusive Loop with attached needle for controlling coronary arteries during off-pump coronary bypass surgery and the CardioVasive Chitwood Debakey Clamp and the Chitwood Knot Tier/Pusher for minimally invasive surgery.

Unique single-use products include the Scanlan Aorta/Vein Punch, Solem™ and Mobin-Uddin® vein holders, Vascu-Statt® bulldog clamps, A/C Locator® and Radiomark® graft markers, and new Metal Micro Sterilization Trays for safe storage and transfer of delicate instruments. Introducing Surgical Acuity™ HiRes™ class II magnifying loupes which use a premium lightweight, optical glass providing higher resolution and greater magnification. BFW surgical headlights, light sources and camera systems. Also offering a wide variety of custom instrument modifications and refurbishment.

SORIN GROUP UK**Stands 11, 12, 13**

6 & 8 Sabre Close, Green Farm Business Park, Quedgeley, Gloucester GL2 4NZ
Tel: +44 (0)1452 887700 Fax: +44 (0)1452 887730

Sorin Group Cardiovascular Division have been at the forefront of world heart valve design and manufacture since 1977. Unique Carbofilm(tm) technology, coupled with state of the art, innovative technological advancement, allows Sorin Biomedica Cardio to offer an unrivalled portfolio of heart valve replacement and repair products.

At the beginning of 2003 Sorin Group purchased Carbomedics. This means we can now offer the largest choice of heart valves.

To evaluate the very latest products from Sorin Group, please visit us at Stands 11, 12 & 13, where the Sorin team will be available to discuss your requirements.

ST JUDE MEDICAL UK LTD**Stands 21, 22, 23**

Capulet House, Stratford Business & Technology Park, Banbury Road, Stratford upon Avon CV37 7GX
Tel: +44 (0)1789 207618 Fax: +44 (0)1789 263206
Email: atranter@sjm.com Website: www.sjm.com

Contact: Adele Tranter

Progressive change to the profile of patients presenting for surgery is reflected in the developing product portfolio from St Jude Medical's Cardiac Surgery Division.

This year's meeting will focus on the new Epicor Cardiac Ablation System.

High Intensity Focused Ultrasound is used to provide cardiac surgical ablation safely and reproducibly, both epicardially and off-pump. Please visit our stand to see a demonstration of this system.

Also featured this year is our new Rigid Saddle Ring, which enhances the St Jude Repair Product portfolio.

Visit the St Jude Medical stand to collect details of our Educational programme, Wet Lab facilities and support on offer to our customers throughout 2006.

SYNTHESES**Stand 15**

20 Tewin Rd, Welwyn Garden City, Herts AL7 1LG
Tel: 01707 332212 Mobile: 07768 926 590
Email: jones.celia@synthes.com Web: www.synthes.com

Contact: Celia Jones, Sales Consultant

SYNTHESES: TITANIUM STERNAL FIXATION SYSTEM

Synthes is an international leading company in medical technology. Over 7,000 employees worldwide are involved in serving the needs of surgeons, surgical support staff and patients. Synthes – a company specialising in the field of osteosynthesis – develops, produces and markets surgical instruments, implants and biomaterials for the surgical treatment of bone fractures and reconstructions of the human skeleton and its associated soft tissue.

The unique Synthes Titanium Sternal Fixation System (SFS) is intended for use in secondary repair or primary closure of the sternum following sternotomy or fracture, to stabilise the sternum and promote fusion. This exciting SFS features a locking plate function with straight and manubrium plates. It is particularly useful following extensive debridement of the sternum, or when sternal bone quality is poor. The stable fixation that can be achieved with SFS leads to better clinical results compared to traditional sternectomy/muscle flap closure technique or re-wiring of the sternum. In addition the SFS provides faster, more reliable bone healing, simpler flap technique, early extubation and shorter hospital stay (1).

(1) Cicilioni OJ Jr, Stieg FH 3rd, Papanicolaou G (2005) Sternal wound reconstruction with transverse plate fixation. *Plast Reconstr Surg* 115 (5): 1297-303.

THORATEC CORPORATION**Stand 17**

6035 Stoneridge Drive, Pleasanton, CA 94588, USA
Tel: +001 925 847 8600 Fax: +001 925 847 8574

Thoratec® Corporation, the pioneer of and leader in ventricular assist devices (VADs), offers a full line of technologically advanced devices for the restoration of haemodynamics designed to meet the needs and provide a better quality of life for the widest range of patients experiencing heart failure. Only Thoratec offers both FDA-approved implantable and paracorporeal ventricular assist devices for a full range of indications, including postcardiotomy support, bridge to cardiac transplantation and Destination Therapy. Our HeartMate® LVAS, Thoratec VAD and IVAD™ Systems are ideally suited for short to long term and left, right or biventricular support in patients of almost any size.

TOMCAT CLINICAL SYSTEMS**Stand 31**

BT3 Business Centre, Dargan Crescent, Belfast BT3 9JP, Northern Ireland
Tel: +44 (0)2890 774228 Fax: +44 (0)2890 776906
Email: info@tomcat.co.uk Website: www.tomcat.co.uk

Contact: John Neeson john.neeson@tomcat.co.uk or Philip Doyle philip.doyle@tomcat.co.uk

The TOMCAT Cardiothoracic Information system is widely regarded as the leading system of its kind in the UK, with clinical and administrative modules to cover the entire Cardiothoracic Directorate. Linking to a full range of clinical equipment, imaging and reporting systems, TOMCAT provides the surgeon with instant access to the patient's complete cardiac record.

The cardiothoracic surgery modules are fully compliant with the new SCTS / CCAD minimum dataset. Data entry in TOMCAT is fast and the information can be quickly uploaded directly to CCAD. Once integrated with other modules such as the catheter laboratory, pacing, non-invasive cardiology, CCU and continuing cardiac care, TOMCAT could potentially become your complete cardiac electronic patient record.

Come and see the latest version of this innovative system on Stand 31.

TYCO HEALTHCARE (UK) COMMERCIAL LTD**Stand 24, 25**

154 Fareham Road, Gosport, Hampshire PO13 0AS
Tel: +44 (0)1329 224411 Fax: +44 (0)1329 224390
Email: uksales@emea.tycohealthcare.com Website: www.tycohealthcare.co.uk

Contact: Matthew Silver-Vallance, Field Marketing Manager

Syneture, the new Suture division of Tyco Healthcare, will be exhibiting two revolutionary sutures: SURGIPRO II™ and VASCUFIL™.

SURGIPRO II™ is produced with NuCoat™ needle technology that dramatically enhances both the initial and continued sharpness of the needle. This needle will start sharper, and maintain its sharpness throughout the anastomosis.

NuCoat™ needles won't lose their sharpness halfway through an anastomosis (which is often the most crucial stage, around the 'toe') like the old technology that you might still be using. This new suture was designed to provide extraordinary performance for vascular procedures.

Our stand will have a specially designed penetration tester, which will give you the opportunity to compare the sharpness of our NuCoat™ needle with our competitor's needles.

VASCUFIL™ is coated with Polytribolate™, a unique material, which dramatically decreases the tissue drag of the strand during surgery. This provides minimal suture-hole bleeding and less chance of trauma during the parachuting step of an anastomosis. Vascufil™ provides increased strength and flexibility while possessing very little memory, making it easier to handle from the time it leaves the package until you tie the final knot.

Please also ask about our new rapidly absorbing monofilament: CAPROSYN™

TYCO**Stand 26**

154 Fareham Road, Gosport, Hampshire PO13 0AS
Tel: 01329 224226 Fax: 01329 224334

Contact: Amelia Cocks, Marketing Assistant

Tyco Healthcare is delighted to be exhibiting at this year's annual scientific meeting in Dublin. The Respiratory, Medical and Surgical Divisions have joined together to bring you our most comprehensive range of products to suit your cardiothoracic needs. From chest drainage through to Cerebral monitoring we aim to provide the best service with the reliability of brands such as Kendall, Nellcor and Puritan Bennett.

Tyco Healthcare – A vital part of your world

UK MEDICAL LTD**Stand 39**

Albreda House, Lydgate Lane, Sheffield S10 5FH
Tel: 0114 2688 880
Email: info@ukmedical.com

UK Medical are the proud suppliers of Shelhigh bioprostheses and the Denver Pleur.

We look forward to seeing you in the exhibition or at our Satellite Symposium.

VASCUTEK – a TERUMO Company**Stand 36**

Newmains Avenue, Inchinnan, Renfrewshire PA4 9RR, Scotland
Tel: +44 (0)141 812 5555 Fax: +44 (0) 141 812 7170
Website: www.vascutek.com

Gelweave Valsalva™ – the world's first custom-designed aortic root graft

Significant advances in vascular graft design are rare; however, **Gelweave Valsalva™**, a radically new design of sealed woven-polyester aortic graft that is indicated for aortic-root repair using valve-sparing or replacement techniques, is without doubt an exception.

Until now, only cylindrical grafts have been available, which do not reflect the natural anatomy. Unlike these grafts, **Gelweave Valsalva™** is shaped so as to mimic the geometry and, therefore, blood flow patterns of the natural sinuses of Valsalva. The product consists of 3 sections: a body, a bulged skirt and a collar. The skirt, which reflects the natural anatomy, bulges under blood pressure.

In contrast to conventional cylindrical grafts used in valve-sparing procedures, the design minimises the chance of damage to the valve leaflets, provides secure annular stability and offers the potential to reduce tension on the coronary artery attachments. Historically, some 'valve-sparing' procedures have involved complex graft reshaping in an attempt to achieve natural anatomy – **Gelweave Valsalva™** removes this need.

Gelweave Valsalva™ also readily lends itself to biological and mechanical valve replacement techniques.

This unique graft offers the potential to increase the durability of the repair and improve long-term patient outcomes.

A variety of CDs/DVDs featuring clinical implantation procedures for the product are available through the Vascutek Education Programme.

WISEPRESS ONLINE BOOKSHOP LTD**Stand 13a**

The Old Lamp Works, 25 High Path, Merton Abbey, London SW19 2JL
Tel: +44 (0)208 715 1812 Fax: +44 (0)208 715 1722
Email: Bookshop@wisepress.co.uk Website: www.wisepress.co.uk

Contact: *Nadia Ahmed*

Wisepress Online Bookshop is pleased to present a display of publications chosen especially for the Society for Cardiothoracic Surgery in Great Britain and Ireland Meeting from the world's leading publishing houses. All the books on display can be ordered/bought direct at the stand or via our website. We can also order you free sample copies of the journals on display and take subscription orders. Whatever your book requirements, Wisepress will be happy to help – whether you are an author seeking a publisher or having difficulty obtaining a title, our professional staff will assist you.



SOCIETY FOR CARDIOTHORACIC SURGERY IN GREAT BRITAIN AND IRELAND

2006 ANNUAL MEETING

MEETING PROGRAMME

PROGRAMME

Monday 13 March 2006

13:00–14:00	Trainees' Lunch (Trainee members only)
	Ballroom
	Speakers: Christopher Munsch (Chairman of the SAC in Cardiothoracic Surgery) Steven Hunter (Cardiothoracic Dean) Leslie Hamilton (Chairman of the Inter-Collegiate Board in Cardiothoracic Surgery)
	Training in Cardiothoracic Surgery (All members welcome)
	Ballroom
14:00–15:00	Career Prospects
	Speakers: Patrick Magee (President of SCTS) Christopher Munsch (Chair of the SAC in Cardiothoracic Surgery)
15:00–15:45	How to Get the Best out of your Trainer and Do Well at your RITA
	Speaker: Steven Hunter (Cardiothoracic Dean)
15:45–16:15	Tea/Coffee Ballroom
16:15–17:00	MMC and the New Curriculum for Cardiothoracic Surgery
	Speaker: Christopher Munsch (Chair of the SAC in Cardiothoracic Surgery)
17:00–17:45	Lecture: About Utopia and the Ephemeral Auditorium
	Speaker: Marian Ionescu
18:00–19:30	Annual Business Meeting I (Members only)
	Auditorium
	Moderator: Patrick Magee
19:30–21:00	Welcome Reception Foyer

Tuesday 14 March 2006

08:30–18:00	Exhibition East Hall
09:00–10:00	Session 1: Scientific Oral Presentations
	Auditorium
	Supported by: Datascope Medical Co Ltd
	Moderators: Patrick Magee Tim Gardner
09:00	1 Prospective Randomised Comparison of Carbomedics and St Jude Medical Bileaflet Mechanical Heart Valve Prostheses: 10-Year Follow-up A Bryan; C Rogers; K Bayliss; J Wild; G Angelini <i>Bristol Heart Institute, Bristol, UK</i>
09:10	2 How Does Glucose Insulin Potassium Improve Haemodynamic Performance? Evidence for Beta-adrenoreceptor and Sarcoplasmic Reticulum Calcium ATPase Up-regulation A Ranasinghe ¹ ; D Quinn ² ; C McCabe ¹ ; D Pagano ² ; J Franklyn ¹ ; R Bonser ² <i>¹Division of Medical Sciences, University of Birmingham, UK; ²University Hospital Birmingham NHS Trust, Birmingham, UK</i>
09:20	3 Are Stentless Valves Superior to Modern Stented Valves: A Prospective Randomised Trial A Ali ¹ ; J Halstead ¹ ; F Cafferty ¹ ; L Sharples ¹ ; F Rose ¹ ; E Lee ¹ ; J Dunning ¹ ; V Argano ² ; S Tsui ¹ <i>¹Papworth Hospital, Cambridge, UK; ²Morrison Hospital, Swansea, UK</i>
09:30	4 Estimating the Stage Dependent Benefit of Adjuvant Post-operative Chemotherapy M Utley ¹ ; C Paschalides ¹ ; T Treasure ² <i>¹CORU UCL, London, UK; ²Guy's Hospital, London, UK</i>
09:40	5 Oxidative DNA Damage and Repair in Pulmonary Reperfusion Injury P Bonde ¹ ; L Chen ² ; L Moreno-Vinasco ³ ; D Gao ² ; J Jacobson ³ ; J Garcia ³ ; C Wei ² <i>¹Royal Hospitals, Belfast, UK; ²Johns Hopkins University School of Medicine, Baltimore, USA; ³University of Chicago, Chicago, USA</i>
09:50	6 Off-Pump Surgery has Lower Revascularisation Rate and Poorer Graft Patency: A Systematic Review and Meta-analysis of Randomised Trials E Lim; A Drain; W Davies; L Edmonds; B Rosengard <i>Papworth Hospital, Cambridge, UK</i>
10:00–10:45	Tea/Coffee Exhibition

10:45–11:45		Session 2: Scientific Interactive Presentations
Auditorium		
Supported by: Edwards Lifesciences Ltd		
Moderators: Danny Keenan, Sion Barnard, John Wallwork		
10:45	7	Long-term Sudomotor Responses Following Thoracoscopic Sympathectomy: An Objective Assessment P Bonde ¹ ; C Fullerton ² ; J Allen ² ; J McGuigan ¹ ¹ Royal Hospitals, Belfast, UK; ² Queens University, Belfast, UK
10:55	8	Simulating Neutrophil Stimulation in Surgery: Individual Pre-operative Responses Predict Diverse Post-operative Outcomes in Human Cardiac Surgery Utilising Cardiopulmonary Bypass D Healy ¹ ; W Watson ² ; J McCarthy ¹ ; J Fitzpatrick ² ; A Wood ¹ ¹ Prof Eoin O'Malley National Centre for Cardiothoracic Surgery, Mater Misericordiae University Hospital, Dublin, Ireland; ² Conway Institute for Biomolecular & Biomedical Research University College Dublin, Dublin, Ireland
11:05	9	Thoracic Epidurals Reduce Gastric Blood Flow in Patients Undergoing Oesophagectomy M Field; I Dave; S Gilbey; S Pennefather; G Russell; R Page <i>The Cardiothoracic Centre, Liverpool, UK</i>
11:15	10	Echocardiographic Detection of Dysfunction in Donor Hearts: The Impact of Norepinephrine Withdrawal R Venkateswaran; R Steeds; S Rooney; I Wilson; J Mascaro; R Bonser <i>University Hospital Birmingham NHS Foundation Trust, Birmingham, UK</i>
11:25	11	Effect of Short-term Exposure to Rapamycin on Neointimal Hyperplasia and Vessel Remodelling in Porcine Saphenous Vein Bypass Grafts In Vivo S Rizvi; G Murphy; J Johnson; S George; G Angelini; A Newby <i>Bristol Heart Institute, Bristol, UK</i>
11:35	12	Do The Benefits of Cell Saver Blood Transfusion Outweigh Potential Risks in Patients Undergoing Coronary Revascularisation Off-pump? A Randomised Trial G Niranjana; G Asimakopoulos; A Karagounis; G Cockerill; M Thompson; V Chandrasekaran <i>St George's Hospital NHS Trust, London, UK</i> <i>Relationship Disclosure (Gunaratnam Niranjana): British Heart Foundation Grant</i>

11:45–12:30		Pulse Lecture: 'Lung Volume Reduction Surgery: Before and After the National Emphysema Treatment Trial' Auditorium Moderator: Sir Bruce Keogh Speaker: Doug Wood
12:30–13:45		Lunch Exhibition
13:45–15:15		Overview of UK Cardiothoracic Activity and Practice Auditorium Moderator: James Roxburgh
15:15–16:00		Tea/Coffee Exhibition
16:00–17:00		Session 3: Clinical Practice: Transplantation and Adult Cardiac
		Auditorium
		Supported by: Keymed Ltd
		Moderators: Ian Wilson, Norman Briffa, Andrew Murday
16:00	13	Coronary Grafts Flow: The Additive Effect of Intra-aortic Balloon Pump and Pacing B Badmanaban; M Hargrove; A O'Donnell; T Aherne <i>Cork University Hospital, Cork, Ireland</i>
16:10	14	Heart Transplantation for Right Ventricular Failure Following Atrial Inversion Operation (M/S) for TGA A Lotto; M Chaudhari; L Hamilton; A Hasan; J Dark <i>Regional Cardiothoracic Centre Freeman Hospital, Newcastle upon Tyne, UK</i>
16:20	15	Safety and Efficacy of Carotid Endarterectomy Under Local Anaesthetic Prior to Cardiac Surgery J Villaquiran ¹ ; E Akowuah ¹ ; S Allen ¹ ; J Kuo ¹ ; J Unsworth-White ¹ ; A Marchbank ¹ ; M Dalrymple-Hay ¹ ; T Lewis ¹ ; S Ashley ² ¹ Department of Cardiothoracic Surgery & ² Department of Vascular Surgery, Derriford Hospital, Plymouth, UK
16:30	16	Antithymocyte Globulin Induction in Heart Transplantation: Satisfactory Long-term Outcomes S Mussa; M Thanikachalam; A Ali; F Cafferty; J Wallwork; J Parameshwar; S Large <i>Papworth Hospital, Cambridge, UK</i>
16:40	17	Inversion of a Tube-graft to Construct the Open Distal Anastomosis During Ascending Aortic Replacement: A New Technique C Alexiou; A Sosnowski <i>Glenfield Hospital, Leicester, UK</i>

Tuesday 14 March 2006

- 16:50 18 **End-stage Cardiac Failure Managed with Levitronix[®] Centrimag[®] Short-term Ventricular Assist Device (VAD)**
F De Robertis; P Rogers; G Dreyfus; M Amrani; J Pepper; E J Birks; A Khaghani
Royal Brompton and Harefield NHS Trust, Harefield, UK
- 17:00–18:00 **St Jude Post Graduate Session 1 – Beating Heart CABG Surgery**
Auditorium
Moderator: John Pepper
Speaker: Tim Gardner
Discussant: Mark Pullan

Wednesday 15 March 2006

- 08:30–09:30 Exhibition
Exhibition hall
- 09:00–10:00 **Session 4: Clinical Practice: Thoracic and Adult Cardiac**
Auditorium
Supported by: Medtronic Ltd
Moderators: Steve Billing, Vincent Young, Richard Page
- 09:00 19 **Reporting Standards of Randomised Controlled Trials in Cardiothoracic Surgery: Can We Improve?**
R Tiruvoipati¹; S Balasubramanian²; G Atturu¹; G Peek¹; D Elbourne³
¹*Glenfield Hospital, Leicester, UK*; ²*University of Sheffield, Sheffield, UK*;
³*University of London, London, UK*
- 09:10 20 **Is Minimally Invasive Oesophagectomy Possible in the UK?**
R Berrisford; S Wajed
Royal Devon and Exeter Foundation Trust, Exeter, UK
Relationship Disclosure: This paper was presented by Mr Berrisford at the Association of Upper GI Surgeons Annual Meeting in September 2005
- 09:20 21 **Endoscopic Cardiac Tumour Resection**
R Deshpande; F Casselman; G Cammu; I Bakir; F Wellens; R De Geest; I Degrieck; F Van Praet; Y Vermeulen; H Vanermen
OLV Clinic Department of Cardiothoracic and Vascular Surgery, Aalst, Belgium
- 09:30 22 **Total Endoscopic Robotic Lobectomy for Pulmonary Malignancy**
A Smith¹; J Chikwe²; A Cherian¹; A Charitou¹; R Stanbridge¹
¹*St Mary's Hospital, London, UK*; ²*Harefield Hospital, London, UK*

Wednesday 15 March 2006

- 09:40 23 **Thoracoscopic Implantation of Left Ventricular Epicardial Pacing Lead for Biventricular Pacing in Heart Failure**
R Jutley¹; D Waller¹; D Chin³; P Stafford³; D Skehan³; I Kirmizis²; T Spyt²
¹*Department of Thoracic Surgery*; ²*Department of Cardiac Surgery &*
³*Department of Cardiology, Glenfield Hospital, Leicester, UK*
- 09:50 24 **An Audit of a Two-week Upper GI Referral Protocol. Is it Worthy?**
Y Mohammed; A Martin-Ucar; L Beggs; D Beggs; J P Duffy; E Morgan
Nottingham City Hospital, Nottingham, UK
- 10:00–10:45 Tea/Coffee
Exhibition
- 10:45–11:45 **Session 5: Scientific Interactive Presentations**
Supported by: Pulse Surgical Ltd
Auditorium
Moderators: Tim Graham, Jim McGuigan & Kevin Waterson
- 10:45 25 **Circuit Miniaturisation and Bloodless Prime Reduces Systemic Inflammation and Eliminates Cerebral No-reflow following Deep Hypothermic Neonatal Cardiopulmonary Bypass**
E Hickey¹; K Tara²; J You²; R Ungerleider²
¹*St Thomas Hospital, London, UK*; ²*Oregon Health Sciences University, Portland, USA*
- 10:55 26 **Bone Marrow Cells Reduce Ischaemic Injury in Human Myocardium: Role of Kinases**
C Kubal¹; K Sheth¹; B Nadal-Ginard²; M Galiñanes¹
¹*University of Leicester, Leicester, UK*; ²*New York Medical College, New York, USA*
- 11:05 27 **Cancer of the Lung Biomarkers (CLUB) Trial: Proteomics in Thoracic Surgery**
A Alzetani¹; N James²; D Ward²; G Kaur¹; J Starczynski¹; S Trotter¹; A Martin²; P Johnson²; P Rajesh¹
¹*Heart of England NHS Foundation, Birmingham, UK*; ²*Cancer Research UK Institute for Cancer Studies, Birmingham, UK*
- 11:15 28 **Regional Anaesthesia, Myocardial, Inflammatory and Stress Responses in Patients Undergoing Beating Heart Coronary Surgery: A Prospective Randomised Trial**
H Alwair; C Rogers; M Ginty; C Monk; S Tomkins; A Mokhtari; G Angelini; M Caputo
Bristol Heart Institute, Bristol, UK
- 11:25 29 **Residual Apical Space Following Surgery for Pneumothorax Increases Risk of Recurrence**
A Gaunt; A Martin-Ucar; L Beggs; D Beggs; J Duffy; E Morgan
Nottingham City Hospital, Nottingham, UK

- 11:35 30 **The Logistic EuroSCORE in Cardiac Surgery: How Well Does it Predict Risk in Different Operative Groups?**
 F Bhatti¹; A Grayson²; G Grotte¹; B Fabri²; J Au³; M Jones⁴; B Bridgewater⁴
¹Manchester Royal Infirmary, Manchester, UK; ²The Cardiothoracic Centre, Liverpool, UK; ³Blackpool Victoria Hospital, Blackpool, UK; ⁴South Manchester University Hospital, Manchester, UK
- 11:45–12:30 **Heart Research UK Lecture: ‘Cardiac Surgery and the Brain: What we Know and What We Should Do About it?’**
 Auditorium
 Moderator: Patrick Magee
 Speaker: Tim Gardner
- 12:30–13:45 Lunch
 Exhibition
- 13:45–15:15 **Annual Business Meeting 2 (Members only)**
 Auditorium
 Moderator: Patrick Magee
- 15:15–16:00 Tea/Coffee
 Exhibition
- 16:00–17:00 **Session 6: Clinical Practice: Congenital and Adult Cardiac**
 Auditorium
 Supported by: Sorin Group UK
 Moderators: Marjan Jahangiri, Carin Van Doorn & Marcus Haw
- 16:00 31 **Damus–Rastelli Procedure for Biventricular Repair of Aortic Atresia**
 P Moorthy; S McGuirk; T Jones; D Barron; W Brawn
Department of Cardiac Surgery, Birmingham Childrens Hospital, Birmingham, UK
- 16:10 32 **Surgical Ablation for Atrial Fibrillation: A Single Centre Experience**
 R Deshpande; N Reddy; J Hyde; A Cohen; U Trivedi
Royal Sussex County Hospital, Brighton, UK
- 16:20 33 **A New Technique to Avoid Post-thoracotomy Scoliosis in Children**
 J Ferguson; S Sheridan; L Leask; J Pollock
Royal Hospital for Sick Children, Glasgow, UK

- 16:30 34 **Anticoagulant Management of Pregnancy following Heart Valve Replacement Surgery in the United Kingdom**
 M Shannon¹; M Edwards²; F Long²; P Bagger²; M De Swiet³; K Taylor²
¹St George’s Hospital, London, UK; ²Hammersmith Hospital, London, UK; ³Imperial College School of Medicine, London, UK
- Relationship Disclosure: (M Shannon): Fiona Long, Research Assistant, was funded by a grant from the Garfield Weston Trust. Michael de Swiet has received consultancy fees from Aventis, manufacturers of enoxaparin, a low molecular weight heparin, unconnected with this study*
- 16:40 35 **Perimount Bioprosthesis in the Pulmonary Position**
 L Hamilton; A Hasan; C Sudarshan; S Haynes; M Chaudhari; J Griffiths
Freeman Hospital, Newcastle upon Tyne, UK
- 17:50 36 **‘Z-Plasty Suture’: A New Procedure for Complex Reconstructions of Posterior Mitral Leaflet**
 R Bellitti¹; P Santé¹; G Dialetto¹; F Covino¹; D Iarussi²; M Messina²; L Maresca¹
¹General Cardiac Surgery & ²Cardiology Departments, Monaldi Hospital, University of Naples II, Naples, Italy
- 17:00–18:00 **St Jude Post-Graduate Session 2: ‘Surgical Management of T3/T4 Non-Small Cell Lung Cancer’**
 Auditorium
 Supported by: St Jude Medical
 Moderator: Frank Collins
 Speaker: Doug Wood
 Discussant: David Waller
- 17:30–20:30 **UK Medical Symposium: ‘Mitral Valve Repair – The Next Steps’**
 Ballroom
 Supported by: UK Medical Ltd
 Moderators:
 Speakers:

08:30–18:00 **Exhibition**
Exhibition hall

09:00–10:00 **Session 7: Clinical Practice: Thoracic and Adult Cardiac**

Auditorium
Supported by: St Jude Medical UK Ltd
Moderators: Doug Wood, David Luke, Tom Spyt

09:00 37 **Carcinoid Increases as Lung Cancer Falls**
A Coonar¹; T Massey²; T Treasure¹; H Moller²
¹Cardiothoracic Surgery, Guy's and St Thomas' Hospitals, London, UK; ²Thames Cancer Registry, London, UK

09:10 38 **Experience with Vacuum-assisted Closure of Sternal Wound Infections following Cardiac Surgery and Evaluation of Chronic Complications Associated with its Use**
V Bapat; C Young; J Roxburgh
St Thomas' Hospital, London, UK

09:20 39 **Sternotomy Closure with Thermoreactive Clips Prevents Sternal Dehiscence in High-risk Patients**
V Avlonitis; V Shrivastava; J Wallis; S Hunter; A Goodwin; A Owens; S Kendall
James Cook University Hospital, Middlesbrough, UK

09:30 40 **Long Segment Tracheal Stenosis – A Novel Approach Using a Mucosa-lined Vascularised Fascial Forearm Graft**
S Stamenkovic¹; P De Leyn¹; P Delaere²; J Vranckx³
¹Department of Thoracic Surgery, ²Department of Otorhinolaryngology³ & Department of Plastic Surgery Catholic University Hospital Gasthuisberg, Leuven, Belgium

09:40 41 **Surgical Management and Outcome for Patients with Renal Cell Carcinoma (RCC) and Inferior Vena Cava (IVC) Involvement**
M Kalkat; A Asad; M Farouqi; A Doherty; M Wallace; T Graham
Queen Elizabeth Hospital, Birmingham, UK

09:50 42 **Predictors of Early Post-discharge Death Following Extrapleural Pneumonectomy for Malignant Pleural Mesothelioma**
J Edwards, D Stewart, D Waller
Glenfield Hospital, Leicester, UK

10:00–10:45 **Tea/Coffee**
Exhibition

10:45–11:45 **Session 8: Scientific Oral Presentations**

Auditorium:
Supported by: Tyco Healthcare (UK) Commercial Ltd
Moderators: Sir Bruce Keogh & Patrick Perier

10:45 43 **Risk-adjusted Morbidity and Mortality Models to Compare the Performance of Two Units After Major Lung Resections in the Elderly**
A Brunelli¹; M Al Refai¹; R S Jutley²; M Salati¹; G Rocco³
¹Umberto I Regional Hospital, Ancona, Italy; ²Sheffield Teaching Hospital, Sheffield, UK; ³National Cancer Institute Pascale Foundation, Naples, Italy

10:55 44 **Surgery-induced Extravasation of Leucocytes into Skin Blisters: Activation during Cardiopulmonary Bypass and Clinical Inhibition by Aprotinin**
B Evans¹; R Landis²; D Haskard¹; K Taylor¹
¹Imperial College, London, UK; ²Univeristy of West Indies, Bridgetown, Barbados

11:05 45 **The Effectiveness of Epicardial Left Ventricular Lead Placement for Cardiac Resynchronisation Therapy**
A Patwala¹; P Woods²; J Kendall¹; D Goldspink²; D Wright¹; A Oo¹
¹The Cardiothoracic Centre, Liverpool, UK; ²RISES Liverpool John Moores University, Liverpool, UK; ³Academic Unit of Molecular Vascular Medicine, University of Leeds LGL, Leeds, UK

11:15 46 **Mid-term Result of Dynamic Repair of the Left Ventricle in Ischaemic Cardiomyopathy**
S Kumar; D Barker; L Tan; R Nair
Leeds General Infirmary, Leeds, UK

11:25 47 **Ischaemia Reperfusion Injury Results in Less Myocardial Damage and Interleukin-6 Release in Mast Cell-Deficient Mice Compared with their Littermates**
K Bhattacharya¹; K Farewell²; M Huang²; D Kempuraj²; T Theoharides²
¹Department of Cardiothoracic Surgery Western Infirmary, Glasgow, UK; ²Department of Pharmacology and Experimental Therapeutics, Tufts University, Boston, USA; ³Department of Biochemistry, Tufts University, Boston, USA

11:35 48 **A Randomised Trial of Radial Artery and Saphenous Vein Grafts: 5-Year Patency**
M Sabetai¹; P Collins²; C Webb²; P Sarkar¹; A DeSouza¹; J Pepper¹; N Moat¹
¹Royal Brompton Hospital, London, UK; ²National Heart and Lung Institute, London, UK

Thursday 16 March 2006

- 11:45–12:30 **President's address: Pat Magee**
- 12:30–13:45 **Lunch**
Exhibition
- 13:45–15:15 **Symposium: 'The Patient's Contribution to Cardiothoracic Surgery'**
Auditorium
Supported by: UK Medical Ltd
Moderator: Patrick Magee
Speakers: Harry Cayton, *Director for Patients and the Public*
Angela Coulter, *Chief Executive, Picker Institute Europe*
William Wallace, *Patient and Honorary Vice President, The Magic Circle*
- 15:15–16:00 **Tea/Coffee**
Exhibition
- 18:00 **Coaches leave for annual dinner**
The Guinness Storehouse

Tuesday 14 March 2006

- FORUM FOR CARDIOTHORACIC PRACTICE**
- 10:00–10:45 **Tea/Coffee**
Exhibition
- 10:45–12:30 **Data use in cardiothoracic surgery**
Supported by: CCAD
Moderator: Ben Bridgewater
- 10:45–11:05 The history of cardiac data collection
Speaker: Sir Bruce Keogh
- 11:05–11:25 The background to EuroScore
Speaker: Samer Nashef
- 11:25–11:35 Thoracic surgical data collection
Speaker: Richard Page
- 11:35–11:50 Future uses for surgical data collection
Speaker: David Cunningham, CCAD
- 11:50–12:30 Workshop: Obstacles and solutions to data collection
Convened by: James Roxburgh
- 12:30–13:45 **Lunch**
Exhibition

Wednesday 15 March 2006

FORUM FOR CARDIOTHORACIC PRACTICE

NURSES' MEETING

Supported by: Ethicon

Moderators: Eileen Kelly & Leslie Hamilton

- 10:45–10:50 Introduction: Patrick Magee & Jacqueline Nicol
- 10:50–11:10 Done and dusted: The experience and illness trajectory of women undergoing coronary artery bypass surgery
Speaker: *Cardiff and Vale Hospital, Cardiff, UK*
- 11:10–11:30 A study of glycaemic control of diabetic patients post-cardiac surgery in one Irish cardiac surgery unit
Speaker: Mary Kingston
St James' Hospital, Dublin, Eire
- 11:30–11:50 Developing a nurse-led ventilatory weaning protocol
Speaker: Georgina Aldous
The Cardiothoracic Centre, Liverpool, UK
- 11:50–12:10 Service provision for patients waiting in-house for surgery
Speaker: Catherine Reed
The James Cook University Hospital, Middlesbrough, UK
- 12:10–12:30 Bridging the gap – introduction of the cardiac support practitioner role
Speakers: Brian Gray & Caroline Roberts
Northern General Hospital, Sheffield, UK
- 12:30–13:45 Lunch
Exhibition
- 13:45–14:15 Expanding the role of the cardiothoracic nurse
Speaker: Jackie Younger
National Practitioner Programme Lead
- 14:15–15:15 Workshop: Obstacles and solutions to expanding roles
Convened by: Jackie Younger
National Practitioner Programme Lead
Robert Standfield
- 15:15–16:00 Tea/Coffee
Exhibition
- 16:00–16:30 Moderator: Tara Bartley
- Advanced clinical practice – the nurse's role in clinical assessment
Speaker: Linda McKee
Cardiothoracic Nurse Specialist, Western Infirmary, Glasgow

Thursday, 16th March

FORUM FOR CARDIOTHORACIC PRACTICE

- 09:00–10:00 Moderators: Tara Bartley & Samer Nashef
- 09:00–09:30 A day in the life of the CICU practitioner
Speaker: Melanie Doyle
Nottingham City Hospital, Nottingham, UK
- 09:30–10:00 The role of the advanced nurse practitioner in cardiothoracic surgery
Speaker: Avril Lowry
St James' Hospital, Dublin, Eire
- 10:00–10:45 Tea/Coffee
Exhibition
- 10:45–12:30 Moderators: Kath Richardson & Alan Kirk
- 10:45–11:15 The role of the consultant nurse in cardiothoracic surgery
Speaker: Philomena Corrigan
University College Hospital, London, UK
- 11:15–11:45 Team approach to advancing practice – nurse practitioners not necessary
Speaker: Linda Hollis
Northern General Hospital, Sheffield, UK
- Implementing a Nurse Case Manager: would it do anything for your unit?
Speaker: Peter O'Keefe
University Hospital of Wales, Cardiff, UK
- Close: Jacqueline Nicol
- 12:30–13:45 Lunch
Exhibition
- 13:45–15:15 Joining main meeting for Patients' Symposium



**SOCIETY FOR CARDIOTHORACIC SURGERY
IN GREAT BRITAIN AND IRELAND**

2006 ANNUAL MEETING

ABSTRACTS



Prospective Randomised Comparison of Carbomedics and St Jude Medical Bileaflet Mechanical Heart Valve Prostheses: 10-Year Follow-up

A Bryan; C Rogers; K Bayliss; J Wild; G Angelini
Bristol Heart Institute, Bristol, UK

Objectives: This is a final report of a randomised study comparing the clinical performance of CarboMedics (CM) and St Jude Medical (SJM) heart valve prostheses 10 years after surgery.

Methods: Between 1992 and 1996, 485 patients undergoing mechanical valve replacement were randomised to receive CM (n=234) or SJM (n=251) prostheses for aortic (n=288), mitral (n=160) or double (n=37) valve replacements. Patients were followed annually to December 2004.

Results: Demographics and operative characteristics were similar between groups. Median follow-up was 10 years and was complete for 98.2% of CM group and 98.0% of SJM group, yielding 3877 patient-years of follow-up. 162 patients died, 25 from valve-related causes.

Five- and 10-year survival were 82.1% (95% CI 76.5–86.4) and 66.8% (95% CI 60.1–72.7) in CM group and 80.7% (95% CI 75.2–85.1) and 65.6% (95% CI 58.9–71.5) in SJM group (p=0.96). The 10-year linearised survival rates were 4.2% and 4.1% in CM and SJM groups.

Freedom at 10 years from valve-related mortality was 95.0% (95% CI 91.5–97.4) in CM group and 94.8% (95% CI 91.4–97.0) in SJM group. 52 patients had a thromboembolism, 212 haemorrhaged and 36 suffered other non-structural valve dysfunction. Freedom from thromboembolism, haemorrhage and non-structural valve dysfunction at 10 years was 86.7% (95% CI 81.0–90.7), 50.8% (95% CI 43.3–57.9) and 90.3% (95% CI 84.5–94.1) in CM group and 88.0% (95% CI 82.6–91.8), 45.8% (95% CI 38.6–52.7) and 90.6% (95% CI 85.4–94.1) in SJM group (p>=0.32).

Linearised survival rates per patient-year were: thromboembolism CM 1.6%, SJM 1.4%; haemorrhage CM 7.6%, SJM 8.9%; non-structural valve dysfunction CM 1.0%, SJM 1.0%. No significant differences in International Normalised Ratio were detected.

Conclusions: This study confirms that at 10 years there were no differences in clinical outcome with respect to these mechanical bileaflet prostheses.

How Does Glucose Insulin Potassium Improve Haemodynamic Performance? Evidence for Beta-adrenoreceptor and Sarcoplasmic Reticulum Calcium ATPase Up-regulation

A Ranasinghe¹; D Quinn²; C McCabe¹; D Pagano²; J Franklyn¹; R Bonser²

¹Division of Medical Sciences, University of Birmingham, UK; ²University Hospital Birmingham NHS Trust, Birmingham, UK

Objectives: Glucose insulin potassium (GIK) improves haemodynamic performance after CABG. We postulated that this might be secondary to β 1-adrenergic receptor (ADRB1) up-regulation and changes in myocyte calcium handling.

Methods: We performed a randomised double-blind placebo-controlled trial on patients undergoing first-time elective/urgent on-pump CABG. A cohort of 48 patients randomised to receive either pre-ischaemic placebo (5% dextrose) (n=24) or GIK (40% dextrose, K⁺ 100mmol.L⁻¹, Insulin 70u.L⁻¹) (0.75ml.kg⁻¹.h⁻¹) underwent left ventricular biopsy immediately prior to AXC, before release of AXC and 10 minutes post-reperfusion. GIK therapy was infused for a mean of 79±21 minutes pre-ischaemia. GIK/ placebo therapy was terminated 6 hours after removal of AXC. Serial haemodynamic measurements were performed at baseline and until 12 hours post-removal of AXC. Biopsies were snap-frozen and stored at -80°C, mRNA was extracted and reverse transcribed. Taqman real time PCR was performed to investigate expression of ADRB1 and sarcoplasmic reticulum Ca-ATPase (SERCA2a).

Results: Repeated measures analysis demonstrated a statistically significant increase in cardiac index (CI) for the GIK group in the first 6 hours (p=0.037). Taqman RT-PCR showed significantly greater ADRB1 mRNA expression at all time points (4.9-, 7.4- and 15.6-fold increase respectively, p< 0.001) and significantly greater SERCA2a mRNA expression after reperfusion (13.2-fold, p< 0.001) in the GIK group.

Conclusions: The increased haemodynamic performance seen with GIK therapy is associated with increased ADRB1 and SERCA2a mRNA expression. We postulate that ADRB1 and myocyte calcium-handling modulation contribute to the beneficial effects of GIK.

Are Stentless Valves Superior to Modern Stented Valves: A Prospective Randomised Trial

A Ali¹; J Halstead¹; F Cafferty¹; L Sharples¹; F Rose¹; E Lee¹; J Dunning¹; V Argano²; S Tsui¹
 Papworth Hospital, Cambridge, UK ²Morrison Hospital, Swansea, UK

Objectives: It is presumed that the stentless bioprosthetic design confers a superior haemodynamic profile to the conventional stented aortic valve bioprosthesis. This may result in more complete resolution of the left ventricular hypertrophy associated with aortic valve disease. We analysed the effect of these two valve types on left ventricular mass regression in a prospective randomised controlled trial.

Methods: 161 patients participated in the trial. 80 patients underwent stentless aortic valve replacement (AVR) with a Prima plus stentless porcine bioprosthesis, and 81 received a C-E perimount stented valve. We assessed left ventricular mass (LVM) regression using transthoracic echocardiography (TTE) and magnetic resonance imaging to measure LVM at baseline and 12 months postoperatively.

Results: There was no difference between groups with regard to age, symptom status, need for concomitant coronary artery bypass surgery or baseline left ventricular mass. 146 patients underwent follow-up TTE at 1 year (70 stented/76 stentless): LVM regressed in both groups but with no significant difference between groups at 1 year (see Table 1). In 39 patients (20 stented/19 stentless) MRI was also used to assess LVM regression and similarly there was no significant difference in overall left ventricular mass regression at 1 year (Table 1). Haemodynamic performance of the two valves was similar, with comparable mean transvalvular gradients 1 year after surgery (Table 1).

Conclusions: The use of stentless bioprostheses did not lead to enhanced regression of left ventricular mass 1 year after aortic valve replacement. Second-generation stented pericardial bioprostheses demonstrate excellent haemodynamic performance, comparable to that of stentless valves.

Table 1 Differences between groups at 1 year

	Stented Mean value (SD)	Stentless	p value
Aortic cross-clamp time (min)	60 (26)	84 (20)	<0.001
Cardiopulmonary bypass time (min)	81 (36)	108 (31)	<0.001
LVM (g) Echo 1 year	198 (62)	211 (77)	0.293
LVM (g) MRI 1 year	148 (50)	177 (50)	0.085
Effective orifice area (cm ²)	1.43 (0.50)	1.64 (0.43)	0.007
Mean transvalvular gradient (mmHg)	10.1 (4.0)	8.8 (4.8)	0.076

Estimating the Stage Dependent Benefit of Adjuvant Post-operative Chemotherapy

M Utley¹; C Paschalides¹; T Treasure²
¹CORU UCL, London, UK; ²Guys Hospital, London, UK

Objectives: Meta-analysis shows a survival benefit for the 'average' patient if given adjuvant chemotherapy following resection for lung cancer. This information is of limited use when advising an individual patient on the relative risks and benefits. Our objective was to develop a model for estimating the p-stage specific survival benefit of adjuvant post-operative chemotherapy.

Methods: The p-stage dependent survival of patients after lung resection was read directly from survival graphs available in the literature. Given the vintage of these data, it was assumed that use of adjuvant post-operative chemotherapy among these patients was rare. A measurement of the hazard multiplier associated with adjuvant post-operative chemotherapy was taken from a recent meta-analysis of randomised clinical trials.

Based on this knowledge, a proportional hazard model was used to estimate the p-stage dependent survival of patients receiving adjuvant post-operative chemotherapy. For each group of patients defined by p-stage, the expected chance of survival at 5 years and the difference in expected weeks' survival over 5 years associated with adjuvant post-operative chemotherapy was calculated.

Results: Table 1 shows, for each p-stage, the estimated chance of survival at 5 years with and without post-operative chemotherapy and the expected increase in weeks of survival over 5 years offered by post-operative chemotherapy.

Conclusions: These results illustrate that such modelling has the potential to provide clinicians and patients with information that is more patient specific than that currently available. The survival gains suggested by this preliminary modelling exercise should be balanced against the side effects of a 9–12 week course of chemotherapy.

Table 1 Benefits of adjuvant chemotherapy from the model

Pathological stage	Ia	Ib	IIa	IIb	IIIa	IIIb
FYS no chemotherapy	66%	56%	54%	40%	24%	4%
FYS estimated with chemotherapy	70%	61%	58%	45%	29%	6%
Expected survival benefit over 5 years	6 weeks	8 weeks	9 weeks	11 weeks	12 weeks	9 weeks

Oxidative DNA Damage and Repair in Pulmonary Reperfusion InjuryP Bonde¹; L Chen²; L Moreno-Vinasco³; D Gao²; J Jacobson³; J Garcia³; C Wei²¹Royal Hospitals, Belfast, UK; ²Johns Hopkins University School of Medicine, Baltimore, USA;³University of Chicago, Chicago, USA

Objectives: Oxidative damage induced by reperfusion is responsible for increased morbidity and mortality following lung transplantation. A stable and deleterious DNA adduct, 8-oxoguanine (8-oxoG) results because of oxidative DNA damage. Mut-Y Homologue (MYH) is a DNA repair enzyme promoting DNA reconstruction through the mismatch repair pathway to repair 8-oxoG lesion. We investigated the role of DNA mismatch repair pathway mediated by MYH in the setting of lung ischaemia and reperfusion.

Methods: Left lungs of the adult Sprague–Dawley rats were subjected to 1 hour ischaemia and 2 and 4 hour reperfusion. Un-operated animals served as controls. Quantification of 8-oxoG, MYH and SOD was performed using immunohistochemistry (IHC) and protein expression analysed by Western blot.

Results: Indices of lung vascular permeability and inflammation correlated with increase in DNA damage as reflected by positive 8-oxoG staining in 2-hour (22% increase) and 4-hour reperfusion (31% increase) compared to control ($p < 0.01$) and up-regulation of anti-oxidant activity (SOD), $p < 0.05$. MYH staining by IHC was significantly reduced in 2-hour and 4-hour reperfusion compared with controls ($p < 0.05$). Down-regulation of DNA repair enzyme (MYH) was mirrored functionally by decreased protein levels in lung tissues subjected to reperfusion compared with controls. Increasing apoptosis was reflected by Caspase-3, AIF and PARP levels.

Conclusions: Reperfusion leads to increased DNA damage and down-regulation of DNA mismatch repair pathway in a model of ischaemia and reperfusion in lungs. Gene therapy targeted at this pathway may prove an attractive therapeutic intervention to reduce reperfusion injury in lung transplantation.

Off-pump Surgery Has Lower Revascularisation Rate and Poorer Graft Patency: A Systematic Review and Meta-analysis of Randomised Trials

E Lim; A Drain; W Davies; L Edmonds; B Rosengard

Papworth Hospital, Cambridge, UK

Objectives: Although many trials have been conducted to evaluate the benefits of off-pump coronary surgery, few have concentrated on safety. We sought to evaluate the impact of off-pump surgery on completeness of revascularisation and graft patency compared with conventional surgery.

Methods: A systematic literature search was undertaken of all randomised trials of off-pump coronary surgery in MEDLINE, EMBASE, the Cochrane Library Controlled Trials Register, National Research Register, Current Controlled Trials INTERNET website, and abstracts from major conferences.

Results: In total, 106 publications were identified, of which we excluded 38 without a conventional surgery arm and 59 that did not evaluate graft patency. One trial was excluded for selective angiography and one abstract was excluded because of insufficient information. A total of 7 trials were eligible for overview.

On initial analysis, the relative risk of graft patency in off-pump coronary surgery compared with conventional surgery was 0.959 (95% CI 0.936–0.983, $p = 0.001$). The analysis was repeated after excluding one specific trial because of clinical and statistical heterogeneity ($\chi^2 = 27.78$, $p < 0.001$), and a relative risk of 0.953 (95% CI 0.927–0.980, $p = 0.001$) was obtained with no further evidence of heterogeneity ($\chi^2 = 5.35$, $p = 0.374$).

In 5 trials that included the mean number of grafts performed per arm, the standardised mean difference in revascularisation comparing off-pump with conventional surgery was -0.164 (-0.286 to -0.043 ; $p = 0.008$).

Conclusions: In a meta-analysis of randomised trials, patients undergoing off-pump coronary surgery had a lower rate of revascularisation and lower graft patency compared with patients undergoing conventional coronary surgery.

Long-term Sudomotor Responses Following Thoracoscopic Sympathectomy: An Objective AssessmentP Bonde¹; C Fullerton²; J Allen²; J McGuigan¹¹Royal Hospitals, Belfast, UK; ²Queens University, Belfast, UK

Objectives: Thoracoscopic sympathectomy has become an accepted therapeutic option for palmar hyperhidrosis. There is a paucity of data regarding objective sweat output, and no long-term objective assessment of sweat output following sympathectomy has been reported so far. We report actual sweat output following sympathectomy up to a 3-year period post-operatively.

Methods: Thoracoscopic sympathectomy was performed by division of T2 and T3 sympathetic ganglia in 17 healthy adult patients (aged between 20 and 30 years) with no co-morbidities.

Pre-operative and post-operative sweat measurement was done at 29°C (below sweat threshold, at baseline, after verbal chat and after a mental arithmetic challenge) and at 40°C (baseline and after exercise) by ventilated capsule technique (sweat measured in $\mu\text{g}/\text{cm}^2\text{skin}/\text{min}$) in left palm, sole and chest wall. Serial measurements post-operatively were conducted up to a 3-year interval.

Results: Sympathectomy significantly reduced the patients' palmar sweat output under all experimental conditions ($p < 0.001$, ANOVA). Sweat output was statistically significant between groups at baseline and post-operatively following mental arithmetic challenge and exercise at 40°C ($p < 0.05$, ANOVA) in the left palm. Compensatory increase in the sweat output from the left sole and chest was observed following sympathectomy after mental arithmetic challenge, at 40°C and after exercise when compared with baseline. None of the patients had return of pre-operative values of sweat output at any stage of follow-up.

Conclusions: These findings demonstrate that thoracoscopic sympathectomy results in long-term control of palmar hyperhidrosis. Such evaluation provides robust and objective criteria for planning intervention in recurrence and compensatory hyperhidrosis.

Simulating Neutrophil Stimulation in Surgery: Individual Preoperative Responses Predict Diverse Postoperative Outcomes in Human Cardiac Surgery Utilising Cardiopulmonary BypassD Healy¹; W Watson²; J McCarthy¹; J Fitzpatrick²; A Wood¹¹Prof Eoin O'Malley National Centre for Cardiothoracic Surgery, Mater Misericordiae University Hospital, Dublin, Ireland; ²Conway Institute for Biomolecular and Biomedical Research, University College Dublin, Dublin, Ireland

Objectives: We hypothesised that individual variation in neutrophil adhesion molecule response to surgery influences neutrophil tissue infiltration with clinical consequences and that this individual variability could be modelled prior to surgery and used to predict post-operative outcomes. The model we have developed uses pre-operative exposure of individual patient neutrophils to a fixed inflammatory stimulus and measurement of the basal and stimulated neutrophil adhesion molecule CD11b response.

Methods: Neutrophils were isolated from human volunteers undergoing cardiac surgery with cardiopulmonary bypass support ($n=24$). The basal and stimulated CD11b expression is measured using flow cytometry in venous samples taken pre-operatively. Stimulated CD11b is measured in neutrophils from pre-operative samples exposed to phorbol-12-myristate-13-acetate. This was then compared with post-operative clinical performance using a Pearson correlation.

Results: Patients with low levels of pre-operative basal neutrophil CD11b expression have the greatest increase in CD11b in response to immunological challenge with phorbol-12-myristate-13-acetate ($p=0.038$). This also correlated with peri-operative changes in CD11b expression. Pre-operative CD11b expression was inversely correlated with a number of post-operative parameters: adrenaline requirement in the first 24 hours ($p=0.043$), intra-aortic balloon pump usage ($p=0.01$), and creatinine rise in the first 24 hours ($p=0.005$). Stimulated CD11b expression was significantly related to length of hospital stay ($p=0.001$) and changes in the A–a gradient at 24 hours after cross-clamp release ($p=0.026$).

Conclusions: Pre-operative neutrophil CD11b expression assessment might enable pre-operative identification of patients who will mount an exaggerated and damaging neutrophil response to cardiac surgery. Identification of these patients would then allow selective application of immunomodulatory therapies in patients.

Thoracic Epidurals Reduce Gastric Blood Flow in Patients Undergoing Oesophagectomy

M Field; I Dave; S Gilbey; S Pennefather; G Russell; R Page

The Cardiothoracic Centre, Liverpool, UK

Objectives: After mobilisation for oesophageal replacement, the tip of the stomach used for the oesophagogastric anastomosis has a reduced blood supply. We sought to study the influence of thoracic epidural anaesthesia and vasoconstrictor agents on gastric tube blood flow.

Methods: Ten patients requiring oesophagectomy were studied peri-operatively. After gastric mobilisation with division of all feeding vessels, laser Doppler flow probes were attached to the serosal surface at the proximal and distal ends. Gastric submucosal blood flow was measured at four time points: A) baseline; B) infusion of thoracic epidural, with systolic blood pressure <80mmHg; C) infusion of phenylephrine to raise systolic pressure to >25% of baseline; and D) baseline with thoracic epidural only. Changes in flows were expressed as mean±SD percentage change compared with initial baseline readings, using the paired *t*-test for analysis.

Results: When compared to baseline (A=100%) the blood flow at the tip of the stomach was 85±12% at stage B ($p<0.007$), 171±98% at stage C ($p<0.02$), and 108±48% at stage D. In all ten patients the blood flow of the tip of the stomach was at least 50% lower than that at the antrum.

Conclusions: When mobilised for oesophageal replacement, the tip of the tubularised stomach has a reduced blood supply. The latter is influenced by the patient's haemodynamics, in particular the systolic blood pressure. Interventions to maintain systolic blood pressure in the peri- and post-operative period may help to prevent ischaemic complications after oesophagectomy, such as anastomotic leaks and strictures.

Echocardiographic Detection of Dysfunction in Donor Hearts: The Impact of Norepinephrine Withdrawal

R Venkateswaran; R Steeds; S Rooney; I Wilson; J Mascaro; R Bonser

University Hospital Birmingham NHS Foundation Trust, Birmingham, UK

Objectives: Brainstem death may lead to echocardiographically detectable cardiac dysfunction in 30–40% of donor hearts. Beta-adrenergic receptor desensitisation is a possible cause. Norepinephrine (NE) is often used to support vascular resistance but vasopressin substitution is believed preferable. We sought to assess the impact of NE weaning on wall motion score.

Methods: Within a prospective study, 54 potential heart donors underwent serial transthoracic echocardiography (TTE) within 2 hours of consent for donation (TTE-1) and repeated at 4 hours (TTE-2). We used a 16-segment model to assess wall motion score index (WMSI). Off-line analysis (randomising TTE 1&2) was undertaken by 2 blinded observers. All donors were managed according to protocol using cardiac output monitoring with intention to wean NE and substitute vasopressin.

Results: Comparable measurements were available for 536/704 segments in 44/54 donors. Fifteen hearts had a normal WMSI (Group1), which remained unchanged. The remaining 29 donor hearts (65%) demonstrated initial dysfunction. WMSI improved significantly in 15/29 (2.17 vs 1.76; $p<0.001$) (Group 2) while 14/29 deteriorated further significantly (1.86 vs 2.1; $p<0.001$) (Group 3). In Groups 1 and 2, NE requirement fell significantly during management (Group1: 0.08 to 0.02 $\mu\text{g}\cdot\text{kg}^{-1}\cdot\text{min}^{-1}$, $p=0.008$; Group2: 0.11 to 0.02 $\mu\text{g}\cdot\text{kg}^{-1}\cdot\text{min}^{-1}$, $p=0.014$) while in Group3 NE dose remained unchanged ($p=0.4$).

Conclusions: In this study, impaired WMSI was detected in two-thirds of donor hearts. Weaning of NE seemed to allow maintenance or improvement of function. Function can be improved in 50% of initially dysfunctional donor hearts prior to retrieval. This improvement seems to be exquisitely related to the ability to wean norepinephrine.

Effect of Short-term Exposure to Rapamycin on Neointimal Hyperplasia and Vessel Remodelling in Porcine Saphenous Vein Bypass Grafts In Vivo

S Rizvi; G Murphy; J Johnson; S George; G Angelini; A Newby
Bristol Heart Institute, Bristol, UK

Objectives: The aim of this study was to evaluate the effects of short-term exposure to rapamycin on vein graft disease in porcine saphenous vein bypass grafts in vivo.

Methods: Porcine saphenous vein to carotid interposition grafts immersed in rapamycin (0.01mg/ml, 0.1mg/ml, 0.5mg/ml) for 30 minutes prior to implantation were compared with contralateral, paired, controls immersed in vehicle only, at 7 and 28 days. Data were expressed as median [interquartile range]. Paired values were compared using the Wilcoxon signed ranks test.

Results: Rapamycin 0.01mg/ml had no effect on vein graft disease. At 28 days rapamycin, 0.1mg/ml significantly reduced neointimal area (2392µm², [0–15056µm²] rapamycin vs 16095µm², [7296–24720µm²] control, p=0.028) and total plaque burden; ratio of total wall area to total vessel area (0.20 [0.14–0.25] rapamycin vs 0.34 [0.26–0.37] control, p=0.028). Luminal area was increased in the rapamycin group (223300µm² [189182–277939µm²] rapamycin vs 184723µm²[154721–209975µm²] control, p=0.046); however, total vessel area was similar. Rapamycin 0.5mg/ml induced thrombosis in 42% of grafts. This was attributed to possible adventitial precipitation of the relatively insoluble rapamycin at this high concentration. At 7 days, rapamycin 0.1mg/ml treated grafts demonstrated a significant reduction in the Proliferating Cell Nuclear Antigen (PCNA) Index (ratio of PCNA positive to total number of vessel wall cells 0.31 [0.30–0.33] rapa vs 0.61 [0.50–0.65] control, p=0.028).

Conclusions: These data suggest that local rapamycin treatment effectively attenuates early pathological changes in vein bypass grafts in a large animal model. This effect may be mediated by the inhibition of medial vascular smooth muscle cell proliferation.

Do the Benefits of Cell Saver Blood Transfusion Outweigh Potential Risks in Patients Undergoing Coronary Revascularisation Off-pump? A Randomised Trial

G Niranjan; G Asimakopoulos; A Karagounis; G Cockerill; M Thompson; V Chandrasekaran
St George's Hospital NHS Trust, London, UK

Relationship Disclosure: (Gunaratnam Niranjana): British Heart Foundation Grant

Objectives: Autologous cell-saver blood transfusion (CSBT) provides an alternative to homologous blood transfusion (HBT) for off-pump CABG (OPCAB). There are concerns that CSBT causes up-regulation of the systemic inflammatory response and coagulopathy. We investigated these potential complications against the benefits of reducing HBT requirements.

Methods: 40 OPCAB cases were randomised into two groups: A) with CSBT and B) without CSBT. Neutrophil expression of CD11b, plasma concentrations of interleukin-6 (IL-6), interleukin-10 (IL-10) and lactoferrin were measured. Prothrombin (PTT) and activated partial thromboplastin (APTT) times were measured pre- and post-operatively. 24-hour post-operative blood loss and HBT were recorded.

Results: CD11b neutrophil expression, IL-10 and lactoferrin concentrations did not increase significantly intra- or post-operatively from pre-sternotomy. IL-6 was significantly elevated post-operatively in both groups (0.07±0.2 and 0.4±1.3ng/ml pre-sternotomy rising to 194±77 and 157±89ng/ml in A and B respectively, p<0.001). Cell-salvaged blood showed significant elevation of all inflammatory markers from pre-sternotomy values (Table 1) but transfusion produced no up-regulation in the systemic circulation. 24-hour post-operative blood loss was similar between groups. HBT was not significantly different (140±182ml (A) vs 230±240ml (B)). The PTT and APTT increased significantly in both groups post-operatively without difference between groups.

Conclusions: Although associated with significant increase of all inflammatory markers, cell-salvaged blood produced no up-regulation in the systemic circulation following transfusion. Coagulation parameters increased significantly irrespective of CSBT. There was no significant HBT reduction in patients receiving CSBT. Autologous CSBT is safe but routine use in every OPCAB may not be justified considering the low HBT requirements in these patients.

Table 1 Levels of inflammatory markers in cell saver blood

	Pre-sternotomy	Pre-processed cell saver blood	Post-processed cell saver blood	p-value
CD11b (RFI)	14.4±10.8	64±34.7	45.5±18.3	<0.001
IL-6 ng/ml	0.07±0.2	225±57.5	84±64	<0.005
IL-10 ng/ml	3.6±5.4	28.7±25.5	14.2±27.2	<0.01
lactoferrin pg/ml	132±121	2719±798	1029±1474	<0.01

Coronary Grafts Flow: The Additive Effect of Intra-aortic Balloon Pump and Pacing

B Badmanaban; M Hargrove; A O'Donnell; T Aherne
 Cork University Hospital, Cork, Ireland

Objectives: After coronary artery bypass grafting, it has been shown separately that both pacing and the use of an intra-aortic balloon pump increase graft flow to allow for maximal myocardial perfusion. The aim of this study was to evaluate the effect of simultaneous application of both these modalities to the flow characteristics in coronary artery bypass grafts.

Methods: Prospective study in which average graft flows were measured at three different heart rates: 70, 80 and 90 beats/minute using a dual-chamber pacemaker with an AV delay of 150 milliseconds. At each heart rate; the flow with and without balloon augmentation were recorded using an ultrasonic transit time flowmeter in 4 patients with an intra-aortic balloon pump in situ.

Results: At a heart rate of 70 beats/min, average flow rates of 56 ml/min (range 25–82) were obtained without balloon augmentation, which increased to 66.5 ml/min (range 26–91) with augmentation, an average increase of 10.5 ml/min (18.6%). When the heart was paced at 80 beats/min, average flow rates of 65 ml/min (range 27–94) were obtained without balloon augmentation, which increased to 69.75 ml/min (range 30–100) with augmentation, an average increase of 4.75 ml/min (7.3%). Increasing the heart rate further to 90 beats/min, increased the average flow rate to 71.25 ml/min (range 27–103) without augmentation, and 74.75 ml/min (range 30–106) with augmentation, an average increase of 3.5 ml/min (4.9%).

Conclusions: There was an increase in the flow rate noted with balloon augmentation at all the given heart rates. However, the advantage was increasingly more beneficial at lower heart rates, with the maximal increase in the flow at a heart rate of 70 beats/min.

Heart Transplantation for Right Ventricular Failure Following Atrial Inversion Operation (Mustard/ Senning) for TGA

A Lotto; M Chaudhari; L Hamilton; A Hasan; J Dark
 Regional Cardiothoracic Centre, Freeman Hospital, Newcastle upon Tyne, UK

Objectives: RV impairment is a recognised late complication of atrial inversion operation. The aim of this study is to evaluate operative and post-operative results in patients undergoing heart transplantation for end-stage RV (systemic ventricle) failure following Mustard/ Senning operations

Methods: Retrospective review of patients referred to the Regional Cardiothoracic Centre for heart transplantation.

Results: Since May 1987, 62 out of 587 patients underwent heart transplantation for congenital heart disease. Nine patients, who presented with end-stage RV failure (mean NYHA class 3.6±0.5), had a previous atrial inversion operation performed (6 Mustard, 3 Senning) for TGA. Mean age at time of atrial inversion operation was 16.9±10.1 months. Time interval between atrial inversion and heart transplant was 22.0±11.6 years. Mean age at heart transplant was 23.6± 10.8 years. Three patients were on inotropic support before the operation, and one on ECMO. Results are shown in Table 1. At a mean follow-up time of 27.5±10.09 months, 71.5% (2/7) of hospital survivors are alive.

Conclusions: Heart transplantation for end-stage RV failure following atrial inversion operation is a high-risk procedure; however, it remains the main treatment for this ageing and growing group of patients. The presence of a failing RV and redo surgery increases the operative mortality and exposes patients to late complications.

Table 1 Results

Mean CPB time	260.4±95.3 min
Mean ischaemic time	214.1±25.4 min
Mean ventilation time	79.7±64.7 hours
Mean ITU stay	6.5±4.8 days
Mean post-op stay	20.5±8.9 days
In-hospital death	2/9 (22.2%)
Late death	2/7 (28.5%)

Safety and Efficacy of Carotid Endarterectomy Under Local Anaesthetic Prior to Cardiac Surgery

J Villaquiran¹; E Akowuah¹; S Allen¹; J Kuo¹; J Unsworth-White¹; A Marchbank¹; M Dalrymple-Hay¹; T Lewis¹; S Ashley²

¹Department of Cardiothoracic Surgery & ²Department of Vascular Surgery Derriford Hospital, Plymouth, UK

Objectives: Patients with significant cardiac and carotid artery disease have a high rate of cerebrovascular accidents (CVAs), myocardial infarction (MI) and death when treated by synchronous or staged carotid endarterectomy (CEA) followed by cardiac surgery (CS). We examined the results of performing CEA under local anaesthetic (LA) prior to CS.

Methods: All patients referred for cardiac surgery from 1998 to 2004 were studied.

Results: 74 (1.3%) patients were identified after screening as requiring CEA. Of these, 72 patients underwent CEA under LA prior to CS. Mean age was 69(8); 63% of patients were male; median Euro score was 5(2–11); 32% patients required ‘in-house-urgent’ CABG. Indications for CEA were: unilateral carotid artery stenosis greater than 70–90% with ipsilateral symptoms (16 patients); unilateral carotid artery stenosis greater than 90% with no symptoms (26 patients); and bilateral asymptomatic carotid artery stenosis greater than 70% per vessel (29 patients). Complications after CEA were 1 infection, 6 haematomas, 2 neuroparesis (1 facial nerve, 1 hypoglossal nerve), 1 post-arrhythmia and a temporary recurrent laryngeal nerve palsy in 3 patients. Major complications following CEA and in the interval prior to CS were CVA, peri-procedural MI and death in 1 patient each. Complications after CS were 3 deaths, 1 post-operative MI and 2 CVAs. Over all there were 3 CVA (4%), 2 MI (2.8%) and 4 deaths (5.6%).

Conclusions: In high-risk CS patients with significant carotid artery disease, a strategy of CEA under LA prior to cardiac surgery leads to low rates of CVA, MI and death.

Antithymocyte Globulin Induction in Heart Transplantation: Satisfactory Long-term Outcomes

S Mussa; M Thanikachalam; A Ali; F Cafferty; J Wallwork; J Parameshwar; S Large
Papworth Hospital, Cambridge, UK

Objectives: The role of antibody induction therapy in heart transplantation is uncertain. Rabbit antithymocyte globulin (ATG) has been used (1mg/day for 3 days) as induction immunosuppression in immunologically high-risk patients and patients with renal impairment at our centre.

Methods: A retrospective analysis of 325 heart transplant patients over a 7-year period was performed. 153 patients received ATG induction and delayed initiation of cyclosporin (group A), while 172 patients received no antibody (group B). All patients received corticosteroids and mycophenolate mofetil / azathioprine.

Results: Baseline recipient and donor characteristics were similar in both groups. Median (IQR) pre-operative creatinine was significantly higher in group A (126, 109–147) than in group B (113.5, 99–131) [$p < 0.001$]. At 1 year there were no significant differences in creatinine: group A 142 (120–165); group B 149 (125–179) [$p = 0.188$]. Less acute rejection episodes followed ATG induction; most differences were observed by 3 months, with an estimated relative risk in group A versus group B of 0.70 (95% CI 0.59–0.84, $p < 0.001$). Group A had increased infection rates, relative risk 1.34 (95% CI 1.01–1.85, $p = 0.041$), although the low overall incidence of infection in both groups did not affect outcome. 7 patients had post-transplant lymphoproliferative disease, 4 in group A and 3 in group B. The 5-year survival in groups A and B was 71% (95% CI 63.2–78.2) and 77% (95% CI 70.5–83.2) respectively, with no difference in long-term survival [$p = 0.182$, log rank test].

Conclusions: ATG induction allows transplantation in patients with renal dysfunction and those at high risk for acute rejection with outcomes equivalent to patients not receiving antibody.

Inversion of a Tube-graft to Construct the Open Distal Anastomosis during Ascending Aortic Replacement: A New Technique

C Alexiou; A Sosnowski
Glenfield Hospital, Leicester, UK

Objectives: For the construction of a distal 'open' anastomosis during ascending aortic replacement, the end of a tube-graft is placed opposite to the transected aorta and an end-to-end anastomosis is performed. An alternative technique is described.

Methods: The tube-graft is inverted and positioned within the aortic arch in a way that brings the entire circumference of the distal end of the tube graft next to that of the transected aorta. An end-to-end anastomosis is then performed with a running 3/0 prolene suture, the needle of which goes through the aorta and the tube-graft in a single pass. A strip of Teflon can be included in the suture line. Upon completion of anastomosis, the proximal end of the tube-graft is pulled from the aortic arch and antegrade flow established via its side arm.

Results: This technique has been used in 18 patients (15 aortic aneurysms and 3 aortic dissections). A senior consultant performed 11 cases and supervised a specialist registrar (year 5) in 7 cases. The mean circulatory arrest time of the consultant and the specialist registrar was 8 minutes (range 7–12min) and 20 minutes (18–27min) respectively. The anastomoses were haemostatic and no patient was re-opened for bleeding. Post-operative CT scans were satisfactory in all patients.

Conclusions: During ascending aortic replacement, the tube-graft inversion technique permits accurate and speedy suture placement that provides a sound distal anastomosis within a short circulatory arrest time. In addition, the technique is readily reproducible and can be safely taught to the cardiothoracic trainees.

End-stage Cardiac Failure Managed with Levitronix® Centrimag® Short-term Ventricular Assist Device (VAD)

F De Robertis; P Rogers; G Dreyfus; M Amrani; J Pepper; E Birks; A Khaghani
Royal Brompton and Harefield NHS Trust, Harefield, UK

Objectives: The Levitronix® is a third-generation VAD consisting of a centrifugal pump based on the magnetically levitated bearing-less motor technology. It is designed for short-term extracorporeal support in cases of potentially reversible cardiac failure. We report our experience of support with this new type of VAD.

Methods: Between June 2003 and November 2005, 31 patients were supported using the Levitronix® at our institution. 25 were male. The mean age was 41.2±18.2 (range 8–64) years. The indications for support were: post-cardiotomy cardiogenic shock in 23 patients (group A) and bridge to decision regarding long-term ventricular support in 8 patients (group B).

Results: The mean support time was 13±13.3 days for all patients (range 0–64). The 30-day mortality was 48.4% (15 patients). 12 patients were in group A and 3 in group B. Over all, 11 patients were discharged home and 12 continue to be alive and well. The mean follow-up was 4.5±7.2 (range 0–23 months, 100% complete). Bleeding requiring re-operation occurred in 10 cases, cerebral thromboembolism in 1, pulmonary embolism in 1. There were no device failures.

Conclusions: The Levitronix® functioned well and proved to be useful in patients with an extremely poor prognosis previously considered not suitable for long-term assist device. The device was technically easy to implant and manage. There was no device dysfunction and complications were acceptable and consistent with other devices. Survival to explant or a definitive procedure (VAD or transplantation) was encouraging.

Reporting Standards of Randomised Controlled Trials in Cardiothoracic Surgery: Can We Improve?

R Tiruvoipati¹; S Balasubramanian²; G Atturu¹; G Peek¹; D Elbourne³

¹Glenfield Hospital, Leicester, UK; ²University of Sheffield, Sheffield, UK; ³University of London, London, UK

Objectives: To evaluate the quality of reporting the randomised controlled trials (RCTs) in cardiothoracic (CT) surgery and to identify factors associated with good reporting quality. To assess the awareness of CONSORT statement and ascertain the views of authors reporting RCTs, on the difficulties in conducting RCTs and the possible ways to further improve the reporting quality of RCTs in CT surgery.

Methods: RCTs in CT surgery published in principal CT and four general medical journals in the year 2003 were included. The quality of reporting of RCTs was assessed by using allocation concealment, Jadad score and a CONSORT checklist devised for the purpose. A questionnaire survey of authors reporting RCTs in principal CT journals in the year 2003 was conducted.

Results: The overall reporting quality of RCTs was sub-optimal as assessed by three methods adapted. Multicentric studies spanning across the continents were associated with above-average reporting quality.

Most of the authors (63.5% [33]) were not aware of the CONSORT statement. Reporting quality was not associated with the awareness of CONSORT statement. More than 65% (34) of the authors responded that conducting RCTs in surgical specialties is difficult, with the main difficulties involving blinding and obtaining statistically significant sample size. 54% (28) of the authors responded that endorsement of CONSORT statement by the CT journals might improve the reporting quality.

Conclusions: The quality of reporting RCTs in CT surgery is sub-optimal. Endorsement of CONSORT statement by the CT journals might improve the quality of reporting.

Is Minimally Invasive Oesophagectomy Possible in the UK?

R Berrisford; S Wajed

Royal Devon and Exeter Foundation Trust, Exeter, UK

Relationship Disclosure: Mr Berrisford presented this paper at the Association of Upper GI Surgeons Annual Meeting in September 2005.

Objectives: Minimally invasive oesophagectomy (MIO) has been shown to be safe in a large series from the USA. We describe our experience of adopting MIO (n=30).

Methods: After appropriate exposure to MIO (Pittsburgh 2003), we offered this procedure to patients with HGD or early cancer. Stage III patients were later included. Pre-operative work-up included EUS, CT and PET. Patients with disease beyond Stage I underwent neo-adjuvant chemotherapy. Laparoscopic gastric mobilisation and conduit formation was performed in all patients. Oesophagogastric anastomosis was made at thoracotomy in our first patients (n=8). Subsequently thoracoscopic mobilisation and neck anastomosis was adopted as standard (n=22).

Results: There were 23 men and 7 women with median age 66.7 years (range 47–79). Intended minimally invasive surgery was completed in 26/28 (1 laparotomy for stapler misfire, 1 thoracotomy for difficult dissection). Median operating time was 436 minutes (320–780), median blood transfusion zero units (0–8). Complication rate was 43%: pneumonia (n=4), temporary vocal cord palsy (n=2), chylothorax (n=2) mediastinal haematoma (n=1). Three patients required subsequent open surgery: conduit necrosis (n=1), thoracic anastomotic leak (n=1) and bleeding (n=1). Five patients required ICU stay (median 2 days). Median inpatient stay was 12 (8–35) days. Inpatient and 30-day mortality was zero. Stage profile was HGD/I/II (n=18), Stage III (n=10), unexpected Stage IV (n=2; no resection), N0 (n=15), N1 (n=13 of which 5 have >4 nodes positive). Median nodes harvested was 18 (8–35).

Conclusions: With appropriate training and stepwise learning, MIO is feasible and safe with a complication rate similar to that for open surgery.

Endoscopic Cardiac Tumour Resection

R Deshpande; F Casselman; G Cammu; I Bakir; F Wellens; R De Geest; I Degrieck; F Van Praet; Y Vermeulen; H Vanermen
 OLV Clinic Department of Cardiothoracic and Vascular Surgery, Aalst, Belgium

Objectives: To report our seven-year experience with endoscopic cardiac tumour resection using port access technology.

Methods: From March 1997 to July 2005, 25 patients (mean age 55.4±16.1 years; 72% female) underwent a video-assisted cardiac tumour resection using the endo-cardiopulmonary bypass and endo-aortic clamp technique. 19 (76 %) patients presented in NYHA functional class I, 3 presented with a stroke and 3 with atrial arrhythmias. Echocardiography was performed in all patients on admission, at discharge and at follow-up. 9 patients required a combined procedure: mitral valve replacement (n=1), tricuspid valve replacement (n=1), aortic valve repair (n=1), mitral valve repair (n=2), mini-maze (n=1) and closure of patent foramen ovale (n=3). Mean post-operative follow-up was 10.7±18.1 months.

Results: Mean aortic cross-clamp and cardiopulmonary bypass times were 68.6±31.4 min and 112±41.9 min respectively. There were no conversions to sternotomy. Tumours resected were left atrial myxoma (n=19), right atrial myxoma (n=3), plexiform tumour of the right ventricle (n=1), lipoma (n=1) and leiomyoma (n=1). There were no hospital deaths. Mean ICU and hospital stays were 1±1.4 and 7±3.2 days respectively. Post-operative complications were CVA (n=1), re-exploration for bleeding (n=1) and myocardial ischaemia requiring stenting (n=1). Follow-up investigations failed to demonstrate residual or recurrent tumour. One patient had a very small residual atrial septal defect. All patients appreciated the cosmetic result and fast recovery.

Conclusions: Endoscopic cardiac tumour resection is feasible and an oncological valid approach with an attractive cosmetic advantage to median sternotomy. It is the standard approach in our unit.

Total Endoscopic Robotic Lobectomy for Pulmonary Malignancy

A Smith¹; J Chikwe²; A Cherian¹; A Charitou¹; R Stanbridge¹
¹St Mary's Hospital, London, UK; ²Harefield Hospital, London, UK

Objectives: To assess the feasibility of total endoscopic robotic-assisted lobectomy.

Methods: The Da Vinci Intuitive robot was used for six lobectomies for primary lung carcinoma. CO₂ insufflation was used with pulmonary collapse. No open working port was created. Limited increase of the camera port incision was required for in-bag tumour removal. An additional sealed 5mm port was used for assistance. Patients ranged from 55 to 83 years of age, with equal sex distribution.

Results: Four lobectomies were satisfactorily completed endoscopically and placed in the endo-removal bag. These included three lower (right and left) and one middle lobe resection. In two upper lobectomies a mini-thoracotomy incision was required to permit removal of the resected specimen. There were no thoracotomies made for bleeding or complications during robotic surgery. Successful suture ligation of major pulmonary vessels without tactile feedback was an important feature. Appropriate lymph node sampling was obtained. Intra-operative problems included difficulty in eliminating minor bleeding, vessel magnification, assessment and length of procedure. Median post-operative length of stay was 8? days, drains were in situ for a median of 3? days and median post-operative drainage was 925ml. There has been no mortality. Surgical resection appeared complete in all cases, but in two cases histological margins were equivocal.

Conclusions: This is the first reported series of totally endoscopic robotic lobectomies. The technique requires refinement for regular use but is potentially feasible and suitable for T1 or small T2 lesions.

Table 1 Summary of patient characteristics and outcomes

Age / sex	Malignancy	Histological grading	Length of stay (days)	Analgesia at discharge	Pain score at discharge (Gloucester Profile) 0=no pain, 1=pain controlled by analgesia, 2=uncontrolled pain
60 m	Mod diff SCC left lower lobe	T2N0	3	Co-dydramol, diclofenac	1
83 m	Poor diff SCC right lower lobe	T2N0	9	Paracetamol	0
77 f	Mod diff SCC right upper lobe	T1N0	14	Co-dydramol, Vioxx	1
55 f	Carcinoid right middle lobe	T1N0	8	Paracetamol	1
70 m	Mod diff SCC left upper lobe	T2N0	9	Paracetamol	1
58 f	Adenoca right lower lobe	T2N0	5	Paracetamol, tramadol	0

Thoracoscopic Implantation of Left Ventricular Epicardial Pacing Lead for Biventricular Pacing in Heart Failure

R Jutley¹; D Waller¹; D Chin³; P Stafford³; D Skehan³; I Kirmizis²; T Spyt²

¹Department of Thoracic Surgery, ²Department of Cardiac Surgery & ³Department of Cardiology, Glenfield Hospital, Leicester, UK

Objectives: Percutaneous LV lead placement through the coronary sinus is the technique of choice for biventricular pacing in heart failure. The technique has a failure rate of 8–10% due to lead displacement, variable anatomy and high thresholds. We describe our initial experience of thoracoscopic implantation of LV epicardial pacing lead in patients in whom the percutaneous technique failed.

Methods: The procedure was performed under general anaesthesia and single-lung ventilation. The LV free wall was accessed via three 2-cm incisions without rib spreading. A 2-cm pericardiotomy was performed under transoesophageal echocardiography guidance and the pacing lead placed in the area between the first diagonal and first obtuse marginal arteries.

Results: 11 patients (9 male, 2 female; median age 64 years [range 54–82]), 2 with previous open cardiac surgery), were evaluated. Indications for biventricular pacing included dilated cardiomyopathy in 8; ischaemic cardiomyopathy in 2 and dysynchrony in 1. Conversion to minithoracotomy was necessary in one patient (previous CABG). Median procedure time was 70 minutes (55–135). Median time to chest drain removal was 1 day (1–3) and hospital stay 2 days (2–8). All patients reported symptomatic improvement with median NYHA score change from III (III–IV) to I (0–II) post-operatively. Satisfactory lead thresholds and impedances on median follow-up of 120 days were maintained in all but one patient (previous CABG).

Conclusions: Thoracoscopic LV pacing lead placement is feasible and reproducible. Randomised trials would be necessary to evaluate this approach which offers an attractive alternative to the percutaneous technique.

An Audit of a Two-week Upper GI Referral Protocol. Is it Worthy?

Y Mohammed; A E Martin-Ucar; L Beggs; D Beggs; J P Duffy; E Morgan
Nottingham City Hospital, Nottingham, UK

Objectives: Our unit participated in a 2-week waiting referral for upper gastrointestinal symptoms in order to identify gastro-oesophageal pathologies early. Few data are available of the results of similar policies.

Methods: 57 consecutive patients (32 female and 25 male) attending the Thoracic Clinic, having been referred by their GP under a two-week waiting upper GI scheme, were part of the study. Presenting symptoms, investigations and outcomes were recorded.

Results: One patient did not attend the clinic. Of the remaining 56 patients, only 34 (61%) presented with recent onset dysphagia: 22 described chest or epigastric pain, and 12 with weight loss. Blood tests were abnormal in 4 patients and CXR in 6 cases. All patients were referred for urgent upper GI endoscopy; it was not performed in 8 patients who chose not to have it. Results were: malignancy in 5 cases (9%), Barrett's in 2, benign abnormalities in 33, and was normal in only 8 cases (14%). Of the malignant cases, 3 patients underwent oesophagectomy and 1 emergency exteriorisation of oesophagus owing to perforation during endoscopy. The fifth patient was found to have bone metastasis and therefore referred for palliative care. An additional patient underwent antireflux surgery.

Conclusions: NICE guidelines were followed in all cases. This referral scheme identified 4 cases of resectable oesophageal carcinoma and one case of gastro-oesophageal reflux treated surgically. We believe the protocol is justified by its results.

Circuit Miniaturisation and Bloodless Prime Reduces Systemic Inflammation and Eliminates Cerebral No-reflow Following Deep Hypothermic Neonatal Cardiopulmonary Bypass

E Hickey¹; K Tara²; J You²; R Ungerleider²

¹St Thomas Hospital, London, UK; ²Oregon Health Sciences University, Portland, USA

Objectives: We have successfully developed a miniaturised bloodless prime circuit for experimental neonatal cardiopulmonary bypass (CPB), which has previously been shown to elicit significantly reduced systemic inflammation. We studied the effects of this circuit on cerebral reperfusion, because the pathophysiology of ‘no-reflow’ is believed to have an inflammatory component.

Methods: 20 neonatal piglets were randomised to CPB with miniaturised circuitry using either blood (group 1) or bloodless (group 2) prime. At 18°C, piglets were subjected to 60 minutes of either: A, circulatory arrest (DHCA); or B, continuous low-flow bypass (DHCLF). Animals were then rewarmed and separated from CPB. Analysis of cerebral blood flow (CBF) was undertaken pre- and post-CPB. In addition, quantification of circulating TNF α or its intracerebral mRNA was performed.

Results: All haemodynamics, including cardiac output, were similar. The final haematocrit in group 2 was 22% (vs 28%; $p < 0.05$). The CBF fell in every animal in group 1A, but increased in every animal in group 2A (Table 1). Final serum TNF α concentrations were significantly higher in group 1B (3166 \pm 843pg/ml) than in group 2B (439 \pm 192pg/ml; $p < 0.05$). Irrespective of CPB strategy employed, the use of a blood prime generated significantly higher levels of intracerebral TNF mRNA ($p < 0.05$).

Conclusions: This is the first report describing a cerebral hyperaemic response following neonatal DHCA. DHCLF has been introduced to prevent cerebral ischaemia, but is associated with more inflammation. The analysis of circulating and intracerebral TNF α in this study suggests that DHCLF in conjunction with a bloodless prime might offer advantages by preventing ischaemia, no-reflow and the detrimental inflammatory response.

Table 1 Summary of results

	Blood + DHCA: 1A	Blood + DHCLF: 1B	Bloodless + DHCA: 2A	Bloodless + DHCLF 2B
CBF pre-CPB (ml/100g/min)	85.4 \pm 15.9	75.8 \pm	68.4 \pm 4.9	60.4 \pm 3.35
CBF post-CPB (ml/100g/min)	43.4 \pm 10.8	76 \pm 17	87.4 \pm 7.7	92.8 \pm 4.5
Change in CBF (%)	-45% \pm	+8.5% \pm 28.4	+28% \pm 6.5	+56% \pm 27.9
Post-CPB CBF as percentage of total cardiac output	16.9% \pm 4.3	30.2% \pm 5.5	31.8% \pm 4.6	30.6% \pm 3.9
TNF pg/ml	1179 \pm 914	3166 \pm 843	1626 \pm 832	439 \pm 192
TNF mRNA (ratio:control genes)	2.2 \pm 1.0	2.3 \pm 1.3	0.69 \pm 0.2	0.3 \pm 0.10
$p < 0.05$ vs corresponding strategy with bloodless prime	$p < 0.01$ vs corresponding strategy with bloodless prime			

Bone Marrow Cells Reduce Ischaemic Injury in Human Myocardium: Role of Kinases

C Kubal¹; K Sheth¹; B Nadal-Ginard²; M Galiñanes¹

¹University of Leicester, Leicester, UK; ²New York Medical College, New York, USA

Objectives: Bone marrow cells (BMC) protect the heart against ischaemic injury but the mechanism of this effect is unknown. We sought to investigate whether this beneficial effect of BMC against ischaemic injury is mediated by PKC and p38MAPK, essential elements of the signal transduction pathway of preconditioning.

Methods: Myocardium obtained from the right atrial appendage (N=6/group) during cardiac surgery. Tissue was subjected to 90 minutes of normothermic ischaemia followed by 120 minutes of reoxygenation (SI/R). The bone marrow was aspirated from the iliac crest of the same patients, the mononuclear fraction was separated by density gradient method and 105 cells/mg wet tissue were co-incubated with the myocardium during the entire experimental period. Muscles incubated for the same time period under aerobic conditions served as control. Some groups were treated with the PKC inhibitor Chelerythrine (10 μ M) and other with the p38MAPK-inhibitor SB203580 (10 μ M). Creatine Kinase released into the media during the reoxygenation period was measured as a marker of injury (IU/mg wet wt). Cell death by necrosis and apoptosis was assessed by propidium iodide staining and TUNEL technique respectively. Aerobic control values were subtracted from all the groups.

Results: As seen in Table 1, creatine kinase, percentage necrosis and apoptosis were significantly reduced by BMC ($\dagger p < 0.05$); this effect was abolished by Chelerythrine and SB203580 ($p < 0.05$).

[$\dagger = p < 0.05$ vs without BMC group; $= p < 0.05$ vs with BMC group]

Conclusions: Conclusion: The paracrine cardioprotective effect of BMC against ischaemic injury is mediated by PKC and p38MAPK; kinases also involved in cardioprotection by preconditioning.

Table 1 Results

	Without BMC	With BMC	With BMC + Chelerythrine	Without BMC + Chelerythrine
CK leakage	1.30 \pm 0.11	0.33 \pm 0.1 \dagger	0.96 \pm 0.19	1.04 \pm 0.16
Necrosis (%)	30.07 \pm 7.25	-5.57 \pm 5.1 \dagger	13.35 \pm 4.37	24.39 \pm 11.71
Apoptosis (%)	28.10 \pm 3.93	3.69 \pm 5.0 \dagger	24.59 \pm 8.2	29.72 \pm 7.43
	Without BMC	With BMC	With BMC + SB203580	Without BMC + SB203580
CK leakage	1.41 \pm 0.15	0.39 \pm 0.2 \dagger	0.93 \pm 0.18	1.78 \pm 0.17
Necrosis (%)	34.09 \pm 5.85	-2.50 \pm 3.0 \dagger	20.13 \pm 2.4	24.31 \pm 5.08
Apoptosis (%)	30.50 \pm 2.08	-2.46 \pm 5.9 \dagger	19.48 \pm 5.71	32.40 \pm 3.88

Cancer of the Lung Biomarkers (club) Trial: Proteomics in Thoracic Surgery

A Alzetani¹; N James²; D Ward²; G Kaur¹; J Starczynski¹; S Trotter¹; A Martin²; P Johnson²; P Rajesh¹

¹Heart of England NHS Foundation, Birmingham, UK; ²Cancer Research UK Institute for Cancer Studies, Birmingham, UK

Objectives: A lack of credible serum markers for lung cancer diagnosis and follow-up hinders attempts to improve treatment and survival. Proteomics-based techniques such as Surface Enhanced Laser Desorption/ Ionisation Time-of-Flight Mass Spectrometry (SELDI TOF MS) are being used for cancer fingerprinting. This study explores whether serum proteomic profiles can discriminate between lung cancer and non-cancer patients.

Methods: Between January 2005 and July 2005, patients referred to thoracic surgery with a suspicious lung mass for surgical exploration were recruited. An age- and sex-matched group of controls were enrolled from patients attending the same hospital for routine blood tests. SELDI analysis was performed on all serum samples obtained from both groups of participants. An un-paired Student's *t*-test was used for statistical analysis of the SELDI data.

Results: 39 patients with histologically proven non-small cell lung cancer and 38 controls were recruited. Blood samples were collected from the patients before surgery and at a comparable point in controls. The SELDI profiles of the controls and those with lung cancer showed 19 significantly differentially expressed peaks ($p < 0.01$), 14 of which were used to develop a neural network model capable of discriminating between the two groups. Transthyretin was one of the proteomic peaks identified in the serum of lung cancer patients.

Conclusions: The findings show that SELDI TOF MS can detect differentially expressed protein peaks in the serum of lung cancer patients. The model that has been developed could potentially assist in the diagnosis of lung cancer with the possibility of implementing it in screening and follow-up.

Regional Anaesthesia, Myocardial, Inflammatory and Stress Responses in Patients Undergoing Beating Heart Coronary Surgery: A Prospective Randomised Trial

H Alwair; C Rogers; M Ginty; C Monk; S Tomkins; A Mokhtari; G Angelini; M Caputo
Bristol Heart Institute, Bristol, UK

Objectives: To evaluate the impact of regional anaesthesia on inflammatory and stress responses and myocardial cell damage in patients undergoing off-pump coronary bypass (OPCAB) surgery.

Methods: 74 patients undergoing OPCAB surgery were randomised to receive either general anaesthesia (GA) plus epidural ($n=36$) or GA only ($n=38$). Baseline characteristics were similar in the two groups. Troponin I and 8-isoprostane, cortisol, C3a, IL-6, -8 and -10 were measured preoperatively, 30 minutes and 4, 12, 24 and 48 hours post-operatively.

Results: IL-6 and IL-8 levels were lower in the GA-plus-epidural than in the GA-only group (ratio 0.83, 95% CI 0.68 to 1.02, $p=0.07$; and 0.90, 95% CI 0.78 to 1.02, $p=0.09$ respectively). IL-10, cortisol, C3a, troponin I and 8-isoprostane release was similar in the two groups. One patient died in the GA-plus-epidural group, and no other major post-operative complications were recorded in both groups. The incidence of atrial fibrillation (19% and 47%) and the median post-operative stay (5 [4–6] and 6 [5–7] days) were lower in the GA-plus-epidural compared to the GA-only group.

Conclusions: The data suggest that GA-plus-epidural anaesthesia is associated with a reduction in inflammatory response compared with GA-only anaesthesia in patients undergoing OPCAB surgery. This might explain the observed reduction in post-operative atrial fibrillation and hospital stay. A larger study, with clinical outcomes primary endpoints, is ongoing at our institution.

Residual Apical Space Following Surgery for Pneumothorax Increases Risk of Recurrence

A Gaunt; A Martin-Ucar; L Beggs; D Beggs; J Duffy; E Morgan
Nottingham City Hospital, Nottingham, UK

Objectives: Small residual spaces after pneumothorax surgery are not uncommon. Their incidence and impact on surgical outcomes have not been extensively studied.

Methods: We studied the 427 patients (283 men and 144 women; median age 31 [range 14–96] years) who underwent surgery for pneumothorax in our unit from 1995 to July 2005. Video-assisted thoracoscopy (VATS) was used in 225 cases (53%) and the rest underwent open surgery (OPEN). Outcomes of the study were: length of drainage, hospital stay, recurrence rates, need for re-operation and referral to the pain clinic. Surgery was performed for primary pneumothorax in 292 (68%) and secondary in 135 (32%).

Results: Recurrence was found in 28 cases (6.6%), re-operation was performed in 12 cases (2.8%), and need for referral to pain clinic was 7% (n=30). In 129 patients (30%) a small residual apical space was reported in the CXR prior to discharge. Hospital stay (7 vs 6 days) and duration of drainage (5 vs 4 days) were longer in these cases (p= 0.002 and 0.02 respectively). On multivariate analysis small residual apical space on CXR was associated with an increased risk of recurrence (Hazard ratio 3.1 [1.4–6.8 95% CI]; p=0.005); but not re-operation (p=0.15) or referral to pain clinic.

Conclusions: Although the risk for recurrence after surgery for pneumothorax is low, the presence of a small residual apical space on radiography after surgery increases it significantly. Recurrence may be the consequence of failure to achieve pleural symphysis in the early postoperative period.

The Logistic EuroSCORE in Cardiac Surgery: How Well Does it Predict Risk in Different Operative Groups?

F Bhatti¹; A Grayson²; G Grotte¹; B Fabri²; J Au³; M Jones⁴; B Bridgewater⁴
¹Manchester Royal Infirmary, Manchester, UK; ²The Cardiothoracic Centre, Liverpool, UK; ³Blackpool Victoria Hospital, Blackpool, UK; ⁴South Manchester University Hospital, Manchester, UK

Objectives: To study the ability of the logistic EuroSCORE to predict operative risk in contemporary cardiac surgery.

Methods: We performed a multi-centre study, prospectively collecting data on all patients undergoing adult cardiac surgery between 1 April 2002 and 31 March 2004 at our four centres. We assessed the predictive ability of the logistic EuroSCORE in two ways and we applied these to all patients and to various subgroups:

1 Its ability to discriminate between patients with differing observed risk using ROC curve analysis.

2 Comparison of observed with predicted mortality to see how well it is calibrated. Subgroups included isolated coronary artery bypass grafts (CABG), isolated valve surgery, combined CABG and valve surgery, aortic with/without CABG, mitral with/without CABG and others.

Results: A total of 9995 patients underwent surgery. The overall predictive ability by area under the ROC curve was 0.79. The predicted mortality by logistic EuroSCORE was 5.7% and the observed mortality was 3.3%. The logistic EuroSCORE was higher than observed mortality for all subgroups, but the degree of over-prediction varied between subgroups (Table 1).

Conclusions: The logistic EuroSCORE is a reasonable overall predictor for contemporary cardiac surgery, but it over-estimates mortality. There is marked variation in its accuracy at predicting risk in different surgical subgroups. Caution should be exercised before it is used to reassure hospitals or surgeons about their outcomes, and when using it to compare hospitals or surgeons with differing operative case mix.

Table 1 Results of multi-centre study

Groups	Number of cases	Observed Mortality (O) %	Logistic EuroSCORE (E) %	O/E ratio ROC curve	Area under
All	9995	3.3	5.7	0.58	0.79
CABG only	6745	2.0	3.9	0.51	0.77
Valve only	1523	3.5	7.9	0.44	0.79
CABG+valve	984	7.2	9.6	0.75	0.73
Aortic+/-CABG	1577	4.4	8.0	0.55	0.76
Mitral+/-CABG	690	4.5	9.2	0.49	0.76
Others	743	9.8	12.9	0.76	0.71

Damus–Rastelli Procedure for Biventricular Repair of Aortic Atresia

P Moorthy; S McGuirk; T Jones; D Barron; W Brawn

Department of Cardiac Surgery, Birmingham Children s Hospital, Birmingham, UK

Objectives: Biventricular repair may be possible in aortic atresia with ventricular septal defect (VSD) by creating Damus–Kaye reconstruction and placement of a right ventricle to pulmonary artery (RV–PA) conduit. We have reviewed a 15-year experience with this Damus–Rastelli technique in comparison with a standard univentricular approach.

Methods: Retrospective study of 16 patients with aortic atresia or hypoplasia who underwent biventricular repair between 1990 and 2005. Comparison with institutional outcomes for Norwood I procedure over the same period. Follow-up was 100% complete.

Results: Early mortality was 19% (3 patients), with no deaths in the last 12 years. 9 patients had associated aortic interruption (56%), 3 (19%) had coarctation and 5 (31%) had DiGeorge syndrome. Late operation was the only risk factor identified for early death (p=0.01). Mean follow-up was 32.3 months, and 4 late deaths noted. Actuarial survival at 1 and 5 years was 60% and 53%. This compares with an early mortality of 28% and survival of 58% and 50% in the Norwood group.

Freedom from re-intervention was 68% and 20% at 1 and 5 years respectively. 3 had balloon dilatation of recurrent coarctation and the conduit. The remaining interventions were conduit replacement (n=4) or enlargement of the LVOT (n=1). All survivors are currently in NYHA I.

Conclusions: The results of biventricular repair of aortic atresia with VSD was comparable with univentricular palliation. Despite a high re-intervention rate, mainly for conduit change, the long-term benefit of a biventricular circulation would support this technique. Delay in performing the initial repair may increase mortality.

Surgical Ablation for Atrial Fibrillation: A Single Centre Experience

R Deshpande; N Reddy; J Hyde; A Cohen; U Trivedi

Royal Sussex County Hospital, Brighton, UK

Objectives: To report the preliminary results of surgical ablation of atrial fibrillation in patients undergoing valvular and non-valvular cardiac operations.

Methods: From August 2001 to May 2005 70 patients underwent surgical ablation of atrial fibrillation (AF). 46 patients (65%) had chronic AF. Mean age was 69.6 years (SD±6.6). Ablation was combined with mitral valve surgery (n=22, 31%), aortic valve surgery (n=8, 11%), coronary bypass surgery (n=18, 26%), or mixed operations (n=22, 31%). Surgical ablation was either restricted to the left atrium (n=32, 46%) or included a bi-atrial approach (n=38, 54%). Bipolar radiofrequency was used in 43 (61%) patients and microwave energy in 27 (39%) patients. All patients received post-operative oral amiodarone.

Results: There were 4 (5.4%) in-hospital deaths unrelated to device complications. A total of 27 (41%) patients were discharged in sinus rhythm and 39 (59%) patients in AF. Pacemakers were implanted in 2 patients and 1 patient required AICD. At three months follow-up 72% of patients (n=66) were in sinus rhythm, at 6 months 74% (n=23), and at one year 92% (n=14). Conversion to sinus rhythm was 77% (n=33) in patients receiving bipolar radiofrequency ablation.

Conclusions: Intra-operative surgical ablation can be a curative procedure for chronic AF. Bipolar radiofrequency facilitates rapid and safe AF ablation in patients undergoing valvular or non-valvular cardiac operations.

Table 1 Results of surgical AF ablation

Follow-up	Discharge	3 months	6 months	1 year
NSR (%)	41	72	74	92
AF (%)	59	28	26	8

A New Technique to Avoid Post-thoracotomy Scoliosis in Children

J Ferguson; S Sheridan; L Leask; J Pollock
Royal Hospital for Sick Children, Glasgow, UK

Objectives: The incidence of thoracic scoliosis following thoracotomy in children can be as high as 50%. This paper explores the influence of a modified method of thoracotomy closure on the incidence of post-thoracotomy scoliosis in children.

Methods: 100 consecutive patients who had a modified Blalock–Taussig shunt created were identified.

During thoracotomy closure the ribs were returned to their anatomical position with multiple absorbable pericostal sutures. A space equal to the normal intercostal space was preserved.

Using the most recent chest radiograph, a single radiologist [SS] calculated the Cobb angle of scoliosis. Cobb angle measures the angle of lateral deviation of the spine. A Cobb angle >10° was considered significant. The notes of patients with a Cobb angle >10° were reviewed.

Results:

- Chest radiographs were available for all patients.
- Mean / Median age at time of surgery: 16 / 9 months
- A large number of the patients were infants at the time of surgery
- Mean / Median time between surgery and last chest radiograph: 93 / 84 months
- 5 patients had a Cobb angle >10°
- 2 children had a scoliosis that was greater than 10° that was not caused by a congenital abnormality of the spine; neither patient required orthopaedic intervention.

Conclusions:

- This method of thoracotomy closure reduces the rate of post-thoracotomy scoliosis to 2%.
- This technique theoretically reduces compressive forces between ribs both anteriorly and posteriorly.
- Absorbable sutures allow normal spinal and rib development in the long term.
- Paediatric thoracotomies should be closed using this technique.

Table 1 Patients with scoliosis

Patient	Congenital heart disease diagnosis	Age at time of surgery (years)	Interval between surgery and last chest radiograph (months)	Cobb Angle	Orthopaedic diagnosis
1	Tricuspid atresia with pulmonary stenosis. Malposed great arteries. Atrial septal defect	2.5	158	13	No other cause of scoliosis identified
2	Double outlet right ventricle. Pulmonary atresia	0.03	55	35	Upper thoracic congenital scoliosis. Upper thoracic congenital scoliosis
3	Tricuspid atresia with pulmonary atresia. Bilateral SVCs	1.5	192	60	Hereditary spinal deformity characterised by multiple malformations of many vertebrae
4	Pulmonary atresia, VSD	3.78	83	11	No other cause of scoliosis identified
5	Pulmonary atresia, VSD and MAPCAs	3.37	150	58	Congenital Scoliosis

Anticoagulant Management of Pregnancy Following Heart Valve Replacement Surgery in the United Kingdom

M Shannon¹; M Edwards²; F Long²; P Bagger²; M De Swiet³; K Taylor²

¹St Georges Hospital, London, UK; ²Hammersmith Hospital, London, UK; ³Imperial College School of Medicine, London, UK

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Objectives: In pregnancy, mechanical heart valves are associated with maternal mortality of 1–4%, and adverse fetal events in 31% attributable to anticoagulant therapy. European and UK guidelines recommend different anticoagulant management. There is reluctance to use bioprosthetic valves in young women in Europe because of reported valve degeneration in 35% of pregnancies. This study aimed to identify the actual anticoagulant management of mechanical valves in pregnancy in the UK over 15 years and to study maternal and fetal outcomes.

Methods: Using the UK National Heart Valve Registry data, all women who had undergone valve replacement aged 18–45 were identified. Causes of death were compared with an age-matched male control group. Those who were lost to follow-up (LTF) were excluded. Questionnaires were sent requesting information about the number and dates of any pregnancies and the presence of complications. Permission was sought to access medical records.

Results: Of 2532 eligible women, 18% were LTF, 23% did not respond and 22% had died (15% in male group). Cardiac failure was the most common cause of death in both groups with no pregnancy-related death. 72 of 922 women had 105 pregnancies. With bioprosthetic valves, 60% of 45 pregnancies resulted in live births, 2% miscarried; no valve deterioration occurred. With mechanical valves, 30% of 60 pregnancies resulted in live births with 37% miscarriages. Anticoagulant regimens and outcomes in 20 pregnancies are shown in Table 1.

Conclusions: Bioprosthetic valves had better pregnancy outcomes. High-dose heparin was effective in the first and third trimesters for the majority of mechanical valves.

Table 1 Anticoagulant regimens

na=not applicable

Number	1st trimester	2nd trimester	3rd trimester	Heparin dose	Warfarin dose	Adverse maternal outcome	Live birth	Abortion	Adverse fetal outcome
4	UFH	Warfarin	UFH	10–25000u daily	6–12mg	None	4	0	0
5	LMWH	Warfarin	LMWH/Warfarin	10–14000u daily	4–7mg	1 PPH	4	1	0
11	Warfarin	Warfarin	Warfarin	na	4–15mg	1 PPH	2	9 (1TOP)	1 embryopathy

Perimount Bioprosthesis in the Pulmonary Position

L Hamilton; A Hasan; C Sudarshan; S Haynes; M Chaudhari; J Griffiths
Freeman Hospital, Newcastle upon Tyne, UK

Objectives: Pulmonary regurgitation (PR) leading to right ventricular overload and subsequent dysfunction is not uncommon in adolescents and adults with previously corrected cardiac defects, especially tetralogy of Fallot (TOF). Several methods and techniques have been tried and tested to implant a valved conduit, with varying degrees of success. Having had a challenging experience with implantation of homografts in the pulmonary position, we resorted to using the Perimount bioprosthesis for these patients.

Methods: 20 patients who had had previous repair of TOF (n=16), pulmonary stenosis (n=3) and atresia (n=1) have undergone pulmonary valve replacement (PVR) for severe symptomatic PR since 2001. Ages ranged from 9 to 43 years (median 24), 6 were females and all were in NYHA class III/IV prior to surgery. They underwent PVR with a 25mm (median size; range 23–29mm) bioprosthesis. 10 patients had additional procedures performed, such as cryoblation, patch enlargement of branch pulmonary arteries, aortoplasty and closure of residual VSD.

Results: There was one death (5%) due to non-cardiac reasons. One patient developed compartment syndrome following femoral arterial cannulation for bypass. At median follow-up period of 14 months (range 1–41) the remaining 19 are well in NYHA class I and have not required any further intervention. Echocardiography shows median velocity of 1.5m/s across the valve (range 1–2.7) with regression of right ventricular size and improvement in function.

Conclusions: Perimount valves, with a known excellent record in aortic position, seem to be an attractive alternative as pulmonary prostheses, too. Even though follow up is short, the outcome so far is encouraging.

'Z-Plasty Suture': A New Procedure for Complex Reconstructions of Posterior Mitral Leaflet

R Bellitti¹; P Santé¹; G Dialetto¹; F Covino¹; D Iarussi²; M Messina²; L Maresca¹

¹General Cardiac Surgery Department & ²Cardiology Department Monaldi Hospital, University of Naples II, Naples, Italy

Objectives: If the results of reparative mitral surgery reported in the literature are generally satisfactory, the technique described seems to offer an even better surgical option for patients with complex lesions, especially with regard to haemodynamic performance.

Methods: 20 patients were treated with Z-plasty suture from June 2003 to October 2005. They were divided into three groups: 5, isolated prolapse of P2 scallop with chordal elongation or rupture and non-dilated annulus; 1, massive prolapse of all posterior leaflet scallops; 14, massive bileaflet prolapse and dilated annulus. Following quadrangular resection of the area involved in chordal elongation or rupture extended to the posterior annulus, of the two residual segments of the posterior leaflet the most redundant one was sutured to the posterior annulus with its apex to the contralateral scallop–annulus junction; its free edge was sutured to the annulus; the contralateral scallop was sutured on the newly created scallop. In all patients the procedure was completed with an annuloplasty with glutaraldehyde-treated autologous pericardium (Z-plasty suture).

Results: There was no hospital mortality. All patients had trans-oesophageal echo at the end of extracorporeal circulation and trans-thoracic echo following the discharge. No patient showed apart from trivial regurgitation, all had satisfactory mitral valve area with good motion of both the leaflets. Furthermore the inter-papillary muscles distance was preserved and no patient showed left ventricle outflow tract obstruction.

Conclusions: Z-plasty suture shows encouraging results in posterior mitral leaflet repair in patients with complex reconstructions due to degenerative mitral incompetence.

Carcinoid Increases as Lung Cancer Falls

A Coonar¹; T Massey²; T Treasure¹; H Moller²

¹Cardiothoracic Surgery, Guys and St Thomas Hospitals, London, UK; ²Thames Cancer Registry, London, UK

Objectives: Neuroendocrine carcinoma (NEC) comprises typical carcinoid, atypical carcinoid, large cell NEC and small cell cancer. The aetiology of carcinoid tumours is unclear and the relationship with smoking has not been clarified. In some groups lung cancer rates are declining and this is associated with a reduction in smoking. To determine if there is a similar relationship for carcinoid tumours, their epidemiology was examined.

Methods:

1 To examine the descriptive epidemiology of bronchopulmonary carcinoid, a systematic literature review was performed to identify high-quality population-based registry data.

2 To obtain detailed information from a representative population in the UK, a cancer registry database was examined (denominator population ~14.3 million). The database was interrogated to identify all cases of carcinoid and lung cancer over the 17-year period from 1985 to 2002.

Results:

1. Seven population-based cancer registry surveys were identified which examined bronchopulmonary carcinoid (n=17973). Available data described an increase in registration rate. In the largest series, between 1969 and 1999, the age-adjusted incidence (n/100,000/year) increased by a maximum factor of x9.5, from 0.06–0.24 to 0.39–0.89.

2. The particular UK cancer registry examined also recorded an increase in carcinoid age-standardised rates and a simultaneous fall in other lung cancer age-standardised rates (see Table 1).

Conclusions: In some populations carcinoid rates are increasing while lung cancer rates are declining. The reasons for an increase in carcinoid registration are speculative. These data also suggest that carcinoid and smoking are not closely or simply linked.

Table 1 Age-standardised rate annual increase (%)

	<i>Male</i>	<i>Female</i>
Bronchopulmonary carcinoid	2.3	2.2
SCLC	-3.0	-0.9
NSCLC	-3.5	-0.4

Experience with Vacuum-assisted Closure of Sternal Wound Infections Following Cardiac Surgery and Evaluation of Chronic Complications Associated with its Use

V Bapat; C Young; J Roxburgh

St Thomas Hospital, London, UK

Objectives: We report our experience in the use of vacuum-assisted closure (VAC) in the treatment of post-sternotomy wound infection with emphasis on recurrent wound-related problems after use of VAC and their treatment.

Methods: Between July 2001 and June 2004, 2706 patients underwent various cardiac procedures via median sternotomy. 53 patients were diagnosed with post-operative sternal wound infection (1.9%), of whom 49 were managed with VAC. Of these, 28 patients had superficial sternal wound infection and 21 patients had deep sternal wound infection. In the patients with superficial sternal wound infection, 23 had VAC as definitive treatment (Group A), whilst 5 (Group B) had VAC followed by surgical closure. Similarly, 12 patients with deep sternal wound infection had VAC as definitive treatment (Group C) and 9 had VAC followed by surgical closure (Group D). After discharge, patients were followed up at intervals of 3–6 months. Recurrent sternal problems, when identified, were investigated and additional surgical procedures were carried out when necessary.

Results: There were 9 deaths, 8 due to unrelated causes and 1 patient who died of right ventricular rupture (Group C). 9 patients in Group A and 8 patients in Group C presented with chronic wound-related problems and underwent multiple debridements and eventually flap-assisted closure. 4 patients had laparoscopic omental flaps. In contrast, most patients in Groups B and D, who were treated with a shorter duration of VAC, did not present with recurrent problems.

Conclusions: The use of VAC for short duration followed by early surgical closure appears favourable rather than using it as primary modality of treatment.

Sternotomy Closure with Thermoreactive Clips Prevents Sternal Dehiscence in High-risk Patients

V Avlonitis; V Shrivastava; J Wallis; S Hunter; A Goodwin; A Owens; S Kendall
James Cook University Hospital, Middlesbrough, UK

Objectives: Postoperative sternal dehiscence is a serious complication (0.5–8% of sternotomy patients), extending hospital stay and requiring extra interventions and, often, antibiotics. In our hospital we have used thermoreactive clips for sternal closure in high-risk patients in an attempt to reduce this complication. We evaluated the role of this technique in preventing post-operative sternal instability.

Methods: Thermoreactive clips were used in 107 high-risk patients (97 with body mass index [BMI]>29; 10 for related morbidity or disability). Data were collected prospectively and the incidence of sternal instability was determined. This outcome was compared with that of a historic control group of 121 consecutive patients with BMI>29, who had standard sternotomy closure with stainless steel wires.

Results: There was no difference in type of operation, Euroscore, BMI, incidence of diabetes, peripheral vascular disease and chronic obstructive pulmonary disease, left ventricular function, ischaemic time, cardiopulmonary bypass time or incidence of post-operative wound infection. There were more females (30 vs 11; $p=0.004$) and slightly older (mean age: 65 ± 9 vs 62 ± 11 years; $p=0.03$) patients in the control group. Post-operatively, 9 (7.4%) patients in the control group developed sternal instability in hospital, but none (0%) in the group closed with thermoreactive clips ($p=0.004$). No female patients in the control group developed sternal instability.

Conclusions: So far, use of thermoreactive clips for sternotomy closure has prevented post-operative sternal instability in high-risk patients. Introduction of the technique has improved outcomes in our institution.

Long Segment Tracheal Stenosis – A Novel Approach Using a Mucosa-lined Vascularised Fascial Forearm Graft

S Stamenkovic¹; P De Leyn¹; P Delaere²; J Vranckx³
¹Department of Thoracic Surgery, ²Department of Otorhinolaryngology & ³Department of Plastic Surgery Catholic University Hospital Gasthuisberg, Leuven, Belgium

Objectives: Short tracheal stenoses can be resected with end-to-end anastomosis or sliding plasty performed. However, when the stenosed segment is longer than half the tracheal length, a graft is required closely resembling the native tracheal tissue – well vascularised with a respiratory epithelium-lined mucous membrane and cartilaginous support. Cartilage-lined pericardium has been suggested but there are concerns about re-stenosis and irritation problems due to granulation tissue.

Methods: We used a novel surgical approach, having deduced the optimal graft in a rabbit model. A fascial flap was fashioned with a vascular pedicle from the left forearm and two 1.5 x 1.0 cm buccal mucosal grafts were sutured onto it. The stenotic segment was incised anteriorly, the graft sutured over the defect and microvascular anastomosis of the pedicle to the internal jugular vein and external carotid artery performed. Temporary tracheostomy was constructed and a Dumon stent used to protect the airway.

Results: Two patients with long segment tracheal stenosis were treated with this method of reconstruction, mean age 60.5 years, both with stenosis induced by prolonged intubation. Sternotomy was required for access to the trachea. Ventilation with permissive apnoea was used. Post-operative stay was uncomplicated. Stent removal and tracheostomy closure occurred at 6 weeks. Mean follow-up was 12.5 months, with no stridor and CT showing good tracheal patency.

Conclusions: Mucosa-lined vascularised fascial grafting offers an alternative to permanent tracheostomy to patients with long segment tracheal stenosis. Although in the early stages of clinical research, this novel technique shows promising short-term results.

Surgical Management and Outcome for Patients with Renal Cell Carcinoma (RCC) and Inferior Vena Cava (IVC) involvement

M Kalkat; A Asad; M Farouqi; A Doherty; M Wallace; T Graham
Queen Elizabeth Hospital, Birmingham, UK

Objectives: To report combined cardiothoracic and urological management, and outcome, for the patients with renal cell carcinoma (RCC) involving the inferior vena cava (IVC).

Methods: Data were accrued from prospective surgical database and case records for patients who underwent surgery for RCC with IVC extension, from May 1993 to May 2004.

Results: 67 patients underwent surgical resection for RCC with tumour extension into IVC, where cardiothoracic input was required. Age ranged from 25 to 82 years (mean 60.7, SD 11.6 years), 49 were male. 4 patients (6%) had level I IVC tumour, 12 (18%) had level II, 30 (45%) had level III and 22 (31%) had level IV extent tumour. 21 patients (31%) had metastasis at operation. The majority required application of vascular clamp at the junction of the IVC with the right atrium; 20 patients required cardiopulmonary bypass (29–193min, mean 131min). Hypothermic circulatory arrest (12–42min, mean 26min) was used in 16 patients. The 30-day mortality was 6% (4) with no death in the elective cardiopulmonary bypass group. The overall median survival was 22.9 months (SE 7.04 months) Cox regression revealed the presence of metastasis (relative risk 0.49, 95% CI 0.24–0.97) adversely effecting long-term outcome.

Conclusions: Surgical management of RCC with IVC involvement continues to evolve. Multidisciplinary approach including cardiothoracic and urological speciality in properly selected patients is associated with good results.

Predictors of Early Post-discharge Death Following Extrapleural Pneumonectomy for Malignant Pleural Mesothelioma

J Edwards; D Stewart; D Waller
Glenfield Hospital, Leiceste, UK

Objectives: To identify predictive factors of early post-discharge death (PDD) following extrapleural pneumonectomy (EPP) for malignant pleural mesothelioma (MPM).

Methods: Case notes were reviewed from 101 patients undergoing EPP for MPM from August 1999 to July 2005. Clinical, pathological and prognostic data were recorded prospectively. Patients who died within three months of surgery, following discharge, were identified (Group 1). Those dying later were assigned to Group 2. Groups were compared to identify the distribution of prognostic factors.

Results: There were 7 in-hospital deaths. 12 patients died within three months of discharge (Group 1). A further 42 died after three months (Group 2). Predictors of PDD included respiratory ($p=0.04$) and cardiovascular complications ($p=0.03$), symptomatic mediastinal shift ($p=0.04$) and nodal metastasis ($p=0.02$). Postoperative right ventricular dysfunction was the most prevalent single predictor of PDD. Recurrence of MPM was noted at post-mortem examination in 1 patient in Group 1.

Conclusions: Early post-discharge death occurred in 12% patients following EPP. Careful observation is required following discharge, particularly in patients who have suffered cardiovascular and respiratory complications.

Risk-adjusted Morbidity and Mortality Models to Compare the Performance of Two Units After Major Lung Resections in the Elderly

A Brunelli¹; M Al Refai¹; R Jutley²; M Salati¹; G Rocco³

¹Umberto I Regional Hospital, Ancona, Italy; ²Sheffield Teaching Hospital, Sheffield, UK; ³National Cancer Institute Pascale Foundation, Naples, Italy

Objectives: To develop risk-adjusted morbidity and mortality models to compare the performance of two different thoracic surgery units in elderly patients submitted to major lung resections.

Methods: 275 patients (216 males, 59 females) submitted to lobectomy (235) or pneumonectomy (40) from January 2000 through December 2004 at two European thoracic units (220 cases in unit A and 55 cases in unit B) were analysed.

Risk-adjusted models of 30 days or in-hospital cardiopulmonary morbidity and mortality were developed by stepwise logistic regression analyses and validated by bootstrap bagging simulation. Pre-operative and operative variables were initially screened by univariate analysis. Those with $p < 0.10$ were used as independent ones in the regression analyses. Problems of over-fitting and multi-collinearity were considered. All variables were at least 95% complete. Sporadic missing data were imputed.

The regression equations were used to estimate the risk of outcome and the observed and predicted outcome rates of the two units were compared by the z test.

Results: The following regression models were developed: Predicted morbidity: $\ln R/1-R = -9.86 + 0.113X_{age} + 0.512X_{cardiac\ co-morbidity} + 1.07X_{neoadjuvant\ chemotherapy}$ (Hosmer Lemeshow statistic=8.6 ($p=0.4$), c-index=0.64).

Predicted mortality: $\ln R/1-R = -0.02 - 0.04X_{ppoFEV_1}$ (Hosmer Lemeshow statistic=8.4 ($p=0.4$), c-index=0.7). The models proved to be stable at bootstrap analyses.

No differences were noted between observed and predicted outcome rates within each unit, despite differences between unadjusted outcome rates (see Table 1).

Conclusions: The use of risk-adjusted outcome models prevented misleading information being derived from the unadjusted analysis of performance. Risk modelling is essential for the evaluation of the quality of care.

Table 1 Observed vs predicted outcome rates

Units	Observed morbidity	Predicted morbidity	p value	Observed morbidity	Predicted morbidity	p value
Unit A	30.5%	28.2%	0.7	8.2%	8.1%	0.8
Unit B	16%	23.7%	0.5	9.1%	9.5%	0.9

Surgery-induced Extravasation of Leucocytes into Skin Blisters: Activation during Cardiopulmonary Bypass and Clinical Inhibition by Aprotinin

B Evans¹; R Landis²; D Haskard¹; K Taylor¹

¹Imperial College, London, UK; ²Univeristy of West Indies, Bridgetown, Barbados

Objectives: To obtain better clinical evidence for the infiltration of tissues by activated leucocytes during cardiac surgery, we have examined the effect of CABG surgery with CPB on leucocyte infiltration and inflammatory mediator release in cantharidin-induced skin blisters and we tested the effect of aprotinin on this process.

Methods: 15 patients having elective, primary CABG were randomised into two groups: receiving normal saline infusion (n=8) or full-dose aprotinin infusion (n=7). Blisters were elicited to the forearm by topical application of 0.1% cantharidin for 24 hours, followed by blister puncture and aspiration of contents. Blister harvest was performed pre-operatively and 5 hours after commencement of CPB (peri-operatively). The three main leucocyte populations in blisters were analysed using flow cytometry. Blister fluid was analysed for Interleukin-8 and tumour necrosis factor- γ by ELISA.

Results: Peri-operative blisters contained significantly more neutrophils than pre-operative controls, indicating that CPB stimulates neutrophil infiltration into peripheral tissues (pre-op 720,000 vs peri-op 3,370,000; $p < 0.05$). Patients receiving aprotinin had significantly attenuated neutrophil extravasation into blisters ($p < 0.05$) and lower peri-operative IL-8 levels (aprotinin 2302 pg/ml vs saline 4362 pg/ml, $p < 0.05$). TNF- γ concentration in peri-operative blisters as a percentage of pre-operative values was also significantly reduced in the aprotinin group (aprotinin:0.29 vs saline:0.92; $p < 0.05$).

Conclusions: This novel in vivo model has enabled detailed analysis of leucocyte extravasation and inflammatory mediator secretion after CPB surgery. The results confirm that neutrophil extravasation is increased following CPB and the anti-inflammatory effect of aprotinin appears to combine a reduction in both the number of extravasated cells and their capacity to elicit inflammatory cytokines.

The Effectiveness of Epicardial Left Ventricular Lead Placement for Cardiac Resynchronisation Therapy

A Patwala¹; P Woods²; J Kendall¹; D Goldspink²; D Wright¹; A Oo¹

¹The Cardiothoracic Centre, Liverpool, UK; ²RISES Liverpool John Moores University, Liverpool, UK;

³Academic Unit of Molecular Vascular Medicine University of Leeds LGI, Leeds, UK

Objectives: Cardiac resynchronisation therapy (CRT) is a recognised treatment for patients with heart failure and electromechanical dyssynchrony. However, failure of placement of the coronary sinus lead can occur in up to 10% of patients. Epicardial lead implantation is one option in this group; however, its effectiveness has never been tested.

Methods: 15 subjects with previous unsuccessful endocardial coronary sinus lead placement underwent epicardial lead implantation via a lateral mini-thoracotomy. The subjects were assessed before the procedure and 6 weeks, 3 months and 6 months after. At each visit the subjects performed maximal cardiopulmonary exercise testing. The results were compared with those from a control group, who were matched for age, sex, and peak VO₂, and had received CRT via the endocardial route. A repeated measures ANOVA was used to look for statistically significant differences between the baseline and post tests.

Results: Following epicardial lead placement there was a significant improvement in NYHA class, exercise duration, peak CPO and CR at 3 months. Peak VO₂ improved at 6 months (see Table 1). The improvements were similar to the endocardial group, the only significant difference was a lower NYHA class in the endocardial group at 6 weeks (p=0.009)

Conclusions: Epicardial lead placement is a viable option for patients with unsuccessful coronary sinus lead placement. The improvements are similar to those seen after Endocardial implantation. Functional class does improve earlier in the endocardial group and this is likely to due to quicker recovery time from procedure.

Table 1 Results of the procedure, shown as mean (SE)

*p<0.05 compared to baseline; † p<0.05 compared to epicardial

	Pre epi-cardial	6 weeks post epi-cardial	3 months post epi-cardial	6 months post epi-cardial		6 weeks post endo-cardial	3 months post endo-cardial	6 months post endo-cardial
NYHA class	2.9 (0.1)	2.5 (0.2)	1.9 (0.1)	1.7* (0.2)	2.9 (0.1)	2.0 (0.1)†	1.9 (0.1)	1.8 (0.1)
Exercise duration (sec)	354 (54)	425 (61)	468 (59)	529* (69)	359 (53)	550 (53)	548 (56)	603 (53)
Peak VO ₂ (ml/kg/min)	15.95 (1.04)	16.25 (1.14)	17.10 (1.23)	18.08* (1.46)	16.09 (0.99)	18.03 (0.77)	19.16 (0.86)	19.64 (0.92)
Peak cardiac power output (CPO) (W)	2.19 (0.20)	2.60 (0.26)	2.91 (0.20)	3.14* (0.33)	2.54 (0.20)	2.97 (0.19)	3.10 (0.25)	3.28 (0.27)
Cardiac reserve (CR) (W)	1.59 (0.16)	1.98 (0.23)	2.28 (0.19)	2.43* (0.30)	1.88 (0.17)	2.33 (0.18)	2.46 (0.22)	2.62 (0.25)

Mid-term Result of Dynamic Repair of the Left Ventricle in Ischaemic Cardiomyopathy

S Kumar; D Barker; L Tan; R Nair

Leeds General Infirmary, Leeds, UK

Objectives: New treatments for heart failure that are accessible and not excessively costly are needed. Dynamic repair is performed by realignment of the papillary muscles, to reduce left ventricular volume and improve functional mitral regurgitation. This study describes the mid-term result of dynamic repair of the left ventricle in patients with heart failure and an ischaemic dilated cardiomyopathy.

Methods: The procedure is carried out via a small apical incision, with coronary artery bypass grafting (CABG). We have performed it on 29 patients (NYHA class II–IV): 18 underwent cardiopulmonary exercise testing before and after surgery, with measurement of peak oxygen consumption (VO₂), peak cardiac output (CO) and peak cardiac power output (CPO). For comparison, we similarly tested a cohort of 32 patients undergoing CABG without dynamic repair of the left ventricle.

Results: The 30-day mortality was 1. Functional improvement was greater in the group undergoing dynamic repair than in those undergoing CABG alone.

Conclusions: Dynamic repair is a simple procedure, which can be combined with CABG to treat patients with LV dysfunction. It significantly improves peak exercise cardiac function, comparing favourably with CABG alone. It may offer hope to patients with heart failure who are ineligible for cardiac transplantation.

Table 1 Results

Pre-repair	Post-repair	Change (%)	p value	Pre-CABG	Post-CABG		Change (%)	p value
Ex Dur (sec)	450±210	642±230	28±25	0.001	579±229	744±247	18±31	<0.0001
Peak VO ₂ (ml/kg/min)	19±4.1	21.5±3.7	14±14	0.003	19.2±3.6	21.5±4.3	13±20	0.001
Peak CO (l/min)	10.6±2.4	12.9±3.7	24±35	0.01	11.8±1.8	12.5±2.1	6±15	0.02
Peak CPO (watts)	2.4±0.8	3.3±1.1	49±58	0.001	3.2±0.6	3.5±0.7	8±18	0.01

Ischaemia Reperfusion Injury Results in Less Myocardial Damage and Interleukin-6 Release in Mast-Cell-Deficient Mice Compared with Their Littermates

K Bhattacharya¹; K Farewell²; M Huang²; D Kempuraj²; T Theoharides²

¹Department of Cardiothoracic Surgery Western Infirmary, Glasgow, UK, ²Department of Pharmacology and Experimental Therapeutics Tufts University, Boston, USA, ³Department of Biochemistry Tufts University, Boston, USA

Objectives: Myocardial ischaemia reperfusion (IR) injury complicates all forms of coronary artery revascularisation. Cardiovascular disease is associated with raised serum IL-6 concentrations. Acute stress increases mast-cell-dependent serum IL-6 levels in mice. IL-1 induces selective IL-6 release from human mast cells without degranulation. This study compared cardiac tissue susceptibility and serum IL-6 changes between the mast cell deficient (W/Wv) mice and their normal littermates (+/+).

Methods: In this randomised prospective surgeon-blinded study, 12 male W/Wv mice and their +/+ littermates were anaesthetised with 2.5% isoflurane. The left coronary artery (LCA) was ligated for 30 minutes. After 6 hours of reperfusion, the animals were sacrificed. The muscle viability was assessed on fresh whole-mount slices by the nitroblue tetrazolium (NBT) histochemical assay and serum IL-6 concentrations measured with ELISA.

Results: Cardiac muscle viability was significantly higher in W/Wv mice than the +/+ mice. Baseline serum IL-6 levels were higher in the +/+ controls (range=300–700 pg/ml, n=6) than W/Wv mice (range=70–250 pg/ml, n=6) before IR, and this level increased significantly after reperfusion only in the +/+ mice (range=500–800 pg/ml, n=6, p<0.05), while it remained the same in the W/Wv mice (range=70–280 pg/ml, n=6).

Conclusions: These results show that the absence of mast cells reduces the myocardial damage associated ischaemia reperfusion injury. Furthermore, there is an attenuation in the inflammatory response following this local insult. This entertains the prospect of developing prophylactic therapy – targeting selective inhibition of cardiac mast cell activation – in clinical situations involving medical or surgical myocardial revascularisation.

A Randomised Trial of Radial Artery and Saphenous Vein Grafts: 5-year Patency

M Sabetaj¹; P Collins²; C Webb²; P Sarkar¹; A DeSouza¹; J Pepper¹; N Moat¹

¹Royal Brompton Hospital, London, UK, ²National Heart and Lung Institute, London, UK

Objectives: To compare, in the setting of a randomised trial, the 5-year patency rates of radial artery and saphenous vein aorto-coronary bypass grafts to a single coronary territory.

Methods: Between 1998 and 2000, 142 patients were randomly assigned to receive either a radial artery or a saphenous vein graft to a coronary target vessel in the circumflex territory. The target vessel had stenosis greater than 75%. For the first 100 patients, the study was designed to randomise 2:1 in favour of radial artery grafts.

Results: Repeat coronary angiography to assess patency of the randomised grafts was performed at a mean of 5 years post-surgery. To date 91 patients have been recatheterised. In this group there were 55 radial artery and 36 saphenous vein grafts to the circumflex territory. Two (3.6%) radial artery grafts were occluded or significantly (>70%) stenosed compared with 7 (19.4%) saphenous vein grafts. Five (3.5%) patients had died at 5 years. Of these, 4 had received saphenous vein grafts and 1 a radial graft.

Conclusions: In this interim analysis, at 5 years there is a clear difference with regard to patency of the radial artery grafts compared with saphenous vein grafts. If this is confirmed when the 5-year re-study is complete, it may have important implications for the choice of conduit in coronary artery bypass surgery.

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Webb	C	48
Wei	C	5
Wellens	F	21
Wild	J	1
Wilson	I	10
Wood	A	8
Woods	P	45
Wright	D	45
You	J	25
Young	C	38

Organised by:

Society for Cardiothoracic Surgery in Great Britain and Ireland

Graham Cooper – Meeting Secretary

Email: graham.cooper@sth.nhs.uk

Simon Kendall – Deputy Meeting Secretary

Email: Simon.Kendall@stees.nhs.uk

Isabelle Ferner – Society Administrator

Email: sctsadmin@scts.org

Rachel Woolf – Accounts and Exhibition Administrator

Email: admin@scts2.wanadoo.co.uk

Future Meetings

The 2007 meeting is to be held in Manchester at the Manchester International Conference Centre 11th–14th March

The 2008 meeting is to be held in Edinburgh at the Edinburgh International Conference Centre 9th–12th March

All best endeavours will be made to present the programme as printed. However the Society for Cardiothoracic Surgery in Great Britain and Ireland reserves the right to alter or cancel without prior notice any of the arrangements timetables plans or other items relating directly or indirectly to the meeting for any cause beyond their reasonable control. The Society of Cardiothoracic Surgeons is not liable for any loss or inconvenience caused as a result of such alteration. In the event of cancellation of the congress all pre-paid fees will be refunded in full. However the Society of Cardiothoracic Surgeons is not liable for any other loss or inconvenience caused as a result of such cancellation and delegates are therefore advised to take out their own travel insurance and extend their policy for personal possessions as the meeting does not cover individuals against cancellations of bookings or theft or damage of belongings.

