The Vascular Society of Great Britain & Ireland

Yearbook 2011

Contents

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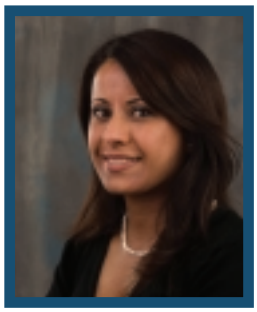

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Published by tfm Publishing Ltd on behalf of The Vascular Society.
tfm Publishing Limited, Castle Hill Barns, Harley, Shrewsbury, Shropshire, SY5 6LX, UK.
Tel: +44 (0)1952 510061; Fax: +44 (0)1952 510192; E-mail: nikki@tfmpublishing.com; Web site: www.tfmpublishing.com

The Council

Front row, left to right
Professor S Homer-Vanniasinkam; Ms J Oliver; Professor D J A Scott; Professor A R Naylor; Mr P M Lamont; Mr M G Wyatt; Mr S D Parvin; Mr I J Franklin

Second row, left to right
Professor A Halliday; Mr I Nyamekye; Mr J Brennan; Mr F Oshin; Professor I Chetter; Ms A Thrush (SVT); Mrs W Hayes (SVN)

Back row, left to right
Mr I Loftus; Mr D C Mitchell; Mr S MacSweeney; Mr J Thompson; Professor J D Beard

Not pictured: Mr P Blair; Professor D Ettles; Mr C Marron (Affiliate representative)

Message from the President

Mr P M Lamont

It seems a long time ago that I first joined The Vascular Surgical Society Council under the Presidency of Peter Bell. Jeanette was, like me, new and the members of Council were legendary figures in the field, from a generation before mine and not far removed from the founders of our Society. Much water has passed under the bridge since then, as I progressed from Council member to Chairman of the Training and Education Committee, to Honorary Secretary, to Chairman of the Professional Standards Committee and thence to the Presidency via various elect positions. To understand the history of the Society is to understand the great honour that befalls those chosen as President, and the great privilege that honour bestows. The one thing that stands out in my mind at least, from all those years, is the tremendous drive and enthusiasm that vascular surgeons bring to the table. Innovation and progression is a byword that carries forward in our committees today. I can honestly say, having observed the workings of many other surgical societies along the way, that we remain at the forefront, developing initiatives in patient care, training, service development, research and fundraising that are the envy of our surgical colleagues. This truly is a frontline specialist association which makes a difference to patient care.

Any successful consultant will tell you that to develop your local service requires a 5-year plan. Hospitals are innately conservative and successful innovation requires persistence and determination. To develop a national initiative requires far more than a 5-year plan. Julian Scott and I started the Society on the road to a separate specialty in 2003. At that time, we were told there was not a "cat in hell's chance". Nevertheless we persisted. Many colleagues took up the baton and put in hours of work and effort. Relations were established with the Royal College of Radiologists, but many hours of talks were required to allay mutual suspicions. Surgical organisations had to be brought on board, not least the Royal College of Surgeons who were very concerned that the specialty had no future and would default to interventional radiology. For all his reputation as the last of the general surgeons, John Black was originally appointed as a vascular surgeon and he took our cause to heart. His election to the Presidency of the RCSEng was a turning point in our campaign, as he pledged to support our cause and we all owe him a great debt of gratitude for that.

Meanwhile it was clear that the Department of Health had no idea who we were. Their Vascular Programme Board was concerned with cardiology, nephrology, diabetology and stroke medicine. Surgical interventions for vascular disease were considered a backwater of mainstream physicianly activity. The Society instigated a sustained campaign to raise awareness of vascular surgery amongst DH civil servants and politicians, as well as external regulatory authorities such as PMETB and GMC. All of this background lobbying activity paid off when John Black agreed to put forward our case for a separate specialty. Despite delays offered by changes of government and higher priority health service issues, we have finally secured the backing of the departments of health in England, Scotland, Northern Ireland and Wales to be recognised as a separate specialty. Not only will this give us predetermination in the training of

the next generation of vascular surgeons, it will also give us a seat around the table at the Council of the RCSEng, at the FSSA and at the JCST and JCIE. In effect, an independent voice to support the development of vascular training and services for the future.

Much remains to be done. Jonathan Beard is pushing forward a busy agenda in the Training Committee. A new curriculum and new training programmes need to be agreed by JCST and the GMC. A new vascular exit exam requires approval by JCIE and the GMC. National selection processes need approval by the four departments of health. All this on top of a revised training in vascular surgery document which Jonathan has worked hard to produce and which he will present to you at the AGM and which I hope you will support.

David Mitchell has been firing on all cylinders for the Audit and Quality Improvement Committee. It is not enough just to record surgical outcomes, David has taken many innovative steps to ensure that outcomes are improved. Perhaps his biggest achievement this year has been to secure HQIP funding for the NVD for the next 3 years, an immense achievement which has been noted at the highest levels. We hope to move the NVD into the professional environs of the RCSEng Clinical Effectiveness Unit with this funding and I hope every member will benefit from this development.

Ian Franklin has started his chairmanship of the Circulation Foundation with great enthusiasm and there is now a clear focus and message for us to put out to potential donors. Members will be as impressed as Council at the clarity of the new posters and leaflets which Ian, with Rebecca Wilkinson, has developed, and his enthusiasm has already hooked significant commercial sponsorship for the charity. Shervanthi Homer-Vanniasinkam is determined that the funds raised by the Circulation Foundation will be put towards high profile vascular research and I am delighted that members will be offered the opportunity to see how successful she has been in a special session devoted to Circulation Foundation funded research projects at the AGM.

Simon Parvin, our Treasurer, has overseen a complete turnaround in the Society's finances. He is a complete whiz at spreadsheet analysis and truly is the conscience of the Society. While maintaining a firm hand on expenses, he has promoted the use of Society funds to the benefit of patient care and we are lucky indeed to have secured his services.

Mike Wyatt has had a baptism of fire coming to the Secretary role at a time of such activity within the Society. He has proved a major asset to the Society, bringing his immense experience to bear on all the Society's affairs. The Secretary's role is all encompassing and includes responsibility for the smooth running of the Society as well as ensuring that the various sub-committee chairmen have the tools to fulfil their role. In this regard, Mike's contribution has been immense. He has also undertaken a major revamp of the Society's mainstream document, the Provision of Vascular Services, to take account of recent developments in service provision. In this he has consulted widely and has the unanimous support of Council and I hope you will support his well thought out revision at the AGM.

Finally, as I don the recently refurbished Chain of Office for the last time (we had run out of space to record Presidential names, so a new sub-chain has been added to take us through the next 12 years), I would like to thank the Secretariat. Jeanette, ably assisted by Neelam and Rebecca, have been the absolute bedrock of our Society. Whatever weird and wonderful initiatives we come up with, Jeanette and her team are the ones who "make it so" and I hope the membership appreciate their positive and can do attitude to any queries they direct at the Society. Thank you all for the privilege of allowing me to serve as President, I have no doubt the Society will continue to thrive under my successor, Ross Naylor.

Members of Council 2010-2011

President	Mr P M Lamont
President Elect	Professor A R Naylor
Vice President Elect	Professor D J A Scott
Honorary Secretary	Mr M G Wyatt
Honorary Treasurer	Mr S D Parvin
Ordinary members	Mr P Blair Mr J Brennan Mr I Franklin Professor A Halliday Professor S Homer-Vanniasinkam Mr I Loftus Mr S MacSweeney Mr I Nyamekye Mr J Thompson
Training & Education Committee Chair	Professor J D Beard
Audit & Quality Improvement Committee Chair	Mr D C Mitchell
Research Committee Chair	Professor S Homer-Vanniasinkam
Circulation Foundation Committee Chair	Mr I J Franklin
Affiliate member	Mr C Marron
Vascular Tutor	Professor I Chetter
Observers	Professor D Ettles (BSIR) Ms A Thrush (SVT) Mrs W Hayes (SVN)

Committees 2010-2011

AUDIT AND QUALITY IMPROVEMENT COMMITTEE

Mr D C Mitchell (Chair)
Mr P Blair
Mr P Barker
Ms R Potgieter
Ms C Marshall (Co-opted)
Dr G Munneke (BSIR)
Dr A Pichel (VASGBI)
Mr S D Parvin
Mr I Loftus
Mrs S Baker
Ms H Hindley
Mr J V Smyth (Co-opted)
Dr C Snowden (VASGBI)

TRAINING AND EDUCATION COMMITTEE

Professor J D Beard (Chair)
Professor I Chetter
Mr J Brennan
Dr S Chakraverty (BSIR rep)
Mr S MacSweeney
Mr J Thompson
Mr I Nyamekye
Mr C Marron (Affiliate rep)

RESEARCH COMMITTEE

Professor S Homer-Vanniasinkam (Chair)
Professor R Sayers
Professor A Halliday
Mr T Lees
Professor J Brittenden
Professor A Smith

PROFESSIONAL STANDARDS COMMITTEE

Professor M J Gough (Chair)
Professor C Shearman
Mr P Blair
Mr J J Earnshaw
Mr D C Mitchell
Mr P M Lamont
Professor A R Naylor

CIRCULATION FOUNDATION COMMITTEE

Mr I Franklin
Mr S D Parvin
Professor G Stansby
Mr D Carser
Professor S Homer-Vanniasinkam
Ms L Allen
Mr M Baroni

MEMBERSHIP OF VASCULAR ADVISORY COMMITTEE

All Members of Council, plus Vascular Advisors:

Mr M McCarthy, East Midlands
Mr S Fraser, Scotland (East)
Mr A Guy, Mersey
Mr J Mosley, North Western
Mr D Orr, Scotland (West)
Mr T Loosemoore, South West Thames
Mr C McDonnell, Republic of Ireland
Miss S Renton, North West Thames
Mr S Singh, South Yorkshire and North Derbyshire
Mr S W Yusuf, South East Thames
Mr M Armon, East Anglia
Mr A Garnham, West Midlands
Mr D Harkin, Northern Ireland
Ms S Hill, Wales
Mr C Irvine, Yorkshire
Mr T Magee, Oxford
Mr G Morris, Wessex
Mr M Salter, North East Thames
Mr J Thompson, South Western
Mr P Dunlop, Northern

Annual General Meetings & Presidents

Year	Venue	President	Secretary	Treasurer
1991	Royal College of Surgeons, Dublin	Mr WP Hederman	Mr PL Harris	Mr PL Harris
1992	Metropole Hotel, London	Professor NL Browse		Mr MH Simms
1993	Royal Northern College of Music, Manchester	Mr D Charlesworth		
1994	Assembly Rooms, Edinburgh	Professor CV Ruckley	Mrs L de Cossart	
1995	Kensington Town Hall, London	Mr CW Jamieson		
1996	Bournemouth International Centre, Bournemouth	Mr SG Darke		Mr MJ Gough
1997	Royal Lancaster Hotel, London	Professor A O Mansfield		
1998	City Hall, Hull	Mr JMD Galloway	Professor WB Campbell	
1999	De Montfort Hall, Leicester	Professor PRF Bell		
2000	London Arena, Docklands, London	Professor RM Greenhalgh		Mr RB Galland
2001	Hilton Brighton Metropole, Brighton	Mr RN Baird		
2002	Waterfront Hall, Belfast	Professor AAB Barros D'Sa	Mr PM Lamont	
2003	Scottish Exhibition and Conference Centre, Glasgow	Professor KG Burnand		
2004	Harrogate International Centre, Harrogate	Mr PL Harris		Mr DC Berridge
2005	Bournemouth International Centre, Bournemouth	Professor M Horrocks		
2006	Edinburgh International Conference Centre, Edinburgh	Mr JHN Wolfe	Mr JJ Earnshaw	
2007	Manchester Central Convention Complex	Professor G Hamilton		
2008	Bournemouth International Centre, Bournemouth	Mr MJ Gough		Mr SD Parvin
2009	BT Convention Centre, Liverpool	Mr PR Taylor		
2010	Hilton Brighton Metropole, Brighton	Professor C Shearman		
2011	Edinburgh International Conference Centre, Edinburgh	Mr PM Lamont	Mr MG Wyatt	

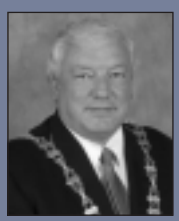
Mr PM Lamont
President 2011


Professor M Horrocks 2005


Mr JHN Wolfe 2006


Professor G Hamilton 2007

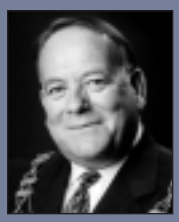

Professor MJ Gough 2008


Mr PR Taylor 2009


Professor C Shearman 2010


Mr JMD Galloway 1998


Professor PRF Bell 1999


Professor RM Greenhalgh 2000


Mr R Baird 2001


Professor AAB Barros D'Sa 2002


Professor KG Burnand 2003


Mr PL Harris 2004


Mr W Hederman 1991


Professor NL Browse 1992


Mr D Charlesworth 1993


Professor CV Ruckley 1994


Mr CW Jamieson 1995


Mr SG Darke 1996


Professor AO Mansfield 1997

Prizes

The Sol Cohen (Founder's) Prize is for the best *clinical* paper. The award is a silver salver engraved with the Society's logo and the year, plus a personal cheque for £500.

The British Journal of Surgery Prize is for the best *scientific* paper. The award is a cheque for £600 payable to the Research Fund of the Department from which the paper was submitted.

The Venous Forum Prize is presented for the best research paper on venous disease presented at the AGM, and is adjudicated by the Officers of the Venous Forum. The prize is a £250 cheque and a certificate.

The Richard Wood Memorial Prize will be awarded for the best paper presented by a *non-doctor* in the scientific meeting. The award is an engraved medal, and a cheque for £250.

The Brighton Prize will be awarded for the best paper on the topic of vascular infections. The award is a cheque for £250 and a certificate.

- Vascular trainees are eligible for the Sol Cohen (Founder's) Prize and the BJS Prize. Both vascular trainees and non-medics are eligible for the Venous Forum and Brighton prizes. The Richard Wood prize is for non-medics only.

- Applicants must be the first author of the abstract, must have made a substantial personal contribution to the work and must deliver the paper in person.

- Vascular trainees must be in a training post on the closing date for submission of abstracts.

List of prize winners

The Sol Cohen (Founder's) Prize

2005 R Aggarwal, Department of Biosurgery and Surgical Technology, Imperial College London and Regional Vascular Unit, St Mary's Hospital, London *Acquisition of endovascular skills by consultant vascular surgeons: effect of repetition in a virtual reality training model*

2006 GS McMahon, University of Leicester, Leicester *Low-molecular-weight heparin significantly reduces embolisation after carotid endarterectomy: a randomised controlled trial.*

2007 RA Weerakkody, Cambridge Vascular Unit, Cambridge *An evaluation of radiation exposure in endovascular abdominal aortic aneurysm repairs*

2008 Joint winning paper PJE Holt, St George's Regional Vascular Institute, London *Endovascular aneurysm repair independently demonstrates a volume-outcome effect* & *Regionalisation of vascular surgery improves outcome: a model of service provision*

2009 G McMahon, University of Leicester *Heparin activates platelet 12-lox - transient aspirin resistance explained?*

2010 RE Clough, NIHR Comprehensive Biomedical Research Centre of Guy's and St Thomas' NHS Foundation Trust and King's College London, London *Flow-sensitised dynamic Magnetic Resonance Imaging (MRI) can identify dominant false lumen flow and secondary entry tiers in type B aortic dissection: implications for endovascular treatment*

Richard Wood Memorial Prize

2005 E Horrocks, St Mary's Hospital, London *Carotid endarterectomy under local anaesthetic - evaluating a high fidelity simulated environment for training and assessment*

2006 LC Brown, for the EVAR Trial Participants, Imperial College, London *Endovascular, not open repair, should be used in the fittest patients: the application of fitness scoring to EVAR trial patients*

2007 P Bourke, Regional Vascular Unit, St Mary's Hospital, London *The proposed 18-week target - is there time for investigations?*

2008 C Oakley, Sheffield Hallam University and Vascular Institute, Sheffield *Nordic poles immediately improve walking distance in claudicants*

2009 R Sharpe, Leicester Royal Infirmary, Leicester *Dual antiplatelet therapy prior to carotid endarterectomy reduces postoperative embolisation and thromboembolic events: postoperative transcranial Doppler monitoring is now unnecessary*

2010 M Cunningham, University of Stirling *Modifying the illness and treatment beliefs of patients with intermittent claudication increases daily walking and reduces demand for vascular intervention - results from a randomised controlled trial*

Continued overleaf:

Prizes

The British Journal of Surgery Prize

2005 C Ruiz, Peripheral Vascular Unit, Glasgow Royal Infirmary *Pre-operative ischaemia of the long saphenous vein predisposes to intimal hyperplasia in bypass grafts through enhanced smooth muscle cell migration*

2006 MJ Bown, University of Leicester, Leicester *The IL-10-1082 'A' allele and abdominal aortic aneurysm*

2007 A Thompson, Cardiovascular Genetics Departments, University College London, and the Vascular Department, Royal West Sussex NHS Trust, Chichester *TGF3 and LTBP4 are associated with altered AAA growth: a candidate gene study*

2008 TY Tang, Cambridge University Hospitals NHS Foundation Trust, Cambridge *Atorvastatin THerapy: Effects on Reduction Of Macrophage Activity (ATHEROMA). Evaluation using USPIO-enhanced magnetic resonance imaging in carotid disease*

2009 R Aggarwal, Division of Cardiovascular and Diabetes Research, Leeds *Aspirin and clot structure in patients with Abdominal Aortic Aneurysm (AAA): A mechanism for reduced AAA expansion?*

2010 J Chan, Vascular Surgery Unit, St Mary's Hospital, Imperial College Health Care NHS Trust London *Imaging of the vulnerable carotid plaque: biological targeting of inflammation using Ultrasmall Superparagmagnetic Particles of Iron Oxide (USPIO) and MRI*

Venous Forum Prize

2005 RJ Winterborn, Department of Vascular Surgery, Gloucestershire Royal Hospital *Prospective study of short saphenous varicose vein surgery: six weeks' results*

2006 R Eifell, Department of Surgery, Queen Elizabeth Hospital, Gateshead and Northern Vascular Centre, Freeman Hospital, Newcastle upon Tyne *Quantitative measurement of superficial venous surgery using continuous ambulatory venous pressure measurement (CAVPM)*

2007 R Winterborn, Gloucestershire Royal Hospital *No advantage in performing flush saphenofemoral ligation: results of a randomised trial*

2008 D Carradice, Academic Vascular Surgical Unit, Hull *A randomised trial of EVLT vs. surgery for varicose veins*

2009 A Shepherd, Imperial Vascular Unit, Imperial College, Charing Cross Hospital, London *Early results of a randomised clinical trial (RCT) comparing VNUS Closurefast Ablation and Laser for Varicose Veins (VALVV)*

2010 D Carradice, Academic Vascular Surgical Unit, Hull, *Modelling the effect of venous disease upon quality of life*

Brighton Prize

2006 AHR Stewart, Gloucestershire Royal Hospital and Musgrove Park Hospital, Taunton *Systemic antibiotics prevent graft and wound infection in peripheral bypass surgery; a systematic review and meta-analysis*

2008 RE Clough, Guy's and St Thomas' NHS Foundation Trust, London *Endovascular management of mycotic aortic aneurysms*

2010 A Jibawi, Brighton And Sussex University Hospitals, Brighton (Best poster) *Prediction of the impact of AAA Screening Programme in reducing ruptured aneurysm events after a decade*

SARS Prize

2006 WRW Wilson, University of Leicester, Leicester and St George's Hospital Medical School, London *Decreased cellular telomere content is observed locally and systematically in abdominal aortic aneurysms*

2007 TK Ho, Department of Surgery, The Royal Free and University College Medical School, The Royal Free Hospital, London *Increased SDF-1 alpha and CXCRr4 but not SDF-1 beta expression in human critical limb ischaemia*

2009 C Allen, DJA Scott, P James, Leeds Vascular Institute *Lymphangiogenesis: novel involvement in abdominal aortic aneurysm*

Best Video

2007 R Bulbulia, M Whyman, L Emerson, L Visser, F Slim and K Poskitt, Cheltenham General Hospital *Laparoscopic aortic aneurysm repair*

Best Educational/Training Video

2007 J Tsui, R De Souza, G Hamilton, Royal Free Hospital, London *Carotid endarterectomy: retro-jugular approach and eversion technique*

Best Poster

2007 G Atturu, S Brouilette, M Bown, NJ Samani, NJM London, R Sayers, University of Leicester, Leicester *Leucocyte telomere length is reduced in patients with abdominal aortic aneurysm*

2009 De-Silva D, Kumar S, Bharucha A, Gowland-Hopkins N, East Surrey Hospital *Audit assessing correct application of thrombo-embolic deterrent stockings in the general surgery department of a district general hospital*

Brennan J, Oshin O, Fisher R, Vallabhaneni S, McWilliams R [1], Gilling-Smith G, Regional Vascular Unit and Department of Radiology 1, Royal Liverpool University Hospital, Prescot Street, Liverpool *Surveillance after EVAR based on duplex ultrasound and abdominal radiography*

John Kinmonth Memorial Lectureship

Founded in 1983 utilising a gift made in his lifetime by Professor John Bernard Kinmonth FRCS (Council 1977-82), and donations made in his memory. A bronze medal bearing the arms of the College on one side and a portrait head of John Kinmonth on the other, and engraved with the Lecturer's name and the year in which the lecture is delivered, is presented on each occasion.

Conditions an annual lecture on a vascular topic. A nomination is solicited from the President of The Vascular Society and goes before Council for approval. The lecture is usually delivered at the annual meeting of the Society.

Previous Lecturers

1983 Professor Graham Douglas Tracy - *"Choosing a treatment plan for patients with leg ischaemia"*

1984 Mr Roger Neale Baird - *"Recognition of carotid artery disease"*

1985 Mr Adrian Marston - *"The gut and its blood-supply"*

1986 Professor Sir Peter Morris - *"Whither carotid endarterectomy"*

1987 Professor John E Connolly - *"Can paraplegia in aortic surgery be prevented?"*

1988 Dr Thomas F O'Donnell - *"Management of the high risk abdominal aortic aneurysm"*

1989 Professor Averil O Mansfield - *"An artery and a vein dancing - the management of arteriovenous malformation"*

1990 Mr CW Jamieson - *"Dilemmas in improving vascular surgical services"*

1991 Professor Norman Browse - *"The lymphatics"*

1992 Professor Alexander Clowes - *"Vascular biology - the new frontier"*

1993 Dr Ray Gosling - *"The mechanics of atherosclerosis"*

1994 Dr Hero van Urk - *"Future development in endoluminal vascular surgery"*

1995 Dr Timothy Chuter - *"Clinical experience of stenting aneurysms"*

1996 Dr Jerry Goldstone - *"Vascular surgery: training, certification and practice; observations from the USA"*

1997 Mr Alan Scott - *"Screening and the management of abdominal aortic aneurysms - the missing links"*

1998 Mr Peter Harris - *"Vascular surgery: the European perspective"*

1999 Mr Simon G Darke - *"Optimal management of venous ulceration: an enigma slowly unfolding"*

2000 Professor Janet Powell - *"The good, the bad and the ugly - a tale of aneurysms"*

2001 Mr Jonothan Earnshaw - *"Audit of clinical outcomes in vascular surgery: a shield for our profession"*

2002 Professor David Bergqvist - *"Management of iatrogenic vascular injuries"*

2003 Professor Reginald Lord - *"Carotid disease: the burden of proof"*

2004 Professor Roger Greenhalgh - *"The impact of vascular clinical trials on clinical practice"*

2005 Mr John Wolfe - *"Operative vascular training and assessment: the last century, the present and the future"*

2006 Mr Peter Taylor - *"Achieving the Impossible"*

2007 Professor Kevin Burnand - *"Research in vascular diseases: achievements and unsolved problems"*

2008 Professor Shervanthi Homer-Vanniasinkam - *"Translational vascular research: the road less travelled"*

2009 Professor Roy Greenberg - *"Perspectives on the future of vascular surgery and aortic interventions"*

2010 Professor Matt Thompson - *"Changing management of aortic aneurysms - lessons from the life and death of Albert Einstein"*

Programme

Edinburgh International Conference Centre, 23-25 November 2011

WEDNESDAY 23rd NOVEMBER

9.00am-5.15pm **SOCIETY FOR VASCULAR TECHNOLOGY ANNUAL MEETING** — SIDLAW AUDITORIUM

9.00am-12noon **VENOUS FORUM** — PENTLAND AUDITORIUM

Welcome and Introduction
Professor Andrew Bradbury, President, Venous Forum

9.00-9.30am **Keynote lecture: The epidemiology of lower limb venous disease: what do we know and what have we yet to learn?**
Professor Gerry Fowkes, Professor of Epidemiology, Public Health Sciences, Centre for Population Health Sciences, University of Edinburgh

Symposium 1: Treatment of chronic cerebrospinal venous insufficiency (CCSVI) in the management of multiple sclerosis
Co-Chair: Professor Gerard Stansby, Honorary Secretary, Venous Forum
Dr Paul Crowe, Birmingham

9.30-9.45am **A neurologist's perspective**
Dr Belinda Weller, Consultant Neurologist, Western General Hospital, Edinburgh and Senior Lecturer, University of Edinburgh

9.45-10.00am **A vascular surgeon's perspective**
Mr Donald Reid, Consultant Vascular Surgeon, Wishaw General Hospital, Lanarkshire

10.00-10.20am **Safety and efficacy of endovascular treatment of CCSVI in patients with MS**
Professor Ivo Petrov, MD, PhD
Head of Cardiology and Angiology Clinic, Tokuda Hospital, Sofia, Bulgaria

10.20-10.40am **Panel discussion**
All speakers

10.40-11.00am **COFFEE** — EXHIBITION HALL

Symposium 2: Interventional treatments for venous disease
Co-Chair: Mr Isaac Nyamekye, Honorary Treasurer, Venous Forum
Professor Andrew Bradbury, President, Venous Forum

11.00-11.15am **The investigation and management of venous malformations**
Dr Torsten Willenberg, Senior Physician and Director of Phlebology, Clinical and Interventional Angiology, University Hospital Bern, Switzerland

11.15-11.30am **Pelvic congestion syndrome**
Dr Paul Crowe, Consultant Interventional Radiologist, Heart of England NHS Foundation Trust, Birmingham

11.30-11.45am **Inferior vena caval filters: do the BSIR Registry data indicate that UK practice is in line with the available evidence?**
Dr Nicholas Chalmers, Consultant Interventional Radiologist, Manchester Royal Infirmary

11.45-12noon **Management of massive pulmonary embolism**
Professor Duncan Ettles, Consultant Interventional Radiologist, Hull Royal Infirmary

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9.00am-12noon **EDUCATIONAL MASTERCLASS: RARE VASCULAR DIAGNOSIS**

KILSYTH HALL

Chair: Professor Jonathan Beard, Chair, Training and Education Committee

Acute aortic syndrome
Ms Rachel Clough, Guy's and St Thomas' Hospital

Aortoenteric fistula and aortic graft infection
Mr Marcus Brooks, Bristol Royal Infirmary

Arterial and venous complications in IVDUs
Mr Frank Smith, Bristol Royal Infirmary

Management of AV malformations
Professor Peter Gaines, Consultant Interventional Radiologist, Sheffield Vascular Institute

Management of arterial complications of HIV
Dr Robin Williams, Consultant Interventional Radiologist, Newcastle upon Tyne

Management of renal access complications
Mr David Mitchell, Southmead Hospital, Bristol

9.00am-12noon **ENDOVASCULAR WORKSHOP**

TINTO HALL

EVAR Planning for Consultants and Senior Trainees

Chair: Mr John Brennan, Liverpool

Faculty:
Mr Rao Vallabhaneni, Liverpool
Mr Jon Boyle, Cambridge
Mr Simon Hobbs, Birmingham
Mr Paul Hayes, Cambridge

9.00am-12noon **SOCIETY OF ACADEMIC AND RESEARCH SURGERY**

CARRICK SUITE

Co-Chair: Professor Rob Sayers, Society of Academic and Research Surgery
Mr Michael Wyatt, Honorary Secretary, Vascular Society

9.00-9.10am **Evaluation of the cathepsin gene and abdominal aortic aneurysms**
H Rayt [1], B Wild [1], J Scott [2], A Johnson [2], A Hughes [3], D Bradley [3], J Lindholt [4], N Samani [1], J Thompson [5], RD Sayers [1], MJ Bown [1]
1 University Hospitals of Leicester NHS Trust, Leicester; 2 University of Leeds, Leeds; 3 Queen's University, Belfast; 4 Department of Vascular Surgery, Viborg Hospital, Denmark; 5 University of Leicester, Leicester

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9.10-9.20am

Normalization of the pro-thrombotic diathesis in patients with abdominal aortic aneurysm (AAA) following endovascular (EVAR) and open aneurysm repair (OAR)

MF Abdelhamid [1], RSM Davies [2], DJ Adam [3], RK Vohra [2], AW Bradbury [3]
1 East Kent Hospitals University NHS Trust, Kent and Canterbury Hospital; 2 University Hospital Birmingham NHS Trust, Queen Elizabeth Hospital, Birmingham; 3 University Department of Vascular Surgery, Heart of England NHS Foundation Trust, Birmingham Heartland Hospital, Birmingham

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9.20-9.30am

Whole-transcriptome modulation by endovascular aortic aneurysm repair: a novel microarray-based study

HZ Butt, MK Salem, S Ehsan, J McDonald, E Choke, RD Sayers, MJ Bown
University of Leicester, Leicester

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9.30-9.40am

Toll-like receptor 2 and 6 heterodimerisation contributes to skeletal muscle damage in critical limb ischaemia (CLI)

H Patel [1], C Yong [1], X Shi-wen [2], D Abraham [2], D Baker [1], S Shaw [3], J Tsui [1]
1 Royal Free Vascular Unit, University College London, London; 2 Centre for Rheumatology & Connective Tissue Disease, University College London, London; 3 Department of Clinical Research, University of Bern, Switzerland

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9.40-9.50am

Encapsulated angiogenic cells: a viable strategy for the treatment of critical limb ischaemia

AS Patel [1], A Smith [1], R Attia [1], P Saha [1], SN Jayasinghe [2], B Modarai [1]
1 Academic Department of Surgery, BHF Centre of Research Excellence & NIHR Biomedical Research Centre at Guy's and St Thomas' NHS Foundation Trust and King's College London, London; 2 BioPhysics Group, Department of Mechanical Engineering, University College London, London

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9.50-10.00am

Nitric oxide bioavailability decreases with severity of peripheral artery disease

S Rajagopalan [1], A Al-Shaheen [2], I Mackay [1], P Bachoo [1], J Brittenden [1, 2]
1 Vascular Unit, Aberdeen Royal Infirmary, Aberdeen; 2 Division of Applied Medicine, University of Aberdeen, Aberdeen

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10.00-10.10am

Macrophage subtypes and 18-fluorodeoxyglucose positron emission tomography (18F-FDG PET) imaging of symptomatic carotid and femoral artery plaques

S Shaikh [1], H Wilson [1], A Welch [1], A Murray [1], F McKiddie [2], J Brittenden [1]
1 University of Aberdeen, Aberdeen; 2 NHS Grampian

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10.10-10.20am

Identifying the unstable plaque in the clinic – a new model

MK Salem [1], DM Moore [2], KP West [2], TG Robinson [3], AN Nicolaides [4], RD Sayers [1], AR Naylor [1], MJ Bown [1]

1 Vascular Surgery Group, Department of Cardiovascular Sciences, University of Leicester; Leicester; 2 Department of Histopathology, University Hospitals Leicester, Leicester; 3 Ageing and Stroke Medicine, Department of Cardiovascular Sciences, University of Leicester; Leicester; 4 Department of Vascular Surgery, Imperial College, London

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10.20-10.50am **Coffee** **EXHIBITION HALL**

10.50-11.00am

Critical limb ischaemia promotes an angiogenic drive in the circulation

AS Patel [1,2], A Smith [1,2], P Saha [1,2], N Killough [1,2], K Mattock [1,2], J Humphries [1,2], M Waltham [1,2], R Siow [2,3], A Ivetic [2,4], S Egginton [5], B Modarai [1,2]

1 Academic Department of Surgery; 2 BHF Centre of Research Excellence & NIHR Biomedical Research Centre at Guy's and St Thomas' NHS Foundation Trust and King's College London, London; 3 Vascular Biology Group, King's College London, London; 4 Cytoskeleton/Membrane Signalling Group, King's College London, London; 5 Centre for Cardiovascular Sciences, University of Birmingham Medical School, Birmingham

page 38

11.00-11.10am

Platelet, endothelial and coagulation factors and the patency of arteriovenous fistulae: prospective analysis

J Milburn [1], I Ford [2], N Fluck [3], J Brittenden [2]

1 Department of Vascular Surgery, Aberdeen Royal Infirmary, Aberdeen; 2 School of Medicine & Dentistry, University of Aberdeen, Aberdeen; 3 Department of Renal Medicine, Aberdeen Royal Infirmary, Aberdeen

page 39

11.10-11.20am

The effect of anticoagulation therapy on the incidence of endoleak or aneurysm sac size after endovascular aneurysm repair

J Wild, M McCarthy, A Nasim, AR Naylor, M Dennis, N London, MJ Bown, RD Sayers, E Choke

University of Leicester, Leicester

page 40

11.20-11.30am

Plasminogen activator receptor cleavage: an important mechanism in ulcer healing

A Ahmad [1], M Waltham [1], G Hoyer-Hansen [2], TT Sorensen [2], K Mattock [1], AS Patel [1], P Saha [1], J Humphries [1], C Evans [1], S Premaratne [1], B Modarai [1], AH Davies [3], H Zayed [4], A Smith [1]

1 Academic Department of Surgery, BHF Centre of Research Excellence & NIHR Biomedical Research Centre at Guy's and St Thomas' NHS Foundation Trust and King's College London, London; 2 Finsen Laboratory, Copenhagen, Denmark; 3 Vascular Unit, Charing Cross Hospital, Imperial College London, London; 4 Department of Vascular Surgery, Guy's & St Thomas' NHS Foundation Trust, London

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11.30am-12noon **LECTURE**

The pathogenesis of abdominal aortic aneurysms: foetal origins or just old age?

Dr Paul Norman, Australia

12noon-1.00pm **Lunch and viewing of trade exhibition** **EXHIBITION HALL**

THE VASCULAR SOCIETY MEETING **PENTLAND AUDITORIUM**

1.00pm **PRESIDENT'S WELCOME**

PRESENTATION OF LIFETIME ACHIEVEMENT AWARDS/HONORARY MEMBERS

1.10-2.10pm **SYMPOSIUM**

The impact of volume versus outcome on vascular service reconfiguration

Chair: Mr Peter Lamont, President

Vascular provision in Germany – does the lack of centralisation have an impact on outcomes?

Professor Hans-Henning Eckstein, Munich, Germany

The value of high volume centres

Mr Michael Wyatt, Newcastle

Should lower volume hospitals amalgamate their vascular services?

Mr Richard Holdsworth, Stirling

The importance of local access to high volume centres

Professor Jonathan Michaels, Sheffield

2.10-3.40pm **SCIENTIFIC SESSION 1**

Co-Chair: Mr Paul Blair, Belfast
Mr Ian Franklin, London

RW = Eligible for Richard Wood Prize

2.10-2.20pm **National Vascular Database analysis: the relationship between AAA repair volume and outcome**

H Hafez

St Richard's Hospital, Chichester

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2.20-2.30pm **Treatment of abdominal aortic aneurysm in nine countries 2005-2009 – a Vascunet report**

K Mani [1], T Lees [2], B Beiles [3], LP Jensen [4], M Venermo [5], G Simo [6], D Palombo [7], E Halbakken [8], T Troëng [9], PR Wigger [10], M Björck [11]

1 Department of Surgical Sciences, Section of Vascular Surgery, Uppsala University, Uppsala, Sweden and Department of Vascular Surgery, Guy's and St Thomas' NHS Foundation Trust, London; 2 Northern Vascular Centre, Newcastle upon Tyne

Hospitals NHS Trust, Newcastle upon Tyne; 3 Melbourne Vascular Surgical Association, Australia; 4 Department of Vascular Surgery, Copenhagen University Hospital Rigshospitalet, Copenhagen, Denmark; 5 Department of Vascular Surgery, Helsinki University Hospital, Helsinki, Finland; 6 Department of Vascular Surgery, Szent Imre Hospital, Budapest, Hungary; 7 Vascular and Endovascular Surgery Unit, San Martino University Hospital, University of Genoa, Genoa, Italy; 8 Department of Vascular Surgery, Vestfold Central Hospital, Tonsberg, Norway; 9 Department of Surgery, Blekinge Hospital, Karlskrona, Sweden; 10 Cantonal Hospital, Winterthur, Switzerland; 11 Department of Surgical Sciences, Section of Vascular Surgery, Uppsala University, Uppsala, Sweden

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2.30-2.40pm

National Vascular Database analysis: independent pre-operative predictors of abdominal aortic aneurysm repair outcomes

H Hafez
St Richard's Hospital, Chichester

page 45

2.40-2.50pm

Long-term impact of the volume-outcome relationship in elective abdominal aortic aneurysm repair

PJ Holt [1], A Karthikesalingam [1], RJ Hinchliffe [1], D Hofman [2], J Poloniecki [2], IM Loftus [1], MM Thompson [1]
1 Department of Outcomes Research, St George's Vascular Institute, London; 2 Department of Community Health Sciences, St George's University of London, London

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2.50-3.00pm

Putting TIA/stroke in the FAST lane: but not if you present with leg weakness or visual loss RW

A Reid [1], A Wilson [2], T Robinson [2], AR Naylor [1]
1 University Hospitals of Leicester, Leicester; 2 Leicester University, Leicester

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3.00-3.10pm

Triaging TIA/minor stroke patients using the ABCD2 score does not predict those with significant carotid disease RW

J Walker, J Isherwood, D Eveson, AR Naylor
University Hospitals of Leicester, Leicester

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3.10-3.20pm

Can we measure carotid plaque volume and does it matter?

K Kanesalingam, R Taylor, C McCollum
Department of Vascular Surgery, University Hospital of South Manchester, Manchester

page 49

3.20-3.30pm

Early carotid endarterectomy (CEA) for a symptomatic carotid stenosis (SCS) is associated with a higher adverse event rate. Data from symptomatic patients participating in the GALA Trial

D Dellagrammaticas [1], R Silverton [1], S Lewis [2], MJ Gough [1], Gala Trial Collaborators (GTC) [1]
1 Leeds Vascular Institute, Leeds; 2 University of Edinburgh, Edinburgh

page 50

3.30-3.40pm

The war against error: a 15-year experience of completion angioscopy following carotid endarterectomy[RW]

R Sharpe [1], RD Sayers [1], M McCarthy [1], M Dennis [1], NJM London [1], A Nasim [1], MJ Bown [2], AR Naylor [1]

1 University Hospitals of Leicester, Leicester; 2 Leicester University, Leicester

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3.40-4.10pm **Tea** **EXHIBITION HALL**

4.10-5.30pm **SCIENTIFIC SESSION 2** **PENTLAND AUDITORIUM**

Co-Chair: Mr Isaac Nyamekye, Worcestershire
Mr John Thompson, Exeter

B = Eligible for Brighton Prize; RW = Eligible for Richard Wood Prize

4.10-4.20pm

The cost utility of a multidisciplinary foot protection clinic (MDFPC) in an Irish university hospital setting[B]

GJ Nason [1], N Iqbal [1], H Strapp [1], J Gibney [2], TM Feeley [1], B Egan [1], S Tierney [1]

1 Department of Vascular Surgery, Adelaide & Meath (incorporating the National Children's) Hospital, Tallaght, Dublin, Ireland; 2 Department of Endocrinology, Adelaide & Meath (incorporating the National Children's) Hospital, Tallaght, Dublin, Ireland

page 52

4.20-4.30pm

An integrated foot team improves outcomes in diabetics

WM Kong [1], G Todd [2], G Rao [5], M Magee [3], D Greenstein [4]

1 Department of Diabetes, Central Middlesex Hospital, North West London Hospitals NHS Trust, London; 2 Podiatry, Ealing Community Services – Brent; 3 Short term assessment, rehabilitation and reablement service, NWLH NHS Trust, London; 4 Department of Vascular Surgery, Northwick Park Hospital, NWLH NHS Trust, London; 5 Department of Microbiology, NWLH NHS Trust, London

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4.30-4.40pm

Distal bypass outcome in diabetic versus non-diabetic patients – the multidisciplinary team and the diabetic foot clinic impact

H Slim, A Ahmed, H Zayed, M Edmonds, H Rashid

King's Health Partners, London

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4.40-4.50pm

The impact of the angiosome principle on foot ulcer healing in distal bypass surgery

H Slim, A Ahmed, M Edmonds, H Zayed, H Rashid

King's Health Partners, London

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4.50-5.00pm

A randomised controlled trial to evaluate different treatment regimes with topical wound oxygen (TWO2) on chronic wounds

I Aburto [1], C Frye [2]

1 Instituto Nacional de Heridas (INH), Minsal, Chile; 2 AOTI Ltd, Galway, Ireland

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5.00-5.10pm

Durability of a brief psychological intervention to increase walking in patients with intermittent claudication – 1-year follow-up of a randomised controlled trial RW

M Cunningham [1], V Swanson [1], RE O'Carroll [1], RJ Holdsworth [2]

1 University of Stirling, Stirling; 2 NHS Forth Valley, Stirling

page 58

5.10-5.20pm

Antiplatelet agents for intermittent claudication (IC): results of a meta-analysis (Cochrane review)

PF Wong [1], LY Chong [2], D Mikhailidis [3], P Robless [4], G Stansby [1]

1 Freeman Hospital, Newcastle upon Tyne; 2 Royal College of Physicians, London; 3 Royal Free and University College Medical School, London; 4 Yong Loo Lin School of Medicine, National University of Singapore, Singapore

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5.20-5.30pm

National Clinical Audit can drive quality improvement; lessons from the Carotid Intervention Audit (CIA)

DC Mitchell [1], AR Naylor [2], A Rudd [3], A Hoffman [4]

1 North Bristol NHS Trust, Bristol; 2 University of Leicester Medical School, Leicester; 3 Guy's and St Thomas' NHS Foundation Trust, London; 4 Clinical Standards Department, Royal College of Physicians of London, London

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5.30-6.20pm

SYMPOSIUM
Should the National Vascular Database publish individual surgeon's results?

Chair: Professor Ross Naylor, President Elect

The value of publishing results

Ms Alison Cook, Director of Policy and Communications, RCS(Eng)

The cardiac surgical experience

Mr Ben Bridgewater, Consultant Cardiac Surgeon, Manchester

Publication of outcome data for AAA repair: back to the future

Mr David Mitchell, Chair, Audit and Quality Improvement Committee

6.20-7.00pm

DRINKS RECEPTION **EXHIBITION HALL**

THURSDAY 24th NOVEMBER

7.00-8.00am

BREAKFAST SYMPOSIUM
British Society of Endovascular Therapy
Competence and credentialing for endovascular surgery

SIDLAW AUDITORIUM

Chairmen: Mr John Brennan, President
Professor Matt Thompson, Secretary
Professor Nick Cheshire, Treasurer
British Society of Endovascular Therapy

7.00am **Introduction**
Professor Nick Cheshire

7.05am **BCIS Experience of accreditation**
Dr Rob Henderson, Consultant Cardiologist, Council Member, The British Cardiological Intervention Society

7.20am **Can we objectively assess your endovascular skills or those of your team?**
Ms Isabelle van Herzeele, Consultant Vascular Surgeon, Ghent University Belgium & Imperial College London

7.35am **What indicates quality in vascular services in the UK and around the world?**
Mr Peter Holt, Lecturer in Vascular Surgery, St George's Hospital Vascular Institute, London

7.50am **Summary and questions to the panel**

9.00am-5.00pm

SOCIETY OF VASCULAR NURSES ANNUAL MEETING

SIDLAW AUDITORIUM

8.30-10.00am

SCIENTIFIC SESSION 3

PENTLAND AUDITORIUM

Co-Chair: Professor Ian Chetter, Hull
Mr Shane MacSweeney, Nottingham

RW = Eligible for Richard Wood Prize

8.30-8.40am **Conservative coil embolisation of the internal iliac artery prevents associated Type II endoleaks after endovascular aneurysm repair (EVAR)**
S Parsapour, P Kjellin, RG McWilliams, JA Brennan, SR Vallabhaneni, J Naik, RK Fisher
1 Regional Vascular Unit, Royal Liverpool and Broadgreen University Hospitals, Liverpool

page 61

8.40-8.50am **Training in vascular surgery following the separation from general surgery – current dilemmas in delivery**
VA Pandey, BA Saunders, NJ Standfield
London Postgraduate School of Surgery, London

page 62

8.50-9.00am

Deficiencies in experience in UK vascular trainees persist: a survey of Rouleaux Club members

JR Scurr, P Buxton, A Karthikesalingam, C Marron, OA Oshin, M Wall

The Rouleaux Club

page 64

9.00-9.10am

Final results from the MASS trial of AAA screening[RW]

SG Thompson [1], HA Ashton [2], L Gao [3], MJ Buxton [4], RAP Scott [5]

1 University of Cambridge, Cambridge; 2 Sussex Community NHS Trust; 3 MRC Biostatistics Unit, Cambridge; 4 Brunel University, Brunel; 5 St Richard's Hospital, Chichester

page 65

9.10-9.20am

Should we follow-up men with screening-detected aortas 2.5-2.9cm?

J Wild [1, 2]

1 University of Leicester, Leicester; 2 On behalf of the Sub-aneurysmal Aortic Dilatation Study Group (Bown MJ, Brown J, Earnshaw J, Grant S, Hafez H, Lewis M, Lindholt J, McCollum C, Parvin S, Sayers RD, Wild J)

page 66

9.20-9.30am

Individual patient characteristics which influence small abdominal aortic aneurysm expansion and rupture: an analysis of >15,000 persons' records

The RESCAN Collaborators [1, 2]

1 Imperial College London, London; 2 MRC Biostatistics Unit, Cambridge

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9.30-9.40am

Outcomes for patients who do not undergo repair of their large aortic aneurysms[RW]

S Gorst, D Drury, S Singh, RJ Cuschieri, PS Tan, JA Macierewicz, N Haldipur, WR Pillay

Doncaster Vascular Centre, Doncaster Royal Infirmary, Doncaster

page 68

9.40-9.50am

Explaining the reduction in mortality from ruptured abdominal aortic aneurysm in England and Wales 1996-2009[RW]

A Anjum, R von Allmen, RM Greenhalgh, JT Powell

Imperial College London, London

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9.50-10.00am

National Vascular Database analysis: independent operative predictors of abdominal aortic aneurysm repair outcomes

H Hafez

St Richard's Hospital, Chichester

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10.00-10.30am **Coffee** **EXHIBITION HALL**

10.30-12noon

SCIENTIFIC SESSION 4: BJS PRIZE

PENTLAND AUDITORIUM

Co-Chair: Professor Julian Scott, Leeds
Professor Shervanthi Homer-Vanniasinkam, Leeds

RW = Eligible for Richard Wood Prize

10.30-10.45am

Angiotensin-converting enzyme inhibitors are associated with significant reduction in abdominal aortic aneurysm prevalence

BA Ozdemir, S Penkar, A Kendall, H Hafez
St Richard's Hospital, Chichester

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10.45-11.00am

Motif-chemokine 19 (CCL19) and cathepsin G (CTSG) are upregulated in highly unstable carotid atherosclerotic plaques

MK Salem [1], HZ Butt [1], E Choke [1], D Moore [2], K West [2], TG Robinson [3], RD Sayers [1], AR Naylor [1], MJ Bown [1]
1 Vascular Surgery Group, Department of Cardiovascular Sciences, University of Leicester, Leicester; 2 Department of Histopathology, University Hospitals Leicester, Leicester; 3 Ageing and Stroke Medicine, Department of Cardiovascular Sciences, University of Leicester, Leicester

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11.00-11.15am

In vivo assessment of the POSS-PCU small-calibre graft in a sheep carotid artery interposition model

M Desai [1, 2], J Tsui [1, 2], AM Seifalian [2], G Hamilton [1, 2]
1 Department of Vascular Surgery, Royal Free Hampstead NHS Trust, London; 2 Centre for Nanotechnology, Biomaterial and Tissue Engineering, Division of Surgery and Interventional Science, University College London, London

page 74

11.15-11.30am

Genetic determinants of vascular diameter and the risk of abdominal aortic aneurysm

SC Harrison [1], D Zabaneh [2], F Drenos [1], MJ Bown [3, 4], K Gertow [5], D Baldassare [6], FW Asselbergs [7], GT Jones [8], AF Baas [7], M Kumari [9], FG Fowkes [10], P Eriksson [5], A Hamsten [5], SE Humphries [1]
1 Centre for Cardiovascular Genetics, University College London, London; 2 UCL Genetics Institute, University College London, London; 3 Department of Vascular Surgery, Leicester University, Leicester; 4 On behalf of the UK Aneurysm Consortium; 5 Atherosclerosis Research Unit, Department of Medicine Solna, Karolinska Institutet, Stockholm, Sweden; 6 Department of Pharmacological Sciences, University of Milan, Monzino Cardiology Center, IRCCS, Milan, Italy, on behalf of the IMPROVE Study; 7 University Medical Center Utrecht, the Netherlands, on behalf of the SMART study; 8 University of Otago, Dunedin, New Zealand; 9 Genetic Epidemiology Group, UCL, on behalf of the Whitehall II Study, London; 10 Edinburgh University, Edinburgh, on behalf of the Edinburgh Artery Study

page 75

11.30-11.45am

Tissue engineering small-diameter vascular grafts: decellularisation of porcine arteries

M Tatterton [1], SP Wilshaw [2], H Berry [3], JN Kearney [4], J Fisher [5], E Ingham [2], S Homer-Vanniasinkam [1]
1 Leeds Vascular Institute, Leeds General Infirmary, Leeds; 2 Institute of Medical and Biological Engineering, Faculty of Biological Sciences, University of Leeds, Leeds; 3 Tissue Regenix Group Plc, The Biocentre, York; 4 NHS Blood and Transplant Tissue

Services, National Blood Service, Liverpool; 5 Institute of Medical and Biological Engineering, Department of Mechanical Engineering, University of Leeds, Leeds

page 76

11.45am-12noon **Video motion analysis for objective assessment in catheter-based endovascular intervention** **RW**

C Shah [1], C Riga [1, 2, 3], D Stoyanov [3], A Rolls [1], I Van Herzeele [1], G-Z Yang [3], M Hamady [2], N Cheshire [1, 2, 3], C Bicknell [1, 2, 3]
1 Division of Surgery, Department of Surgery & Cancer, Imperial College London, London; 2 Imperial Vascular Unit, St Mary's Hospital, Imperial College London, London; 3 Hamlyn Center for Robotic Surgery, Institute of Global Health Innovation

page 77

12noon-12.20pm **LECTURE**

Advances in stent graft technology

Professor Eric Verhoeven, Nürnberg, Germany

12.20-1.20pm **Lunch** **EXHIBITION HALL**

1.20-2.50pm **SCIENTIFIC SESSION 5: SOL COHEN (FOUNDER'S) PRIZE**

PENTLAND AUDITORIUM

Co-Chair: Mr Peter Lamont, President
Mr Mike Wyatt, Honorary Secretary

VF = Eligible for Venous Forum Prize; B = Eligible for Brighton Prize

1.20-1.35pm **Trends in mortality and incidence of abdominal aortic aneurysms in England and Wales**

B Vijaynagar [1], MJ Bown [1], J Thompson [2], A Nasim [1], RD Sayers [1], E Choke [1]
1 Department of Vascular Surgery, Leicester Royal Infirmary, Leicester; 2 Department of Health Sciences (Epidemiology), University of Leicester, Leicester

page 78

1.35-1.50pm **A new 4D aortic imaging technique to quantify vessel wall mechanics *in vivo***

RE Clough, C Buerger, C Kolbitsch, T Carrell, C Prieto, T Schaeffter, PR Taylor
NIHR Comprehensive Biomedical Research Centre of Guy's and St Thomas' NHS Foundation Trust and King's College London, London

page 79

1.50-2.05pm **Carotid plaque imaging: ready for prime time?**

AA Hosseini [1, 2], N Altaf [1, 2], N Kandiyil [1, 2], S MacSweeney [2], DP Auer [1]
1 Division of Radiological and Imaging Sciences, University of Nottingham, Nottingham; 2 Department of Vascular Surgery, Nottingham University Hospital, Queen's Medical Campus, Nottingham

page 80

2.05-2.20pm **Risk-adjusted retrospective concurrent cohort study of fenestrated endovascular repair (f-EVAR) versus open surgery for juxtarenal aneurysms**

R Canavati [1], JA Brennan [1], RK Fisher [1], RG McWilliams [2], JB Naik [1], SR Vallabhaneni [1]
1 Regional Vascular Unit, Royal Liverpool University Hospital, Liverpool; 2 Department of Interventional Radiology, Royal Liverpool University Hospital, Liverpool

page 81

2.20-2.35pm

Randomised trial of endovenous laser ablation versus surgery for small saphenous varicose veins[VF]

N Samuel, D Carradice, Al Mekako, T Wallace, J Hatfield, IC Chetter
Academic Vascular Surgical Unit, Hull York Medical School/University of Hull, Hull

page 82

2.35-2.50pm

Management and outcome of prosthetic patch infection after carotid endarterectomy: a single-centre series and systematic review of the literature[B]

CD Mann, MJ McCarthy, A Nasim, MJ Bown, MJ Dennis, RD Sayers, NJ London, AR Naylor
Department of Vascular Surgery, Leicester Royal Infirmary, Leicester

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2.50-3.10pm

LECTURE
Trials and registries on carotid surgery and angioplasty and how to translate them into an evidence-based national guideline on carotid stenosis
Professor Hans-Henning Eckstein, Munich, Germany

3.10-3.30pm

Tea **EXHIBITION HALL**

3.30-4.30pm

ESVS SYMPOSIUM
Hybrid theatres
Chair: Mr Simon Parvin, Secretary General, ESVS

Advantages of the hybrid theatre
Professor Eric Verhoeven, Nürnberg, Germany

Branched and complex stent grafts in the hybrid room
Professor Martin Malina, Malmö, Sweden

MHRA recommendations for EVAR
Mr John Brennan, Liverpool

Hybrid theatres: the cardiac interface
Mr Marcus Brooks, Bristol

4.30-5.00pm

MINI SYMPOSIUM
Vascular Training
Co-Chair: Professor Julian Scott, Leeds
Mr Conor Marron, Belfast

The harmonisation of education and training in Europe, the role of the UEMS Section and Board of Vascular Surgery
Professor Armando Mansilha, Secretary General, UEMS Section and Board of Vascular Surgery

Training in Vascular Surgery – the UK Model
Professor Jonathan Beard, Chair, Training and Education Committee

5.00-5.30pm **CIRCULATION FOUNDATION RESEARCH PRESENTATIONS**

Chair: Mr Ian Franklin, Chairman, Circulation Foundation

Risk stratification in carotid atherosclerotic plaque by multianalyte profiling of plaque mediators and quantification of intra-plaque angiogenesis by microbubble contrast-enhanced ultrasound
Mr Joseph Shalhoub, Charing Cross Hospital, London

Patients' preferences for treatment in a population screened for AAA
Mr Peter Holt, St George's Hospital, London

The role of toll-like receptors in PAD
Ms Janice Tsui, Royal Free Hospital, London

Presentation of 2011 Circulation Foundation Research Awards

5.30-6.15pm **ANNUAL BUSINESS MEETING**

5.30-6.30pm **ROULEAUX CLUB AGM** **SIDLAW AUDITORIUM**

7.30 for 8.00pm **ANNUAL SOCIETY DINNER** **NATIONAL MUSEUM OF SCOTLAND**
to include Prize Presentations

FRIDAY 25th NOVEMBER

8.30-9.30am **SCIENTIFIC SESSION 6** **PENTLAND AUDITORIUM**

Co-Chair: Professor Alison Halliday, Oxford
Mr Paul Blair, Belfast

8.30-8.40pm **Should we be using VO_2 peak or the anaerobic threshold to risk stratify patients prior to repair of an abdominal aortic aneurysm (AAA)?**
JAG Purdell-Lewis [1], A Kordowicz [1], D Watson [1], A Johnson [1], KJ Griffin [1], MA Bailey [1], S Howell [2], DJA Scott [1]
1 The Leeds Vascular Institute, Leeds General Infirmary, Leeds; 2 Section of Translational Anaesthetic and Surgical Sciences, University of Leeds, Leeds
page 85

8.40-8.50am **Is cardiopulmonary exercise testing (CPET) useful for predicting survival following elective AAA repair?**
SW Grant [1], N Wisely [2], D Atkinson [3], P Lancaster [3], AC Pichel [3], F Serracino-Inglott [3], V Smyth [3], CN McCollum [4]
1 Department of Academic Surgery, University Hospital of South Manchester, Manchester; 2 University Hospital of South Manchester, Manchester; 3 Central Manchester University Hospitals, Manchester; 4 Department of Academic Surgery, University Hospital of South Manchester, on behalf of the Manchester Vascular CPET Research Group
page 86

8.50-9.00am **Availability of emergency endovascular aortic interventions: evidence from the IMPROVE trial**
R Hinchliffe, on behalf of the IMPROVE trial Investigators
page 87

9.00-9.10am

There is no consensus in the UK on the role of fenestrated endovascular aortic aneurysm repair (fEVAR): the case for a randomised trial

J Cross, R Raine, P Harris, T Richards
Multidisciplinary Endovascular Team, University College Hospital, London

page 88

9.10-9.20am

EVAR for ruptured AAA – does an endovascular first strategy reduce rupture mortality on a centre basis?

K Mani [1,2], M Björck [1], C Ljungman [1], T Troëng [1], A Wanhainen [1]
1 Department of Surgical Sciences, Section of Vascular Surgery, Uppsala University, Uppsala, Sweden; 2 Department of Vascular Surgery, Guy's and St Thomas' NHS Foundation Trust, London

page 89

9.20-9.30am

Statin therapy is associated with reduced risk of abdominal aortic aneurysm rupture

E Choke, B Vijaynagar, MJ Bown, RD Sayers
Department of Vascular Surgery, Leicester Royal Infirmary, Leicester

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9.30-10.30am

SCIENTIFIC SESSION 7

Co-Chair: Mr John Brennan, Liverpool
Mr Ian Loftus, London

9.30-9.40am

The practice of UK vascular surgeons with regard to informed consent

S Dindyal, E Vaughan-Huxley, K Chan, S Brearley
Department of Surgery, Whipps Cross University Hospital, London

page 91

9.40-9.50am

Surgical nurse practitioners and core surgical trainees: a word of warning at a time of major service reconfiguration

MA Bailey [1,2], TAJ Goff [1], GP Jones [1], KJ Griffin [1,2], DJA Scott [2]
1 The Yorkshire and Humberside School of Surgery, University of Leeds, Leeds; 2 The Leeds Vascular Institute, The General Infirmary at Leeds, Leeds

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9.50-10.00am

Area of treatment independently predicts treatment and outcome for peripheral vascular disease in the UK population after controlling for demographic and disease risk factors. Analysis of English Hospital Data 2003-2009

N Ahmad
Wirral University Hospital NHS Foundation Trust, Wirral

page 93

10.00-10.10am

Validation of five risk prediction models for mortality in 10,891 elective AAA repairs from the National Vascular Database

SW Grant [1], AD Grayson [2], DC Mitchell [3], CN McCollum [1]
1 Department of Academic Surgery, University Hospital of South Manchester, Manchester; 2 Liverpool Heart and Chest Hospital NHS Foundation Trust, Liverpool; 3 Audit and Quality Improvement Committee, The Vascular Society of Great Britain and Ireland

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10.10-10.20am

Ethnicity independently predicts major lower limb amputation without revascularisation after controlling for demographic and disease risk factors. Analysis of English Hospital Data 2003-2009
N Ahmad
Wirral University Hospital NHS Foundation Trust, Wirral

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10.20-10.30am

A dedicated multidisciplinary amputee service achieves improved patient experience and reduces length of stay
P Grewal, K Primett, L Mattin, D Baker, J Tsui, M Davis, G Hamilton
Royal Free Hampstead NHS Trust, London

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10.30-11.00am **Coffee** **EXHIBITION HALL**

11.00-11.50am

SYMPOSIUM
The Vascular Society's Quality Improvement Programmes

Chair: Mr Peter Lamont, President

Role of the AAA QIP in the National AAA Screening Programme
Mr Tim Lees, Newcastle

Future sustainability of quality improvement
Miss Roxanne Potgieter, AAA QIP Project Manager

Outcomes after lower limb amputation and the amputation QIP
Mr David Mitchell, Bristol

11.50-12.20pm

RCS(Ed) ALI BAKRAN LECTURE
Surgical trials and tribulations: lessons from the CLASS study

Professor Julie Brittenden, Aberdeen
Chair: Mr David Tolley, President, Royal College of Surgeons of Edinburgh

12.20-12.30pm

INAUGURATION OF PRESIDENT FOR 2011-2012

12.25-1.00pm

KINMONTH LECTURE
The evolution of evidence

Professor Bruce Campbell, Exeter
Chair: Mr Peter Lamont, RCS(Eng) Council Member

Continuing Medical Education
Delegates will be provided with a Certificate of Attendance which they can add to their appraisal folder as evidence in their appraisal that they have attended a CPD meeting. The following CPD points have been awarded for this meeting:

Wednesday morning: 3 points
Wednesday afternoon: 4 points
Thursday: 7 points
Friday: 4 points

Posters

Edinburgh International Conference Centre, 23-25 November 2011

Posters will be displayed in the Strathblane Hall (Registration area) at the conference centre during the meeting.

1 Peri-operative and one-year outcomes of TEVAR from pooled analysis of registry and institutional data
B Patterson, P Holt, I Loftus, M Thompson
St George's Vascular Institute, London

2 Cost-effectiveness of endarterectomy for asymptomatic carotid stenosis
A Thapar [1], L Garcia Mochon [2], D Epstein [3], J Shalhoub [1], A H Davies [1]
1 Imperial College London, London; 2 Andalusian School of Public Health; 3 University of York, York

3 Management of infected infra-renal and thoracic aortic endovascular stent-grafts
OTA Lyons [1], AS Patel [1], RE Clough [2], K Mani [2], H Zayed [2], M Waltham [2], RE Bell [2], T Carrell [2], PR Taylor [2]
1 Academic Department of Surgery, King's College London, BHF Centre of Research Excellence & NIHR Biomedical Research Centre at King's Health Partners, London; 2 Vascular Surgery, King's Health Partners, NIHR Biomedical Research Centre, London

4 Preloaded endograft to facilitate fenestrated endovascular aortic aneurysm repair (fEVAR) – advantages and limitations
J Cross, T Richards, J Raja, J Hague, P Harris, K Ivancev, O Agu
1 Multidisciplinary Endovascular Team, University College Hospital, London

5 Outcomes of wide and angulated necks after endovascular aneurysm repair
E Choke, M McCarthy, A Nasim, AR Naylor, M Dennis, N London, MJ Bown, RD Sayers
Department of Vascular Surgery, Leicester Royal Infirmary, Leicester

6 Endovascular treatment of children with mid-aortic syndrome
P Grewal [1], N Foden [1], C McLaren [2], S Marks [2], K Tullus [2], M Davis [1, 2], D Roebuck [2], G Hamilton [1, 2]
1 Royal Free Hampstead NHS Trust, London; 2 Great Ormond Street Hospital For Children, London

7 Are prosthetic limbs an expensive ornament offered by the NHS? Prospective long-term outcomes in amputees
S Drury [1], D Drury [2], S Singh [3], N Haldipur [3], C Williams [1], W Pillay [3]
1 Specialist Physiotherapist, Doncaster Vascular Centre, Doncaster; 2 Vascular Specialist Registrar, Doncaster Vascular Centre, Doncaster; 3 Consultant Vascular Surgeon, Doncaster Vascular Centre, Doncaster

8 The button hole method of fistula cannulation. Does it affect patency rates?
RD Shearer [1], JA Milburn [2], AM Wilson [2], MA Sharp [2], A Humphrey [1], J Ross [1], EM Macaulay [3]
1 Department of Renal Medicine, Aberdeen Royal Infirmary, Aberdeen; 2 Department of Vascular Surgery, Aberdeen Royal Infirmary, Aberdeen; 3 Department of Vascular Surgery, Royal Adelaide Hospital

9 Re-presentations to secondary care following a diagnosis of deep vein thrombosis (DVT): do we need to be more aggressive with our treatment strategy?
E Chandra, M Ahmadi, PA Coughlin, MA Bailey, KJ Griffin, DC Berridge, DJA Scott
Leeds Teaching Hospitals Trust, Leeds

10 Endovascular treatment of aortoenteric fistula: a bridge too far?
E Choke [1], G Fishwick [2], C Hart [1], MJ Bown [1], RD Sayers [1], AR Naylor [1]
1 Department of Vascular Surgery, Leicester Royal Infirmary, Leicester; 2 Department of Vascular Interventional Radiology, Leicester Royal Infirmary, Leicester

11 Pre-operative cardiopulmonary exercise test stratification in elective abdominal aortic aneurysm surgery reduces length of inpatient stay and costs
SJ Goodyear [1], M Saedon [1, 2], J Shakespeare [1], D Watson [1], H Yow [1], A Mahmood [1], CHE Imray [1, 2]
1 University Hospital Coventry Warwickshire; 2 Warwick Medical School, University of Warwick, Warwick

12 Contemporary outcomes of open repair of thoracoabdominal aortic aneurysm in young patients
N Johns, AL Tambyraja, S Thwaites, C Moores, AF Nimmo, PJ Burns, RTA Chalmers
Royal Infirmary of Edinburgh, Edinburgh

13 The fate of patients referred to a specialist vascular unit with large infra-renal abdominal aortic aneurysms over a two-year period

A Karthikesalingam, T Nicoli, PJ Holt, RJ Hinchliffe, N Pasha, IM Loftus, MM Thompson
Department of Outcomes Research, St George's Vascular Institute, London

14 ACE inhibitor or renal stent angioplasty for refractory hypertension? Outcome from a single centre cohort study

C Aylwin [1], M Fisk [2], J Cross [2], G Hamilton [1]
1 Department of Vascular Surgery, Royal Free Hospital, London; 2 Department of Renal Medicine, Royal Free Hospital, London

15 A systematic review of the role of systemic anticoagulation during autologous arteriovenous fistula formation

GE Smith, R Gohil, IC Chetter
Academic Vascular Surgery Unit, Hull and York Medical School

16 The prognostic importance of Peak Systolic Velocity from surveillance duplex scans in prediction of stent-graft limb complications after EVAR

A Karthikesalingam [1], J Poloniecki [2], S Kumar [1], RJ Hinchliffe [1], IM Loftus [1], MM Thompson [1], PJ Holt [1]
1 Department of Outcomes Research, St George's Vascular Institute, London; 2 Department of Community Health Sciences, St George's University of London, London

17 Risk models for predicting mortality following elective AAA repair: "In-house" model is better

E Choke, K Lee, M McCarthy, AR Naylor, M Dennis, A Nasim, N London, MJ Bown, RD Sayers
Department of Vascular Surgery, Leicester Royal Infirmary, Leicester

18 Conservative management of tight stenoses in haemodialysis access with preservation of outflow – is it safe?

RJ Darwood [1], TA Beckitt [1], S Daniel [2], A Kelly [2], AR Weale [1], DC Mitchell [1]
1 Department of Vascular Surgery, Southmead Hospital, North Bristol NHS Trust, Bristol; 2 Renal Access Coordinator, Southmead Hospital, North Bristol NHS Trust, Bristol

19 A fresh frozen pulsatile human cadaver model for training endovascular practitioners. A trial of face validity

C Nesbitt [1], J McCaslin [2], R Williams [3], S Macdonald [3], H Ashour [1], R Searle [4], G Stansby [2]
1 Department of Vascular Surgery, Queen Elizabeth Hospital, Gateshead; 2 Department of Vascular Surgery, Freeman Hospital, Newcastle upon Tyne; 3 Department of Radiology, Freeman Hospital, Newcastle upon Tyne; 4 The Newcastle Surgery Training Centre, Newcastle University, Newcastle upon Tyne

20 Does graft complexity of fenestrated AAA repair predict outcome?

MJ Metcalfe, PJ Holt, RJ Hinchliffe, R Morgan, IM Loftus, MM Thompson
St George's Vascular Institute, St George's Hospital NHS Trust, London

21 Chimney stent-grafts: overcoming sac pressurisation

DC Ormesher, A Schiro, D Murray, JV Smyth, F Farquharson, F Serracino-Inglott
Department of Vascular Surgery, Manchester Royal Infirmary, Manchester

22 Skills transfer after proficiency-based simulation training in superficial femoral artery angioplasty

H Hseino [1], E Nugent [1], MJ Lee [1], ADK Hill [1], H Alfadhel [1], D Moneley [2], M Given [2]
1 Royal College of Surgeons in Ireland; 2 Beaumont Hospital

23 A multi-centre study of carotid duplex: confirmatory imaging may not be necessary

GJ Harrison [1, 2], J Stanley [1], P Waterland [2], E Hepburn [2], JA Brennan [1], JB Naik [1], RG McWilliams [1], SR Vallabhaneni [1], RK Fisher [1, 2]
1 Royal Liverpool and Broadgreen Hospitals NHS Trust, Liverpool; 2 Mersey Research Group-Surgery

24 The detection of primary lung pathology justifies full length aortic scanning in planning the management of AAA patients

A Watson, E Massey, F Smith, P Lamont, M Brooks
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Evaluation of the cathepsin gene and abdominal aortic aneurysms

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Objective There is a large amount of evidence to suggest that abdominal aortic aneurysms (AAA) are part of a genetic disease. Whilst several genes have been implicated, no conclusive evidence of association has been found. We set out to investigate the relationship between the cathepsin gene and AAA.

Method DNA samples from 932 individuals (466 AAA; 466 controls) were genotyped for 96 variant polymorphisms within cathepsin genes on an illumina Golden Gate assay. The most significant result was used for replication and was further genotyped using Taqman assays on four separate replication cohorts from Belfast, UK (211 AAA; 262 controls), Leeds, UK (214 AAA; 249 controls), Viborg, Denmark (473 AAA; 195 controls) and an independent local cohort (266 AAA; 143 controls).

Results Sixty-six SNPs passed quality controls and were included in the analysis. Seven SNPs were associated with AAA with p values 0.05 or less in the primary study. The rs217120 SNP within the cathepsin C (CTSC) gene demonstrated the strongest association with AAA (OR 1.55, p=0.005). This association was maintained after replication in the Belfast cohort (OR 1.93, p=0.0001), but not in the cohorts from Leeds (OR 1.01, p=0.742), Viborg (OR 0.77, p=0.047) or the independent local group (OR 1.07, p=0.658).

Conclusion We have identified a biologically plausible candidate gene for AAA, which has shown association in two separate populations. The overall role of this association for all AAA cannot be confirmed since no association was seen in three other populations. This highlights the need for replication in genetic studies.

Normalization of the pro-thrombotic diathesis in patients with abdominal aortic aneurysm (AAA) following endovascular (EVAR) and open aneurysm repair (OAR)

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Objective AAA is associated with a prothrombotic diathesis that may increase the risk of cardiovascular events. The effect of EVAR and OAR on this prothrombotic diathesis is not fully understood in the medium and long term. The aim of this study is to investigate the long-term effects of EVAR and OAR on this prothrombotic diathesis.

Method Markers of coagulation (prothrombin fragment [PF] 1+2 and thrombin anti-thrombin [TAT] complex) and markers of fibrinolysis (plasminogen activator inhibitor [PAI] activity and tissue plasminogen activator [t-PA] antigen) were measured in eight age-matched controls (AMC), 29 patients with AAA pre-operatively and at 24 hours, 1, 6 and 12 months after EVAR. Comparison was made between AMC, pre-operative and 12-month postoperative results with 11 patients at 12 months following OAR.

Results Pre-operatively, PF1+2 was significantly higher in AAA compared to AMC. PF1+2 did not change at 24 hours and 1 month, but decreased significantly at 6 months. At 12 months post-EVAR, PF1+2 was significantly lower than pre-operative values and similar to AMC. There was no significant difference in TAT, PAI and t-PA between AMC and AAA pre-operatively. They increased significantly at 24 hours after EVAR and returned to pre-operative levels at 1 month and remained unchanged over 12 months. Twelve months following OAR, PF1+2 was significantly lower than pre-operative values and similar to AMC. PAI activity was significantly higher than pre-operative levels.

Conclusion Patients with AAA have a prothrombotic status. Both EVAR and OAR normalize this prothrombotic, hypofibrinolytic diathesis, although there is a tendency for increased fibrinolysis with OAR.

Whole-transcriptome modulation by endovascular aortic aneurysm repair: a novel microarray-based study

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Objective Microarray technology has produced transcriptional signatures with prognostic value in inflammatory and malignant diseases. We determined transcriptomic profiles of individuals with abdominal aortic aneurysms (AAA) compared to screened controls and explored the effect of EVAR on gene expression.

Method Blood samples were obtained from 12 males undergoing EVAR (AAA mean 6.25cm) and 12 age-sex-matched controls (aorta <2.5cm). Twelve matched postoperative samples were obtained at a median interval of 9.5 months. High quality RNA was extracted (mean RIN 9.18) and samples hybridised to Illumina HT-12 arrays, each representing 37846 genes. Results were analysed with GenomeStudio (v1.9).

Results Gene expression analysis (t-test), inclusive of multiple testing correction, revealed 48 genes to be significantly differentially expressed in AAA against controls ($p < 0.05$). Eleven genes were upregulated, including CASP2 and CARD8, collectively involved in regulating caspase activity, Il-1/β secretion and apoptosis. Thirty-seven genes, including PSMB10 and NT5C, were downregulated and conferred roles in the electron transport chain, humoral response and proteolysis. Postoperatively, 8/11 previously upregulated genes, including CARD8, reversed expression to become downregulated compared to the pre-operative state ($p < 0.05$), whereas 8/37 previously downregulated genes, including PSMB10, became upregulated ($p < 0.05$).

Conclusion We have demonstrated differential expression of previously undescribed transcripts in AAA with functions involving proteolysis, inflammation and apoptosis. Close to 2/3 (58%) of transcripts were further modulated by EVAR, suggesting the impact of surgery at the transcriptomic level and the latter biological processes. Extended replication of results is warranted to validate transcript roles and prognostic value in AAA.

Toll-like receptor 2 and 6 heterodimerisation contributes to skeletal muscle damage in critical limb ischaemia (CLI)

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Objective The pathophysiology of skeletal muscle damage in CLI is poorly understood. Toll-like receptors (TLRs) have been implicated in ischaemia-induced tissue damage. TLR 2 in particular has been implicated in critically ischaemic muscle. TLR 2 heterodimerises with TLR 6 under certain stimuli. We hypothesize that TLR 6 expression is upregulated and its signalling pathway activated in ischaemic skeletal muscle, resulting in cytokine-mediated muscle damage.

Method TLR 2 and 6 expression and distribution in ischaemic and control human muscle biopsies and in C2C12 myotubes cultured in ischaemic conditions were studied using Western blot and immunohistochemistry. Co-immunoprecipitation was used to confirm heterodimerisation of the two receptors. Functional effects of TLR 2 and 6 antagonism on ischaemia-induced IL-6 release and apoptosis were studied in myotubes incubated with neutralizing TLR 2 and 6 antibodies. IL-6 release was assayed by ELISA. Apoptosis was assessed using cleaved caspase-3 and bax/bcl-2 ratio measurements.

Results TLR 2 and 6 protein expression was significantly upregulated in ischaemic muscle and ischaemic C2C12 myotubes ($p<0.05$). TLR 2 and 6 heterodimerise under ischaemic conditions with consequent activation of the signalling pathway. TLR 2 and 6 antagonism reduced ischaemia-induced IL-6 production and apoptosis.

Conclusion Upregulation of TLR 2 and 6 expression occurs in ischaemic muscle. Heterodimerisation of TLR 2 and TLR 6 and the subsequent activation of the signalling pathway results in IL-6 release and apoptosis, which contributes to inflammation and muscle damage in CLI. Therefore, TLR 2 and 6 antagonists may be of potential benefit in reducing skeletal muscle damage in CLI.

Encapsulated angiogenic cells: a viable strategy for the treatment of critical limb ischaemia

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Objective Angiogenic therapy for critical limb ischaemia (CLI) has been hampered by loss of cells from the injection site. Encapsulation of these cells in a polymeric semi-permeable membrane prior to delivery would improve cell retention and allow the outward diffusion of therapeutic factors into ischaemic tissue. We assessed the effect of encapsulation on the function of angiogenic monocytes, candidate cells for therapy in CLI.

Method Monocytes were isolated using magnetic-assisted-cell-sorting and encapsulated in an alginate polymer (FMC Biopolymer) using a novel bio-electrospraying (BES) technique. The cell/alginate suspension was injected through a 21G needle across an electric field (10kV, 15nAmp, flow rate $10^{-9}m^3/s$) to form a jet of cell-bearing encapsulated droplets. Cell viability, phenotype (CD14 and CD16 expression) and intracellular signalling of encapsulated and non-encapsulated monocytes were measured using flow cytometry. The angiogenic potential of cells (isolated from three volunteers) in each group was measured using the Matrigel tubule assay.

Results Monocyte viability was preserved following BES compared with controls (95.1% [range 93.4 - 97.3] vs. 95.2% [94.2 - 96.8], respectively), and there was no change in CD14 and CD16 expression following spraying. Intracellular signalling was also preserved following BES (fold changes, MAPK: 1.5 vs. 1.6, Akt: 1.2 vs. 1.1, Erk1/2: 9.6 vs. 8.9, respectively). Conditioned media from encapsulated and control monocytes were equally angiogenic (tubule length: 342±21vs. 321±23; area: 22421±3245 vs. 21983±2924).

Conclusion The viability and function of angiogenic monocytes are preserved following encapsulation. This technique may increase the longevity and effectiveness of therapeutic cells when injected into the ischaemic limb.

Nitric oxide bioavailability decreases with severity of peripheral artery disease

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Objective Platelet activation is increased in patients with peripheral arterial disease and correlates with the severity of disease. Nitric oxide plays an important role in regulating platelet function. We aimed to determine: 1) if endogenous inhibitors of nitric oxide synthase: dimethylarginines (DMA) (asymmetric and symmetric) and L-arginine levels varied with the severity of PAD; and 2) to assess their relationship, if any, with platelet activation.

Method SDMA, ADMA and L-arginine levels were measured by hydrophilic-interaction liquid chromatography (HILIC)-electrospray tandem mass spectrometry. Platelet p-selectin expression and bound fibrinogen were measured by flow cytometry and platelet aggregation using the rapid platelet function assay with arachidonic acid (AA) and thrombin-related activation peptide (TRAP) as agonists.

Results 226 patients who had intermittent claudication (IC, n=148) or severe limb ischaemia (SLI, n=78) were recruited. Patients with SLI vs. IC had significantly higher levels of ADMA (median [inter-quartile range] 0.49μmol/L [0.43-0.56] vs. 0.42μmol/L [0.39-0.46], $p<0.001$) and significantly lower levels of L-arginine (54.7μmol/L [41.9-65.8] vs. 65μmol/L [48-79.35], $p=0.03$). SDMA levels were similar. ADMA correlated inversely with ABPI ($r=-0.237$, $p=0.001$). Patients with SLI had significantly increased levels of ADP stimulated p-selectin and fibrinogen binding ($p<0.05$) and TRAP stimulated aggregation. TRAP stimulated aggregation directly correlated with ADMA level ($r=0.223$, $p=0.023$).

Conclusion This is the first study that has shown that the severity of peripheral arterial disease is reflected by increased levels of endogenous nitric oxide synthase inhibitor and decreased L-arginine. This may be implicated in the increased platelet activation observed in these patients.

Macrophage subtypes and 18-fluorodeoxyglucose positron emission tomography (18F-FDG PET) imaging of symptomatic carotid and femoral artery plaques

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Objective Atherosclerotic plaque rupture is associated with inflammatory cell activity and occurs in, or adjacent to the macrophage-rich area. FDG PET uptake has been shown to occur within macrophages. We aimed to compare FDG PET uptake in patients with symptomatic carotid disease to that in patients with symptomatic femoral disease and how this relates to macrophage subtypes.

Method Patients presenting with either symptomatic significant carotid artery stenosis (n=29) or femoral disease (n=29) were recruited. A dynamic 18F-FDG PET and co-registered computed tomography angiography scan were performed prior to surgery. Dual staining for macrophages (CD68) and the M1 pro-inflammatory markers, iNOS, MHC class II and SOCS3, or the M2 anti-inflammatory markers, dectin-1, SOCS1 and CD163, was performed.

Results Carotid artery plaques had greater numbers per plaque area of macrophages (median [IQR] 39.76 [34.2-49.96] versus 13.20 [7.8-21.13] counts per mm^2; Kruskal Wallis test $p<.001$). The proportion displaying M1-macrophage activation markers, iNOS, MHC class II and SOCS3, was significantly increased in the carotid compared to femoral plaques ($p<.001$). Femoral plaques displayed a greater proportion of M2-macrophage markers, dectin-1, SOCS1 and CD163 ($p<.001$). The maximum metabolic rate calculated from the dynamic 18F-FDG PET uptake was similar for both carotid and femoral plaques and did not correlate with maximal CD68 counts or macrophage subtypes.

Conclusion Carotid plaques from recently symptomatic patients exhibit significantly more plaque destabilising, M1-macrophages, whereas femoral plaques have a predominance of anti-inflammatory, tissue reparative M2-cells. Despite this, there was no quantifiable increase in PET uptake in the carotid compared to femoral plaques. The ability of 18F-FDG PET uptake to identify the unstable plaque appears to be limited.

Identifying the unstable plaque in the clinic – a new model

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Objective The aim of this study was to use pre-operative clinical data and B-mode duplex imaging to identify patients at high risk of having an unstable carotid atherosclerotic plaque, defined using well validated histological criteria.

Method Patients undergoing carotid endarterectomy (CEA) in our unit over a 2-year period were recruited prospectively into the study after giving informed consent. Plaques harvested during CEA were histologically graded by two independent histopathologists using nine criteria based on a modified AHA scoring model to give a final 'stable' or 'unstable' classification. Independent clinical and imaging variables that significantly affected outcome were entered into a logistic regression analysis to create a model for predicting unstable plaques.

Results 197 histological samples were analysed and graded as stable, n=66 (33%), and unstable, n=131 (67%). Features found to be significantly related to instability included symptoms within 2 weeks (OR 2.28; 95% CI, 1.01-5.142; p=0.04), GSM <25 (OR 2.942; 95% CI, 1.004-8.62; p=0.02), plaque area >80mm^2 (OR 2.74; 95% CI, 1.16-6.46; p=0.02). Logistic regression modelling determined that patients with all of the above features present had a 92% chance of having an unstable plaque, compared to only a 42% chance if none of these features were present.

Conclusion This study identifies simple clinical and imaging criteria that can predict an unstable plaque in patients with carotid artery disease. This model once validated can be used by clinicians in managing patients with carotid artery stenosis, particularly in identifying patients for urgent intervention.

Critical limb ischaemia promotes an angiogenic drive in the circulation

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Objective Circulating monocytes ($CD14^+$) consist of at least two distinct subsets: inflammatory/phagocytic ($CD14^+/CD16^-$); and patrolling/remodeling ($CD14^{low}/CD16^+$). In tumours, $CD14^{low}/CD16^+$ monocytes orchestrate blood vessel growth in the presence of vascular endothelial growth factor (VEGF) and angiopoietin-2 (Ang-2). We examined whether an angiogenic drive is associated with changes in these monocyte populations in patients with critical limb ischaemia (CLI).

Method Circulating monocytes were phenotyped (CD14 and CD16 expression) using flow cytometry in patients with CLI (n=30) and age-matched/young controls (n=15/group) before and after surgical revascularisation/amputation. VEGF and Ang-2 levels were measured in the serum from CLI patients and controls (n=10/group) by ELISA, while global angiogenic activity was assessed using the Matrigel assay (n=5/group). Intracellular proangiogenic signalling (Erk1/2 and Akt phosphorylation) was measured in monocytes using flow cytometry.

Results Patients with CLI had >2-fold more $CD14^{low}/CD16^+$ monocytes compared with matched and young controls (12±3% vs. 4±1% vs. 5±2%, respectively, $p<0.05$), but similar numbers of $CD14^+/CD16^-$ monocytes (78±6% vs. 82±4% vs. 86±5%, respectively, $p>0.05$). Revascularisation/amputation reduced the numbers of $CD14^{low}/CD16^+$ monocytes (8±2%) to levels not significantly different from controls. Circulating levels of VEGF and Ang-2 were higher in CLI patients than controls by 5- and 2-fold, respectively ($p<0.05$). CLI serum induced greater angiogenesis than controls ($p<0.01$). Stimulation of $CD14^{low}/CD16^+$ (but not $CD14^+/CD16^-$) monocytes induced phosphorylation of angiogenic intracellular signalling pathways, Erk1/2 and Akt.

Conclusion CLI promotes an angiogenic drive in the circulation that is associated with a rise in $CD14^{low}/CD16^+$ monocytes. Manipulating this endogenous response may be a novel therapeutic strategy to revascularise critically ischaemic limbs.

Platelet, endothelial and coagulation factors and the patency of arteriovenous fistulae: prospective analysis

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Objective Measurement of cardiovascular biomarkers is increasingly used in cardiovascular risk stratification to guide therapy. It is unknown if similar markers can help identify patients who are at increased risk of native arteriovenous fistula (AVF) occlusion. We prospectively assessed the relationship, if any, between platelet, endothelial and coagulation markers, and patency rates of AVF in haemodialysis (HD) patients.

Method Blood samples were taken from the AVF immediately before HD. Platelet function was assessed by: 1) Ultegra rapid platelet function assay using the agonists thrombin receptor activating peptide (TRAP) and arachidonic acid (ASA); 2) flow cytometry P-selectin expression and fibrinogen binding; and 3) plasma soluble P-selectin, soluble CD40. Coagulation and fibrinolysis were assessed by ELISA determination of thrombin-antithrombin (TAT) and D-dimer. Correlation and Cox regression analyses were performed.

Results Forty-three patients were studied with a median follow-up of 24 months (range 4-52). Primary patency was 77% at 1 year, with 35 at risk. Twenty patients had interventions to maintain primary patency during follow-up. Secondary patency was 59% at the end of follow-up, with 22 at risk (15 dead, 6 transplanted). Higher levels of TAT correlated to shorter primary patency (Spearman's correlation co-efficient r=-.564; $p<0.001$). No other variables were significant.

Conclusion TAT reflects activated coagulation and may be a sensitive biomarker of an impending AVF occlusion. Further studies are required to determine if active surveillance or anticoagulant therapy may be beneficial in patients with high TAT levels.

The effect of anticoagulation therapy on the incidence of endoleak or aneurysm sac size after endovascular aneurysm repair

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Objective The effects of anticoagulation therapy on the incidence of endoleak and aneurysm sac size after endovascular aneurysm repair (EVAR) are unclear. This study determined whether postoperative anticoagulation affected the incidence of endoleaks or aneurysm sac size.

Method Case notes were available for 373 patients (333 men; mean age 78 years) who underwent elective EVAR between September 1997 and July 2010. Postoperative follow-up was with ultrasound scans and abdominal X-rays at 3-6-monthly intervals.

Results The mean follow-up was 27 months. There were 40 (10.7%) patients on warfarin (WA), 250 (67%) patients on single antiplatelet (SA) therapy (aspirin, clopidogrel or dipyridamole), 11 (2.9%) patients on dual antiplatelet (DA) therapy and 72 (19.3%) patients on no anticoagulation (NA). During the study period, 69 (18.5%) endoleaks were documented. There was no significant difference in the incidence of all endoleaks (p=0.49, X2 for trends; 10.0% WA, 19.6% SA, 18.2% DA, and 19.4% NA), type I endoleak (p=0.89, X2 for trends; 2.5% WA, 3.2% SA, 0.0% DA, and 1.4% NA) or sac expansions (p=0.29, X2 for trends; 7.5% WA, 6.8% SA, 9.1% DA, and 13.9% NA). There was also no significant difference in the period of time from surgery (in months) to endoleak (p=0.78, unpaired ANOVA; WA 15.0 (1-24), SA 12.4 (1-48), DA 6.0 (6) and NA 15.0 (1-42).

Conclusion Anticoagulation with warfarin or antiplatelet agents was not associated with an increase in the incidence of postoperative endoleaks or aneurysm sac expansion after EVAR. These data support the safe use of anticoagulant medications in patients undergoing EVAR.

Plasminogen activator receptor cleavage: an important mechanism in ulcer healing

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Objective Plasminogen activation may play a critical role in venous leg ulcer healing. Urokinase plasminogen activator receptor (uPAR) has three domains (DI; DII; DIII) that can be cleaved from the cell membrane to yield a soluble fragment (suPAR I-III). Cleavage also occurs within the receptor to produce suPAR-I and II-III fragments. We have compared the levels of these chemotactic and mitogenic fragments in healing and non-healing ulcers to determine whether they are associated with healing.

Method Patients with venous leg ulcers (treated with compression dressings) were recruited from a dedicated clinic and prospectively followed for healing, defined as re-epithelialisation of the ulcer within 6 months. Immunoassays were validated and used to quantify suPAR fragments in exudates obtained from under Opsite® dressings (levels expressed as fmol/mg soluble protein). The effect of exudates on human keratinocyte migration was measured by scratch assay.

Results Exudates were collected from 30 patients (median age 68 years; 14 males; 9 healers). Healers had higher levels of suPAR I-III (19±5 vs. 6±1; $p<0.005$), suPAR I (144±70 vs. 70±12; $p<0.05$) and suPAR II-III (138±19 vs. 50±6; $p<0.0001$) fragments. Scratch colonization was greater following treatment with healing ulcer exudates ($p<0.05$). SuPAR depletion in exudates from healers and non-healers resulted in cell death.

Conclusion This is the first study to show the presence of suPAR in venous ulcer exudates. SuPAR fragments are associated with improved ulcer and *in vitro* wound healing. Maintenance of suPAR levels prevented cell death and is necessary for optimal wound healing. Differences in suPAR fragment levels may identify non-healers that would benefit from early skin grafting.

National Vascular Database analysis: the relationship between AAA repair volume and outcome

H Hafez
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Objective Current evidence suggests that AAA repair mortality improves with increasing workload volume. However, data are lacking for the effect of case mix and repair type on this relationship and for the effect of case volume on complications. This analysis examines the effect of case volume on AAA repair outcomes after adjustment for confounders.

Method Between January 2008 and December 2010, 13,068 elective AAA repairs were registered with the NVD. The number of open (OAR) and endovascular (EVAR) procedures per surgeon and per unit were extrapolated and categorised incrementally. Logistic regression analysis of risk of death or any complications was performed, adjusting for gender, ASA and screening status.

Results For OAR mortality, surgeon volume of 11-20 cases/year and unit volume of 41-50 cases/year had a reduced risk (OR 0.70 [95% CI, 0.92-0.52]; p=0.013) and (0.57 [0.87-0.38]; p=0.008), respectively. For OAR complications, surgeon volume of >30 cases/year was associated with a reduced risk (0.54 [0.32-0.89]; p=0.014). Unit volume was not associated with a reduced complications risk at any level. For EVAR mortality, neither surgeon nor unit volume was associated with risk reduction at any level. For EVAR complications, surgeon volume of 21-30 cases/year showed a reduced risk (0.75 [0.93-0.60]; p=0.009). Unit volume did not reduce the complications risk at any level. Unit volume of >32 cases/year was not associated with risk reduction in any category regardless of repair type.

Conclusion This analysis demonstrates that the relationship between AAA repair volume and outcome is not linear. Adjusting for case mix, AAA repair volume is more relevant to OAR than EVAR and to surgeon than unit outcomes.

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Treatment of abdominal aortic aneurysm in nine countries 2005-2009 – a Vascunet report

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Objective To study contemporary treatment and outcome of abdominal aortic aneurysm (AAA) repair in nine countries.

Method Data on primary AAA repairs from 2005-2009 were amalgamated from national and regional vascular registries in Australia, Denmark, Finland, Hungary, Italy, Norway, Sweden, Switzerland and the UK. Primary outcome was in-hospital or 30-day mortality. Multivariate logistic regression was used to assess case-mix.

Results 31,427 intact AAA repairs were identified, mean age 72.6 years (95% CI, 72.5-72.7). The rate of octogenarians and use of endovascular repair (EVAR) increased over time ($p<0.001$). EVAR varied between countries from 14.7% (Finland) to 56.0% (Australia). Overall peri-operative mortality after intact AAA repair was 2.8% (2.6-3.0) and was stable over time. The peri-operative mortality rate varied from 1.6% (1.3-1.8) in Italy to 4.1% (2.4-7.0) in Finland. Increasing age, open repair and presence of comorbidities were associated with outcome. 7040 ruptured AAA repairs were identified, mean age 73.8 (73.6-74.0). The overall peri-operative mortality was 31.6% (30.6-32.8), and decreased over time ($p=0.004$).

Conclusion The rate of AAA repair in octogenarians as well as EVAR increased over time. Peri-operative outcome after intact AAA repair was stable over time, but improved after ruptured repair. Geographical differences in the treatment of AAA remain.

National Vascular Database analysis: independent pre-operative predictors of abdominal aortic aneurysm repair outcomes

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Objective The National Vascular Database for AAA procedures has a large number of data fields. The aim of this analysis is to identify data fields that are most relevant to AAA repair outcomes.

Method Between January 2008 and December 2010, data for 13,068 elective AAA repairs were entered in 379 NVD data fields. Of these fields, 96 were pre-operative for both open (OAR) and endovascular (EVAR) repair. Sixteen additional fields were EVAR-specific. Logistic regression analysis for the odds of death and for any complications was performed adjusting for gender, ASA and screening status.

Results Of the combined data fields, 38 showed an independent association with operative mortality or any complications. For the EVAR-specific variables, an additional seven fields showed such association. Apart from conventional outcome predictors, some associations were novel. Examples include an increased risk of EVAR mortality for transferred patients (OR 4.12 [95% CI, 2.77-6.15]; p=0.000), a reduced risk of mortality in patients on antiplatelets undergoing EVAR (0.57 [0.40-0.81]; p=0.029), but an increased risk of complications in OAR (1.16 [1.01-1.35]; p=0.049). History of cardiac disease was associated with an increased mortality risk for OAR (1.52 [1.15-2.02]; p=0.002), but not for EVAR, whereas atrial fibrillation was associated with an increased mortality risk for EVAR (2.74 [1.06-7.05]; p=0.029), but not OAR.

Conclusion Of the current NVD pre-operative data fields, 40% correlate independently with AAA repair outcomes. Some of these correlations are novel and have the potential for improving pre-operative risk management and stratification for AAA surgery. Whilst it may benefit from refining its fields, the NVD remains unique and invaluable.

Long-term impact of the volume-outcome relationship in elective abdominal aortic aneurysm repair

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Objective Robust, risk-adjusted analyses have demonstrated that a reduction in peri-operative mortality is associated with the repair of abdominal aortic aneurysms (AAA) in centres with high operative caseload (volume). However, the long-term impact of this volume-related effect on mortality remains unknown.

Method Demographic and clinical data were extracted from UK Hospital Episodes Statistics for patients undergoing elective repair of infrarenal AAA from 1 April 2000 to 31 March 2005. The long-term mortality of this cohort of patients was investigated through linkage to the UK Office of National Statistics (ONS). Risk-adjusted survival was analysed using Cox's Proportional Hazards Modelling to identify the effect of hospital volume on long-term mortality. To isolate the effect of postoperative medical care, data were re-modelled after exclusion of 30-day mortality and after exclusion of in-hospital mortality.

Results 14,396 patients with a mean age of 72 years, of whom 85.7% were male, underwent elective repair of infrarenal AAA in England and were linked to follow-up using ONS statistics. Risk-adjusted analysis of all-cause mortality by Cox's Proportional Hazards Modelling demonstrated a significant effect of hospital volume across all quintiles at up to 2 years (p=0.013). Remodelling of the data after excluding 30-day mortality demonstrated a late significant effect of hospital volume.

Conclusion The present study provided the first evidence that there is a long-term benefit to patients undergoing the elective repair of AAA in high-volume hospitals. Both a surgical and medical effect was observed.

Putting TIA/stroke in the FAST lane: but not if you present with leg weakness or visual loss

A Reid [1], A Wilson [2], T Robinson [2], AR Naylor [1]

1 University Hospitals of Leicester, Leicester; 2 Leicester University, Leicester

Objective The Department of Health's 'FAST' campaign stresses the importance of seeking immediate medical help should anyone suffer: Facial weakness, Arm weakness or Speech problems, and awareness about the need to report symptoms as soon as possible is fundamental if the campaign to offer carotid interventions in <14 days (or 48 hours) is to be achieved. However, despite national media campaigns, just how aware are the public about stroke symptoms?

Method A 'face to face' survey of 1300 members of the public was conducted across all age groups and ethnic backgrounds.

Results 1248 (96%) had heard of stroke, but only 880 (68%) knew that stroke involved the brain. 907 (70%) had heard of the FAST campaign, but a larger proportion (1006 [80%]) recalled seeing the image of the 'burning head'. The vast majority were aware of the FAST symptoms (facial weakness 89%, arm weakness 83%, speech problems 91%). However, only 738 (57%) considered leg weakness to be a symptom of stroke and only 570 (44%) knew that visual loss was a stroke symptom. A similar proportion thought that headache (53%) and arm/leg pain (51%) were stroke symptoms. These findings were consistently replicated across all age groups and ethnic backgrounds.

Conclusion While the public appear aware of FAST and its warning symptoms, the failure to include leg weakness and visual loss within the media campaign has meant that a significant proportion of the public may not recognise these as important symptoms which require urgent assessment.

Triaging TIA/minor stroke patients using the ABCD2 score does not predict those with significant carotid disease

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Objective 'Rapid access' TIA clinics often use the ABCD2 score to triage patients. Those scoring 0-3 are seen <7 days, while patients scoring 4-7 are seen as soon as possible (preferably <24 hours). It was hypothesized that patients scoring 4-7 would have a higher yield of significant carotid disease.

Method A prospective study of correlation was conducted between GP and stroke physician-measured ABCD2 score and prevalence of >50% carotid stenosis.

Results Between 1.10.2008 and 31.04.2011, 2452 patients were referred to the Rapid Access Service. After stroke physician review, 785 (32%) were thought to have suffered a carotid territory stroke/TIA, all had ABCD2 scores measured by both the referring GP and a stroke physician and all underwent duplex ultrasound imaging within the Rapid Access Clinic. A GP ABCD2 score of 0-3 was associated with a 16.3% prevalence of >50% stenosis (46/283), compared with 14.3% for a physician ABCD2 score of 0-3 (35/245). A GP ABCD2 score of 4-7 was associated with an 11.4% prevalence of >50% stenosis (57/502), compared with 12.6% for a physician ABCD2 score of 4-7 (68/540). Analyses of the area under the receiver operating characteristic curve (AUC) for referrer and stroke specialist ABCD2 scores, showed no prediction of carotid stenosis (GP: AUC 0.50 [95% CI, 0.44-0.55; p=0.9]; Specialist: AUC 0.51 [95% CI, 0.45-0.57; p=0.78]).

Conclusion The ABCD2 score cannot identify TIA/minor stroke patients with a higher prevalence of clinically important carotid disease. In particular, a higher ABCD2 score was associated with a lower yield of significant carotid disease.

Can we measure carotid plaque volume and does it matter?

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Objective Stroke is the third leading cause of death and the leading cause of disability with 150,000 sufferers/year in the UK. Carotid disease causes 30% of ischaemic strokes, probably due to embolism of atherosclerotic material. Severity of stenosis measured by duplex is currently the indication for surgery, but is a poor predictor of stroke: asymptomatic carotid stenosis >70% predicts an annual stroke risk of only 2.5%. As stenoses may merely be a surrogate for carotid plaque volume (CPV), we investigated the relationship between CPV and symptoms in carotid disease.

Method Plaque volume index on pre-operative duplex was compared with a precise measure of the operative specimen using an Archimedes suspension method in 30 patients undergoing carotid endarterectomy. A detailed history on risk factors and cerebral symptoms was recorded.

Results Plaque volume index underestimated CPV by a mean (±sd) of 0.41±0.49cm^3 with a poor correlation of $r=0.6$ ($p<0.05$). Mean CPV for stroke, TIA and asymptomatic patients were 1.53±0.80, 1.11±0.42 and 0.60±0.20cm^3, respectively, with the 21 symptomatic patients having significantly larger CPV at 1.24±0.61cm^3 than that of 0.67± 0.18cm^3 in the nine asymptomatic patients ($p=0.011$).

Conclusion CPV can be measured accurately using an Archimedes suspension method and was strongly associated with symptoms in patients undergoing carotid surgery. As all our patients had >70% carotid stenoses, CPV clearly has greater potential to predict symptom status. If 3-D imaging measures CPV accurately, the indication for carotid surgery may need to be reconsidered.

Early carotid endarterectomy (CEA) for a symptomatic carotid stenosis (SCS) is associated with a higher adverse event rate. Data from symptomatic patients participating in the GALA Trial

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Objective The Oxford Vascular Study showed high stroke rates within 7 and 28 days of the presenting neurological symptom (PNS) in SCS patients (TIA: 8.0% and 11.5%; minor stroke: 11.5% and 15.0%). Thus, current guidelines recommend early surgery. Although a recent systematic review allays concerns about the safety of early surgery, evidence is conflicting and this has been re-assessed in 2164 symptomatic patients from the GALA Trial (general [GA] versus loco-regional [LA] anaesthesia for CEA).

Method Thirty-day outcomes (stroke, death, MI) were analysed for early (ES: <14 days from PNS, n=317) or later (LS: >14 days, n=1847) surgery. The influence of anaesthetic type, age, sex, PNS (ocular, TIA, stroke), and contralateral carotid occlusion were also examined.

Results 18.4% of TIA patients and 16.5% with ocular symptoms had ES versus 10.1% after stroke ($p<0.005$, Chi-squared). ES had a higher risk of an adverse outcome (8.2% versus 5.1%; OR 1.69; 95% CI, 1.07-2.66; $p=0.025$) that was not influenced by other factors examined (logistic regression analysis). For ES the risk of an adverse outcome (GA versus LA) was: men: 11.1% versus 7.6% (OR 1.46; 95% CI, 0.94-2.25; $p=0.09$); women: 4.8% versus 4.7% (OR 0.64; 95% CI, 0.31-1.31; $p=0.22$).

Conclusion These data suggest that whilst ES is probably beneficial, strategies to improve safety are required. This might include early ICA clamping or pharmacological stabilisation of carotid plaques. Further studies are required to confirm ES safety and reporting the time from PNS to surgery should be mandatory in all CEA studies.

The war against error: a 15-year experience of completion angioscopy following carotid endarterectomy

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Objective In an earlier audit, a policy of intra-operative transcranial Doppler (TCD) and completion angioscopy was associated with virtual abolition of intra-operative stroke (apparent upon recovery from anaesthesia) following carotid endarterectomy (CEA). The aims of this study were to determine whether the prevalence of technical error diminished with experience and whether our monitoring/quality control policy was still associated with low rates of intra-operative stroke 20 years after its introduction.

Method A retrospective review was conducted of four consecutive cohorts of 400 patients undergoing CEA between October 1995 and March 2010 (1600 CEAs in total).

Results 104 patients (7%) had thrombus removed following angioscopy and prior to flow restoration, while 31 (2.1%) underwent repair of a distal intimal flap. The prevalence of intimal flaps diminished from 4.9% in the first 400 patients to 0.8% in the last 400 patients (p=0.006). By contrast, the prevalence of retained thrombus did not decline with experience (8.5%, 3.7%, 10.3% and 5.4% for the four consecutive periods). Intra-operative TCD and completion angioscopy was, however, associated with extremely low rates of intra-operative stroke (0.25%, 0.25%, 0.5% and 0.25% during the four study periods).

Conclusion Most intra-operative strokes probably follow embolisation of thrombus following restoration of flow. This can be prevented by angioscopy which has the advantage of being performed prior to flow restoration. Increasing experience was associated with a decline in the detection of intimal flaps, but not in the prevalence of retained thrombus. Even the most experienced of surgeons can still be responsible for inadvertent technical error.

The cost utility of a multidisciplinary foot protection clinic (MDFPC) in an Irish university hospital setting

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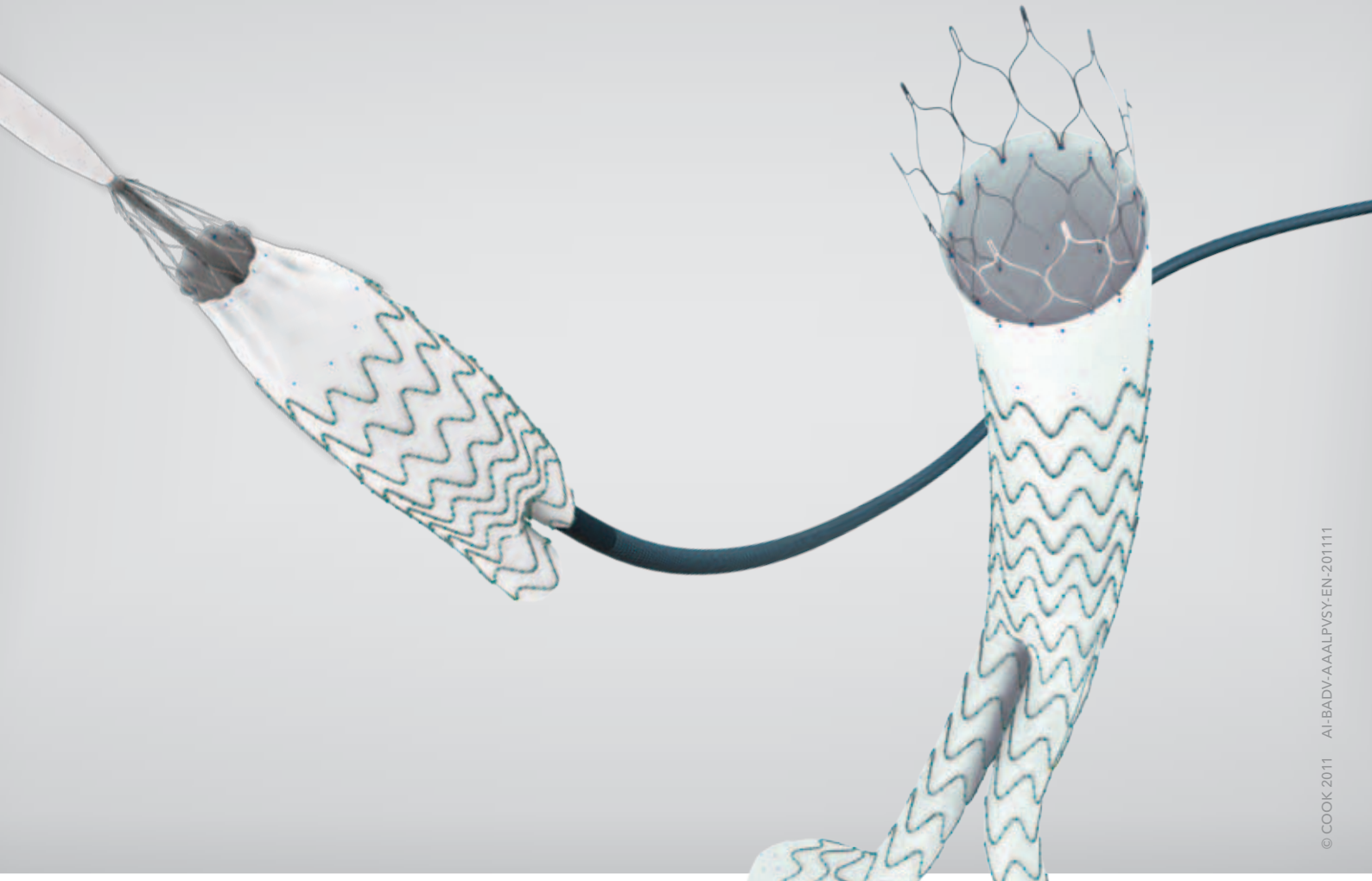
Objective Diabetes is a growing epidemic and diabetic foot complications place a significant social, psychological and economic strain on patients and the Health Service. The lifetime incidence of foot ulceration in diabetics has been estimated as high as 25%, and up to 85% of diabetic lower extremity amputations are preceded by ulceration and diabetic foot infection. Many studies have proposed dedicated diabetic foot teams as the mainstay of diabetic foot care. We aimed to quantify the cost benefit and sustainability of a MDFPC in an Irish university hospital setting.

Method A dedicated bi-weekly consultant-led multidisciplinary foot protection clinic (MDFPC) involving vascular surgery, endocrinology, orthopaedic surgery, podiatry, orthotics and tissue viability was established in June 2008.

Results Between 2006 and 2010, a total of 221 lower limb procedures (major/minor amputations and debridement) were carried out. The number of major amputations decreased from 12 during the control period (2 years before the clinic) to 7 in the study period (2 years after the clinic). After costing all activity associated with the clinic, there was an overall saving of ∈114,063 per year associated with the introduction of the MDFPC.

Conclusion This is the first study in an Irish context, and one of few international studies to demonstrate that an aggressive coordinated approach to diabetic foot care is both cost effective and clinically efficient in reducing the burden of foot-related complications in a diabetic population.



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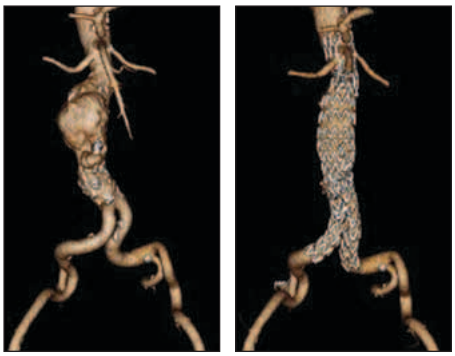

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An integrated foot team improves outcomes in diabetics

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Objective Diabetic amputations account for two thirds of all major amputations in the UK with a two-fold variation in amputation rates nationally. Two-year mortality post-amputation is 50%. Foot complications are the single largest cause of diabetic hospital stay (average 22 days), costing £200 million in England. Based in a general hospital in an area of very high deprivation and diabetes prevalence (9.7%), we established a multidisciplinary specialist foot team providing a Monday-Friday rapid access service. By locating a primary care podiatry clinic in our diabetes centre, primary care patients can get immediate access to a diabetologist. Aggressive medical management of osteomyelitis is combined with integrated working with vascular surgery and radiology. A rapid response outreach team initiates and continues treatment across primary and secondary care according to the patient's needs. We evaluated the impact of the new service on outcomes.

Method We audited activity of our specialist foot team between October 2009-September 2010. Amputation rates were obtained from the York & Humber Public Health Observatory.

Results Prevented admissions: 81; bed days saved: 567; facilitated early hospital discharges: 20; bed days saved: 100. The total cost saving was (£350/day): £198,450 + £35,000 = £233,450. The amputation rate was 1.1 per 1000, c.f average 1.7 for neighbouring PCTs and 2.5 nationally.

Conclusion Our integrated foot team ensures rapid, coordinated access to vascular input with amputation rates half the national average. Most acute foot complications are safely managed in the community with home parenteral antibiotics and community/outpatient review within 24 hours, reducing hospital admissions and the risk of hospital-acquired complications.

Distal bypass outcome in diabetic versus non-diabetic patients – the multidisciplinary team and the diabetic foot clinic impact

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King's Health Partners, London

Objective To assess the impact of a multidisciplinary team (MDT) and diabetic foot clinic (DFC) on the outcome of distal bypass surgery in patients with critical leg ischaemia (CLI).

Method Patients with CLI undergoing distal bypass were included. Diabetic patients were managed by dedicated MDT and DFC care. The non-diabetic patients were cared for by a vascular surgeon and vascular nurse specialist and followed up in a regular vascular clinic. Patency, major amputation, mortality rates and amputation-free survival were analyzed.

Results Between 2004 and 2011, 210 consecutive patients underwent 231 distal bypasses (157 men; median age: 76 years, range: 20-96 years). 149/231 (65%) were diabetic versus 82/231 (35%) who were non-diabetic. Chronic renal failure was significantly higher in the diabetic group (p=0.0062). At 1 year the primary and secondary patency rates in the diabetic group were 74.8% and 89.9% versus 61.8% and 85.9% in the non-diabetic group, respectively. The major amputation and mortality rates in the diabetic group were 6.5% and 11.9% and in the non-diabetic group were 14.8% and 6.6%, respectively (p=0.0026 and p=0.1491). The amputation-free survival rates at 12 and 48 months were 82.4% and 46.3% for the diabetic group versus 84.1% and 49.7% in the non-diabetic group (p=0.4084).

Conclusion Diabetic patients had a significantly better major amputation rate compared to non-diabetic patients in spite of increased morbidity. Non-diabetic patients should be integrated in the same MDT and DFC to improve their major amputation rate.

The impact of the angiosome principle on foot ulcer healing in distal bypass surgery

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King's Health Partners, London

Objective To evaluate the time to healing of tissue loss following foot revascularisation in patients undergoing distal bypass surgery and the impact of the angiosome principle.

Method Patients undergoing distal bypass for foot tissue loss (Rutherford 4 and 5) were divided into two groups where the angiosome principle of revascularisation was applied and not applied. The site of foot tissue loss, the perfused angiosome artery, the time to healing and patency rate were compared in the two groups.

Results Ninety-nine consecutive patients (71 men, median age 76) underwent 108 distal bypasses. The incidence of diabetes mellitus, renal failure and ischaemic heart disease was 82%, 31% and 48%, respectively. The presenting symptom was ischaemic ulcers in 68 (63%) cases and gangrene in 40 (37%). The site of tissue loss was along the posterior tibial angiosome in 7 (6%), medial plantar in 44 (42%), lateral plantar in 30 (28%), anterior tibial in 12 (11%) and peroneal in 3 (3%); another 12 (11%) were in two angiosome territories. Out of 108 bypasses, 48 (44%), the perfused angiosome artery matched that of the foot tissue loss; in 60 (66%) cases it did not. In the group with direct angiosome perfusion, 85% of the ulcers healed, median healing time was 76 days (range 11-647) versus 83% in the non-direct group, median 108 days (range 24-582). At 1 year, the primary, secondary patency and the amputation-free survival rates were 60%, 91% and 81% in the direct group versus 68%, 93% and 83% in the non-direct group, respectively.

Conclusion There was no difference in healing time or outcome between these two patient groups. The angiosome principle of revascularisation is not supported in this study.

A randomised controlled trial to evaluate different treatment regimes with topical wound oxygen (TWO2) on chronic wounds

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Objective Chronic wounds of the lower leg and foot are frequent, difficult to treat and show high rates of complications. After positive results with a pressurized topical oxygen therapy (TWO2) in other studies we were interested in evaluating whether 4 weeks of TWO2 treatment would show similar results to those after 12 weeks of treatment.

Method This randomised, controlled study was conducted at the National Wound Institute in Santiago de Chile. In an outpatient setting with patients with severe diabetic foot ulcers (DFU) (n=20) and chronic venous ulcers (CVU) (n=20), all patients received TWO2 for a period of 1 month. The groups were then randomised to continue with TWO2 (TWO-TWO group) or receive AMWT (advanced moist wound therapy) for 2 more months (TWO-AMWT group). TWO2 patients were treated daily for 2 hours five times a week. The device delivered humidified medical grade oxygen with pressure cycles between 5 and 50mbar. Dressing changes in the control group were performed according to best practice at a minimum of twice a week. The primary endpoint was complete ulcer closure after 12 weeks.

Results 90% of the DFU patients in the TWO-TWO group healed within 12 weeks vs. 40% in the TWO-AMWT group. Patients with CVU had 50% healing vs. 30%, respectively.

Conclusion Patients with complicated ulcers benefit from the treatment of topical localized oxygen (TWO2). Continuous TWO treatments for 12 weeks showed significant better outcomes than a shorter TWO2 treatment regime of 4 weeks followed by AMWT.

Durability of a brief psychological intervention to increase walking in patients with intermittent claudication – 1-year follow-up of a randomised controlled trial

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Objective Increased walking is often recommended as the primary treatment of intermittent claudication (IC), both for symptom reduction and to improve cardiovascular fitness. This study assessed the longer-term effect on walking and uptake of surgery/angioplasty of a brief psychological intervention designed to increase walking in patients with IC.

Method Fifty-eight patients newly diagnosed with IC were randomised into two groups. The control group (n=30) received usual care, and the treatment group (n=28) received usual care and a brief (two session) psychological intervention to modify illness and walking beliefs and develop a personalised walking action plan. Participants were followed up after 4 months and 1 year. Daily steps were measured by pedometer at each time point. Analysis was by intention to treat.

Results At 1 year, participants in the intervention group walked less steps per day than at 4-month follow-up, but still walked significantly more steps per day (1374, 95% CI, 528-2220) than participants in the control group. At 1 year, significantly more participants in the control group (20/30) had received angioplasty/surgery than participants in the intervention group (10/28), c; 2(1)=5.56, p=.018.

Conclusion These results demonstrate that this brief psychological intervention for patients with IC leads to the maintenance of improved walking behaviour over a 1-year period, and to a reduced demand for revascularisation. A brief psychological intervention which improves walking and reduces surgical intervention rate, and which is less costly than current treatments could improve health and provide substantial savings in the management of IC.

Antiplatelet agents for intermittent claudication (IC): results of a meta-analysis (Cochrane review)

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Objective Evidence for antiplatelet agents in intermittent claudication (IC) is sparse and is mainly inferred from meta-analysis of patients with coronary and cerebrovascular disease. This meta-analysis was performed specifically to address this deficiency.

Method A Cochrane review was performed of all randomised controlled trials (RCTs) of antiplatelet agents in patients with stable IC (stage II Fontaine). Trials of patients undergoing planned or recent endovascular or surgical interventions were excluded.

Results Fourteen RCTs of patients with IC (15,630 patients: 7802 antiplatelet, 7828 placebo) were reviewed. All-cause (RR 0.77; 95% CI, 0.61-0.98) and cardiovascular mortality (RR 0.61; 95% CI, 0.38-1.00) were significantly reduced with antiplatelet therapy compared to placebo with a relative risk reduction of 23% and 39%, respectively. Cardiovascular events (fatal and non-fatal MI or stroke) were also significantly reduced (RR 0.74; 95% CI, 0.59-0.93) with antiplatelet therapy. Three RCTs compared other antiplatelet agents (clopidogrel, clopidogrel plus aspirin and picotamide) against aspirin. Meta-analyses showed that other antiplatelet agents were significantly better at reducing all-cause mortality (RR 0.80; 95% CI, 0.67-0.96), cardiovascular events (RR 0.78; 95% CI, 0.66-0.92) and MI (fatal and non-fatal)(RR 0.65; 95% CI, 0.52-0.81) compared to aspirin. Adverse events including dyspepsia (RR 2.11; 95% CI, 1.23-3.61) and adverse events leading to early cessation (RR 1.66; 95% CI, 1.33-2.07) were significantly worse with antiplatelet therapy compared to placebo. Major bleeding was more pronounced with antiplatelet therapy but this did not reach statistical significance (RR 2.30; 95% CI, 0.77-6.88). When compared to aspirin, major bleeding with other antiplatelet agents was non-significantly reduced (RR 0.50; 95% CI, 0.08-3.17).

Conclusion Antiplatelets significantly reduce mortality and cardiovascular events in IC patients. Evidence for the ongoing use of aspirin in IC is weak. Other antiplatelet agents appear to confer a more significant benefit.

National Clinical Audit can drive quality improvement; lessons from the Carotid Intervention Audit (CIA)

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Objective The UK Carotid Intervention Audit (CIA) is a continuous national audit that has been running since December 1st 2005. It contains 17,263 cases for analysis to 30th September 2010. We report on the first three rounds with particular emphasis on performance against national standards (NICE CG68) for intervention following TIA or minor stroke. The standard sets a target of 14 days for the time between symptom and intervention.

Method Data were collected in real time using a web-based data tool. The Vascular Society of Great Britain & Ireland and the Clinical Effectiveness Unit of the Royal College of Physicians conducted analysis jointly.

Results During the three rounds of the audit, the number of surgeons contributing rose from 61% to 87%. Case ascertainment rose from 56 to 70, to 79% compared to HES. The interval from symptom to intervention fell from a median of 40, to 28 and then 21 days. There is evidence of geographical variation in service quality. Data completeness was greater in larger units. The time from referral to surgery was significantly quicker in larger stroke services, suggesting that volume of cases may be a factor in making progress along the pathway of care run smoothly.

Conclusion The CIA provides evidence of improvement in the delivery of care to patients presenting with TIA or minor stroke. There is still unacceptable variation in practice, with significant delays in access to treatment nationally. Vascular services need to ensure that their TIA/minor stroke care pathways provide rapid access to intervention.

Conservative coil embolisation of the internal iliac artery prevents associated Type II endoleaks after endovascular aneurysm repair (EVAR)

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Objective EVAR may require external iliac limb extension with internal iliac artery (IIA) embolisation to prevent a Type II endoleak. Packing the IIA with coils until antegrade flow has ceased is expensive, exposes patients to additional contrast and radiation, and risks embolisation. We adopted a policy of minimal coil utilisation without an emphasis on immediate flow cessation. This study investigated whether this technique prevented associated Type II endoleak following IIA embolisation during EVAR.

Method Patients were identified through a retrospective review of an EVAR database from January 2008 to January 2011. Inclusion criteria were all patients undergoing EVAR and IIA coil embolisation with 1 month postoperative CTA/US duplex. Primary outcomes included IIA flow cessation upon completion of EVAR, and freedom from IIA associated Type II endoleak at 1 month.

Results During this period 295 patients underwent EVAR, of whom 48 (16%) required IIA coil embolisation (median age 75 years, male 44). Median IIA diameter was 12mm (7-74mm) and median length was 32mm (14-83mm). Nester coils were used in all patients with 1-3 coils being deployed in most cases. Angiography following EVAR confirmed proximal IIA occlusion in 26 patients (54%). Forty-six patients fulfilled the inclusion criteria, of whom 45 (98%) had freedom from IIA associated Type II endoleak at 1 month. The one IIA associated Type II endoleak observed at 1 month had resolved on 1-year duplex.

Conclusion Conservative coil utilisation for IIA embolisation is successful in preventing associated Type II endoleak and evidence of flow cessation is unnecessary as the majority will occlude at 1 month.

Training in vascular surgery following the separation from general surgery – current dilemmas in delivery

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Objective Establishing a vascular specialty creates considerable concerns around delivery of training. This study examines current problems in training through trainees' experiences.

Method Trainees with a particular interest in vascular surgery in a large deanery were identified at their RITA/ARCP. Trainees in ST3+ posts subsequently completed a deanery educational survey.

Results Of 1426 surgical trainees, 11 of 215 core trainees (5%) and 50 of 371 general surgery higher trainees (13%) had a major interest in vascular surgery. 76% of HSTs agreed with the separation, but only 52% felt 2 years of general surgical exposure was adequate. HSTs requested additional exposure to dialysis access (86%), cardiothoracic surgery (76%) and lymphoedema (64%), 93% wanted experience in a major trauma centre and 93% considered a vascular/endovascular fellowship necessary to complete their training (the majority stating abroad). 69% of vascular trainees felt that 6 years of higher training was inadequate. ST6+ trainees were separately questioned on training they considered deficient; responses included branched/fenestrated EVAR (83%), open AAA repair (78%), open TAAA repair (56%), infrarenal EVAR (50%), peripheral angioplasty/stenting (61%), peripheral bypass surgery (33%) and CEA (28%).

Conclusion Without substantial changes, the current proposed programme, based upon the training actually delivered, is inadequate for many vascular trainees. Exposure to open and endovascular surgery is grossly deficient. Major discussions are needed on the role of the future vascular surgeon in a major trauma centre if they have inadequate general surgical experience. Trainee numbers in vascular surgery are small and declining. Trainees' experiences demonstrate that many are requesting fellowships abroad to complete both open and endovascular training. This is likely to be a national problem.

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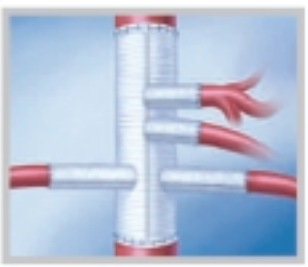

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Deficiencies in experience in UK vascular trainees persist: a survey of Rouleaux Club members

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The Rouleaux Club

Objective To evaluate the training experience of current United Kingdom (UK) vascular trainees.

Method A web-based questionnaire of the 217 members of the Rouleaux Club which represents UK vascular and endovascular trainees. Members were asked to complete the survey between May and June 2011.

Results 153 trainees (71% response rate), representing all of the UK training deaneries, completed the survey. 52% are currently in posts that do not offer endovascular training. 88% reported having performed fewer than 10 peripheral angiograms in the last year. 67% of trainees had performed fewer than 10 EVARs in the past year, either in part or in whole. Half of endovascular fellowships are still being taken overseas. Fifteen members hold a formal qualification in ultrasound scanning but 49% have no access to formal ultrasound training. 85% of trainees believe that vascular access will play a role in their future practice. 33% of trainees currently have exposure to vascular access training and 49% have performed no vascular access procedures in the past 12 months. No experience of endovenous laser ablation, radiofrequency ablation, or foam sclerotherapy was reported by 33%, 49% and 46%, respectively. 27% reported having received some training within the private sector, largely as an assistant, but 11% have performed parts of operative cases under supervision.

Conclusion Current training delivery in critical aspects of the vascular and endovascular curriculum is unable to equip existing trainees with the skills required for a future specialist vascular practice.

Final results from the MASS trial of AAA screening

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Objective Whether benefit continues more than 10 years after a single ultrasound screen for abdominal aortic aneurysm (AAA) is uncertain. Here we report the final 13-year follow-up results from the Multicentre Aneurysm Screening Study (MASS) randomised trial.

Method The MASS trial recruited a population-based sample of 67,770 men aged 65-74. Half were invited to screening for AAA, followed by surveillance for small aneurysms (3.0-5.4cm) and surgical intervention, if appropriate, for large aneurysms (>5.5cm). The main outcome was AAA-related mortality, including both deaths from AAA rupture and all deaths within 30 days of AAA surgery.

Results Overall, 213 AAA-related deaths occurred in the invited group, compared to 370 in the control group: hazard ratio 0.57 (95% CI, 0.48 to 0.58). Total mortality was also significantly lower: hazard ratio 0.97 (95% CI, 0.95 to 0.99). The overall incremental cost-effectiveness ratio of AAA screening at 13 years was estimated as £4700 per life-year gained, substantially lower than the estimate of £7600 at 10 years. During years 10-13, despite an increase in AAA ruptures in those originally screened as normal and continuing opportunistic detection of AAA in the control group, the number of AAA-related deaths remained considerably lower in the invited group: 62 vs. 79, hazard ratio 0.78.

Conclusion The MASS trial has provided the majority of the worldwide randomised evidence on the benefit of AAA screening. These final results indicate continued benefit in terms of AAA-related mortality and a statistically significant reduction in total mortality. Offering population-based screening to men is also extremely cost-effective in NHS terms. Despite a reported reduction in the prevalence of AAA, these results remain relevant to the current NHS AAA Screening Programme.

Should we follow-up men with screening-detected aortas 2.5-2.9cm?

J Wild [1, 2]

1 University of Leicester, Leicester; 2 On behalf of the Sub-aneurysmal Aortic Dilatation Study Group (Bown MJ, Brown J, Earnshaw J, Grant S, Hafez H, Lewis M, Lindholt J, McCollum C, Parvin S, Sayers RD, Wild J)

Objective Surveillance to detect late aneurysm development in patients with aortas (2.5cm to 2.9cm) detected on screening is not currently offered in the NHS AAA Screening Programme. The objective of this study was to gather individual patient data from centres with AAA surveillance programmes to determine how many patients progressed to AAA.

Method Individual patient data from four studies were pooled and analysed by creating survival tables and performing Kaplan-Meier analysis. Any inner-to-inner measures were adjusted to outer-to-outer by adding 3mm to the aortic diameter.

Results 794 patients were included in the analysis with a mean follow-up of 4.7 years; 38% were followed to 5 years, and 11.3% to 10 years. A total of 469 patients (59.1%, 95% CI, 55.6 to 62.4) progressed to an aortic diameter over 3cm at a mean time of 5.1 years (4.7 to 5.4). Of these patients, 81.9% (78.1 to 85.1) reached 3cm by 5 years and 98.7% (97.2 to 99.4) by 10 years. A total of 47 patients (5.9%, 4.5 to 7.8) developed an AAA greater than 5.4cm at a mean time of 13.7 years (12.9 to 14.6). Of those patients who developed AAA greater than 5.4cm, 6.4% (2.2 to 17.2) did so by 5 years and 46.8% (33.3 to 60.7) by 10 years. AAA rupture was recorded in three studies (704 patients) and occurred four times (0.6%, 0.2 to 1.5) after 9.8, 10.8, 11.4 and 14.7 years.

Conclusion These data demonstrate that a reasonable number of patients with sub-aneurysmal aortic dilatation will go on to develop true aneurysms.

Individual patient characteristics which influence small abdominal aortic aneurysm expansion and rupture: an analysis of >15,000 persons' records

The RESCAN Collaborators [1, 2]

1 Imperial College London, London; 2 MRC Biostatistics Unit, Cambridge

Objective To assess which individual patient characteristics, other than aneurysm diameter, may influence the aneurysm growth and rupture rates.

Method Individual patient data have been collated from 15,475 persons followed-up for a small aneurysm (3.0-5.5cm only) from 18 studies. The rates of aneurysm growth and rupture (analysed using longitudinal random-effects modelling and survival analysis) and the influence of covariates (including demographics, medical history and drug therapy) on these parameters have been summarised in an individual patient meta-analysis. All analyses were adjusted for aneurysm diameter.

Results The average aneurysm growth rate of 2.18mm/y was similar in men and women and independent of age. The growth rate was increased in smokers (by 0.35mm/y) and decreased in patients with diabetes (by 0.51mm/y). Anti-hypertensive medications had a very small and non-significant effect on aneurysm growth. Statins reduced aneurysm growth by 0.21mm/y, but this was not significant ($p=0.121$). Rupture rates were almost four-fold lower in men versus women ($p<0.001$), doubled in current smokers ($p<0.001$), increased with higher mean arterial pressure ($p<0.001$) and decreased with calendar year ($p=0.032$). There were no convincing effects of any drugs on aneurysm rupture rates.

Conclusion Recommendations for surveillance frequency of individual patients may need to consider diabetes and smoking, in addition to aneurysm diameter. No single drug used for cardiovascular risk reduction was shown to have a major effect on the natural history of aneurysms, but reducing blood pressure may reduce the risk of rupture.

Outcomes for patients who do not undergo repair of their large aortic aneurysms

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Objective Little information is available on the outcome for patients declined elective and emergency aneurysm repair. We present the turn-down rates and outcomes for patients with abdominal aortic aneurysms who did not undergo repair.

Method A prospective observational study was conducted of all patients with AAA who did not undergo elective (group X) or emergency (group Y) repair between 1st January 2007 and 1st May 2011. Patient demographics, aneurysm size and reasons for non-intervention were recorded on a database. Mortality data and causes of death were obtained from case-notes and via the Office of National Statistics.

Results 429 patients were assessed (elective 328: emergency 101). 241 underwent elective repair (open=124, EVAR=117, in-hospital-mortality=4.1%). Eighty-seven patients (26%) were not treated (group X) (49 males, mean age 82 years). The reasons for non-intervention were: significant comorbidity (90), malignancy (17), age (28), patient-choice (37). In group X, median survival was 276 days (range 25-1881), 71 died; <40% were aneurysm-related deaths. Sixty-six underwent emergency repair (in-hospital-mortality=37%). Thirty-five patients (34.5%) were not treated emergently (group Y) (22 males, mean age 82 years). The reasons for non-intervention were: significant comorbidity (30), malignancy (5), age (12), patient-choice (7). In group Y, median survival was 2 days (range 0-17).

Conclusion A significant percentage of patients did not undergo aneurysm repair. Despite being high risk for not surviving aneurysm repair, patients turned down for elective treatment have a reasonable life expectancy and are less likely to die from their aneurysm. In patients unlikely to survive emergency surgery, death is not necessarily immediate. Time is allowed for arrival of family and quality-closure in death, which is often denied with expeditious attempt at futile repair.

Explaining the reduction in mortality from ruptured abdominal aortic aneurysm in England and Wales 1996-2009

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Objective Last century a steady rise in incidence of abdominal aortic aneurysm (AAA) was reported. Mortality from rupture peaked in 1996. We have investigated reasons for the decline in mortality from rupture since then.

Method Routine statistics for mortality, hospital admissions and procedures in England and Wales were investigated. Data were age-standardised and mortality reported per 100,000 population. Trends in smoking, hypertension and hypercholesterolaemia, and statins, together with regression coefficients for mortality, were available from public sources for those aged 65+ years, with an effect on rupture deaths prevented in this age group, estimated from "deaths prevented = (deaths in index year) x (relative risk factor decline) x β-regression coefficient" (IMPACT equation).

Results Since 1996, deaths from ruptured aneurysm have decreased sharply, almost two-fold in men. Hospital admissions for elective repair have increased modestly (from 40 to 45), attributable entirely to more repairs in those 75+ years, $p<0.001$. Admissions for rupture have declined (from 18 to 13 across all ages), with the proportion offered and surviving emergency repair unchanged. Since 1996, mortality from ruptured aneurysm in those 65+ years has fallen from 66 to 44. An estimated 8-10 deaths were prevented by a reduced prevalence of smoking. Estimates for the effects of blood pressure and lipid control are uncertain but may have contributed to a decrease of 0-2 and 7-17 deaths, respectively.

Conclusion The reduction in incidence of ruptured aneurysm since 1996 is probably due more to changes in smoking and perhaps lipid control (statin use) than to increases in elective aneurysm repairs, particularly in those <75 years where elective repairs have not increased.

National Vascular Database analysis: independent operative predictors of abdominal aortic aneurysm repair outcomes

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Objective To analyse the relationship between elective infrarenal abdominal aortic aneurysm (AAA) repair outcomes and each of the operative data fields collected by the National Vascular Database (NVD).

Method Between January 2008 and December 2010, data for 13,068 elective AAA repairs were entered in 379 NVD data fields. Ninety-nine fields were operative. These included 44 combined endovascular (EVAR) and open (OAR), 44 EVAR-specific and 11 OAR-specific fields. Logistic regression analysis for the odds of death and for any complications was performed adjusting for gender, ASA and screening status.

Results For the combined and OAR-specific fields, data were available for 87% of cases on average. For the EVAR-specific fields, less than 15% of cases had any data. Twenty combined, 5 EVAR-specific and 3 OAR-specific fields were independently associated with mortality or major complications. Examples included reduced mortality risk with tube OAR grafts (OR 0.74 [95% CI, 0.56-0.99]; p=0.042), increased mortality risk with aorto-mono-iliac EVAR grafts (1.88 [95% CI, 1.08-3.26]; p=0.022) and with percutaneous EVAR access (2.64 [95% CI, 1.05-6.64]; p=0.031). Spinal/epidural EVAR anaesthesia was associated with reduced mortality (0.3 [95% CI, 0.18-0.51]; p=0.000), whereas the opposite was true for local anaesthesia (2.85 [95% CI, 1.88-4.32]; p=0.000). A 1mmHg rise in lowest intra-operative systolic pressure reduced the odds of mortality by 3.3% (2.7%-3.8%; p=0.000) and complications by 1.2% (95% CI, 1%-1.5%; p=0.000) for both EVAR and OAR.

Conclusion Approximately 40% of the non-EVAR-specific NVD operative fields correlate independently with outcome. Some of these correlations have the potential for improving current operative practices. For EVAR-specific fields, only 11% were associated with outcome. This may be due to poor compliance with these fields.

Angiotensin-converting enzyme inhibitors are associated with significant reduction in abdominal aortic aneurysm prevalence

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Objective The aetiology and natural history of abdominal aortic aneurysm (AAA) disease remain largely unknown. This study examines the correlation between AAA prevalence and angiotensin-converting enzyme inhibitors (ACEI) intake in men aged 65.

Method Between 2001 and 2008, 17,363 men reaching the age of 65 were invited for AAA screening. Those attending were given a health and current medications questionnaire. Mean blood pressure was measured prior to abdominal aortic ultrasonography.

Results 13,982 (80.5%) men attended for screening and completed their questionnaires; 380 (2.7%) AAAs were identified. Over the study period, AAA prevalence declined from 3.2% to 2.1%. This was associated with an increase of those on ACEI from 11% to 30%. Correcting for history of cardiac disease, stroke, hypertension and smoking, those who were on ACEI (n=1996) had a reduced risk of developing an AAA (OR 0.55 [95% CI, 0.37-0.83]; p=0.003). For those who were on ACEI as the only antihypertensive medication (n=676), the odds for having an AAA were further reduced at 0.1 (95% CI, 0.05-0.51), p=0.0004. The odds for developing an AAA in those who were on antihypertensives other than ACEI (n=2823) were 2.47 (95% CI, 1.70-3.57), p=0.000. The odds for developing an AAA in those who were not on any antihypertensive medications (n=8178) were 0.87 (95% CI, 0.53-1.42), p=0.581.

Conclusion The prevalence of AAA disease appears to be significantly lower in men aged 65 who are on ACEI. This observation was independent to major confounders. ACEI appear to play an important role in the pathophysiology of AAA disease. The potential value of this drug class in the prophylaxis of AAA disease warrants appraisal.

Motif-chemokine 19 (CCL19) and cathepsin G (CTSG) are upregulated in highly unstable carotid atherosclerotic plaques

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Objective Carotid atherosclerotic plaque instability is a leading cause of morbidity and mortality in the western world. We aimed to identify markers of plaque instability using whole genome microarray analysis with qRT-PCR validation on a larger independent cohort of patients. Instability was defined on the basis of symptoms within 2 weeks, evidence of microembolisation and histological appearance.

Method 120 patients undergoing carotid endarterectomy (CEA) were recruited prospectively. RNA from 24 plaques harvested during CEA were hybridised onto a whole-genome microarray. Genes were chosen for qRT-PCR validation based on hierarchical significance and gene ontology processes on a separate cohort of 96 patients.

Results Results of differentially expressed genes (>1.3 fold, $p<0.05$ after correction for Multiple Hypothesis Testing) were sought for: 1) recency of symptoms – 177 genes; 2) evidence of embolisation – 2294 genes; 3) histological grading – 134 genes. Fifty-four genes were identified in at least two of the three analyses. Eleven (85%) of 13 genes chosen for validation using qRT-PCR showed concordance in directionality with microarray findings. Motif-chemokine 19 (CCL19) (x 1.92 fold; $p=0.02$) and cathepsin G (CTSG) (x 3.7 fold; $p=0.002$) were significantly upregulated in both microarray and qRT-PCR analyses.

Conclusion CCL19 and CTSG have been demonstrated in plaques that have been independently shown to be histologically and phenotypically unstable. These genes are involved in inflammation and connective tissue remodelling and now form targets for pharmacotherapy.

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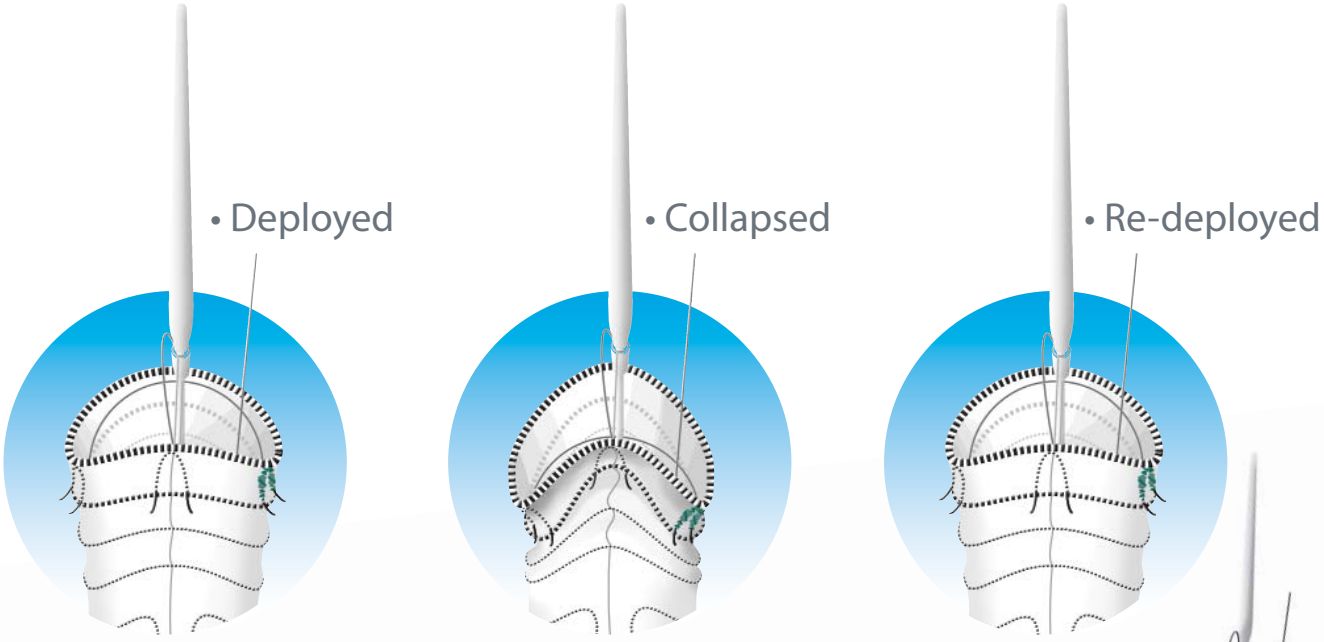

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In vivo assessment of the POSS-PCU small-calibre graft in a sheep carotid artery interposition model

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Objective There is a clinical need for a small-calibre (<6mm) synthetic cardiovascular bypass graft with function and durability equivalent to autologous conduits. The main objective of this study was to assess *in vivo* performance based on EN-14299 standards of a previously developed nanocomposite polymer graft with these characteristics.

Method POSS-PCU grafts (silsesquioxane polycarbonate-urea urethane) with a 5mm internal diameter were implanted in sheep (n=10) as carotid interposition grafts for 9 months. Flow rate pre- and post-implantation were measured. Change in vessel wall diameter in each cardiac cycle was analysed at discrete sites along graft and carotid artery per-operatively to calculate compliance. Patency was monitored monthly with duplex ultrasound and vascular wall tracking. Similarly, six PTFE grafts were implanted as a control.

Results Graft implants were between 5-8cm long and stretched by 10%, hence allowing replacement of longer-length blood vessels. Flow rate before implantation was 480±48ml/minute and post-implantation was reduced to 460±46ml/minute (NS). Patency was 85% at 9 months. Patency of PTFE grafts was 0% at 1 month. Compliance of the POSS-PCU grafts was significantly greater at implantation and maintained at 9 months.

Conclusion The 85% patency rates achieved at 9 months with POSS-PCU grafts are unparalleled in this sheep carotid test and not seen in any previous studies on any other synthetic materials. The *in vitro* properties previously reported have been confirmed *in vivo*. This compliant graft with significantly less thrombosis, and intimal hyperplasia, has potential for clinical use in coronary artery bypass, vascular access and infrainguinal revascularisation.

Genetic determinants of vascular diameter and the risk of abdominal aortic aneurysm

SC Harrison [1], D Zabaneh [2], F Drenos [1], MJ Bown [3, 4], K Gertow [5], D Baldassare [6], FW Asselbergs [7], GT Jones [8], AF Baas [7], M Kumari [9], FG Fowkes [10], P Eriksson [5], A Hamsten [5], SE Humphries [1]

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Objective There is evidence that abdominal aortic aneurysm (AAA) is a manifestation of a systemic dilating diathesis. Common carotid artery diameter (CCAD) is a quantitative trait that is correlated with the risk of AAA. We sought to determine the genetic determinants of CCAD and their association with AAA.

Method We performed genetic association analyses of CCAD in 3408 individuals from the IMPROVE study using the Illumina 200k Cardiometabochip platform. Lead SNPs were taken forward for replication in the Whitehall II study (n=2091), and tested for association with AAA in four case-control studies (4,317 cases and 36,776 controls), infrarenal aortic diameter in a prospective study (n=8347) and expression of nearby genes in aortic tissue.

Results In the IMPROVE study there was a strong association between variants on chromosome 1p24.3 and greater CCAD. Two SNPs (in weak LD) at this locus were prioritised for follow-up studies. Rs4916251 was associated with greater CCAD in the IMPROVE study ($p=1.1 \times 10^{-7}$), but this did not replicate in the WHII study (p=0.39, combined $p=2.4 \times 10^{-6}$). This SNP was, however, associated with AAA (OR 1.1, $p=6 \times 10^{-3}$), larger infrarenal aortic diameter (p=0.04) and expression of PIGC in aortas ($p=4 \times 10^{-3}$). Rs74126223 showed association with CCAD in IMPROVE ($p=2.8 \times 10^{-6}$) and WHII (p=0.03, combined p-value 3.9×10^{-7}), but no association with the other trait.

Conclusion These data suggest that a locus on Chr1p24.3 is important in vascular remodelling and the risk of developing AAA. This provides genetic evidence of a systemic diathesis in AAA.

Tissue engineering small-diameter vascular grafts: decellularisation of porcine arteries

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Objective The clinical performance of small-diameter synthetic grafts in arterial bypass has been poor. The aim of this study was to develop a biocompatible, biomechanically stable, small-diameter vascular graft suitable for cardiac and peripheral bypass using porcine arteries.

Method A novel detergent-based protocol was developed to remove all cellular components from porcine common carotid arteries to render them non-immunogenic. Representative tissue sections (n=6) were assessed histologically using native artery as controls. Fresh and acellular arteries (n=6) were subject to biochemical analysis: DNA, collagen, denatured collagen and sulphated proteoglycans were quantified. PCR analysis was carried out to determine the coding potential of residual DNA fragments. *In vitro* biocompatibility was assessed using two distinct cell lines (murine 3T3 and baby hamster kidney cells). Burst pressure, suture retention, compliance and low rate failure testing were carried out to identify any biomechanical changes following decellularisation; fresh and acellular arteries were compared (n=6).

Results The decellularisation protocol resulted in arteries free from cells, >95% of the total DNA had been removed and PCR identified the residual DNA to be non-coding. Acellular arteries were shown to be biocompatible *in vitro*; cells grew in contact with the tissues and there was no decrease in cell viability after incubation with soluble tissue extracts. Biochemical and biomechanical analysis indicated the properties of each acellular artery had not significantly altered following decellularisation, with compliance and maximum burst pressures remaining unchanged.

Conclusion The study resulted in biocompatible, biomechanically competent acellular arteries, which may have utility in arterial bypass.

Video motion analysis for objective assessment in catheter-based endovascular intervention

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Objective Wider uptake and increasing case complexity in endovascular intervention mandates proficiency in guidewire/catheter manipulation. Objective motion analysis has been comparatively unexplored in this field. This study assesses its feasibility and its role for evaluation of technical skill and technology benefit.

Method A semi-automated motion tracking software was developed, utilizing CT-calibrated and noise-corrected cumulative translational motion between frame-by-frame fluoroscopic video co-ordinates, to calculate the 2D catheter-tip path length (PL) with visual representation in an AP projection. Motion analysis was performed for 64 simulated endovascular procedures involving 20 experienced operators. Subjects cannulated aortic arch and visceral branches within CT-reconstructed pulsatile silicon phantoms in the angiography suite, using robotic versus conventional catheter techniques.

Results Median PL was significantly reduced using robotic catheterisation techniques: 2093mm IQR (1471-3554) versus 1352mm (1111-1668) in the arch ($p=0.001$); 2340mm (1860-3754) versus 572mm (474-767) in the visceral segment ($p=0.001$). PL was significantly shorter for the less angulated aortic branches with conventional cannulation techniques ($p<0.02$). Further analysis revealed statistically significant correlations between PL and total procedure times (Spearman's $rho=0.749$; $p<0.001$), catheter movements ($rho=0.7$; $p<0.001$) and vessel wall hits ($rho=0.468$; $p=0.005$). An inverse correlation between PL and qualitative procedure scores was also found to be statistically significant ($rho=-0.662$; $p<0.001$).

Conclusion Endovascular instrument video motion analysis is feasible, and may act as a useful tool to assess endovascular skill and technology benefit. With further refinement and extraction of other descriptive metrics in addition to PL, it may provide an attractive platform for objective evaluation of endovascular performance.

Trends in mortality and incidence of abdominal aortic aneurysms in England and Wales

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Objective Recent studies from Australia and New Zealand reported declines in both abdominal aortic aneurysm (AAA) mortality and incidence. This has important implications for screening policies. This study examined trends in AAA mortality and incidence in England and Wales.

Method The UK Office for National Statistics provided cause-specific death data for England and Wales; Hospital Episode Statistics supplied hospital admissions and procedures data for England from 2001 to 2009. Poisson regression models were constructed to estimate the relative change over time.

Results Age-standardized rates for AAA mortality in England and Wales fell significantly by 35.7% from 2001 to 2009. Ruptured AAAs were a major contributor of AAA mortality (84.6%) and the sharp decline in AAA mortality was largely due to a 35.3% drop in age-standardised ruptured AAA deaths. During the same period, ruptured AAA admissions in England significantly declined by 25.8% (6.1/100,000 to 4.5/100,000) and emergency AAA repairs similarly fell by 29.6% (3.1/100,000 to 2.2/100,000). In contrast, non-ruptured AAA admissions increased by 6.4% (14.4/100,000 to 15.4/100,000) and non-emergency AAA repairs increased by 19.6% (7.1/100,000 to 8.8/100,000). Total AAA admissions remained the same (20.5/100,000 to 19.9/100,000) and total AAA repairs increased by 7.3% (10.2/100,000 to 11.0/100,000).

Conclusion Unlike Australia and New Zealand, the falling AAA mortality in England and Wales did not mirror a decline in disease incidence, but appeared to be related to a lower incidence of ruptured AAA. The overall AAA case-load has not decreased in England. In contrast to Australia and New Zealand, these data provide support for a continued policy of AAA screening.

A new 4D aortic imaging technique to quantify vessel wall mechanics *in vivo*

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Objective Vessel wall mechanics are important in the development, progression and treatment of cardiovascular disease. Current imaging techniques (e.g. dynamic CT) cannot quantify detailed aortic movement in three dimensions (3D) over time (4D). We aimed to develop a new 4D magnetic resonance (MR) imaging technique to accurately quantify aortic wall mechanics *in vivo*.

Method Fifty different image acquisition parameters were individually tested in simulations and phantoms to design the MR sequences. The accuracy of different rigid (affine) and non-rigid image registration techniques was investigated. The optimised combined image acquisition and registration scheme was then prospectively applied to 12 human volunteers.

Results New high-resolution MR sequences were successfully developed to characterise aortic movement caused by: 1) cardiac motion (4D-cine, ECG-gating, respiratory navigator [3mm], 1.5mm^3, 25 phases, SENSE=2, half-scan-y=0.625, typical scan-time 5-10 minutes); 2) respiratory motion (4D-respiratory-resolved data, 3mm respiratory bins, 1.5mm^3, 4-9 dynamics, radial-P-E, SENSE=6, 4-8 minutes). Affine techniques accurately quantified rotation, translation, scaling and shear (Target Registration Error: 1.4±0.7mm) and non-rigid quantified whole body aortic motion (WBM) (foot-head, right-left, anterior-posterior)(TRE:1.2±0.4mm). Significant inter-individual differences in aortic deformation and dynamic curvature were seen. Cardiac motion caused high levels of aortic rotation (mean: 25° [SD31.1]) and shear (11° [SD6.7]), whereas respiratory motion resulted predominantly in foot-head WBM (8mm [SD5]). Overall, the motion of the ascending aorta (6.45mm [SD1.57mm]) was significantly greater than the aortic arch (3.50mm [SD1.02]; p=0.002) and descending thoracic aorta (2.41mm [SD0.98], p=0.0001).

Conclusion We have successfully developed, validated and applied a new method to quantify aortic wall mechanics *in vivo*. For the first time we have seen significant inter-individual differences in vessel wall motion. This information will improve our understanding of cardiovascular disease and can be used to risk stratify and optimise treatment for individual patients.

Carotid plaque imaging: ready for prime time?

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Objective Histopathological evidence indicates that carotid intraplaque haemorrhage (PH) is associated with plaque instability. PH in carotid disease can be detected by MRI. We assessed the predictive value of MRIPH for recurrent ipsilateral ischaemic events in symptomatic carotid stenosis (SCS).

Method 176 patients with SCS (50-99%) from three prospective studies underwent 3D carotid MRI and were followed up until recurrence of ipsilateral ischaemic event, CEA or death. Multivariate Cox regression analysis was performed to determine hazard ratios for time to event.

Results 112 patients with MRI hyperintense plaque were classified as PH+; 106 patients had 70-99% stenosis. 68% had CEA resulting in a follow-up range of 0-3128 days (median 531 days). During follow-up, 48 recurrent events were noted (19 stroke) in PH+ patients, compared with only four events (one stroke) in the PH- group. Backward conditional analysis showed that PH (HR 13.1; 95% CI, 4.6-37.2; $p<0.0001$) and degree of stenosis (HR 13.1; 95% CI, 4.6-37.2; $p<0.0001$) independently predicted recurrence of ischaemic events. Backward conditional analysis for stroke alone revealed that MRIPH was the only significant predictor (HR 22.3; 95% CI, 3-169; $p=0.003$) with a trend for higher degree of stenosis.

Conclusion MRIPH independently predicts recurrent ipsilateral ischaemic events, and stroke alone, in >50% SCS. For stable carotid plaques as indexed by absence of PH, the estimated event risk may invalidate RCT evidence for efficacy of CEA. We conclude that PH imaging should become an integral part of diagnostic assessment for SCS with the potential to influence management in 50-69% of stenosis, and sufficient equipoise to warrant a RCT for all grades.

Risk-adjusted retrospective concurrent cohort study of fenestrated endovascular repair (f-EVAR) versus open surgery for juxtarenal aneurysms

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Objective There is a need to compare f-EVAR against open repair for juxtarenal aneurysms, but there is little equipoise for an RCT. Our purpose was to conduct a risk-adjusted retrospective concurrent cohort comparison of the techniques.

Method All patients who underwent repair of a juxtarenal aneurysm within one institution between January 06 and December 10 were included. Case notes and CT scans were retrieved for data, V-POSSUM score and aneurysm morphology.

Results Open surgery cohort: n=54 (median age 72, 36 men). The aortic cross-clamp was infrarenal in 20 patients, suprarenal or above in 21 and inter-renal in 8. Postoperatively, 63 major complications were noted in 30 patients, 9 of whom required 16 re-interventions. Total hospital stay was 1170 days, 234 in ITU. Peri-operative mortality was 9.2% (n=5), exactly as estimated by V-POSSUM. f-EVAR cohort: n=53 (median age 76, 47 men). Two fenestrations and one scallop was the most frequent configuration (n=31). Postoperatively, 37 major complications were noted in 18 patients, 6 required re-intervention. Total hospital stay was 559 days, 31 in ITU. Two died (3.7%) peri-operatively, compared to the V-POSSUM estimate of 9.4% (n=5). Crude absolute risk reduction was 5.5%. In the hypothetical event of a f-EVAR cohort undergoing open repair instead, V-POSSUM estimated 7 deaths (13.2%), with a risk-adjusted absolute risk reduction due to f-EVAR of 9.5%.

Conclusion f-EVAR reduces mortality and morbidity substantially, while lowering hospital resource utilisation. When adjusted for differences in operative fitness, a switch from open surgery to f-EVAR is estimated to provide a substantial (9.5%) absolute risk reduction for peri-operative mortality.

Randomised trial of endovenous laser ablation versus surgery for small saphenous varicose veins

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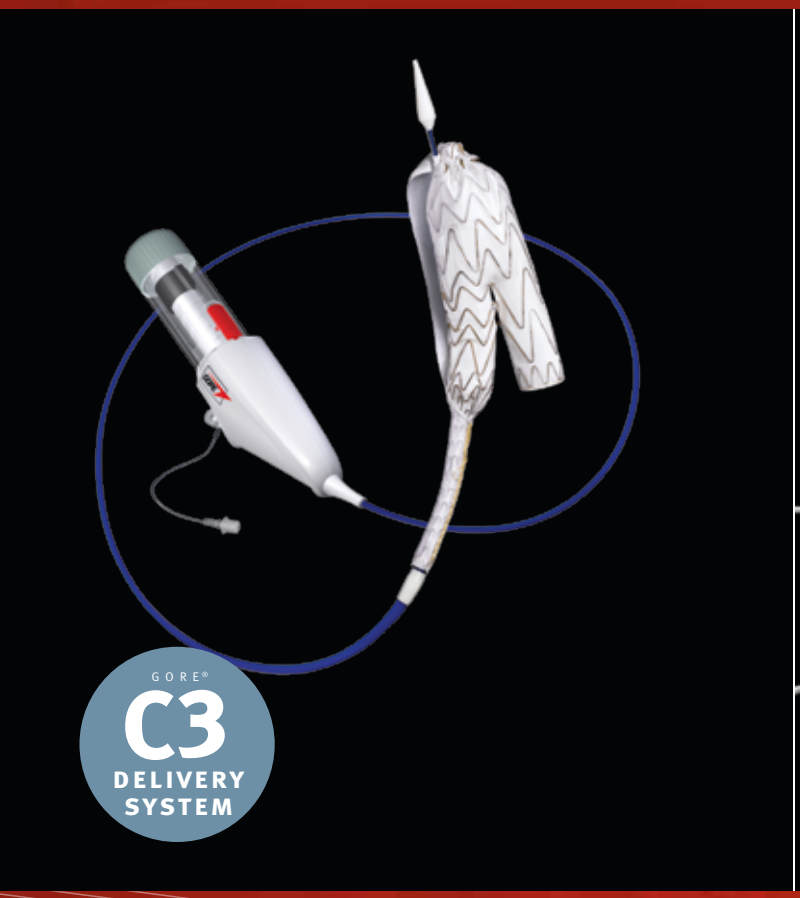
Objective No randomised clinical trial (RCT) comparing treatment options for small saphenous vein (SSV) incompetence exists. There is evidence that SSV may behave differently to great saphenous vein (GSV) incompetence following treatment, hence available evidence for GSV cannot be extrapolated to SSV management. This RCT aimed to compare the clinical efficacy and quality of life (QoL) outcomes for conventional surgery and endovenous laser ablation (EVLA) in the treatment of SSV incompetence.

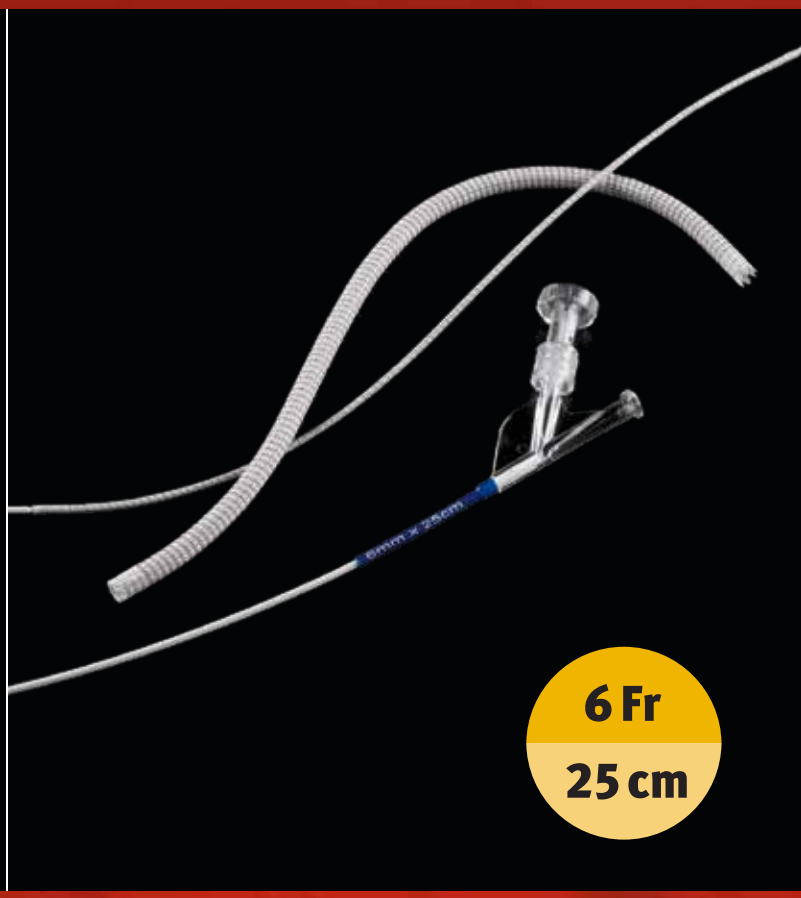
Method Patients with unilateral, primary saphenopopliteal junction (SPJ) incompetence with SSV reflux were randomised equally into parallel groups receiving either conventional surgery or EVLA. Patients were assessed at baseline and at 1, 6, 12 and 52 weeks. Outcome measures included: Visual Analogue Pain scores; Quality of life (generic – SF36, EuroQol 5D and disease-specific – AVVQ); Venous Clinical Severity Score (VCSS); time taken to return to work and normal function; and complication rates.

Results 106 patients (74 women), median age 47 (IQR 39-57) years were recruited and randomised to surgery (n=53) or EVLA (n=53). Intragroup analysis: both groups demonstrated significant improvement in VCSS ($p<0.001$), disease-specific AVVQ ($p<0.001$), generic SF36 and EQ5D QoL ($p<0.05$). Intergroup analysis: postoperative pain was significantly lower after EVLA ($p<0.05$), allowing an earlier return to work and normal function ($p<0.001$). Sural nerve sensory disturbance was significantly lower in the EVLA group 7.5% vs. surgery 26.4% ($p=0.009$).

Conclusion EVLA was as effective as surgery in the treatment of SSV incompetence, but associated with less peri-procedural pain, faster recovery and fewer neural complications.

Experience Performance.





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Management and outcome of prosthetic patch infection after carotid endarterectomy: a single-centre series and systematic review of the literature

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Objective To determine outcomes following prosthetic patch infection after carotid endarterectomy in a single centre and within a systematic literature review.

Method A retrospective audit and systematic review of the literature.

Results Twenty-two patients with patch infection after carotid endarterectomy (CEA) were treated between January 1992 and June 2011. Five were referred from other centres, giving an infection rate of 0.8% (17/2136) in the host centre. The commonest infecting organism was *Staphylococcus* (n=11). One patient was treated by antibiotic irrigation, one was stented, while 20 underwent debridement and patch excision plus carotid ligation (n=3), vein patch (n=3) or vein bypass (n=14). There were no peri-operative deaths; one suffered a disabling stroke (30-day death/stroke 4.5%). Nine (41%) suffered cranial nerve injuries, four persisting at 30 days. There were no secondary re-infections. The systematic review identified 123 patch infections. Thirty-six (29%) presented <2 months (usually after peri-operative wound complications) with wound infection/abscess and patch rupture predominating; 78 (63%) presented >6 months (sinus, false aneurysm). Seventy-nine out of 87 (91%) with a positive culture yielded *Staphylococci/Streptococci*. Seventy-four patients were treated by patch excision and autologous reconstruction with a 30-day death/stroke rate of 8.1%. Four survivors undergoing autologous reconstruction developed re-infection <60 days, none suffered later re-infection. Seven of nine patients (78%) undergoing prosthetic reconstruction died or suffered re-infection. Five patients have been treated with a covered stent, none developing re-infection.

Conclusion Patch infection following CEA is rare but under-reported. Few patients have undergone stenting and long-term data are awaited. For now, patch excision and autologous reconstruction remain the gold standard.

Should we be using VO_2 peak or the anaerobic threshold to risk stratify patients prior to repair of an abdominal aortic aneurysm (AAA)?

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Objective Cardiopulmonary exercise testing (CPX) is a measure of patient fitness and is used to risk-stratify patients undergoing endovascular (EVAR) or open repair (OR) of an abdominal aortic aneurysm (AAA). We examined which CPX data independently predict mortality.

Method All patients undergoing AAA repair between 01/01/2007 and 31/12/2008 who underwent CPX assessment were included. Peak oxygen concentration (VO_2 peak) and anaerobic threshold (AT) were recorded. Intervention type, Lee cardiovascular risk score and mortality data were obtained from casenotes. Adjusted Cox-Regression analysis was used to determine which CPX outputs independently predicted mortality.

Results 134 patients (115 men [85%]) had CPX assessment, with a mean age of 75.4 years (IQR 69.8-80.3). Seventy cases had open repair; 30-day and 1-year mortality, 2.9% and 8.6%. Sixty-four cases had EVAR; 30-day and 1-year mortality, 4.7% and 14%. Overall, the mean Lee score was 1.85, median VO_2 peak was 15.1 (IQR 12.6-17.3) and median AT was 10.6 (IQR 9.1-12.5). Irrespective of intervention, the hazard ratio (HR) for the relative risk of death was 0.88 for every 1ml/kg/minute reduction of VO_2 peak (p=0.002). This remained significant when adjusted for age (HR 0.88; p=0.003), sex (HR 0.88; p=0.002) and Lee score (HR 0.89; p=0.009). AT was not a significant predictor of relative risk of death, both unadjusted and adjusted for age, sex and Lee score.

Conclusion VO_2 peak, but not AT, was an independent predictor of mortality in those undergoing EVAR or OR for AAA. These results require confirmation, but suggest risk stratification should be based on VO_2 peak in preference to AT.

Is cardiopulmonary exercise testing (CPET) useful for predicting survival following elective AAA repair?

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Objective Elective abdominal aortic aneurysm (AAA) repair aims to improve survival by preventing AAA rupture. Our objective was to assess whether data obtained from pre-operative CPET can predict survival following elective AAA repair.

Method Data were collected prospectively on all patients who had CPET prior to elective AAA repair from two University Hospitals between September 2005 and June 2011. Mortality data were obtained from the NHS Demographic Batch Service. Abnormal CPET values were defined as an anaerobic threshold of <10.2ml/kg/minute, VE/VCO_2 >42, peak VO_2 <15ml/kg/minute and inducible cardiac ischaemia. Univariate and multivariate analyses were used to identify variables associated with survival.

Results Data were available for 375 consecutive patients. The mean age was 74 (range 23-90) with 85.3% being men. Endovascular aneurysm repair (EVAR) was performed in 247 (66%) patients and open repair in 128 patients. The 30-day mortality rates were 2% and 4.7% for EVAR and open repair, respectively (2.9% overall). Over a median follow-up of 19 months (range 0-68 months), 58 (15.5%) patients died. For patients with more than three abnormal CPET values, survival at 24 months was 62% compared to 89% for patients with less than three abnormal CPET values ($p<0.001$). On multivariate analysis, peak VO_2 <15ml/kg/minute (OR 2.6; 95% CI, 1.4-5.0; $p=0.003$), VE/VCO_2 >42 (OR 2.8; 95% CI, 1.7-4.9; $p<0.001$) and more than three abnormal CPET values (OR 3.2; 95% CI, 1.9-5.6; $p<0.001$) were associated with reduced survival.

Conclusion Despite good 30-day mortality results following elective AAA repair, CPET identifies patients more likely to die over the following 2 years; elective AAA repair in such patients may need to be reconsidered.

Availability of emergency endovascular aortic interventions: evidence from the IMPROVE trial

R Hinchliffe, on behalf of the IMPROVE trial Investigators

Objective Vascular emergencies may benefit from endovascular interventions. The potential benefits of endovascular versus open repair for ruptured abdominal aortic aneurysm (AAA) are being investigated in the IMPROVE trial. We sought to identify the reasons for failure to recruit to the trial and document the availability of endovascular surgery at trial centres.

Method In 20 active UK trial centres, all cases of ruptured AAA are logged and reasons listed for non-randomisation of patients into the IMPROVE trial. CT scans of randomised patients are evaluated in a core laboratory.

Results Early core laboratory data for aneurysm anatomy have demonstrated complex anatomy: median AAA diameter 7.8cm (IQR 6.9-9.3), neck length 1.3cm (IQR 0.5-3.3), neck diameter 2.3cm (IQR 2.1-2.7) and neck angle 43° (IQR 27°-67°). Seven out of 26 (27%) had >4mm dilatation of the neck over the proximal centimetre. Now, with over 200 patients randomised, the commonest reason for non-randomisation of eligible patients is the inability to perform an endovascular procedure (52/148 patients). This reason is used in 8/20 trial centres, including four aspiring trauma centres, and many centres can only offer endovascular repair during the day Monday-Friday.

Conclusion Ruptured aneurysms presenting to hospital have very large diameters and short, conical aneurysm necks, which are a challenge for endovascular repair. However, the NHS does not appear to provide adequate endovascular cover for this vascular emergency. Provision for out of hours endovascular interventions needs to be urgently addressed.

There is no consensus in the UK on the role of fenestrated endovascular aortic aneurysm repair (fEVAR): the case for a randomised trial

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Objective In the UK, approximately 100 fEVAR procedures are carried out yearly, mostly in patients with complex aortic aneurysms who are deemed unfit for open repair. Based upon present rates of AAA detection and treatment, if fEVAR was to be extended to all technically suitable patients, irrespective of their 'fitness for open surgery', this number could increase up to 2000 per annum. At current prices this would equate to a cost to the NHS in the order of £30,000,000. The objective of this study was to establish whether consensus exists amongst UK vascular specialists on appropriate indications for fEVAR.

Method A stepwise consensus process was undertaken using the RAND appropriateness methodology. All UK fEVAR centres with a total experience >10 procedures were invited to participate.

Results There was a consensus against fEVAR (>90% agreement) in patients >85 years with supra-SMA AAA, <6cm diameter and high risk for open surgery and a consensus for fEVAR in patients 65-74 years with supra-SMA AAA >8cm diameter and moderate risk for surgery. There was no consensus on the appropriate role for fEVAR in relatively fit patients with juxta or pararenal aneurysms, who represent the majority for whom this approach is technically feasible.

Conclusion The absence of consensus regarding indications for fEVAR demonstrated by this study support the case for a national RCT to compare fEVAR with open repair in patients who are deemed fit for open surgery. Based upon case series published to date, an 80% power calculation indicates that 564 patients will be needed to give an 80% risk reduction with a 5% significance level. This is a feasible target given the rates of AAA detection and treatment in the UK today.

EVAR for ruptured AAA – does an endovascular first strategy reduce rupture mortality on a centre basis?

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Objective Endovascular repair (rEVAR) as a primary strategy for ruptured AAA (rAAA) is often promoted. We analysed the results of rAAA repair in Sweden to assess if centres with high penetrance of rEVAR achieved better survival.

Method All rAAA repairs registered in the Swedish Vascular Registry May 2008-May 2011 were analysed (n=837). Centres with <5 rAAA repairs annually were excluded. Outcome was compared for centres with >50% rEVAR compared to centres with <50% rEVAR.

Results Three centres treated 62-82% (mean 72%) of rAAAs with rEVAR (n=164 patients); 19 centres treated 0-35% (mean 16%) of rAAAs with rEVAR (n=673). There was no difference in mean age (high rEVAR 74.5 years, low rEVAR 73.9; p=0.416), rate of diabetes (10.9 vs. 11.3%; p=1.0), cardiac disease (43.2 vs. 37.1%; p=0.216) or hypertension (70.1 vs. 68.7%; p=0.827). High rEVAR centres had a higher rate of lung disease (35.9 vs. 23.0%; p=0.010), higher mean creatinine level (128 vs. 114μmol/L; p=0.024) and larger mean aneurysm size (83 vs. 75mm; p=0.022). The mean pre-operative systolic blood pressure was higher in the high rEVAR centres (87 vs. 72mmHg; p<0.001). There was no difference in 30-day mortality (high rEVAR 28.4 vs. low rEVAR 26.9%; p=0.695). In the high rEVAR centres, 30-day mortality was 38.6% after open repair and 24.3% after rEVAR vs. 32.5% and 21.5% in the low rEVAR centres.

Conclusion Centres with high rEVAR penetrance treated patients with more comorbidities, who were more stable pre-operatively. The primary treatment strategy at centre level did not affect the peri-operative survival.

Statin therapy is associated with reduced risk of abdominal aortic aneurysm rupture

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Objective The incidence of AAA rupture is declining and may be partly related to increased prescription of statins. This study investigated the association between statin therapy and rupture in patients with AAAs.

Method We retrospectively analysed a prospectively maintained database of 1098 consecutive AAA patients. These patients were either admitted with ruptured AAAs or for repair of intact large AAAs in a single tertiary unit (2004-2010). Patients were assessed as to whether they were taking statins prior to diagnosis of ruptured or intact AAAs. Patients that have been on a surveillance programme (n=109) were excluded.

Results There were 315 ruptured (134 unoperated) and 674 intact large AAAs with no prior surveillance. Patients who received statin therapy prior to AAA diagnosis were significantly less likely to present with ruptured AAA (odds ratio [OR] = 0.33; 95% CI, 0.23-0.48; p=0.0001). Adjustment for risk factors for rupture (size, female gender, smoking, age, hypertension) and comorbidities (ischaemic heart disease, diabetes mellitus, chronic renal failure and cerebrovascular disease) produced similar results (0.56; 0.35-0.90; p=0.016). With the exception of smokers (0.79; 0.30-2.0; p=0.62), statins consistently conferred protection in analyses of subgroups at risk of rupture: older patients >75 years (0.45; 0.29-0.71; p=0.001), females (0.32; 0.14-0.72; p=0.006) and hypertensive patients (0.44; 0.23-0.83; p=0.011). Uptake of statin therapy amongst patients on a surveillance programme was only 36.7%.

Conclusion Statin therapy is associated with a reduced risk of AAA rupture in addition to its other known beneficial effects in AAAs. Measures to improve the uptake of statins in patients with AAAs should be instituted.

The practice of UK vascular surgeons with regard to informed consent

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Objective In clinical negligence litigation, it is a defence to an allegation of failure to warn of a particular risk pre-operatively to show that the practice adopted would be supported by a responsible body of surgeons in the relevant field. This study aimed to find out what risks UK vascular surgeons do and do not warn patients about.

Method Questionnaires were posted to all UK-based members and associate members on The Vascular Society's mailing list. Respondents were asked to complete the section of a standard NHS consent form beginning "Serious or frequently occurring risks" as they normally would when seeking consent from an averagely fit patient undergoing open AAA repair, EVAR, carotid endarterectomy, below-knee femoro-popliteal bypass and high tie and stripping for varicose veins.

Results 516 questionnaires were distributed and 196 replies were received (38%). The proportion who gave a written warning of possible peri-operative death was 83% (OAAA), 65% (EVAR), 60% (CEA), 40% (fem-pop) and 0% (VVs). Warnings regarding all other complications of all five operations were given by less than 50% of surgeons, except for bleeding, infection, limb loss (fem-pop only) and venous thrombo-embolism (VVs only). In aneurysm patients, many complications which are common, or which are uncommon but serious, were warned about by less than 20% of surgeons, including renal ischaemia/failure (18%), incisional hernia (17%), paraplegia (9%) and late adhesion obstruction (0%).

Conclusion The practice of UK vascular surgeons in seeking informed consent is unlikely to meet the requirements of the GMC and, perhaps, of the Courts. The legal and ethical requirements relating to consent require clarification.

Surgical nurse practitioners and core surgical trainees: a word of warning at a time of major service reconfiguration

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Objective Surgical nurse practitioners (SNPs) can be trained to perform specific operative tasks such as vein harvesting or wound closure and are popular in cardiac surgery. They are reliable, without on-call commitments, whilst core surgical trainees (CSTs) are increasingly required for service duties. We report the effect of SNPs on CST surgical exposure and present to The Vascular Society a word of warning at a time of significant service reconfiguration.

Method Operative experience for CSTs who rotated through one department that used SNPs and one that did not, in the same year of training was collected from their Intercollegiate Surgical Training Programme (ISCP) Logbook. The total number of operations, the number as assistant and the number performed (either supervised [STS/STU] or independently [P]) were compared based on the presence of SNPs (SNP- vs. SNP+). Results are presented as a median (IQR) with non-parametric statistics.

Results Six CSTs (four CT1s, two CT2s) were included. The total operative experience was SNP-: 85 (84-89.75) cases vs. SNP+: 18 (12.5-19.75) cases; p=0.004. The number of operations assisting was SNP-: 55.5 (47.5-60.5) cases vs. SNP+: 11.5 (10.25-18) cases; p=0.02. The number of operations performed (either supervised or unsupervised) was SNP-: 27 (24-36) cases vs. SNP+: 3.5 (0.75-4.75) cases; p=0.004.

Conclusion SNPs occupy the traditional SHO role in the operating theatre but will never progress to provide a higher-level surgical service. They dramatically reduce the quantity and quality of operative training opportunities for CSTs. We urge The Vascular Society to consider this when planning service reconfiguration to ensure training of young surgeons remains high on the agenda.

Area of treatment independently predicts treatment and outcome for peripheral vascular disease in the UK population after controlling for demographic and disease risk factors. Analysis of English Hospital Data 2003-2009

N Ahmad
Wirral University Hospital NHS Foundation Trust, Wirral

Objective To investigate whether area of treatment independently predicted those having a lower limb amputation without revascularisation.

Method Hospital Episode Statistics (2003-2009) were used to determine numbers of procedures as well as risk factors. Prevalence rates, per 100,000 (95% CI) of major lower limb amputation and revascularisation (endovascular and surgical) were calculated using census data in those aged 50-84. These procedural data were case-matched to define those having amputations without revascularisation within the 6-year period.

Results Between 2003 and 2009 there were 21,056 amputations and 109,079 revascularisations. The prevalence rate, per 100 000, of amputations was over double in males (32; 31.2-32.2) compared with females (13; 12.8-13.5). Revascularisation rates showed a similar pattern (males 160; 158.6-160.9; females 72; 71.5-73.0). Logistic regression demonstrated that after controlling for demographic (age, sex, social class) and disease risk factors (diabetes, hypertension, hypercholesterolaemia, smoking, previous coronary heart disease or stroke), location independently predicted those having major lower limb amputation without prior revascularisation; areas of significance were the North East, South East, Midlands and East Midlands.

Conclusion Area of treatment independently predicted those having amputation without revascularisation. Reasons for this geographical difference warrant further investigation.

Validation of five risk prediction models for mortality in 10,891 elective AAA repairs from the National Vascular Database

SW Grant [1], AD Grayson [2], DC Mitchell [3], CN McCollum [1]

1 Department of Academic Surgery, University Hospital of South Manchester, Manchester; 2 Liverpool Heart and Chest Hospital NHS Foundation Trust, Liverpool; 3 Audit and Quality Improvement Committee, The Vascular Society of Great Britain and Ireland

Objective There is no consensus on which risk prediction model for mortality following elective AAA repair should be used in the UK. Our objective was to assess the performance of five risk prediction models for elective AAA repair using the National Vascular Database (NVD).

Method Data held on the NVD (excluding the North West of England) between January-2008 and December-2010 were analysed. The Glasgow Aneurysm Score (GAS), physiological component of the Vascular Physiological and Operative Severity Score for enUmeration of Mortality (V-POSSUM), Vascular Biochemical and Haematological Outcome Model (VBHOM), Medicare and Vascular Governance North West (VGNW) models were tested. Model performance was assessed by area under the receiver operating characteristic (ROC) curve and ability to predict observed risk in low-, medium- and high-risk sub-groups.

Results Data from 10,891 elective AAA repairs were analysed (mean age 74, 87.3% men). The in-hospital mortality rates following endovascular repair and open repair were 1.3 and 4.7%, respectively (2.9% overall). The Medicare and VGNW models both showed good discrimination (ROC=0.71), while the GAS, VBHOM and V-POSSUM showed poor discrimination (ROC=0.60, 0.61 and 0.61, respectively). The VGNW model was the only model to accurately predict risk in low- (1.7% predicted vs. 1.7% observed; p=0.899) and medium-risk groups (4.7% predicted vs. 4.3% observed; p=0.555), but over predicted risk in the high-risk group (10.6% predicted vs. 7.6% observed; p=0.009).

Conclusion The Medicare and VGNW models contain similar risk factors and showed good discrimination when applied to the NVD. Both models would be suitable for risk prediction in elective AAA repair in the UK.

Ethnicity independently predicts major lower limb amputation without revascularisation after controlling for demographic and disease risk factors. Analysis of English Hospital Data 2003-2009

N Ahmad
Wirral University Hospital NHS Foundation Trust, Wirral

Objective To document the prevalence of leg amputation and revascularisation by ethnic group aged 50-84 and determine whether ethnicity independently predicted amputation without revascularisation after controlling for known atherosclerotic disease risk factors.

Method English hospital (HES) and census data were used to calculate age standardised prevalence and proportional rates (95% CI). Cases were matched to identify those having amputation without revascularisation between 2003 and 2009. Demographic (age, sex, social class, area of treatment), disease risk factors (diabetes, hypertension, high cholesterol, history of coronary heart disease or stroke and smoking) and ethnicity (White British, Asian, Black) as documented by HES were compared with the White British population (WB).

Results Between 2003 and 2009 there were 21,056 amputations and 109,079 revascularisations. The prevalence rate per 100,000 in WB was: leg amputation (males=26; females=19), revascularisation (males=128; females=93). In men, the proportional rate (WB=100) of amputation was one third higher in Blacks (136; 117-155) and half in Asians (55; 47-64). Asian women also experienced half the rate of amputation (49; 35-63) and a lower rate of revascularisation (74; 67-81). However, Black women had 2.6 times the rate of amputation (261; 215-306) with no significant difference in revascularisation. Ethnicity independently predicted those having amputation without revascularisation after controlling for demographic and disease risk factors.

Conclusion Blacks and Asians experience significantly different rates of leg amputation and revascularisation, with ethnicity independently predicting amputation without revascularisation after controlling for known risk factors. The implication of this finding warrants further study.

A dedicated multidisciplinary amputee service achieves improved patient experience and reduces length of stay

P Grewal, K Primett, L Mattin, D Baker, J Tsui, M Davis, G Hamilton
Royal Free Hampstead NHS Trust, London

Objective To assess the clinical and patient outcomes of a dedicated amputee service introduced to a vascular unit in January 2008.

Method Retrospective appraisal of a prospective database (2008-2010) according to the guidelines of the Quality Improvement Framework for major amputation surgery.

Results Ninety-seven major lower limb amputations were performed from January 2008 to December 2010: 66 men, 31 women, aged 43-87 years (mean 65.8). All pre-operative framework criteria were met. Peri-operative compliance was achieved with respect to timing of operation and appropriate level of surgeon and anaesthetist. All patients were assessed pre-operatively and immediately postoperatively by physiotherapists, specialist counsellors and occupational therapists, with twice daily access to the rehabilitation team. A weekly Amputee Support Group was instigated in 2008 for patients and relatives. Fifty-five below-knee amputations and 42 above-knee amputations were performed. This complies with the framework objective of below: above-knee ratio >1. Patient satisfaction questionnaires demonstrated consistently high levels of satisfaction with the amputee service and support offered to relatives. Hospital length of stay was reduced from 126 days (in 2005) to 46 days in 2008 to 23 days in 2010. In-hospital mortality was 9% (2008-10). The dramatic reduction in bed days made the introduction of this service cost neutral.

Conclusion The dedicated amputee service has achieved a significant reduction in length of stay and improvement in patient satisfaction. We need to continue to audit our practice to achieve the aims of improving the above- to below-knee amputation ratio and of reducing mortality to less than 5%.

Annual General Business

Meeting Agenda

Thursday 24th November 2011 at 5.30-6.15pm
EICC, Edinburgh

1. Apologies
2. Minutes of AGM 2010
3. Any other business
4. President's Report: Mr Peter Lamont
5. Honorary Secretary's Report: Mr Mike Wyatt
6. Honorary Treasurer's Report: Mr Simon Parvin
7. Audit and Quality Improvement Committee Report: Mr David Mitchell
8. Training and Education Committee Report: Professor Jonathan Beard
9. Circulation Foundation Committee: Mr Ian Franklin
10. Research Committee Report: Professor Shervanthi Homer-Vanniasinkam
11. Professional Standards Committee Report: Professor Michael Gough
12. Vascular Tutor: Professor Ian Chetter
13. President Elect's Report: Professor Ross Naylor
14. Election of Officers: Result of ballot for Ordinary Members of Council
15. Date of next meeting: Thursday 29th November, Manchester Central Convention Centre

Honorary Secretary's Report

Michael G. Wyatt

Peter Lamont is entirely correct when he states in his President's report that "it has been a baptism of fire for the new Honorary Secretary". You will all be very aware of the pivotal changes that are involving our Society, primarily with the birth of our new vascular specialty. We have endeavoured to keep you up to date with these rapid developments by way of regular VSGBI Newsletters throughout the year, and I hope that most, if not all of you, are now up to speed.

Specialty status does however come at a price. This price is change: change to the way we deliver our vascular service; change to our regular working week; and not least, for many of us, change to the site at which our major vascular interventions are provided. No longer will we see vascular surgeons working in small units and struggling to deliver excellence with minimal resource or out of hours support. The new specialty will require world class vascular services to be provided from high-volume arterial centres based either on a centralised model or around a modern vascular network with a single designated arterial site.

The drivers for such change are EWTR, aneurysm screening, volume outcome data and the need to provide safe and effective interventional facilities for all of our patients with vascular disease, wherever they live in the UK. There will inevitably be variations on the above models for rural areas, such as the far reaches of Cornwall and the Highlands & Islands, but wherever modern vascular care is provided, we need robust cover arrangements, not only for primary surgery, but also for the 24-hour treatment of the complications that may arise from such intervention.

Whilst specialty status still requires ratification by the Secretary of State, there is no reason to believe that this won't happen. Your Council has been working tirelessly on various work streams to effect the changes that will be required of the new specialty. Our Education Chair, Jonathan Beard, has been tasked with developing the new Vascular Curriculum and is working in conjunction with Mark McCarthy and Gareth Griffiths to develop a National Vascular Selection process, which is expected to recruit its first trainees, if not in 2012, then in 2013. Julian Scott has been tasked with developing a new vascular exit examination and the Society has asked the Royal Colleges to form a shadow vascular SAC, pending formal approval of the new specialty; they have proposed Peter Lamont as the interim Chair.

We owe a great debt of thanks to those individuals who have helped smooth the waters on this voyage to specialty status. Each and every one of our past Presidents has played an active role in this process and I would particularly like to thank Mike Gough, Cliff Shearman and Peter Taylor who all worked tirelessly for the Society during their recent Presidential tenures. Likewise, the Society received significant support from the Royal Colleges of Surgeons, the Royal College of Radiologists

and the British Society of Interventional Radiology: without their endorsement, such change would not have been possible.

You have an amazing Council. Each and every one of them has worked hard for the Society over the past year, whether as a member of a committee, an advisor for NICE, on a panel for a regional vascular review, or when representing the Society at the ASGBI or BSET. We have radically changed the structure and branding of the Circulation Foundation and have appointed a new chair, Ian Franklin. Ian has brought his youthful enthusiasm to the table and along with Rebecca has breathed new life into the Foundation, forging many important links to assist with the future fundraising requirements of the Society.

Much of the revenue raised by the Circulation Foundation goes to support the Research Committee. This is thriving under the watchful eye of its Chair, Shervanthi Homer-Vanniasinkam, with new awards and grants recently announced. Simon Parvin, our Treasurer, has overseen all of the financial affairs of the Foundation and the Society with immense skill and professionalism; he will be sorely missed when he demits office next year.

David Mitchell will be known to you all! He has radically overhauled the NVD, making it fit for purpose for the new specialty and preparing for revalidation. We are now in control of our own data and will no longer be at the beck and call of the popular press to account for variations in practice within our islands. David has also recently secured a significant HQIP grant to further develop the AAA QIP; a bidding process to host the programme is shortly to be engaged.

Your Vascular Society could not function without its highly professional and dedicated office staff. Led by Jeanette, our Chief Executive Officer, both Neelam and Rebecca are developing those particular skills required to lead the Society into the next decade. Their degree of dedication, their understanding of the Society and the processes involved in its smooth running and their support of the Officers and Council is unquestionable. They have each made my early days as your new Secretary most enjoyable and hopefully effective. We are extremely lucky to have such dedicated staff and please do feel free to compliment them at the AGM in Edinburgh.

Finally, the Provision of Services to Patients with Vascular Disease 2009 document is now seriously out of date. It has, therefore, been re-written with significant input from many of you, from all sizes of hospitals and in all parts of the UK. In addition, we have received helpful comments from our interventional radiology colleagues and the finalised document will be presented for approval at the AGM. We do need your support for the POVS 2012 document and this in turn will underpin the ideals behind the formation of our new speciality, the changes required of our service and the improvement to the quality of care and safety, essential for all patients requiring intervention for vascular disease in the UK. We have an exciting future; we do however need to take a firm grasp and prepare for the exciting changes which lie ahead.

I thank you all for the support you have afforded me over the last hectic year. I also am most grateful to my predecessor, Jonothan Earnshaw. He has skilfully overseen much of the change described above and handed over a steady tiller and a healthy crew. Enjoy the AGM and I wish you well for 2012.

Honorary Treasurer's Report

Simon Parvin

Like 2010 before it, 2011 has seen financial stability for the Vascular Society.

Membership

We have 738 members compared with 697 a year ago. The discount initiative for trainees to join at a subsidised rate last year has led to an increase in the number of Affiliate Members from 116 to 138. We will be offering the same incentive at this year's Annual Meeting. Our Affiliates are our future, so it is gratifying to see this increase.

Reserves held by the Vascular Society are virtually the same as at the same time last year and amount to £347,147.

Events

The AGM in Brighton was financially successful turning in another healthy profit. Edinburgh is a relatively expensive venue, but from 2012-2014 we have negotiated a good deal with the Manchester Conference Centre and the cost of running the AGM should fall.

During this year the spring meeting, "Best Foot Forward", produced a small surplus, the Marathon raised approximately £5000, and the NHS regatta £1645.

Future expenditure

Our office rental per square foot at the Royal College is set to quadruple over the coming 3 years, and this represents a significant cost pressure. In addition, changes to, and developments of the NVD are likely to add significantly to our costs over a similar period.

Endovascular Fusion

We will be holding another combined Endovascular Fusion meeting with BSET in 2012, but unlike the last meeting in 2010, there will be no financial risk to the Society.

Office costs

Our office costs have fallen by approximately 10% in the past year, and Jeanette and her team are to be congratulated on this achievement.

The Circulation Foundation

For the first year since 2006 we have not received any income from legacies. Nevertheless, the Circulation Foundation finances are in good shape with total reserves of £691,000. New initiatives, details of which can be found in other reports, are in place or being set up to enhance income without reliance on legacies.

Office costs for the Circulation Foundation have also been reduced by 13% compared with 2009, and again Jeanette and her team are to be congratulated.

Major Sponsors

I would again like to thank our Major Sponsors, Angiodynamics, Vascutek, Cook Medical, WL Gore and Maquet for their continuing support during the past year. I am pleased to announce that Cook Medical has signed a three-year sponsorship deal with us.

Summary

Overall, the stability of the Society continues despite the economic volatility here and abroad. Let us hope it continues for another year.

VSGBI Ltd.

Profit and loss account
Year ended 30th June 2010

	12 months to 30/06/10 £		18 months to 30/06/09 £	
Turnover				
Exhibition fees	123,071		181,672	
Registration fees (including course and dinner fees)	137,617		97,533	
	260,688	260,688	279,205	279,205
Cost of sales				
Venue	133,328		115,892	
Travel and accommodation expenses	22,085		25,713	
Annual dinner	19,646		22,965	
President's dinner	7,353		11,849	
Book and programme printing	16,180		16,129	
Exhibitions	9,419		12,012	
Staffing	2,952		7,350	
Entertainment	255		500	
Prizes	-		500	
		(211,218)		**(212,910)**
Overheads				
Insurance	4,150		4,892	
Office expenses	4,845		985	
Printing, postage and stationery	6,082		3,317	
Sundry expenses	174		178	
Accountancy fees	4,595		5,710	
Bank charges	886		2,903	
		(20,732)		**(17,985)**
Other operating income				
Donations and sponsorship		24,056		39,357
Interest receivable				
Bank interest receivable		7		526
Profit on ordinary activities		**52,801**		**88,193**

The Vascular Society

Income and expenditure accounts
Year ended 30th June 2010

The Vascular Society	2010 Unrestricted Funds £	2010 Restricted Funds £	2010 Total £	2009 Total £
Incoming resources				
Voluntary income:				
Subscriptions	95,145	-	95,145	97,644
Deed of covenant	52,801	-	52,801	97,900
Sponsorship	57,500	-	57,500	65,000
Legacies	-	-	-	-
Grants	-	122,970	122,970	-
Donations and other income	17,853	-	17,853	22,403
Investment income:				
Bank interest	460	-	460	4,611
Total incoming resources	**223,759**	**122,970**	**346,729**	**287,558**
Resources expended				
Fundraising expenditure:				
- Golf day	-	-	-	-
- Marathon	-	-	-	-
- Annual dinner	-	-	-	-
- Database	15,600	-	15,600	-
- Other	-	-	-	-
	15,600	-	15,600	-
Costs of charitable activities:				
Research awards	-	-	-	-
Donations	6,000	-	6,000	6,000
	6,000	-	6,000	6,000
Costs of generating voluntary income:				
Travel and subsistence	33,181	-	33,181	31,629
Office costs	20,589	-	20,589	14,105
Salaries and wages	98,695	-	98,695	88,590
Research costs	27,408	-	27,408	30,566
Tutor costs	7,500	-	7,500	7,500
Printing	8,178	-	8,178	8,802
Computer support costs	4,200	-	4,200	6,045
Stationery, postage and photocopying	3,235	-	3,235	5,934
General expenses	2,446	-	2,446	458
Prizes	1,100	-	1,100	1,350
Depreciation	22,162	-	22,162	20,086
	228,694	**-**	**228,694**	**215,065**
Governance costs:				
Audit and accountancy	7,148	-	7,148	5,493
Insurance	616	-	616	371
Legal and professional	20,299	-	20,299	1,960
Management and administration of the charity	**256,757**	**-**	**256,757**	**222,889**
Total resources expended	**278,357**	**-**	**278,357**	**228,889**
Net incoming resources for the year	**(54,598)**	**122,970**	**68,372**	**58,669**

The Vascular Society

Income and expenditure accounts
Year ended 30th June 2010

Circulation Foundation

	2010 Unrestricted Funds £	2010 Restricted Funds £	2010 Total £	2009 Total £
Incoming resources				
Voluntary income:				
Deed of covenant	-	-	-	-
Sponsorship	-	-	-	-
Legacies	412,801	-	412,801	7,939
Grants	-	180,000	180,000	-
Donations and other income	35,378	25,000	60,378	71,815
Activities for generating funds:				
Fundraising income:				
- Golf day	18,192	-	18,192	-
- Marathon	15,783	-	15,783	9,816
- Spring meeting and annual dinner	15,862	-	15,862	18,577
- Other	-	-	-	76
Investment income:				
Bank interest	8,157	-	8,157	9,313
Total incoming resources	**506,173**	**205,000**	**711,173**	**117,536**
Resources expended				
Fundraising expenditure:				
- Golf day	12,519	-	12,519	-
- Marathon	8,100	-	8,100	5,484
- Annual dinner	9,365	-	9,365	8,435
- Database	-	-	-	-
- Other	13,105	-	13,105	14,165
	43,089	-	43,089	28,084
Costs of charitable activities:				
Research awards	20,000	28,000	48,000	65,500
Donations	-	-	-	-
	20,000	28,000	48,000	65,500
Costs of generating voluntary income:				
Travel and subsistence	1,330	-	1,330	435
Office costs	6,545	-	6,545	9,059
Salaries and wages	33,522	-	33,522	27,812
Research costs	-	-	-	-
Tutor costs	-	-	-	-
Printing	6,655	-	6,655	2,367
Computer support costs	-	-	-	9,466
Stationery, postage and photocopying	2,636	-	2,636	1,831
General expenses	272	-	272	1,124
Prizes	1250	-	1250	750
	52,210	**-**	**52,210**	**52,844**
Governance costs:				
Audit and accountancy	2,200	-	2,200	1,831
Insurance	459	-	459	196
Legal and professional	184	-	184	-
Management and administration of the charity	**55,053**	**-**	**55,053**	**54,871**
Total resources expended	**118,142**	**28,000**	**146,142**	**148,455**
Net incoming (outgoing) resources for the year	**388,031**	**177,000**	**565,031**	**(30,919)**

Audit and Quality Improvement Committee Report

Chairman: David Mitchell

Abdominal Aortic Aneurysm Quality Improvement Programme (AAA QIP)

2011 has been a busy year for the Audit and Quality Improvement Committee. The AAA QIP is in full swing and many of you will have attended events in your region. We have published an interim report so that all members may have information on the QIP to share with their teams. Within the document you will find descriptions of the care pathway and the standards for care delivery that the Society has endorsed. Please use this document, the patient information and data on the QIP website (www.aaaqip.com) to inform your local programme. We hope that the standards will be adopted by commissioning bodies nationally and early indications are that commissioners are keen to hear the Society's views. These standards map to those for the NHS AAA Screening Programme so that units will be expected to deliver care to only one set of standards, whether screening or not.

No QI programme can justify its existence without robust outcome data. The data for elective infra-renal AAA were sent out to all units in the late spring and included a HES data comparison covering the time period 1/10/2008 to 30/9/2010. Eighty-seven units responded and we have put a summary report on the QIP website. There will be a symposium at the AGM about publishing outcome data, with contributions from the Society for Cardiothoracic Surgery who have been through this process some years ago.

There has been a lot of work undertaken by the central team and by local and regional teams in the last year. My personal thanks are due to Roxanne Potgieter, Helen Hindley and Julia McCleary for their continuing work on the QIP. Tim Lees, Lynsey Dovey and Gerry Danjoux put together the initial pathway for elective AAA repair in the North East. Kevin Varty has worked to implement the QIP in the East of England and has engaged the local commissioning group to support this. I am also grateful to Mark Stoneham and Tracey Wall from the Vascular Anaesthesia Society for their tireless support and suggestions. Moira Ritchie and Steve Thomas have provided support from the BSIR and helped to encourage their members to become involved in the QIP. Sue Ward has helped by involving the Society of Vascular Nurses.

The future of the National Vascular Database: a National Vascular Registry

I am pleased to announce that the Society put in a successful bid to HQIP for support to fund a new NVD. This will be known as the National Vascular Registry (NVR). We are now entering a contract negotiation with HQIP about what will be delivered through this process. The NVR will build on the success of the Carotid Intervention Audit, which has been funded by HQIP for the last 5 years. We have also asked the Department of Health to include elective AAA and lower limb amputation outcomes in their Quality Accounts.

The Vascular Society has established a working party to develop the standards required as part of the contracting process with HQIP. This will allow us to report publicly against these agreed national standards. Once the standards are agreed in early 2012, HQIP will invite tenders to run the NVR and the Society intends to bid for this. There is a plan to provide more feedback through on-line reporting to members, including case mix data if possible.

I would particularly like to thank Sara Baker for the hard work she has put into running the current NVD. Her enthusiasm and ability to 'trouble shoot' have been pivotal to the development of this project and she will be closely involved with all new developments as they arise.

Carotid Intervention Audit

Round 3 reported in the spring of 2011 and by the time this report is read, round 4 will have closed for recruitment. Round 3 identified that we are improving our service against the NICE standard of 14 days from symptom to treatment. The best units are treating nearly 80% of symptomatic patients within the 14 days recommended by NICE, but some units are failing to treat any in this time.

We will be publishing a further report for round 4 in the early spring 2012. This will include all cases performed between 1/10/2010 to 30/09/2011. Please ensure that you have completed both phase one (to hospital discharge) and phase two (30-day follow-up) data by December 15th 2011, when the dataset will be locked for analysis. I would like to thank Alex Hoffman, Sam Waton and Michael Roughton from the RCP for their hard work on behalf of the Society.

Acute Kidney Injury Audit

This started in March 2010 and we have over 600 patients with appropriate pre-operative and hospital outcome data. We now need to ensure that survival data are collected to allow us to report on short and longer-term outcomes to the Society, to Kidney Care UK and to our funding body. Please can you complete the 1-year follow-up field in the NVD to help complete this national audit? We hope to publish some interim data this autumn and a full report in the spring of 2012.

Finally, if you have any queries about your data or data entry problems, or if you would like to know more about our quality improvement programme, please come and talk to the team at the QIP stand in the exhibition hall.

Training & Education Committee Report

Chairman: Jonathan Beard

The work of the Committee over the last year has focused on refinements to Workplace-Based Assessment and the new Vascular Surgery Syllabus, as well as revising the existing Training Standards Document for our new specialty. My thanks to all members of the Committee for their support.

At the beginning of the year we were able to appoint three more endovascular fellowships thanks to the continuing generosity of Cook UK. These fellowships have proved extremely popular and the reports from those currently in post and from those in the previous post-CCT fellowships have been very encouraging. Twenty trainees applied this year and six were shortlisted. The CVs of all the shortlisted candidates were impressive, although the lack of experience for some of them in major open vascular surgical procedures, such as AAA repair, remains of concern. If this trend continues, then perhaps we will need to consider open vascular fellowships in the future? Most applicants were trainees in their last year of training, and this does seem the most appropriate time for such a fellowship. Some junior trainees applied, but most had little experience of image interpretation or duplex scanning, and did not have the relevant radiation protection certification. I hope that this deficiency will be addressed by the new Vascular Curriculum, but in the meantime, the person specification for the fellowships will be amended to make it clear that such experience is required in order to make the most of a fellowship.

The successful applicants were Duncan Drury, Manj Gohel and Nick Matharu who are going to Liverpool, Brighton and St Thomas', respectively. We also appointed Stephen Badger to an additional Fellowship in Dublin. Congratulations to them all. We are hoping that Cook will agree to fund the fellowships again next year and are discussing a joint appointment process with the British Society of Endovascular Therapy.

PBAs and DOPS have now been prepared for most basic and advanced vascular procedures; they are presently available on the Society's website and will shortly be included on the Intercollegiate Surgical Curriculum website. Additional PBAs have recently been written for endovascular procedures and adopted by the British Society of Interventional Radiology. A paper demonstrating the validity and reliability of PBAs has been published in the *British Journal of Surgery* and all vascular trainees should now be undertaking at least one DOPS or PBA per week, and

recording the outcome in their portfolio. Please ensure that your trainees are using them and that you are familiar with them and have had training in workplace-based assessment and giving feedback. If anyone wants to create a new DOPS or PBA, then please contact me (j.d.beard@btinternet.com).

The new Vascular Syllabus has been revised in light of comments from members of the Committee and organisations including the Rouleaux Club, the Society for Vascular Technology, the British Society of Interventional Radiology and the Royal College of Radiologists. The main changes are that the sections on general surgery, imaging and endovascular therapy have been reduced in size and simplified, as it was felt that the syllabus was too extensive for the 'average' trainee to complete in the available time. I am particularly grateful for the help from Conor Marron, Affiliate representative on the VS Council. The revised syllabus has recently been approved by the Department of Health as part of our application for separate specialty status; this is awaiting Parliamentary ratification.

The revised Training in Vascular Surgery & Standards for Vascular Surgery is now posted on the Society's website. I would like to thank all those Committee members of the Training and Education and Vascular Advisory Committees who provided me with comments (most of them helpful!). The document explains the outline of vascular training and the standards required for any hospital that wishes to provide training. The outline was published in the summer Newsletter but I make no apology for mentioning it again, as it will have a profound effect on your local vascular training programme. Entry into specialty training will involve a competitive national selection process after successful completion of core surgical training and the MRCS exam. Specialty training will consist of a minimum of 6 indicative years. A minimum of 4 years' experience in emergency vascular surgery is required. The first 2 years (ST3-4) are designated as intermediate stage training and will include a year of GI surgery. During the final 4 years, the first part of the Vascular FRCS (test of knowledge) will be undertaken during ST5-6 and the second part (test of clinical and procedural skills) during ST7-8. Training rotations will be regional, with trainees working for different consultants and in hospitals to allow a breadth of experience of all subspecialty areas. An outline of the selection and assessment system is shown in Figure 1.

Vascular training will be on specialist units with surgeons who are in dedicated vascular practice and members of the Vascular Society. Vascular surgery units who wish to provide training must demonstrate:

- a high volume of work;
- outcomes in line with national defined standards; and
- a consultant rota that provides a sustainable 24/7 emergency surgical and interventional radiology service.

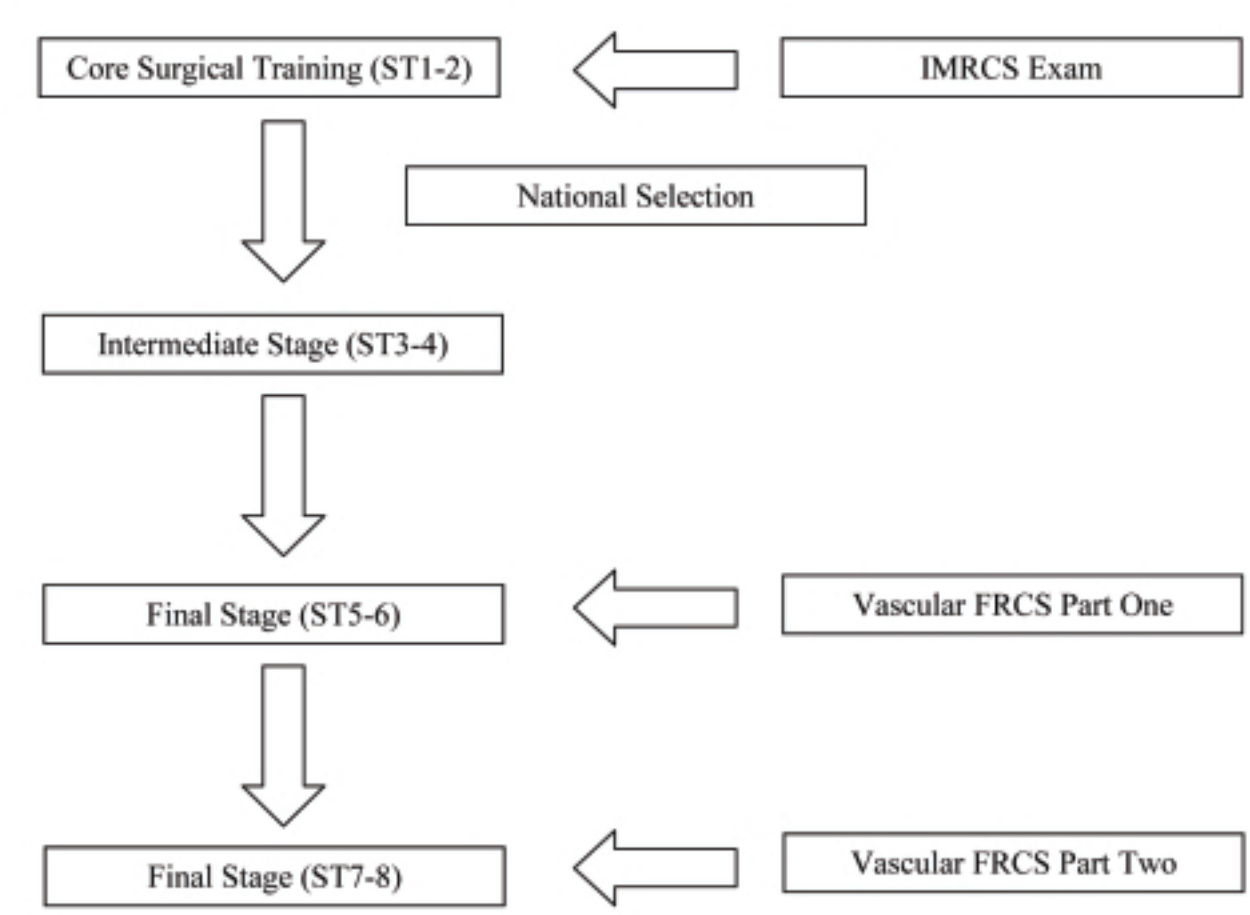

Figure 1. Outline of selection and assessment system for vascular specialty training. A successful ARCP will also be required at the end of each level of training (ST1-8).

Most vascular training units will have insufficient specialty trainees to provide middle-grade cover, especially at night. There will be approximately 120 vascular trainees in the UK, because a ratio of one trainee to three consultants is required to conform to workforce planning requirements. The timetable for vascular trainees from ST5 upwards should maximise their supervised elective and emergency vascular experience. Shift-working will not deliver this experience. Alternative arrangements such as on-call from home, or long-day rather than night working will be required. If there are more approved training places than trainees, placements may be allocated on the basis of the quality of training and outcomes.

Assuming that we are granted separate specialty status, next year will bring more challenges, as we will need to develop our own national specialty selection process as well as a separate vascular surgery FRCS examination.

Research Committee Report

Chairman: Shervanthi Homer-Vanniasinkam

The Research Committee (RC) is now firmly established, and over the past year we have both consolidated work done in our first 12 months, and also implemented another grant initiative.

Since my report last year, two more members have joined the Committee: Alison Halliday, Professor of Vascular Surgery, Nuffield Department of Surgical Sciences, University of Oxford, and Alberto Smith, Professor of Vascular Sciences in the Cardiovascular Division at King's College London. Both Alison and Alberto bring a wealth of research experience and wisdom, and we are delighted to welcome them to the Research Committee.

The RC currently comprises:

Julie Brittenden (Aberdeen)
Alison Halliday (Oxford)
Shervanthi Homer-Vanniasinkam (Chair; Leeds)
Tim Lees (Newcastle)
Rob Sayers (Leicester)
Alberto Smith (London)

Following the successful launch last year of the President's Early Career Award (PECA), we are pleased to report that the award continues this year, and a further PECA will be announced at the AGM in November. Consultants within 5 years of their first substantive appointment are supported by generous funding (£100,000 over 2 years) as they develop an independent research career.

A second new grant, termed the Surgeon Scientist Award (SSA), has been established to fund vascular surgical trainees while they engage in a period of formal research. Vascular surgical trainees receive funding to cover their salary and a grant towards laboratory expenses for project work towards a higher (MD, PhD) degree. The RC received outstanding applications for this award and, following interview, a very worthy candidate was awarded the inaugural SSA, which will also be presented at this year's AGM.

At a time when young surgeon-scientists are exposed to a diet of dwindling research funding and ever-challenging career development prospects, I am sure they will be heartened and encouraged

by the Society's dedicated efforts to provide the resources to help them progress their investigative careers.

As I stated last year, I do not wish to use this report as the forum in which to make a case for strengthening vascular research in this country. However, it is timely to reflect, 100 years on, that in accomplishing the aims of the Society's RC we are exemplifying what Abraham Flexner stated in his report a century ago: that medicine and medical education should be based on analytical thinking and science (Flexner A. Medical Education in the United States and Canada. New York, NY: The Carnegie Foundation for the Advancement of Teaching; 1910. This interesting report can be read in full at: http://www.carnegiefoundation.org/ sites/default/files/elibrary/Carnegie_Flexner_Report.pdf).

We are very fortunate that the Society can provide the urgently needed financial support to help the brightest and best as they advance their early (via the SSA) and independent (via the PECA) research careers.

The RC will also be working on other initiatives in the coming years, as funds permit. We are very fortunate to work closely with the Circulation Foundation (CF) without whose untiring efforts at fundraising, we would simply not be in a position to offer these generous research grants. We are, I believe, well positioned to 'change surgery through science' and grasp the unprecedented opportunities we now have to improve the lives of our patients through our research endeavours.

As I conclude this report, I wish to thank my colleagues on the RC who have worked hard to accomplish our tasks. I would also like to acknowledge the support given to the RC by Council and the CF Committee, and I look forward to working with them in all our future endeavours.

Professional Standards Committee Report

Chairman: Michael Gough

Not such a quiet year this time! The Committee has undertaken two reviews on vascular centralisation, one of which also assessed surgical outcomes for one of the incumbent consultants (for which there was no basis for concern); it also poured some oil on troubled waters in relation to the issues surrounding centralisation in that Trust. In addition the Committee has assisted the Care Quality Commission with one of its visits.

By the time the Yearbook has been published, a further review of surgical outcomes will have been concluded at the request of a Trust's medical director and another has been requested, but not yet commenced. Interestingly, none of these reviews has arisen following analysis of data supplied to the National Vascular Database (NVD). Whether this reflects the strict criteria applied to assessing outcomes or represents incomplete data submission is a matter for conjecture. I would like to believe that it is neither and that all vascular units are performing to a high standard. Hopefully there will be no repeat of the adverse publicity that we saw last year in relation to aneurysm surgery.

It is crucial that members of the Society continue to submit all relevant data to the NVD. This will protect you from false impressions that other members of staff might develop if you have a bad run and will play an important part in revalidation. It is also a pre-requisite for treating screen-detected AAA. If that isn't enough, successful appraisal and indirectly ACCEA awards represent additional carrots!

Circulation Foundation Report

Chairman: Ian Franklin

The CF is a small and vibrant charity with great strengths, but facing real challenges. We are financially secure with sufficient funds to meet our commitments to research awards until 2016. We have a supportive Council, good web presence and dedicated staff. However, our income is small and over-dependent on legacies and this limits our effectiveness. We have a cumbersome governance structure, with twice as many trustees as the World Wildlife Fund, which has an income more than 500 times greater than ours. Our aims and objectives have outstripped our resources and our message has not been as clear as other health-related charities with which we compete for funding.

Our aim is to build on the achievements of the founders and develop the CF into a larger and more effective charity by increasing the income and placing a greater emphasis on funding research.

We have worked very hard in 2011 to produce a clearer message, refine the business plan and develop fundraising tools to tap into new income streams, including corporate organisations, charitable trusts and high net worth donors. We have developed a portfolio of fund-raising tools and documents with a very coherent core message explaining our aims and aspirations, each one tailored to its target audience yet with a common theme and image.

We are very grateful to the large number of members of the Society who took the trouble to respond to our questionnaire in July. Your comments were typically robust and strong-minded, wide ranging, varied and extraordinarily helpful in producing the new CF literature.

The CF Committee is now gradually expanding to include enthusiasts who will use the new fund-raising tools to approach new potential donors. We aim to substantially increase our income over the next 12 months. For example, we have secured an arrangement with a surgical supplies company to make a contribution to the CF for each and every pack they sell. This single agreement will raise a significant sum in the first year alone. More such arrangements are in progress.

As well as our fundraising activities we are working hard on promoting public awareness of our work. A mention on Radio 4 Woman's Hour programme, a fruitful dinner with MPs in Westminster and

the most effective and successful Vascular Disease Awareness Week ever, have all helped towards this end.

2016 will be the 50th anniversary of The Vascular Society. The CF will mark this milestone by making an additional award at our 50th annual meeting. This will be the largest single award ever granted by the Foundation and is expected to attract serious competition and interest.

I am grateful to Andrew May for his reliable stewardship of the Foundation during his years in charge and will try and live up to his good example of a safe pair of hands as we implement the plans for expansion over the next 4 years.

Our special thanks to the following for their involvement in fundraising and awareness events during the year:

- Mr David Mitchell; Professor Jonathan Beard; Mr Richard Harvey; Mr Tom Hopkins: London to Brighton Bike Ride
- All the runners in the early morning Brighton fun run in November 2010
- Mr Andrew McIrvine; Professor Jonathan Beard; Mr James Brown; Mr Peter Lamont; Mr John Thompson; Mr Matt Waltham; Mr John Wolfe; Mr Mike Wyatt: NHS Regatta
- Mr Rob Hinchliffe: Spring meeting
- Mr Ian Franklin; Professor Gerry Stansby; Mr Peter Lamont; and Professor Ross Naylor: General donations

And to the following regular donors to the Circulation Foundation

Vascular Society members making a regular donation to the Circulation Foundation from July 2010-June 2011:

Professor Jonathan Beard, Mr David Berridge, Mr Bruce Braithwaite, Mr Rod Chalmers, Mr Richard Corbett, Professor Alun Davies, Mrs Linda de Cossart, Mr Richard Downing, Mr Jonothan Earnshaw, Mr Ian Franklin, Mr Simon Fraser, Mr Andrew Garnham, Mr David Gerrard, Mr Chris Gibbons, Professor Michael Gough, Mr Gareth Griffiths, Professor George Hamilton, Mr Simon Hardy, Professor Michael Horrocks, Mr Michael Jenkins, Mr Tim Lees, Mr Shane MacSweeney, Mr Adrian Marston, Mr Andrew May, Mr David Mitchell, Mr Simon Parvin, Miss Sophie Renton, Professor Julian Scott, Professor Cliff Shearman, Mr Malcolm Simms, Professor Gerard Stansby, Mr Peter J Taylor, Mr Martin Thomas, Mr Kevin Varty, Miss Lucy Wales, Mr David Williams, Mr John Wolfe, Mr Kenneth Woodburn

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Vascular Tutor's Report

Ian Chetter

The past 12 months as Vascular Tutor have been both exciting and challenging, trying to achieve my original objectives which included the continued appraisal and improvement of current courses and the development and provision of new courses and learning materials/environments to encompass the complete specialist vascular curriculum. In addition, with the imminent evolution of vascular surgery into a separate specialty it has become clear that it will be essential to ensure the vascular course portfolio is future proof.

Established courses

In response to feedback, the Amputation course was restructured to incorporate cognitive and affective learning with the introduction of a pre-course manual and of case-based discussion respectively. Assessment of knowledge was also included for the first time in the form of an MCQ examination, whilst we are assessing the validity, reliability and responsiveness of instruments to assess psychomotor skills in the simulated environment.

The EVAR Planning course was ever popular and fully subscribed. Using the template successfully applied to the Amputation course, further developments are in an advanced stage and will be implemented in the 2012 course.

We have expended a great deal of time and effort in developing a DVD to accompany the Specialty and Advanced Skills in Vascular Surgery courses. The DVD includes basic vascular anastomotic techniques, training jigs and clinical examples of common procedures included in the course.

Courses in development

The Vascular Ultrasound course is a pilot in collaboration with the SVT and is approaching completion. Five trainees have passed the MCQ, demonstrated sufficient practical experience as documented by their logbooks, and are currently undergoing practical examination. This course has been the most demanding to administer and it has become clear that an RCS course in this format is not practical. Whilst it is acknowledged that ultrasound is an essential skill for all vascular trainees to attain, there has been healthy debate amongst the VS Training and Education Committee as to what level trainees are expected to practice and how this training is best provided. Watch this space!

The Vascular Access course is perhaps the most exciting development in the vascular course portfolio. This is the first course to utilise fresh frozen cadaveric dissection, widely acknowledged as the most realistic simulation available. Access-directed ultrasound training will be included, cognitive, affective and psychomotor learning will be addressed and assessment will be incorporated.

The Modern Management of Varicose Veins course was developed in direct response to a deficiency in endovenous training identified by the Rouleaux Club. This course will address all aspects of endothermal/chemical ablation for superficial venous insufficiency and will include ultrasound training.

Other courses very early in evolution include Vascular Surgery Theatre Team Development aimed to promote team working, communication and problem-solving within the theatre environment, and the multi-specialty-based Surgical Trauma Skills course. In addition, in order to maintain the profile of vascular surgery in the undergraduate RCS courses, I am committed as faculty to the development of the forthcoming Anatomy Summer School and Surgical Skills for Students courses.

My priorities for portfolio plans for 2011-2012 are to ensure that the established courses continue to develop and progress, and that the courses under development come to fruition providing both the very highest quality and value for money. Website development and population with educational material will also take precedence.

Potential participants and faculty, please note in your diaries the provisional dates of the established vascular courses for 2012:

- Amputation; 29th February & 1st March 2012.
- EVAR Planning; 14th & 15th March 2012.
- Specialty Skills in Vascular Surgery; 11th & 12th June 2012.
- Advanced Skills in Vascular Surgery; 13th -15th June 2012.

Finally, I would like to take this opportunity to offer my sincere thanks to all conveners and faculty, members of the RCS Education Department, the VS Training and Education Committee, and course sponsors for their valued support.

Rouleaux Club

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ASIT Representative
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BSET & EVST Representative
Mr Femi Oshin
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If you are a vascular trainee and not a member of the Rouleaux Club, then you are missing out! Join for free at www.rouleauxclub.com. With over 220 members in training or research posts, the Rouleaux Club continues to provide an important voice for vascular trainees in Great Britain and Ireland.

In April, the Rouleaux Club was at the ASiT meeting in Sheffield and the Rouleaux Club prize was awarded to Elizabeth Chandra *et al*, from Leeds Vascular Unit. The summer meeting was once more held in conjunction with BSET. This included a Rouleaux Club lunchtime educational symposium sponsored by Medtronic. We are very grateful to Ian Loftus and the other BSET organisers for continuing to include us in this way.

The 'Golden Graft' award is being introduced this year to recognise excellence amongst our consultant trainers. The top five UK vascular trainers as nominated by the trainees are: Mr Andrew Guy; Mr Robert Insall; Mr David Lambert; Mr Bernard Lee; Mr Kevin Varty. The winner will be announced during the Vascular Society AGM meeting and presented with their award.

Please join your fellow members at the AGM on Thursday 24th November to discuss the results of the training survey and to elect your representatives for the coming year.

Rouleaux Club Committee

Society of Vascular Nurses

The SVN is a professional society for nurses working with vascular patients in all care settings. Our membership stands at around 100 and includes a number of ward memberships (each with up to 20 members from one organisation); we also have several international members. The SVN Committee, which directs the business of the Society, stands at 12 members including officers. Our AGM is held at the annual conference. We have developed a very diverse programme for this year's conference, in response to feedback received from last year's meeting. This includes the James Purdie Prize award presentations, which provide an excellent forum in which to share innovation and quality developments in patient care. The Society also awards up to six bursaries a year for which members of the SVN may apply to help their professional development.

Our website was redeveloped last year and includes a wide variety of information and contacts (www.svn.org.uk). The Officers and Committee of the SVN recognise that we practice in a challenging financial climate, and we strive to keep our members well informed of current and future developments in order to enhance the care of vascular patients.

Wendy Hayes
President SVN

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www.svn.org.uk

The Society for Vascular Technology (SVT) of Great Britain and Ireland

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2011 has been a very busy year for our Society.

Work continues with the Department of Health Modernising Scientific Careers programme. The new curriculum for basic training in vascular science has been signed off and 11 clinical vascular scientists have been recruited across England to the scientific training posts which start in October. Newcastle University will be delivering the academic MSc. Work is beginning on the senior scientist and higher scientific specialist training curriculum.

The Improving Quality In Physiological diagnostic Services (IQIPS) standards were successfully tested in 16 vascular pilot sites and the new Self Assessment and Improvement Tool (SAIT) and service accreditation will be rolled out in 2012.

The newsletter has been modernised and the new membership database and website is now live and proving very successful.

The SVT continues to be represented on the Federation of Healthcare Scientists and the Institute of Physiological Sciences, as well as the newly formed Academy of Healthcare Scientists. The SVT are strengthening links with The Vascular Society, NHS vascular screening programmes, the Circulation Foundation and BMUS in the coming year.

In its 20th year, the Society continues to grow, the profile of clinical vascular scientists continues to rise and is now firmly embedded on the healthcare scientist map.

We look forward to the AGM in Edinburgh this year.

Kerry Tinkler
President

The Venous Forum of the Royal Society of Medicine

The Venous Forum (VF) held a highly successful 2-day meeting in conjunction with the British Association for Sclerotherapists, the Society of Vascular Nurses, and the Society for Vascular Technology at the Royal Society of Medicine in London in late April. Attendance (very nearly 200 registrants) was high despite a clash with the Royal Wedding and several bank holidays! A series of eminent European and US speakers, as well as two highly informative interactive voting sessions were all rated highly by attendees. The VF continues to foster close links with other societies such as the American Venous Forum, European Venous Forum and the American College of Phlebology.

The Council wishes to thank David Berridge and Alun Davies, who have now retired as Secretary and President, for their enormous contribution to the VF; both will continue to be closely involved as Council Members. Phlebology continues to go from strength to strength under the editorial leadership of Alun Davies and now has a highly impressive impact factor of 2.698.

In view of major changes in the funding and commissioning of treatment for varicose vein services in the NHS and, possibly going forward to the private sector, the VF has published guidelines on referral (http://www.rsm.ac.uk/academ/downloads/venous_referral_guidelines_jan11.pdf), and has also set up a Private Practice Committee.

The VF is also currently working towards publication of a VEIN 3 on thromboembolic disorders in spring 2012.

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Honorary Secretary

Isaac Nyamekye
Honorary Treasurer

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The Joint Vascular Research Group

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The Joint Vascular Research Group is a collaborative network of vascular surgeons, interventional radiologists, research nurses and technologists, who share an interest in clinical research and educational aspects of vascular intervention. Membership is by centre and if you are interested in becoming involved please contact our co-ordinator, Jude Day, who will be able to provide you with further details. We welcome interested contributors.

This year's winter meeting will take place in the Harris Suite of the Edinburgh International Conference Centre, on Tuesday 22nd November 2011.

Despite a shifting emphasis of the Group to evidence-based vascular education and publication, original clinical research studies undertaken throughout the past year include investigations into acute arm ischaemia; outcome of internal carotid artery sub-occlusion; iliac artery compression syndrome in cyclists; and use of Nordic walking poles in claudication.

The Group has published a number of evidence-based volumes in recent years including:

- *The Evidence for Vascular Surgery* (editions one and two);
- *Pathways of Care in Vascular Surgery*;
- and the lavishly illustrated volume, *Rare Vascular Disorders*.

By the time of The Vascular Society Annual Meeting in November 2011, the latest volume: *Complications in Vascular and Endovascular Surgery – how to avoid them and how to get out of trouble*, with tips and tricks summarising the combined experiences of many eminent contributors, will be available. All these publications can be obtained from Nikki Bramhill at tfm Publishing Ltd (nikki@tfmpublishing.com; www.tfmpublishing.com).

A regional education day for GPs, vascular nurses and technologists will be held towards the end of 2011. Please see the website for details.

I would like to thank Mike Wyatt for his commitment to the JVRG as Chairman for the last 3 years and for taking the Group forwards through a difficult period during which there have been significant changes in research emphasis and practice in the UK. Our gratitude is also due to Lesley Wilson for co-ordinating the Group activities so effectively throughout this period.

My thanks go to John Howard and Nuros for their continued support.

Frank C. T. Smith
Chairman

Exhibitors

Edinburgh International Conference Centre, 23-25 November 2011

Alphabetical list of confirmed exhibitors as at 9th October 2011; number = 48

Advancis Medical
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Email: enquiries@beehive-solutions.co.uk
Website: **http://www.beehive-solutions.co.uk**

Beehive Solutions has two operating arms:

- Beehive Healthcare Solutions: Provides fully managed ultrasound services in all modalities and laser rental packages for aesthetics and surgery.
- Beehive Medical Solutions: Provides competitively priced consumables to hospitals and clinics worldwide. Beehive has exclusive rights to the UK's leading disposable phlebectomy hooks. Beehive also has distribution rights to a comprehensive range of disposable instruments, instrument packs, procedure packs, available off the shelf or bespoke to the user. Beehive provides a range of clinic consumables such as ultrasound gel with new products added frequently.

Beehive solutions really can take the sting out of healthcare!

BK Medical
Stand 39

11 Grove Park
White Waltham
Berkshire
SL6 3LW
Tel: +44 (0)1628 825770
Fax: +44 (0)1628 826970
Email: info@uk.bkmed.com
Website: **www.bkmed.com**

BK Medical is the leading supplier of specialized ultrasound scanners to the surgical community for a wide range of applications including vascular and intra-operative surgery. On show this year will be the latest touch screen version of the award winning Flex Focus scanner. A small footprint, highly sensitive Doppler and intuitive ergonomic interface, make this the perfect system for clinic and theatre suite alike.

BVM Medical Ltd
Stand 41

BVM House, Trinity Lane
Hinckley
Leicestershire
LE10 0BL
Tel: 01455 614555
Fax: 01455 614546
Email: info@bvmmedical.com
Website: **www.bvmmedical.com**

BVM Medical is delighted to be involved in this year's meeting in Edinburgh. Over the past three decades, BVM has been focused on delivering innovative and advanced products to the UK market. This year, we are very excited to bring to you the newest product in our range, Seraseal. This haemostatic sealant promises to change how we manage and control bleeding in the future.

We look forward to seeing you at our stand and hope that you have an informative, educational and enjoyable meeting.

Caiyside Imaging
Stand 37

19 Caiyside
Edinburgh
EH10 7HN
Tel: 07860 812906
Fax: 08700 517085
Email: ramsay@caiysideimaging.co.uk
Website: **www.caiysideimaging.co.uk**

In recent years duplex vascular ultrasound has become an integral part of modern vascular practice. Caiyside Imaging supplies a range of systems from portable laptops to cart-based ultrasound scanners, specifically designed with the requirements of vascular surgeons and technologists in mind. Ultrasound is a safe, non-invasive, repeatable, low cost examination and dynamic studies can be carried out by clinicians offering a one-stop clinic service.

To enable users to gain the maximum benefit from ownership, Caiyside Imaging sponsors a number of two-day vascular ultrasound courses every year at the Hammersmith Hospital with a free place to every owner along with a copy of *The Manual of Vascular Ultrasound*.

CareFusion
Stand 47

Reigate Place
43 London Road
RH2 9PW
Tel: 0800 043 7546
Fax: 01737 237 950
Email: enquiries@chloraprep.co.uk
Website: **www.chloraprep.co.uk**

CareFusion combines proven clinical technologies with actionable intelligence to improve patient care. Our employees are focused on developing and bringing to market, solutions to today's major healthcare challenges, for example, healthcare-associated infections (HAIs).

The CareFusion Infection Prevention mission is to deliver clinically differentiated evidence-based products and services that support the global effort to reduce HAIs.

ChloraPrep is illustrative of this focus; the only 2% chlorhexidine-based product licensed for cutaneous antisepsis prior to medical and surgical invasive procedures. This allows healthcare professionals to comply with evidence-based guidelines and recognised best practice for prevention of HAIs. ChloraPrep helps save lives.

Cook Medical
Stand 24
MAJOR SPONSOR

750 Daniels Way
Bloomington
IN 47402
USA
Tel: +1 812 339 2235
Website: **www.cookmedical.com**

Since 1963, Cook Group companies have been among the leaders in developing healthcare devices that have improved lives around the world. COOK remains at the forefront of medical research and worldwide sales of products for endovascular therapy, critical care medicine, general surgery, diagnostic and interventional procedures, bioengineered tissue replacement and regeneration, gastroenterology and endoscopy procedures, urology, and obstetrics and gynaecology.

Our COOK corporate family also includes companies that manufacture specialized industrial parts and offer commercial services in the travel, real-estate development and management, and retail fields.

COOK is a global company with a global focus – and a global future.

Covidien (UK) Commercial Ltd
Stand 1

4500 Parkway
Whiteley
Hampshire
PO15 7NY
Tel: +44 (0)1329 224000
Fax: +44 (0)1329 224083
Email: Daniel.krelle@covidien.com
Website: **www.covidien.com**

VNUS™, a subsidiary of Covidien, a leading global provider of healthcare products, is the market leader in the minimally-invasive treatment of venous reflux, the major underlying cause of painful varicose veins. VNUS is the world leader in the development and commercialization of products for minimally invasive treatment of venous reflux, the major underlying cause of varicose veins. The company markets the proprietary Closure System of products for patients who suffer from symptoms associated with venous reflux. Since 1999, over 750,000 patients have received the VNUS Closure™ procedure and numerous studies have shown the Closure procedure can provide substantial benefits to eligible patients with venous disease.

Credenhill Limited
Stand 15

10 Cossall Industrial Estate
Ilkeston
Derbyshire
DE7 5UG
Tel : 0115 932 0144
Fax: 0115 944 0437
Email: sales@credenhill.co.uk
Website: **www.daylong.co.uk**

- Are you looking to save money on compression hosiery?
- Are you referring patients to buy their own hosiery?
- Would you like to benefit from an affiliate scheme?
- Would you and your patients appreciate being able to send their compression hosiery prescriptions direct to us and have them delivered straight to their homes or your clinic?

Credenhill can help you as the leading UK specialists in compression hosiery and related products online, and by mail order, through our retail arm www.daylong.co.uk.

The company also offers an extensive selection of compression hosiery for post-procedure.

EMEDD
Stand 14

St John's Innovation Centre
Cowley Rd
Cambridge
CB4 0WS
Tel: 01223 421 021
Email: emedd@emedd-tech.com
Website: **www.emedd-tech.com**

ClariVein® is a minimally invasive non-thermal device to treat GSV and SSV incompetence with significant advantages:

- No tumescence.
- No thermal damage.
- Minimal steps.
- High patient acceptance.
- Reduced barriers to use.

12-month results are available with 97% efficacy.

EMEDD specialises in the distribution of innovative medical devices, with products such as ClariVein® and Extracorporeal Shockwaves Technology (ESWT). ESWT is an effective treatment of chronic and acute wounds with five RCTs detailing efficacy. It will re-start the healing process on chronic wounds, and heal acute wounds faster with less need for antibiotics or surgical revisions.

Firstkind Ltd
Stand 13

Hawk House
Peregrine Business Park
High Wycombe
Bucks
HP13 7DL
Tel: +44 (0)1494 572040
Fax: +44 (0)1494 471518
Email: info@firstkindmedical.com
Website: **www.gekodevices.com**

Powered by OnPulse™ technology, the geko™ device triggers the body's built-in mechanisms to increase venous circulation. Small electrical impulses gently stimulate the common peroneal nerve located behind the knee and activate the venous muscle pumps of the calf that return blood towards the heart, emulating the process normally achieved by walking.

- Quick and easy to apply – it takes just 60 seconds to fit.
- Simple to operate – from just one button.
- Highly portable – no leads or wires.

The geko™ device is not approved by the US FDA and is not available for sale in the USA.

Huntleigh Healthcare, Diagnostic Products Division
Stand 32

35 Portmanmoor Road
Cardiff
CF24 5HN
Tel: +44 (0)29 2048 5885
Fax: +44 (0)29 2049 2520
Email: sales@huntleigh-diagnostics.co.uk
Website: **www.huntleigh-diagnostics.com**

NEW in Vascular Assessment – the Diagnostics Products Division of Huntleigh will be displaying its Dopplex ABIlity, which will automatically measure the ABPI in less than 5 minutes. Come and be one of the first in the UK to see it in action, with regular demonstrations provided on our stand!

In conjunction with this on show will be Huntleigh's world-renowned Dopplex handheld Doppler range, offering even greater performance, quality and reliability.

Visit Stand 32 for a demonstration of all our products and where specialist representatives will be available for detailed discussions.

KCI Medical Ltd
Stand 4

KCI House
Langford Business Park
Langford Locks
Kidlington
OX5 1GF
Tel (free): +44 (0)800 980 8880
Fax: +44 (0)1865 840 626
Email: ukmarket@kci-medical.com
Website: **www.kci-medical.com**

Kinetic Concepts, Inc. (NYSE: KCI) is a leading global medical technology company devoted to the discovery, development, manufacture and marketing of innovative, high-technology therapies and products for the wound care, regenerative medicine and therapeutic support system markets. KCI's product portfolio offers healthcare professionals and their patients a proven clinical advantage in all care settings with therapies that improve patient outcomes, while helping to reduce the overall cost of care. For more information, visit the company's website at www.kci-medical.com.

LeMaitre Vascular GmbH
Stand 45 & 46

Otto-Volger-Straße 5a/b
65843 Sulzbach/Ts.
Germany
Tel.: +49-6196-659 230
Fax: +49-6196-561 43 43
Email: csde@lemaitre.com
Website: **www.lemaitre.com**

LeMaitre Vascular is dedicated to providing innovative peripheral vascular devices and implants. LeMaitre's products include: AlboGraft® & LifeSpan® Vascular Grafts, AnastoClip GC® Vessel Closure System, EndoRE® Remote Endarterectomy Devices, Expandable LeMaitre® Valvulotome, XenoSure® Vascular Patches, Pruitt F3® Shunts and VascuTape®. Website: www.lemaitre.com.

Lemonchase
Stand 31

The Brewery
Bells Yew Green
Kent
TN3 9BD
Tel: 01892 752 305
Fax: 01892 752 192
Email: info@lemonchase.com
Website: **www.lemonchase.com**

Lemonchase is the exclusive UK distributor of Designs for Vision loupes. Designs for Vision are the first choice for surgeons worldwide (indeed, they are the choice of over 95% of surgeons in the US and UK). Whether you are contemplating your first pair or would like advice on any changes to your current pair, Nick Lemon and Mark Chase would be delighted to see you at their stand. They will also be demonstrating Designs for Vision's outstandingly bright range of Lithium Ion Battery-powered LED lights, with up to 12 hours of continual use – allowing you to move freely around the operating theatre. Come and see what you're missing!

Lombard Medical Technologies PLC
Stand 44

Lombard Medical House
4 Trident Park
Didcot
Oxfordshire
OX11 7HJ
Tel: 01235 750800
Fax: 01235 750879
Email: enquiries@lombardmedical.com
Website: **www.lombardmedical.com**

Lombard Medical Technologies PLC is a global medical technology company focused on providing innovative endovascular products. Aorfix™ endovascular stent graft, our flagship product, addresses previously unmet clinical need for a conformable and flexible graft in the rapidly growing global abdominal aortic aneurysm (AAA) market. Aorfix™ combines a pioneering design and technology that result in outstanding clinical performance in EVAR patients with complex anatomy, including highly angulated necks and tortuous iliacs.

Approximately 2,000 patients worldwide have been treated with Aorfix™ and a growing body of clinical evidence confirms that Aorfix™ reduces EVAR complications such as proximal endoleaks, graft migration and iliac occlusion in patients with both standard and complex AAA anatomies.

Maquet
Stand 21
MAJOR SPONSOR

14-15 Burford Way
Boldon Business Park
Sunderland
NE35 9PZ
Tel: 0191 519 6200
Email: sales@maquet.co.uk
Website: **www.maquet.co.uk**

MAQUET – synonymous with innovation and affordability.

MAQUET's peripheral and cardiothoracic vascular grafts and patches are designed to meet today's clinical challenges.

Responding to customers' financial pressures, MAQUET has reviewed pricing to provide quality products to suit all budgets.

The extensive off-the-shelf products comprise plain, silver and heparin-bonded knitted and woven polyester grafts and patches in standard or thin walls, a Fusion Hybrid ePTFE/polyester and Exxcel ePTFE range.

MAQUET extends the portfolio to combat thrombosis and infection and address complex hybrid procedures. MAQUET also offers customised grafts to suit the complexity of today's open surgical/endovascular practices.

Medi UK Ltd
Stand 19

Plough Lane
Hereford
Herefordshire
HR4 0EL
Tel: 01432 373500
Contact: Medi Customer Services
Email: enquiries@mediuk.co.uk
Website: **www.mediuk.co.uk**

Medi is the leading global manufacturer of RAL medical compression garments for:

- Treatment and prevention of recurrence of leg ulcers.
- Treatment of venous disease.
- Treatment of lymphoedema.
- Post-sclerotherapy.
- Postoperative VV surgery.

See the range on Stand 19.

Medtronic Limited
Stand 48

Building 9
Croxley Green Business Park
Watford
Herts
WD18 8WW
Tel: +44 (0)1923 212213
Fax: +44 (0)1923 241004
Email: rs.watendovascularevents@medtronic.com
Website: **www.medtronic.co.uk**

CardioVascular is Medtronic's third-largest business.

Our products are used to reduce the potentially debilitating effects of coronary, aortic, and structural heart disease and include:

- Heart valves and valve repair technology for congenital heart defects and valve disease.
- Open-heart and coronary bypass graft products to restore blood flow to the heart.
- Renal denervation technology to block the renal sympathetic nerves contributing to resistant hypertension. Medtronic acquired Ardian in 2010.
- Stent grafts to treat aortic aneurysms (EVAR and TEVAR).
- Angioplasty technologies to treat arteries blocked by atherosclerotic plaque. In 2010, Medtronic acquired Invatec, pioneer in the development of lesion-specific solutions for coronary and peripheral vascular disease.

NHS AAA Screening Programme /Northgate Information Solutions
Stand 27

NHS Adult (non-cancer) Screening Programmes Centre
5th Floor, Victoria Warehouse
The Docks
Gloucester
GL1 2EL
Tel: 01452 318844
Fax: 01452 318837
Website: **http://aaa.screening.nhs.uk**

The NHS AAA Screening Programme aims to reduce deaths from abdominal aortic aneurysms through early detection, appropriate monitoring and treatment. The

Programme began rolling out in 2009 and screening is currently delivered to approximately 40% of England. AAA screening will roll out to a further 40% of the country by April 2012 with full implementation throughout England achieved by 2013.

Approximately 60,000 men were screened during the Programme's first two full years (April 2009 to March 2011) and more than 1,000 aneurysms detected. A national IT solution has been developed with Northgate Information Solutions to enable the Programme to track individuals from screening invitation right through to clinical outcome.

Nuros Ltd
Stand 16

6 Abbey Lane Court
Evesham
WR11 4BY
Tel/fax: 01386 429421
Email: c.services@nuros.co.uk
Website: **www.nuros.co.uk**

Nuros specialises in innovative surgical and interventional products. Amongst those recently launched and featuring in Edinburgh are:

- New TAAA sizes of the successful M.A.R.S. (Multilayer Aneurysm Repair System), offering a highly effective and welcome alternative to complex fenestrated structures.
- HQS introducer sheaths, providing controlled introduction of AAA and TAA devices with convenient, single-handed operation. The X-cath extension allows the simultaneous use of up to three 6F devices through the one access, facilitating complex procedures.
- FlowWeave Plus is a blood-tight graft free from any coatings or impregnations and is reported to reduce inflammatory reactions. Four-branch designs for thoracic and abdominal reconstructions are available.

Olympus Medical
Stand 5

KeyMed House
Stock Road
Southend on Sea
Essex
SS2 5QH
Tel: 01702 616333
Fax: 01702 465677
Email: info@olympus.co.uk
Website: **www.olympus.co.uk**

Olympus Medical will be promoting their RFITT – Radiofrequency-induced thermotherapy – 'true radio frequency' for the treatment of varicose veins. Featuring the Lab Precision generator which has an acoustic feedback mechanism alongside the 6-French bi-polar electrode probe, which is suitable for the treatment of the long saphenous, the short saphenous and perforator veins. This leads to cost savings as only one device is needed for all veins.

The system is portable, easy to set up and alongside all our other exciting products, we can offer the complete endovenous solution.

The Oxford Shirt Co
Stand 51

54-74 High Street
Burford
Oxfordshire
OX18 4QJ
Tel: +44 (0)1993 822298
Fax: +44 (0)1993 823629
Mob: +44 (0)7957 103257
Email: mnl@oxfordshirt.co.uk
Website: **www.oxfordshirt.co.uk**

Perimed UK Ltd
Stand 29

Suite 14
Manchester House
113 Northgate Street
Bury St Edmunds
IP33 1HP
Website: **www.perimed-instruments.com**

- Are your patients suffering from pain in their legs or non-healing wounds?
- Suspecting PAD?

International consensus recommends Peripheral Arterial Disease (PAD) be confirmed using objective tests such as ankle/brachial index (ABI), toe pressures, $tcpO_2$ and microcirculatory evaluations.

The Vascular Lab – PeriFlux System 5000 – gives you the tools to perform these objective tests, thereby streamlining your clinical workflow.

TASC II recommendations 18 & 19:

- All diabetic patients with ulceration should be evaluated for PAD using objective tests.
- Critical limb ischaemia is a clinical diagnosis but should be supported by objective tests.

Philips Healthcare
Stand 38

The Philips Centre
Guildford Business Park
Guildford
Surrey
GU2 8XH
Tel: 01483 792004
Fax: 01483 298831
Website: **www.philips.com/healthcare**

Philips is the leader in premium vascular ultrasound with the iU22 and CX50 systems offering the perfect solution for your vascular laboratory. Our commitment to the vascular market continues with the Vision 2011 upgrade and new xMatrix Premium Performance iU22, which feature several improvements designed specifically for vascular clinicians.

The CX50 system offers premium class technologies from our cutting-edge iU22/iE33 platforms which are now available in a compact portable design that maximises diagnostic confidence at the bedside. This offers your vascular department increased utilisation of ultrasound by offering extended services beyond the traditional laboratory environment.

Promed Limited
Stand 17

116a High Street
Somersham
Cambs
PE28 3EN
Tel: 01487 842842
Fax: 01487 843060
Email: sales@promedltd.com
Website: **www.promedltd.com**

The success of longer wavelength lasers for varicose vein treatments is well documented and Biolitec's 1470nm laser leads the pack delivering improved patient outcomes. Also on display is the ELVeS Radial and 'Slim' Radial fibre delivery systems – no more guide wires and catheters! Promed will also exhibit tumescence delivery devices, Veinlite transilluminators for sclerotherapy and the amazing AccuVein AV300 hand-held vein viewer.

Pulse Surgical Ltd
Stand 35

Forth House
42 Kingfisher Court
Hambridge Road, Newbury
Berks
RG14 5SJ
Tel: 01635 555234
Fax: 01635 550050
Email: office@pulsesurgical.co.uk
Website: **www.pulsesurgical.co.uk**

Pulse Surgical is a leading independent distributor of products for vascular surgery. We specialise in biological grafts and patches for peripheral reconstructions and endarterectomy. These biomaterials offer excellent healing characteristics as well as superior intra-operative handling properties. We will also be showing the Straub Rotarex mechanical thrombectomy catheter which now has improved indications for both arterial and venous use. We will also be displaying our range of hand-held Dopplers for both pre- and intra-operative use. Please come and visit our stand for more details on these exciting products.

Pyramed Ltd
Stand 43

Units B1-B2, Bond Close
Kingsland Business Park
Basingstoke
Hants
RG22 4DW
Tel: 0845 6024 007
Fax: 01256 365 486
Email: contactus@Pyramed.co.uk
Website: **www.pyramed.co.uk**

Today Pyramed is a recognised supplier of leading edge medical device products for existing broad-stream diagnosis and therapies, including endovenous laser ablation for varicose veins.

The management team is comprised of a group of competent medical product specialists and people with vision, in co-operation with international opinion leaders, to take up the challenge to develop innovative medical products.

Pyramed's continuous optimisation of the existing product range, development of new product ranges, and short in-house lines of communication, all create an environment reflective of our customer's needs.

STD Pharmaceutical Products Ltd
Stand 18

Plough Lane
Hereford
HR4 0EL
Tel: 01432 373555
Fax: 01432 371314
Email: enquiries@stdpharm.co.uk
Website: **www.stdpharm.co.uk**

STD Pharmaceutical is a family run business founded in 1967. We have products to support sclerotherapy and iontophoresis.

We manufacture Fibro-Vein which is the only licensed sclerosant in the UK; it is effective on all sizes of veins from truncal veins to telangiectasia. Supporting products include micro-needles, syringes, bandages, etc., plus books and videos.

We also promote tap water iontophoresis, a simple but effective treatment for hyperhidrosis of the hands and/or feet and axillae. The treatment is effective for over 85% of sufferers and being non-invasive is an ideal first-line treatment. There are machines for hospitals/clinics as well as smaller units for home use.

tfm publishing Ltd
Stand 50

Castle Hill Barns
Harley
Nr Shrewsbury
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SY5 6LX
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Fax: +44 (0)1952 510192
Email: info@tfmpublishing.com
Website: **www.tfmpublishing.com**

tfm publishing Ltd is an independent UK publishing company focused on specialist medical and surgical titles. The company has built an enviable reputation for producing first class titles at attractive prices, with outstanding production values and acclaimed layouts. The tfm publishing list now covers over 65 titles, many of them written and edited by renowned international authors. Our titles have also won awards in the prestigious BMA Medical Book Competition.

We have recently published a brand new series on the evidence-based management of various disorders, including lipid disorders, hypertension, stroke and epilepsy. Forthcoming titles in this series will cover heart failure, diabetes, movement disorders and arrhythmias.

Recently published for this meeting is *Complications in Vascular and Endovascular Surgery - How to avoid them and how to get out of trouble*, which will be available for purchase on the stand.

Toshiba Medical Systems Ltd
Stand 9

Boundary Court
Gatwick Road
Crawley
RH10 9AX
Tel: 01293 653700
Fax: 01293 653770
Email: tmsuksalessupport@tmse.nl
Website: **www.toshiba-medicdal.co.uk**

Following the unparalleled success of the Aplio premium ultrasound systems, Toshiba Medical Systems will be exhibiting the new Aplio family of ultrasound systems.

The new Aplio family revolutionary High Density Beamforming architecture delivers images with unprecedented clarity, resolution and detail for a confident and precise diagnosis. The new Aplio family comes equipped with a new and innovative range of powerful clinical tools aiding visualization, quantification and intervention for your daily routine clinical workload.

Seeing is believing. To find out more, talk to the specialists in diagnostic imaging at the Toshiba stand.

Uniplex UK Ltd
Stand 28

11 Furnace Hill
Sheffield
S3 7AF
Tel: +44 (0)114 2413410
Mob: +44 (0)783 6544319
Contact: Adriaan Posthuma
Email: adriaan@beepo.co.uk
Website: **www.beepo.co.uk**

Uniplex will be exhibiting at the vascular meeting this year with something new & exciting! You can find out more on www.okcel.co.uk or visit stand 28 – there you will see our Okcel® haemostat products. This range of oxidised resorbable cellulose is available in Original, Heavy Duty and Fibrillar®-like formats with more sizes

than any other company! For gelatine-based haemostats, visit www.cutanplast.co.uk or stand 28 to see the range of CUTANPLAST® sponges.

The Company is probably best known for operating a comprehensive surgical instrument repair facility, including endoscopes of all types, interfacing directly with NHS/private hospitals and other commercial enterprises.

Vascutek Ltd
Stand 22
MAJOR SPONSOR

Newmains Ave
Inchinnan
Renfrewshire
PA4 9RR
Scotland
Tel: +44 141 812 5555
Fax: +44 141 812 7170
Website: **www.vascutek.com**

VASCUTEK, a TERUMO Company, is an established world leader in developing vascular grafts.

The Anaconda™ AAA Stent Graft System is the world's first repositionable device.

Anaconda™ features BluGlide™, a low-friction sheath featuring hydrophilic coating technology that significantly smoothes the passage of the delivery system through the arteries. The integral, graduated kink-resistant braided sheath provides controlled delivery with excellent trackability and manoeuvrability in varying patient anatomies while offering exceptional flexibility.

The leg devices of the Anaconda™ AAA Stent Graft System are approved for isolated iliac aneurysm repair. Innovative, patented magnet wire technology aids rapid cannulation of the contralateral limb.

Wisepress Medical Bookshop
Stand 52

25 High Path
Merton Abbey
London
SW19 2JL
Tel: +44 (0) 208 715 1812
Fax: +44 (0) 208 715 1722
Email: bookshop@wisepress.com
Website: **www.wisepress.com**

Wisepress.com, Europe's leading conference bookseller, has a complete range of books and journals relevant to the themes of the meeting. Books can be purchased at the stand or, if you would rather not carry them, posted to you – Wisepress will deliver worldwide. In addition to attending 200 conferences per year, Wisepress has a comprehensive medical and scientific bookshop online with great offers.

W.L. Gore & Associates (UK) Ltd
Stand 23
MAJOR SPONSOR

Kirkton South Road
Kirkton Campus
Livingston
EH54 7BT
Scotland
Tel: +44 (0)1506 460123
Fax: +44 (0)1506 460608
Email: medical_uk@wlgore.com
Website: **www.gore.com**

The Gore Medical Products Division has provided creative therapeutic solutions to complex medical problems for three decades. During that time, more than 30 million innovative Gore Medical Devices have been implanted, saving and improving the quality of lives worldwide. The extensive Gore Medical family of products includes vascular grafts, endovascular and interventional devices, surgical meshes for hernia repair, soft tissue reconstruction, staple line reinforcement and sutures for use in vascular, cardiac and general surgery. Gore was recently named one of the best companies to work for by Fortune magazine for the 14th consecutive year.

York Medical
Stand 30

Unit 12 Brookfield Business Park
York Road
Shiptonthorpe
York
YO43 3PU
Tel: 01430 803113
Fax: 01430 803234
Email: sales@yorkmedicaltechnologies.com
Website: **www.yorkmedicaltechnologies.com**

York Medical Technologies Ltd (YMT) is the UK distributor for top surgical instrument manufacturers such as Stille, Medicon, Heinz Waldrich, Dufner and Thompson.

YMT also supplies British pattern instruments from B & H, Dixons, Murrays and others.

A wide range of associated disposable items, including Stille arthroscopy cannulae, Kirschner wires and skin staplers, are available along with the award-winning range of theatre fluid management products from Colby.

Zonare Medical Systems UK Ltd
Stand 25

Suite A8
Westacott Business Centre
Westacott Way
Littlewick Green
Maidenhead
Berkshire SL6 3RT
Tel: 08448 711 811
Fax: 08448 711 810
Email: info@zonare.co.uk
Website: **www.zonare.co.uk**

ZONARE Medical Systems, Inc. designs, develops, and manufactures premium compact performance ultrasound solutions, which combine revolutionary technology with an innovative physical design.

Zone Sonography Technology™, ZONARE's unique patented approach to ultrasound imaging, is focused on bringing the highest performance to all clinical settings, leading to advanced diagnostic capabilities, more cost effective operation and increased value to providers. This technology enables ZONARE to deliver advanced software features such as Auto Optimisation™ and ZST™, which compensates for differing speed of sound in different body masses, IQ Scan™, which allows full retrospective imaging and compound tissue harmonics ensuring that ZONARE keeps the user at the leading edge of ultrasound technology.

Other Exhibitors

Circulation Foundation

35-43 Lincoln's Inn Fields
London, WC2A 3PE
Tel: 0207 304 4779
Fax: 0207 430 9235
Email: info@circulationfoundation.org.uk
Website: **www.circulationfoundation.org.uk**

Cochrane Peripheral Vascular Diseases Review Group

Public Health Sciences
University of Edinburgh
Teviot Place
Edinburgh EH8 9AG
Tel: +44(0)131 6503206
Fax: +44(0)131 6506904

IMPROVE Trial Co-ordinating Centre

Vascular Surgery Research Group
Room 4N12, 4th Floor North Wing
Imperial College London and Charing Cross Hospital
Fulham Palace Road
London, W6 8RP
Office: 020 3313 3651
Fax: 020 3311 7318
Email: improvetrial@imperial.ac.uk

National Carotid Interventions Audit

Clinical Standards Department
Clinical Effectiveness and Evaluation Unit
The Royal College of Physicians of London
11 St Andrews Place
Regent's Park
London NW1 4LE
Tel: 020 3075 1518 (direct dial)
Clinical Standards Department Fax: 020 7487 3988
Website: **http://www.rcplondon.ac.uk/resources/uk-carotid-interventions-audit**

The Vascular Society National Vascular Database

35-43 Lincoln's Inn Fields
London, WC2A 3PE
Tel: 0207 973 0306
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Email: office@vascularsociety.org.uk
Website: **www.vascularsociety.org.uk**

The Vascular Society AAA Quality Improvement Programme

Dept of Surgery, Southmead Hospital
Southmead Road
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Email: info@aaaqip.com
Website: **www.aaaqip.com**

Vascular News

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