



Newsletter

The Society for Vascular Technology of Great Britain & Ireland

Issue 92. Spring 2016



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Welcome to the Spring 2016 edition of the SVT Newsletter...

As always I would like to extend thanks to all contributors who sent in articles for this season's issue.

This issue includes details of this year's ASM and information on abstract submission, the recipients of SVT honorary memberships awarded at the ASM in 2015 and an introduction to the newly formed SVT Research Committee.

Just to update you all, the new SVT website will be launching soon and you will be receiving information on how to register for a login. The Circulation Foundation is also

launching a new website with great resources for both patients and staff!

Remember the Newsletter is continually looking for original contributions, so please email me any case studies, reviews, your experiences or any comments that you think would be of interest to members of the society. I would also welcome any comments on articles published in this edition.

As always a £25 prize is offered to the individual chosen for sending in the article or letter of the month. The prize this issue is awarded to Carla Goddard for her review of the Vascular Fundamentals study days.

The next Newsletter will be the Summer Issue, and the closing date for receiving articles will be 8th July 2016.

Helen Dixon
Newsletter Editor
newsletter@svtgbi.org.uk

DATES FOR THE DIARY 2016

SVT Theory Exams, London/ Manchester/Ireland
6th June

Venous Forum, Royal Society of Medicine, London
7th-9th July

VASBI AGM, Queens Hotel, Leeds
22nd/23rd September

VS ASM, Manchester Central Conference Centre
30th November - 2nd December

SVT ASM, Manchester Central Conference Centre
1st December

BMUS ASM
7th-9th December, York

President: Tracey Gall • **Vice President:** Helen Dixon • **Past President:** Tanyah Ewen • **Membership Secretary:** Sara Causley
Conference Secretary: Dominic Foy • **Treasurer:** Tanyah Ewen (acting) • **Newsletter Editor:** Helen Dixon (acting)
Web Site Manager/ Job Adverts: Lee Smith • **SVT Website:** www.svtgbi.org.uk



The Vascular Societies'
Annual Scientific Meeting
in conjunction with the Vascular Society of Great Britain and Ireland, the Society of Vascular Nurses, and the Society for Vascular Technology of Great Britain and Ireland. **2016**

30 November – 2 December
Manchester Central Convention Complex

We are pleased to announce for the second time the **Vascular Society**, **Society of Vascular Nurses** and the **Society for Vascular Technology** are working together to bring you one single integrated event – **The Vascular Societies Annual Scientific Meeting**. The ASM will take place from the 30 November – 2 December at the Manchester Central Convention Complex.

The conference will take place in the iconic Manchester Central Convention Complex (MCCC), which is located in the heart of the city. Being located in the centre of the UK, Manchester has excellent transport links to the rest of the UK and further afield.

Make sure you put the ASM meeting date in your diary. Online delegate registration will open on the 1 September 2016, when the programme will also be made available.

Abstract submission is now open for The Vascular Societies Annual Scientific Meeting 2016

Abstract submission is now open for surgeons, nurses, scientists, and for everyone affiliated with any of the three organisations, and we would encourage you to submit an abstract for presentation.

Key dates:

- 15 July 2016 abstract submission closes at 12 noon**
- 1 September 2016 online registration opens**



The Vascular Societies Annual Scientific Meeting 2016
Tel: 01506 292042

Web: <https://fitwise.eventsair.com/vsasm2016/abstract-submission>

Email: asm@vascularsociety.org.uk

Honorary Memberships

At the SVT ASM in November 2015 the SVT awarded honorary memberships to three members who have all made an outstanding contribution to the SVT, the society and profession would not be what it is today without their efforts.....



Mary Ellis

Mary Ellis has been heavily involved in the development of vascular ultrasound and technology in Great Britain and Ireland for over 40 years.

She originally started in vascular technology in 1974, before most of us were born, in the days when vascular labs primarily performed such tests as plethysmography, ankle/brachial pressures, foot volumetry and other non-imaging vascular functional tests. So she was at the forefront as ultrasound imaging began to be used, initially primarily for research, and increasingly for clinical practice.

She has worked at Charing Cross hospital in the vascular laboratory, housed primarily in the medical school, since 1974. This laboratory developed into one of the most highly respected vascular laboratories in the country, affiliated closely with an extremely busy academic unit and vascular surgical unit.

Mary has been a chief research MSLO and clinical vascular scientist since 1981. In this time she has been responsible for training many, many vascular scientists over the years to an extremely high standard, and they in turn have trained their staff to that same standard.

Academically she has contributed to an extensive number of research papers over her 40 year career, helping both to

better understand and improve on the use of ultrasound in imaging vascular disease as well as using ultrasound to assess treatment, pathology, and epidemiology in peripheral vascular disease. Her contribution thus to both the development of peripheral vascular medicine and its assessment has been considerable.

She was a founding member of the Society of Vascular Technology for Great Britain and Ireland (SVT) helping to set the Society up in 1992 in conjunction with a handful of other vascular science pioneers. She was appointed vice president in 1993-4 and then became president of the society in 1994-5.

She was involved very early on in the development of the education sub-committee within the SVT, sitting on the committee from 1996-2002 and chairing the committee from 1999-2002. During this time the education committee was responsible for setting up the accreditation theory and practical exam system and continuing professional development, as well as forging links with the consortium for accreditation for sonographic education (CASE) for which she was an accreditor of courses for four years.

She was in addition to this the inaugural editor of the original SVT newsletter, editing it from 1993 to 1997.

She still maintains links to the education committee, having been an external examiner from 1997 to date, sat on the group set up to oversee the surgical registrars pilot training scheme in conjunction with the VSS, as well as providing an examination space every year for the theory exams since they began.

She has lectured and demonstrated in vascular ultrasound extensively over the last 20 years or so around the UK to both vascular scientists and clinicians.

She remains to this day passionate about vascular ultrasound, its place in providing high quality care to patients, and above all else maintaining always the highest of standards. She will be a tremendous loss to the British and Irish vascular ultrasound community on her very well deserved retirement.

(Written by Kate Sommerville)

Continued >>



Ros Lea

Ros has headed the Cardio-Respiratory and Vascular Ultrasound Service at the Mid Cheshire Trust for many years.

She joined the SVT Exec Committee back in 1998 and during her time as Conference secretary the AGM moved to its current format of being run jointly with the Vascular Society and Society of Vascular Nurses. She also put together many successful study days across the country. She was always very supportive and encouraging of new committee members and many are now still good friends.

As president in 2002, she worked with Prof Sue Hill to get Vascular Science recognised as a Healthcare Science specialism in its own right for the first time. So we should all be grateful for her efforts during this period.

Ros has always had an interest in education and training. She is involved in lecturing in several postgraduate programmes in the North West. She is a CASE accreditor and works hard to represent the SVT on CASE Council in the changing world of ultrasound education and training. She has been very involved in Modernising Scientific Careers and STP. She has supported the implementation of the programme by getting involved in the national recruitment process. She continues to support this by helping to write stations for the final national OSFA exams and by being an assessor in both the cardiac and vascular specialisms. She is tough but fair assessor and well respected by both cardiac and vascular ultrasound colleagues across the country. **(Written by Theresa Fail)**



Crispian Oates

With the retirement of Crispian Oates from Newcastle, the UK has lost one of its longest serving and most influential scientists in the field of vascular ultrasound. A pioneer of Doppler ultrasound investigation of the circulation, he developed his department from undertaking research into continuous wave Doppler applications to the present where departments in Newcastle, Sunderland and Durham are integral to clinical services there. First teaching ultrasound to radiographers in 1985, he has been responsible for courses in ultrasound science and vascular applications in Teeside, Cumbria and most recently in the MSc in Clinical Sciences at Newcastle for the national STP training programme. His blackboard teaching of haemodynamics for the SVT gave scores of new scientists the confidence and understanding to pass their exams and, much more importantly, undertake competent vascular scanning.

Crispian originally intended to pursue the physics of meteorology but was persuaded to try Medical Physics, taking an MSc in Aberdeen. His first post was at Newcastle in nuclear medicine but he soon moved to the ultrasound section where he first started his interest in vascular applications. Since then his influence has been immense. A founding member of the SVT, he was President in 1999 when the Society gained charitable status. He has had positions on BMUS, on CASE and on several national committees. Actually, it is insufficient to say he has had positions. Wherever Crispian has been he has left a trail of action, helping to write the CASE handbook, drafting the occupational standards for vascular technology, working on work-related MSK disorders, always seeking to improve the status and standards of vascular ultrasound diagnosis. He has written several papers on our subject and I remember seeing a presentation of his when he used the radiation force of ultrasound to move

fluid in images in the scrotum with a multi-coloured ultrasound display of movement he described as "Aurora Testicularis". (You can't take the meteorology out of the boy.) Most impressive was his book on ultrasound and blood flow, no vascular lab should be without a copy of "Cardiovascular haemodynamics and Doppler Waveforms explained" which has not been surpassed 15 years since its publication. This is a magnificent achievement, not only in the scope of its work but for the clarity with which he describes concepts which can be daunting to those

coming new to the subject.

As anyone who has spent time with Crispian can testify, he is an enthusiast, whether about ultrasound, teaching, blood flow, music (he is learning the 'cello), painting (he paints with oils), astronomy, the health service, his family, gardening... I would say that he will be missed but he will continue to teach on the Newcastle course. I hope so and thanks for everything you have done for us all.
(written by Colin Deane)

Introduction to new SVT Research Committee

The SVT Constitution states that the objective of the SVT is: "To advance the education of the public by promoting training and research in vascular technology, and to disseminate the results of such research for the benefit of the public." At present the society performs well in the pursuit of excellent training and professional standards in the form of study days, exams and CPD. However it is apparent that there is a lack of coordinated research support and guidance from the SVT for its members. This is particularly pertinent as STP trainees are required to complete a research project as part of their MSc. Additionally, there have been requests for the SVT to support external agencies in research collaborations. In response to this need, the SVT President, Tracey Gall, and the Executive committee have set up a new sub-committee to promote and facilitate research with vascular science. The SVT Research Committee came into being in April 2016; it consists of three SVT members with relevant research experience. Currently the members of the committee are Laura Scott, Cambridge; Steven Rogers, Manchester; and Richard Simpson (Chair), Nottingham.

The committee a number of aims and these are outlined below.

• Research guidance to the SVT Executive Committee

- Provide information, feedback and comment on research related issues for the SVT to the Executive committee. It will also represent the SVT on research matters and attend meetings etc. as required. These will be communicated to the SVT membership via the SVT website or the newsletter.

• Provide research support and guidance to SVT members

- Actively support and encourage all SVT members in the research process. In the first instance this will be through the guidance documents on the website and in the newsletter. The content/links on the research pages of the website will cover a wide range of areas related to the research process, such as: How to write proposals/grant applications; How to apply for ethics and R&D approvals; Links and signposting to dedicated research resources. The committee will also be able to provide assistance to SVT members on an individual basis, if required. We would also aim to assist members making applications for large grants/fellowships.

• Re-launch the SVT Research grant program

- The new SVT research grant programme, supported by the Circulation Foundation, will provide financial support for pilot studies and small-scale research projects that are directly related to vascular disease. It is anticipated that this programme will facilitate the collection of pilot data to allow high quality competitive grant application to a research council or a large charity.
- The Research Committee will review the grant applications and provide funding recommendations to the SVT Executive Committee for approval. The committee will review the scientific quality, topic importance and likelihood of project completion. Guidelines for this process will be produced and published on the SVT website in order to be transparent and fair.
- The research grant programme is available to all SVT members regardless of their stage of career. We encourage research collaboration between SVT members, but also with the wider vascular community. We also welcome applications from trainees (STP and non-STP), however, the applicant's current job role, career stage or STP/non-STP status will not influence the funding decision. The research pages of the SVT website will enable online grant applications. Successful grant applicants will be expected to disseminate the research results as appropriate, including SVT ASM and for journal publication.

• Research collaborations and priorities

- The Research Committee will liaise with the external agencies, societies and networks to facilitate research, such as the Vascular Society, Royal College of Surgeons, Vascular and Endovascular Research Network, Circulation Foundation. It will also communicate to SVT members, calls for participation in national studies/surveys. The committee will also aim, in collaboration with key stakeholders, to develop consensus on research priorities, including those identified by relevant NICE guidance.

Richard Simpson, Chair SVT Research Committee
richard.simpson@nuh.nhs.uk

Bubbles

Richard Craven, Derriford Hospital

Contrast Sono venography; is this the answer to complex deep vein thrombosis imaging?

Smith AGW, Parker P, Byass O, Chiu K.
Ultrasound 2016; 24 (1): 17-22

Ultrasound remains the principle technology for investigating DVT. However, sensitivity for detecting DVT varies hugely, particularly for the below knee segment where large limbs, deep vessels and acute pain often result in suboptimal scan results and implications for patient risk and management.

This pilot study from a group in Hull aimed to test the feasibility of using contrast enhanced ultrasound (CEUS) to identify deep seated vessels that return poor echoes during DVT scanning, the rationale being the need to improve imaging in large legs, avoiding medication, clinical uncertainty and repeat scans. CEUS is substantially cheaper than CT or MRI; the study also aimed to test it as an economic solution.

After an initial, negative femoro-popliteal ultrasound scan (USS), 15 patients still considered high risk for DVT were given a second USS one week later, using B mode and colour Doppler and a 3 to 5MHz curvilinear transducer. Patients were considered high risk based on a two-level Wells' score and / or a positive D Dimer test, as per NICE guidelines. Subcutaneous low molecular weight heparin was administered between the scans.

Patients were examined supine, and thrombus ruled out principally based on compression testing transversely in B mode. Colour Doppler was used to determine patency when there was clinical uncertainty when compressing. Deep calf veins were examined into the calf and the length of vessel seen was measured.

The scan was then repeated at this sitting using 5mL of intravenous SonoVue contrast agent through an arm cannula. Compressions were applied as usual. Filling defects indicated the presence of DVT in incompressible vessels. The length of calf vessel seen was again recorded.

No pregnant patients were admitted to the study, and three legs were excluded from the initial 15 selected; one due to optimum imaging of veins at the initial B mode investigation; one due to failure to obtain I.V. access; the last due to dressings precluding a full scan.

100% of CFVs were seen with both B mode and CEUS. 100% of the SFV-popliteal segment was seen using CEUS. However, 67% of SFVs and 83% of popliteal veins were seen with B mode. CEUS significantly improved PTV and peroneal vein visualisation, distal to the level seen using B mode. All PTV and peroneal vein imaging was improved using CEUS, increasing the length of PTVs visualised by mean of 18.8cm, and that of the peroneal veins by 10.6cm. A complete scan was recorded if the calf veins were imaged to distal calf level using either method.

Of the 12 legs scanned, 71.6% were fully imaged pre contrast, and 91.6% using contrast. No anatomical variants were identified during any scan. The authors believe CEUS is superior to conventional B mode and colour ultrasound for examining deep veins from groin to distal calf; it potentially has better sensitivity than that of a standard scan, and may have multiple benefits from doing a full scan in one sitting; saving money, reducing outpatient attendance and need for anticoagulation between scans.

To the authors' knowledge, no DVT has been demonstrated in humans

in vivo using CEUS, and no DVT was identified in this study. Issues the authors considered limiting the efficacy of CEUS include difficulty differentiating arteries and veins when reviewing static images, and the presence of normal, undetected anatomical variants (e.g. duplicated SFV.)

For those of us used to scanning deep calf veins for DVT this is a very interesting study, especially considering the difficulties involved and the fact that these scans are performed to varying standards. At times it was difficult to understand the order of investigations in the paper, and it would have been helpful to know what their two level Wells' score is and what quantifies and high D Dimer. It's likely this study will lead to others, particularly where there is opportunity to incorporate CEUS into routine practice.

Pre-operative radial artery volume flow is predictive of arteriovenous fistula outcomes

Masengu A et al. *J Vasc Surg* 2016; 63: 429-35

Arteriovenous fistulae remain the gold standard for haemodialysis (HD) vascular access, and a greater understanding of the best indicators for reducing morbidity and improving patient survival is vital. Despite pre-operative identification of suitable vessels, a significant number of fistulae fail to mature (FTM.)

Fistulae are preferred over central venous catheters, and the paper quotes up to 70% of initial HD is done using CVCs, despite up to 60% of such patients already being known to nephrology teams for ≥ 4 months. AVF use for initial HD is estimated at 32% in Europe, with variation between countries. This low rate is considered in part due to high rates of FTM

(estimated at 20 to 60%).

Current guidelines recommend radiocephalic fistula (RCF) as the first access option, thereby preserving more proximal vessels, but they are associated with a higher rate of thrombus and FTM. This retrospective, single centre study from Belfast explored the potential for pre-operative measuring of radial artery (RA) volume flow (VF) to predict RCF FTM in patients with end stage renal failure in Northern Ireland. The study is unique in that it used logistic regression to statistically disentangle the effects of multiple potential confounders in predicting FTM.

Pre-op upper limb measurements recorded RA VF, and mean vein diameter (MVD) of the cephalic, median cubital and basilic veins. A Sonosite M Turbo was used by a single practitioner, using a 13 – 6 MHz transducer. Patients were sat, with the arm below heart level. Vessel diameters were recorded in transverse section in B mode, and VF longitudinally. Single values were recorded. Vein diameters at 5cm intervals from wrist to above the elbow were recorded, and the mean diameter calculated using measurements at the 5, 10 and 15cm lengths. Scarring, diameter and compressibility of the veins were assessed. A tourniquet was not used as this was not standard practice at the site.

Arterial calcification was examined; severe RA calcification precluded a RCF, and an Allen test was performed; if evidence for ulnar artery insufficiency was found, a RCF was contraindicated.

VF was recorded using colour Doppler 5cm above the wrist crease and antecubital fossa. Clinical data such as gender, age, risk of peripheral vascular disease and diabetes was also recorded. Data from the fistulae was analysed if they reached a

functional outcome by the end of the data collection period. Functional patency was defined as 2-needle HD for at least 6 sessions. FTM was recorded with clinical and ultrasound assessment plus abandonment of the AVF, or failure to sustain 2 needle HD.

149 patients were analysed: 69% achieved full patency, and 31% had FTM. Of the 149, 69 had a RCF (total RCF failure rate of 45%): female gender was associated with FTM; those with RCF and MVD <2.7mm dia were three times more likely to have FTM than those with >2.7mm dia veins; a RA VF <50mL/min was shown to be seven times more likely to have FTM. The mean VF for a RA supplying a subsequently functional RCF was 80mL/min.

The three above factors proved to be better than all other recorded data at predicting FTM, and a VF <50mL/min was a greater predictor of failure than vein diameter of <2.7mm. No ultrasound or clinical predictors of fistula failure were noted for brachial artery based fistulae. An age of ≥ 65 years has previously been associated with FTM, but in this study this was not significant.

The paper identifies its limits, including small sample size, analysis of retrospective data, no data on vein compliance, incidence of RA calcification was not collated, and u/s measurements were not repeated immediately after AVF formation. There was also selection bias where patients deemed to have unsuitable vessels were not included in the study.

I was really pleased to read new research that fills an important gap and helps refine our understanding of best selective parameters for AVF creation, particularly for RCF. The data here also supports previously published evidence. The study touches on the idea of pre-op angioplasty and stenting of stenosed

radial arteries to improve RA VF and functional outcomes. The authors identify this as an important area for future research.

A Review of the Haemodialysis Reliable Outflow (HeRO) Graft for Haemodialysis Vascular Access

Al Shakarchi J, Houston J.G., Jones R.G., Inston N.I. *Eur J Endovasc Surg* (2015) 50, 108 – 113

The HeRO graft has previously been described in the SVT Newsletter. This review article opens by explaining how critical AVF are to dialysis patients' survival, given their superior long term outcomes. But as survival improves, more complex cases are inevitable, with repeated AVF or graft failures and exhausted upper limb vein options. Central Venous Catheters (CVC) have thus been used to maintain haemodialysis (HD) in such cases, with their higher risks of central venous stenosis, bacteraemia and mortality.

The graft was developed in the USA by Cryolife Inc. as a definitive access solution to CVC. The FDA approved it in 2008, but its use is relatively new in Europe. It comprises a proximal dialysis graft component tunnelled subcutaneously and anastomosed to the ipsilateral brachial artery, and a distal venous outflow section radiologically placed into the SVC and right atrium via either the IJV or subclavian vein. A titanium middle section connects the two subcutaneously, and the entire device bypasses the central venous stenosis by placing its outflow tip into the atrium. There is no exposed part.

This systematic review of all existing English language literature on the device gathered data from Pubmed Central, Medline, Embase and the Cochrane Library under specific search terms for HeRO used for HD, up to the end of December 2014. Randomised trials and observational studies were eligible, but excluded

were abstracts, case reports and review articles not accompanying original research. The search was performed in accordance with PRISMA (preferred reporting items for systematic reviews and meta-analyses.)

Two researchers independently collated data to increase accuracy, with consensus used to resolve any differences in extracted data. Primary outcomes were 1 year primary and secondary patency rates. Secondary outcomes were rates of failure, dialysis associated steal syndrome, graft infection and graft related bacteraemia, and rates of interventions.

Of ninety eight items identified, eight (full text) articles were found eligible for review. All originated in the U.S., and so patient demographics was examined as this may differ from other countries. Most patients were diabetic African Americans, with no significant differences in the number of males and females. The papers yielded 409 HeRO grafts: mean 1 year primary patency of the pooled data was 21.9%, with 1 year secondary patency rates of 59.4%. The results are considered poor in comparison with dialysis fistulae or

grafts, but patients with HeRO grafts are complex with multiple failed grafts and fistulae. Despite problems comparing alternative access options in this study, it appears lower limb AVG have similar patency rates to the HeRO device, though with up to twice the infection rate at 29%. Since both devices might have similar outcomes, their costs were examined: initially more costly, HeRO is possibly more economic within one year.

Six papers reported steal syndrome, giving a pooled incidence of 6.3%. This is considered low, and is also lower than data reported for proximal AVF. Despite being anastomosed to a proximal vessel, an explanation for this steal incidence may lie in pre-existing severe arterial calcification. However, the low incidence might be due to the fact that the device tends to be used in people who have had previous access and arterial accommodation may have occurred, and that the outflow portion is fairly small (5mm dia) and more likely to limit steal-inducing outflow flow rates compared with a much larger calibre AVG.

Since a long length of graft material is used, infection is a concern. Device related bacteraemia per 1,000

days ranges between 0.13 and 0.7 episodes, lower than that for CVC (0.6 to 6.5% per 1,000 days), indicating an important benefit over CVC.

While allowing definitive access, HeRO grafts do require surveillance, and endovascular interventions are common, ranging from 1.5 to 3 procedures per year, although there is a lack of complete information as to what procedures are carried out. In one series of 25 devices it appears stenoses and treatment for thrombolysis was common. The outflow section can be removed if required.

In all, the authors conclude the HeRO graft is an acceptable access option for complex dialysis patients who are catheter dependent, with significantly lower bacteraemia rates compared to catheters. Primary patency is low but secondary patency rates are acceptable. Long term, randomised, international studies are required to broaden demographics and reflect international variation in practice and experience and compare multiple access options.

A Snapshot of Clinical Audit

Richard Pole, IVS, Manchester

Clinical governance is vitally important to any diagnostic healthcare service. However it is well documented that a robust, sustainable audit programme for diagnostic vascular ultrasound is hard to implement and establish and that there is no one accepted method of performing a review of practice. However, the need for establishing standards and measuring quality in this highly operator dependent field of imaging is of paramount importance and impacts on patient safety.

Clinical audit is the review of clinical performance, the refining of clinical practice as a result and the measurement of performance against agreed standards – it is a cyclical process of improving the quality of clinical care.

We started our clinical governance in 2011. Our aim

was to audit 10% of our clinical workload through two pathways – our Inter-staff Audit and MDT Audit. Over the last 5 years our Audit Policy has evolved and now includes trainee modality audits, peer to peer audit and Image Review Audit.

Image Review Audit

We held our first Audit Meeting in January 2016. One of the actions from that meeting was to start a process of Image Review Audit. This would improve our Clinical Governance processes and be a good addition to our healthcare audit processes. We decided to randomly select 5% of UHSM carotid scans during January and assess image quality, annotation and accuracy. Depending on the ease of analysis and usefulness of the results we would then expand the process to other modalities.

All audits would be kept confidential unless a serious error was identified. Using our database I identified 300 carotid scans that had been completed from the 1st to the 31st January 2016 at VSU, UHSM. A random number generator was then utilised to select 5% of the data which equated to 15 scans. Those scan reports were printed off and compared to the corresponding images on PACS. Image errors were recorded according to type and a tally chart was produced.

Results:

Of the 15 scans, one scan was “offline” on PACS and no images were available to view. So I analysed 14 scans. In all scans, I agreed with the percentage stenosis identified from the image and in the report. However there were image errors on every report, which are graphically displayed below:

to take care with their angle, heel-toe to keep to 60 whenever possible. No images had angles above 60.

Poor colourflow/colour bleed – be aware of obtaining good colourflow in your images, steer the colourflow box, alter the scale

Machine setting – some scans started on the wrong setting, the operator released the mistake part way through and altered to the carotid setting. Should be part of your pre-scan checks.

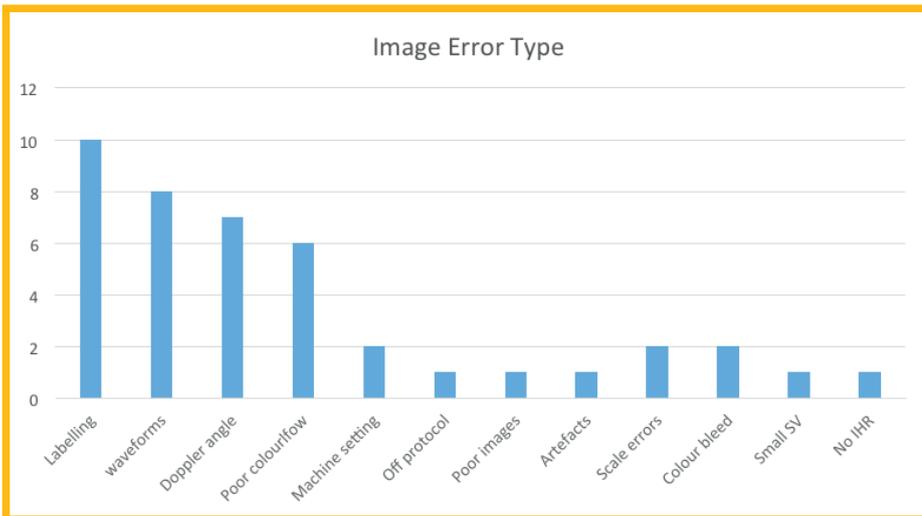
Off Protocol – our image acquisition protocol for carotids is 3 images either side – CCA, ECA and ICA. A few staff were taking extra images of subclavian/vertebral. This isn’t a problem as long as they are good images and we have decided to change our image

Irregular heart rate – seen on images not mentioned on report. It is important to report any significant findings on your report like irregular heart rate, thyroid cyst etc. so patient is managed properly after leaving our lab.

Recommendations

The major issue with image requisition was clear labelling – annotation needs to be concise and placed in the dead space on the screen not over the image or waveform. We have now pre set where the cursor should start to hopefully eradicate this issue.

We have reviewed and changed our Image protocol for carotid scans to include subclavian and vertebral arteries in all disease states. We also recommend that staff include a clear grey scale image on the ICA and bifurcation.



Conclusion

I was pleased to see mostly good image acquisition and it definitely made me think about my own images which could be equally criticized.

Images are just a snap shot from our scan and don’t necessary reflect the quality of the overall assessment. But it is vital that we make those snap shots as accurate as possible. I would want my images to be good enough to exonerate me in any potential legal case.

Labelling - in most images the vessel label was across the image, even occasionally across the area of interest, one report had no labels! We need to make sure the cursor and labelling is placed in dead space beside the image/waveforms.

Waveforms – it would be good to see a full cycle of waveforms across the image, rather than just one or two cycles.

Doppler angle – sometimes the angle looked a little out. Staff need

protocol to include these vessels

Poor images – change depth, angle around calcification. Try and optimise the image as much as possible.

Artefacts – be aware of mirroring artefacts on carotid scans.

Scale errors – tiny waveforms/ massive scale doesn’t make for accurate velocity measurement.

Small sample volume – Use a narrow sample volume for sampling high velocity flow.

This was a good process to go through and has made us improve our working practises. We will be expanding it to cover other modalities – we will be reviewing our DVT images obtained through March from our Pennine sites.

New SVT website coming soon!

The SVT is launching a brand new website! The website should be up and running from early June. Please keep an eye on your email as you will be receiving information on the launch and how to register for a new login to the member's areas.



We hope the new website will be a great platform for education not only for the SVT but also for members of the public. You will not only be able to submit your annual CPD but also upload evidence of CPD. In the future we hope to have systems which will allow you to earn CPD points as well as other teaching and training resources. We will welcome feedback from all members once the site goes live....

PLEASE NOTE Membership Fee Increase

New members £50 Renewal £40

Due to increasing costs we have reluctantly decided we will need to increase the new member fee and renewal fee from June this year. The current fees have been the same for many years now and are small in comparison to most. I'm sure you will agree we still represent excellent value for money.

Action required NOW.

For those who pay your renewal fee by **standing order on the 1st September** you will need to amend the amount you pay. **We CANNOT do this for you. Please check your account and make this change now. Don't wait until September.**

Your help in this is appreciated to ensure all renewals run smoothly again this year. Thank you.

Sara Causley, Membership Secretary

CPD REMINDER

Please check that your CPD records are up to date and you have the minimum 30 CPD points required to maintain your AVS by the end of the membership year on 31st August 2016.

Please be aware that the 10% CPD audit will be conducted from July to August and selected members will be notified via email only. Please log into your membership area and ensure your details are up to date.

If you are short of CPD and are struggling to be up to date, we will be happy to liaise with you to find suitable activities. Please contact the CPD officers at cpd.avs@svtgbi.org.uk with any queries.

REFLECTIVE PRACTICE UPDATE

We are informing you that the reflective practice of CPD submissions will be fully coming into effect from the next membership year 2016/17. For this, you will be required to keep a log of your CPD submissions detailing how they have affected your professional practice. This will be in addition to your CPD points which will also need to be entered online.

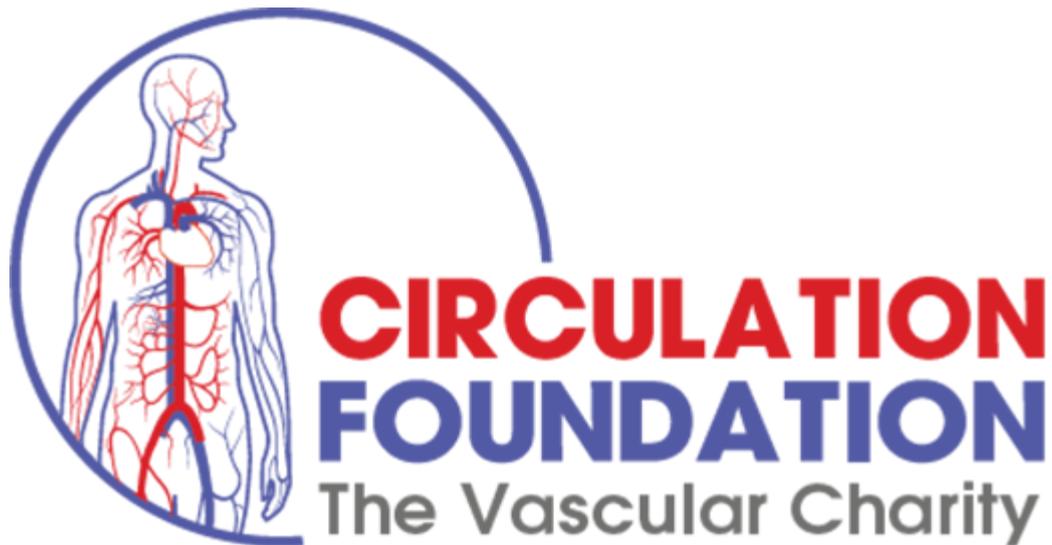
This year, those selected for audit will be required to submit this membership year's CPD submissions in the reflective CPD format in addition to providing evidence for past three years.

Please refer to the CPD guidelines for details of reflective practice submissions.

NEW WEBSITE CHANGES FOR CPD

Currently, the SVT is working to make changes and introduce a new improved website format for members. We would like to ask all members to make an electronic or hard copy back-up of all their CPD submissions to avoid any issues that may arise during the transition.

We thank you in advance for your patience with this matter.



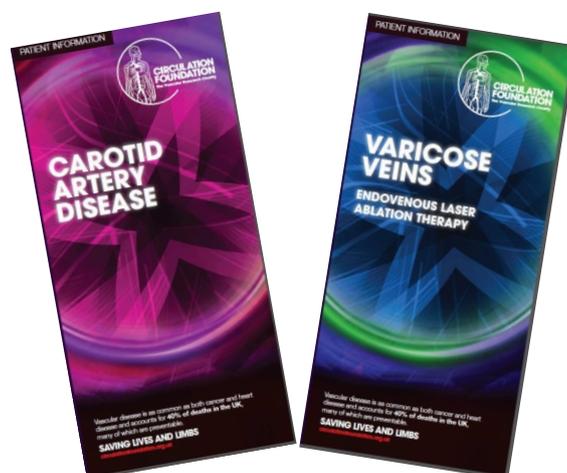
The new Circulation Foundation website is under development to go live soon.

The website contains useful information for patients and staff who are involved with the treatment of patients with vascular disease. There will also be information on fundraising and donating to the charity.

VASCULAR AWARENESS MONTH

September 2016

The Circulation Foundation will be holding vascular awareness month in September this year and they will be providing fundraising packs to help you all get involved. Further information will be available on the website.



Ann Donald Scientist of the Year Award 2016

Call for Nominations



An annual award for the scientist who has performed the best original research or been the most innovative in the promotion of vascular ultrasound.

The annual prize of £500 will be awarded to 'the scientist who has performed the best original research or been the most innovative in the promotion of vascular ultrasound during the year'.

How to nominate someone for the

award: Nominations for this award can be made in writing using the application form on the SVT website. You may either nominate yourself or another, in recognition of achievements over the past year or so. Applications must be completed in full, with supporting evidence and two others to support your nomination.

The deadline for nominations is 31st October 2016, and the prize will be awarded at the 2016 ASM if we receive an appropriate nomination.

CPD Questions

Spring 2016

Questions 1–10 are taken from the following paper: Tarek A. Ghonemy, Salama E. Farag et al (2016) 'Vascular access complications and risk factors in hemodialysis patients: A single centre study'. Alexandria Journal of Medicine, 52, 67-71.

You can access this paper via open access online.

Questions

1. What percentage of the patient cohort were diabetic?
2. State the five advantages of AV access for haemodialysis over venous catheter, as recommended by KDOQI.
3. What percentage of the patient cohort were hypertensive?
4. State four criteria that excluded haemodialysis patients from the study?
5. Which group of patients had an increased incidence of positive skin swab cultures?
6. What p value was considered statistically significant?
7. What five abnormalities did the centre document during the ultrasound examination?
8. Name three infections found in blood cultures and skin swab cultures of the haemodialysis patients?
9. What percentage of the cohort's blood cultures tested positive for S.aureus?
10. Why might Kt/V be decreased in patients with stenosis of the vascular access site?
11. How could this study be expanded to be more representative of the wider haemodialysis community?
12. What two advantages can a tunnelled catheter have over a non-tunnelled catheter?
13. What equation is used to calculate volume flow through a fistula?

Submission Deadline: 1st July 2016. Please forward answers (along with your NAME and SVT MEMBERSHIP NUMBER) to heather@vascularsolutions.co.uk

Answers: Autumn 2015 Newsletter

1. Bipolar
2. 2.5-3cm/min
3. 85°C
4. 90-100%
5. 2-3%
6. June 2015
 - a. No tumescent anaesthesia
 - b. Reduced need for post-operative compression therapy
7.
 - a. Embolization of glue to the lungs
 - b. Cerebrovascular complications
 - c. DVT
 - d. Scarring/ulceration/haematoma and pain
8. 810nm or 940nm
9. 5-12%
10. General, regional or local.
11.
 - a. Reduced incisions and pain.
 - b. Better cosmetic outcome
 - c. Easier to treat multiple or recurrent varicosities.
12. 12. 1/114

Trainee Competition Spring 2016

A patient comes in with sudden onset of abdominal symptoms (abdominal distention, fever and dehydration)

- A. How do we differentiate acute and chronic mesenteric ischemia? Which of these 2 would duplex ultrasound be beneficial?
- B. Give at least 3 principal collateral routes for splanchnic artery obstruction
- C. Name 2 SMA compression syndromes explain their clinical presentations briefly and what radiologic feature will differentiate one from the other?

Please send answers to Anne DelosSantos, Practical Exam Officer on Anne.DelosSantos@nuh.nhs.uk. The winner will receive a £25 book token and have their answers printed in the summer newsletter

Closing date: 1st July 2016

Trainee Competition Winter 2016

Winning answers to previous trainee competition from Jeny Anton of Watford General Hospital who will receive the £25 book token.

1. An abdominal aortic aneurysm (AAA) is a localised enlargement of the abdominal aorta, where the diameter of the abdominal aorta is greater than 3 cm or 1.5x the size of the normal vessel diameter. The abdominal aorta begins at the level of the diaphragm and descends slightly to the left of the midline where it divides into the right and left common iliac arteries at the level of the fourth lumbar vertebra. The normal size of the abdominal aorta varies between 1.5 and 2.4 cm in diameter. An aortic diameter greater than 2.5 cm is considered ectatic and often many surgeons do not request regular screening scans unless the aorta measures over 3 cm also depending on the age of the patient.

Abdominal aortic aneurysms usually do not cause any symptoms until they rupture, which is often lethal with a mortality rate of 85-90%. Therefore aneurysms are often detected either during a routine examination e.g. when the GP notices a pulsating mass in the abdomen of the patient by pushing down the abdomen (this is usually the case in slim patients or when the aneurysms is large in size), or as an incidental finding during an imaging study such as an Ultrasound, CT or MRA scan or when they rupture in a medical emergency. Only sometimes back or abdominal pain are associated with AAA and in these symptomatic aneurysms, the risk of rupture is high which is therefore considered an indication for surgery. A ruptured aneurysms can also result in back or abdominal pain, loss of consciousness and low blood pressure. Usually when an AAA is suspected by the doctor, an ultrasound scan is requested as it is a quick, painless and non-invasive

way to determine the size of the abdominal aorta and the results are available straightaway.

2. The AAA screening program was developed and set up in 2009 in the UK targeting men over the age of 65 because research showed that 2-8% of males over the age of 65 have an AAA and were six times more likely to have an AAA than females (Kuivaniemi H, Elmore JR. Opportunities in abdominal aortic aneurysm research: epidemiology, genetics, and pathophysiology. *Annals of Vascular Surgery*. 2012;26(6):862–870). In patients with an aneurysm with a size of less than 5.5 cm the risk of rupture in the next year is less than 1%, which increases to 10% in those with an aneurysm between 5.5-7cm. The risk of rupture in aneurysm with a size greater than 7 cm is 33%, which marks the importance to seek out these patients (Kent K.C. (2014). "Clinical practice. Abdominal aortic aneurysms.". *The New England Journal of Medicine*, 371(22): 2101–2108). The UK National Screening Committee claims that the AAA screening programme will reduce the death rate in men aged 65 and over from ruptured AAAs by up to 50% and prevent about 2000 premature deaths a year.

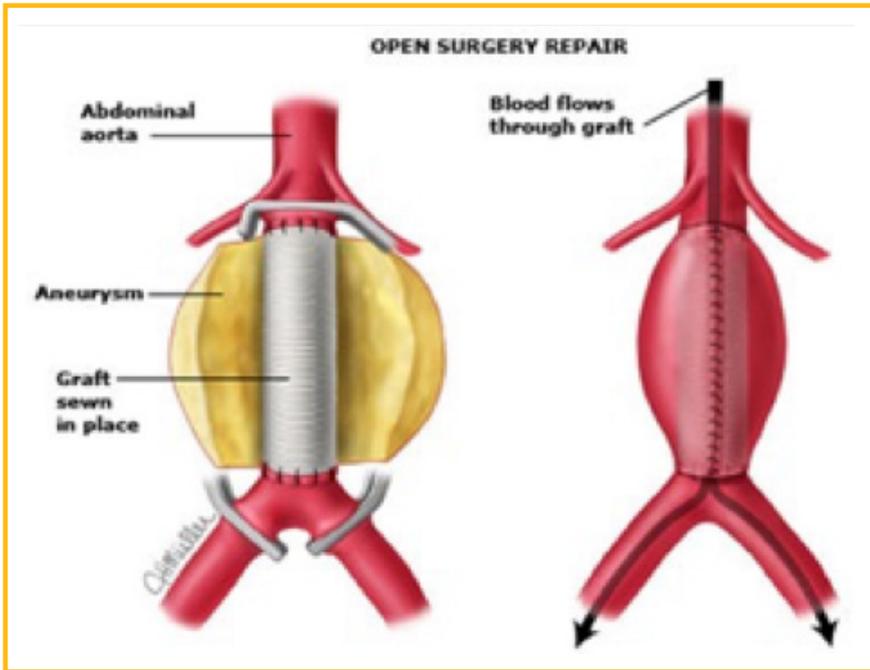
3. In the case of an asymptomatic AAA less than 5.5 cm in size, where the patient is not considered to benefit from a surgery, conservative management such as helping the patient to stop smoking, eating a healthier diet and doing regular exercise along side with regular surveillance scans to keep an eye on the size of the aneurysm are offered.



If the aneurysm is bigger than 5.5 cm in males or grows more than 1 cm per year then intervention is often considered. In symptomatic aneurysms surgery is also sometimes considered when the aneurysm is smaller than 5.5 cm.

The two main methods for treating an AAA are an open aneurysm repair or endovascular aneurysm repair (EVAR).

insert the graft into the enlarged area thereby declining blood to abdominal organs and some areas of the spinal cord. Therefore a fast repair is essential and typically a large incision is made in the abdomen to facilitate this. As a result recovery after an open repair takes a long time which involves a few days in intensive care and in hospital overall and a few months until full recovery.

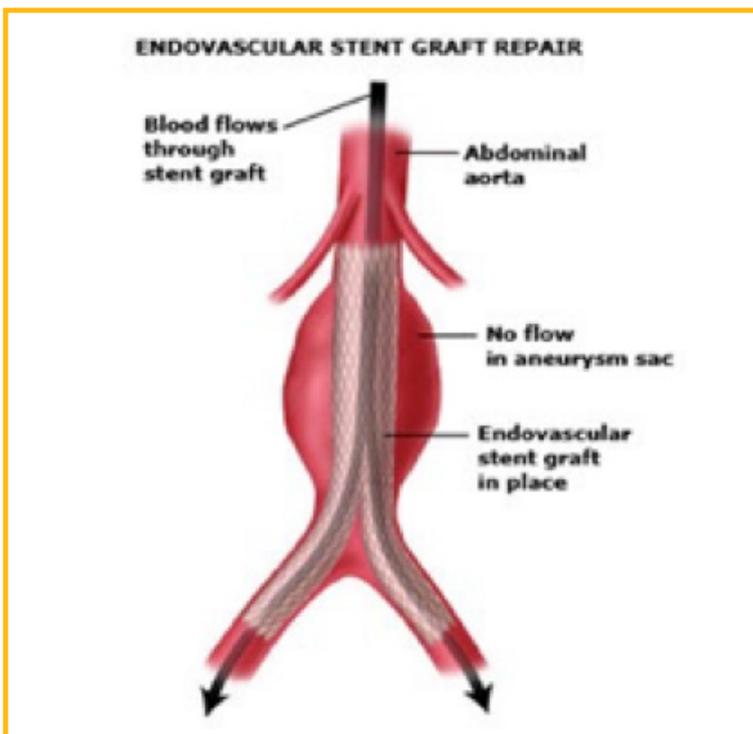


Therefore, endovascular repair is generally considered in older, unfit patients where open repair is not suitable, because it is considered safer and less invasive for patients as the surgeon only needs to make a small cut in the patients groin to guide the graft through the femoral artery into the enlarged section of the aorta. Almost all patients make a full recovery with a shorter recover time and stay in hospital than with open repair. There are also fewer complications such as deep vein thrombosis or wound infections associated with EVARs.

However this does not mean that every patient unfit for open repair is suitable for an EVAR. The main anatomical feature that limits the suitability of EVAR is the aortic neck size, which must be relatively straight and parallel for approximately 1.5 cm below the lowest renal artery. In

Open repair is considered as an elective procedure in young patients or in patients with symptomatic or ruptured or in growing or large aneurysms. This is because open repair involves direct access to the aorta, where the aorta must be clamped off during the AAA repair to

the case of a short angulated neck the standard grafts can not be inserted above the renal arteries without occluding them. However nowadays fenestrated grafts can be used that preserve renal blood flow and bypass the problem.



Furthermore, because the graft is not attached as secure as in open repair surgery, regular surveillance scans are needed to ensure that the graft is still intact and sealed properly to the walls with no endoleak present, which would require subsequent surgery to fix.

Overall recent studies showed that EVAR is not linked to overall better survival or quality of life compared to open surgery, although aneurysm-related mortality is lower (EVAR Trial Participants (2005). "Endovascular aneurysm repair versus open repair in patients with abdominal aortic aneurysm (EVAR trial 1): randomised controlled trial". *Lancet*, 365 (9478): 2179–2186).

Review of SVT Educational Events

Amy Bolsworth, Trainee Clinical Vascular Scientist,
Barts Health NHS Trust

SVT Fundamentals Study Days, 28th and 29th January 2016

The SVT runs various educational events for trainees and those with an interest in vascular ultrasound each year.

The Fundamentals of Vascular Ultrasound course is held annually at the start of the year and this year was hosted by Ed Ramage at Addenbrooke's Hospital in Cambridge on the 28th and 29th of January. The remit of this two-day course is to provide a basic understanding of the principles of vascular ultrasound and is a perfect introductory course for those entering the vascular profession. The course is lecture based and split over two days in line with the Vascular Technology and Vascular Physics syllabus.

Day one covered Basic Ultrasound Physics, Doppler Physics and Haemodynamics and was presented by Ed Ramage, Phil Hickman and Matt Bartlett. Personally, having next to no experience in physics, I found the level and speed of the lectures to be appropriate and an essential insight into what would be expected for the Theory Exams.

The second day focused on Vascular Technology; the morning sessions

provided a clinical overview of arterial and venous disease and the afternoon covered the principles of arterial, venous and carotid scanning. The morning sessions were delivered by two local Vascular Consultants whilst the afternoon sessions were delivered by Dominic Foy, Michael Davis, Jacqui George and Thomas Cranfield. I would highly recommend this course as a starting point for anyone with no previous physics knowledge.

SVT Theory Exam Revision Days, 29th and 30th March 2016

This year the SVT Theory Exam Revision days were hosted by Davinder Virdee at University Hospital, Coventry on the 29th and 30th of March. This two-day course is aimed at those sitting the theory exams in the coming round of exams and you can choose to attend one or two days depending on your requirements. The course takes a different approach to the Fundamentals course and assumes prior knowledge and experience of vascular ultrasound. Attendees were split into four small groups of 5-6 people and the tutors of each topic rotated through the groups. The format of each session revolves around an initial 20 minutes to answer 20-30 multiple choice questions with the remainder of each hour spent answering

and discussing the answers.

The first day covered the Physics Syllabus: Maths and Equations, Basic Principles of Ultrasound, Principles of Imaging and Haemodynamics. The tutors, who included Davinder Virdee, Matt Bartlett, Siobhan Meagher and Carl Tivas, were excellent at answering any questions and the format really allowed you to assess your level in terms of your revision, identify areas to focus on and highlighted common errors made in the exam. The final hour was spent with a lecture given by Matt Bartlett on Q&A and safety- an often overlooked yet fundamental topic.

The second day focused on the Vascular Technology syllabus. Topics covered were: Anatomy; Venous Disease; Cerebral Arterial Disease; Upper limb, Abdominal and Global Arterial Disease; and Lower Limb Arterial Disease. The tutors were excellent at challenging your knowledge and included Richard Simpson, Asif Dilshad, Christopher Curd, Louise Harrison and Ved Ramnani. For me it gave me an insight into what to expect of the MCQs in the exam in June and has further focused my preparation for the exam.

It is well known, that attending these revision days significantly increases your chances of passing the theory exams and I can see why! Not only are the educational events run by the SVT beneficial to training, they are a great opportunity to meet others working and training across the country. Not to mention the free lunch!

Review of SVT Fundamentals of Vascular Ultrasound Study Days, 28th & 29th Jan 2016, Addenbrooke's Hospital, Cambridge

Carla Goddard, Trainee Clinical Vascular Scientist, NHS Lothian

The Study Event was aimed to underpin the studies of Trainee Clinical Scientists, in particular those preparing to undertake their written exams. As a newly appointed trainee I

found the event useful in highlighting key areas for me to focus my own personal learning and development.

Both days were thoroughly enjoyable

and the structure was carefully planned. The first day concentrated on the theoretical aspect of ultrasound imaging and the second day focussed on disease pathology

PRIZE
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and the application of the previous days teaching to produce high quality scans for accurate vascular assessment. The speakers were all enthusiastic, engaging and presented their individual topics linking well together without any unnecessary repetition. There were representatives with a variety of machines available at the end of both days to give some guidance on getting the most from our own machines. The first day was led entirely by AVS. It began with an introduction to ultrasound physics with the very basics of B-mode, progressing in further detail into Doppler and concluding with haemodynamics. It flowed well without overloading the trainees and followed up with a Q&A session at the end - a great opportunity pick the brains of some physics enthusiasts. Having machines available also allowed us to discuss these fundamentals whilst doing some scanning practice ourselves. The first day highlighted to me the importance of knowing the equations and understanding the theory behind ultrasound to produce good images.

Day two was led initially by consultants from Addenbrooke's Hospital discussing vascular disease. They spoke about how they utilise our

scans to determine which treatment is most suitable for a patient. They discussed with us what they look for from a scan to help them determine which treatment option would be most appropriate for an individual and also gave us some insight into the successes of various treatments and why they choose them for certain populations. The afternoon sessions consisted of talks from AVS discussing different scanning procedures and (using our physics knowledge) ways of improving our images. This was particularly interesting for me, as a newly appointed trainee in the early days of scanning I am picking up techniques from others as I go to develop my own skills. This was also a great opportunity for those from smaller labs to gain different perspectives from those other than in the lab they are working.

To sum up, a well planned couple of days with great coverage of topics for the trainee vascular scientist. This course is a must for those preparing for their SVT exams and very enjoyable in the process. Having machines available for practical sessions worked well both for exposure to different AVS scanning

techniques and to a variety of machines not available in our own labs. It was also a great way to make contact with AVS from different departments and to meet fellow trainees at different stages of training. As one of the newer trainees, it allowed me to pick up plenty of hints and tips! I left feeling confident and really looking forward to the rest of my training. Big thanks to all those involved in the facilitation!



Review of SVT Technology Revision Day 30th March, University Hospital, Coventry

Hannah Buggiey, Independent Vascular Services Ltd.

On March 30th a group of around 35 trainee vascular scientists made their way to the bright lights of Coventry for the SVT technology exam revision day. After a welcome caffeine boost we were split into small groups and began the revision sessions. We had sessions on anatomy, arterial, venous, carotid/cerebral and abdominal scanning, with

teaching from enthusiastic and helpful session leaders. Each of the sessions began by testing our prior knowledge (and exposing just how much or how little revision we had done before the day) with a series of multiple-choice questions in the style of the exam. Following this we discussed the answers and had teaching on specific areas that seemed to be the most problematic

(for my group the main issues were circle of Willis anatomy and cerebral collateral pathways).

I found the day very useful for trying the style of questions that are likely to be on the exam, and as a benchmark for seeing what level I'm at already and giving me the kick up the backside needed to get me to crack on with revision! I would definitely recommend attending the study days for anyone sitting the exams in the future.

Many thanks to the organisers and sessions leaders for a very useful and informative day.

Letter to The Editor



Hi Helen,

With reference to work related RSI problems, you might like to make the following known to the SVT Membership through the Newsletter. The Aunt Minnie website has just made a document of 17 articles detailing helpful exercises for sonographers available and our members might find it helpful. I have attached a copy for you to see and the link website.

www.auntminnie.com/index.aspx?sec=sup&sub=ult&pag=dis&ItemID=113296

Crispian Oates

From The Editor

Dear Crispian,

Many thanks for the link, I'm sure this will be very useful for all our members.

Kind regards,

Helen Dixon, Newsletter Editor

Executive Committee Meeting Summary

April 2016

Conference: Fitwise plan to open abstract submission next week, they have access to our membership list and will email direct. We will need to advertise in the next newsletter that submissions are open. There will also be an online process for scoring the abstracts. To make this work the three societies will need to work from the same timeline. The committee discussed possible guest speakers for this year's ASM and topics for the workshop. The trainee presentations were discussed and it was decided that in order to give feedback from experienced members this should be kept within the main session.

Website: The new website is under construction and available for committee members to review. Lee Smith has been adding content from the old website and is asking for feedback. The new SVT logo was

also discussed and it was felt that the designs were still not perfected.

Research Committee: The SVT has been contacted by VERN and Prof Ian Chetter to provide representation to their respective committees. The research sub-committee has been set up to promote and encourage research amongst our members and provide funding for this. Richard Simpson (research committee chair) has drafted remit documentation for the committee and will submit an introduction to the committee for the newsletter.

Education committee report

Venous Forum: The education committee contacted Ian Franklin from the venous forum in regards to the SVT taking part in the VF and European Venous forum joint meeting due to be held in London

between the 7th and 9th of July. However, the Venous Forum did not have as much say in program as they initially thought and the didactic sessions are now largely fixed without SVT involvement. They are still in the process of organising chairpersons, so there may be an opportunity for a SVT committee member to take part in this capacity.

ASM Trainee Breakout session:

Suggestion from the Exec meeting in Jan was that the STP research proposals should be moved into the trainee breakout session of the ASM. This was discussed at the Education meeting on the 11th of March. The committee felt this should remain in the main session. Ideas for the trainee breakout session were: Graduate STP to update on experience since graduation, one STP and one accredited member

who has been through equivalence, interesting/complicated case studies.

Theory Exams: To be held on 6th June, 43 candidates in total for physics and 53 for technology over the three sites. The exam papers will undergo two layers of proof reading one from an Education committee member and another from a SVT member (past Education committee member or past Invigilator). Poorly answered theory exam question to be reviewed on the 23rd of June. Marks and exam certificates to be finalised and sent by the 4th of July. Resit exams date 5th of September 2016 – the Education Committee felt one venue would be sufficient for the resit exams as the number of candidates sitting the resits is usually significantly lower than the main summer exams. Ideally the venue will be London based.

Fundamental days: Held on 28th & 29th of January, with 16 trainees attending. Four feedback forms were received which were all relatively positive.

Tutorial days: Held on 29th and 30th of March. There were 26 candidates at the physics revision day and 32 for the technology. Feedback forms will be reviewed shortly and review articles to be submitted for the Spring Newsletter.

Advanced Study Day: An Advanced Contrast enhanced study day was held on the 7th of April, at University Hospital South Manchester, organised by Tracey Gall.

CPD: 10% audited members will be asked to fill out a reflective practice from their last year CPD activities. Both current CPD officers will be stepping down this year and there are two SVT members interested in taking on these roles. Shakila & Julia to submit advert for spring newsletter in regards to audited members and what will be required. Also to remind members that we will be changing to a reflective practice based system for 2016/2017.

Practical Exams: New forms are to be issued to internal examiners to confirm that they believe that their trainee is ready to take the exam. In the situation where two external examiners are required, the trainee will need to submit two references confirming their suitability to take the practical exam. Returning forms signed by examiners need to confirm that they have read the issued exam guidelines and that they are aware the candidate will be taking the practical exam according to the exam protocols laid out in the accreditation document.

Newsletter: The Winter 2016 newsletter was released with no problems. The Spring 2016 newsletter will include information on this years ASM and the 2015 honorary memberships as well as updates on CPD, memberships fees etc. Submission deadline for the Summer edition is 8th July (for anticipated release date 5th August).

Treasurers report: Current funds as follows:

Current Account: £51,737.48
Reserve Account: £106,646.03

Reminders for outstanding payment for job adverts have been sent out. All expenses are up to date. Last year's accounts have been sent for auditing. The charitable return will be completed once the accounts are audited.

Membership: Membership numbers are currently stable but encouraging, we currently have 473 fully paid up members. General enquiries have tended to be around proof of membership which will hopefully be addressed with the new website and database. The committee discussed a previous suggestion of an increase in membership fees which will be active from this September, a notice will be added to the newsletter to inform members.

PSC: The PSC are currently working on an example business case for departments wishing to apply for

IQIPS, a complaints policy and social media policy. As a result of this new documentation the executive committee will be reviewing and updating the constitution.

BMUS: Steven Rogers and Tracey Gall are organising the vascular stream of the BMUS ASM which will be held on the Friday.

Circulation Foundation: Office management for the CF has now been outsourced to Fitwise. A new website being constructed by Yonescat, hopefully be live by mid/end April. Vascular Awareness Month will be September, the event will be promoted and organised through the new website. Information emails will be sent out to potential and existing fundraisers. Standard fundraising packs are being created. The CF has 16 runners in the London Marathon (2016) each pledging to raise a minimum of £1000.

AOB: TG has discussed with Fitwise about support for the SVT. It was decided that admin costs are quite high and a PO Box will be set up for any mail. Fitwise will archive paper documentation previously held in the VS office as this is a one-off cost.

Committee Members 2016

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Tracey Gall

Past President

Tanyah Ewen

Vice President

Helen Dixon

Membership

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