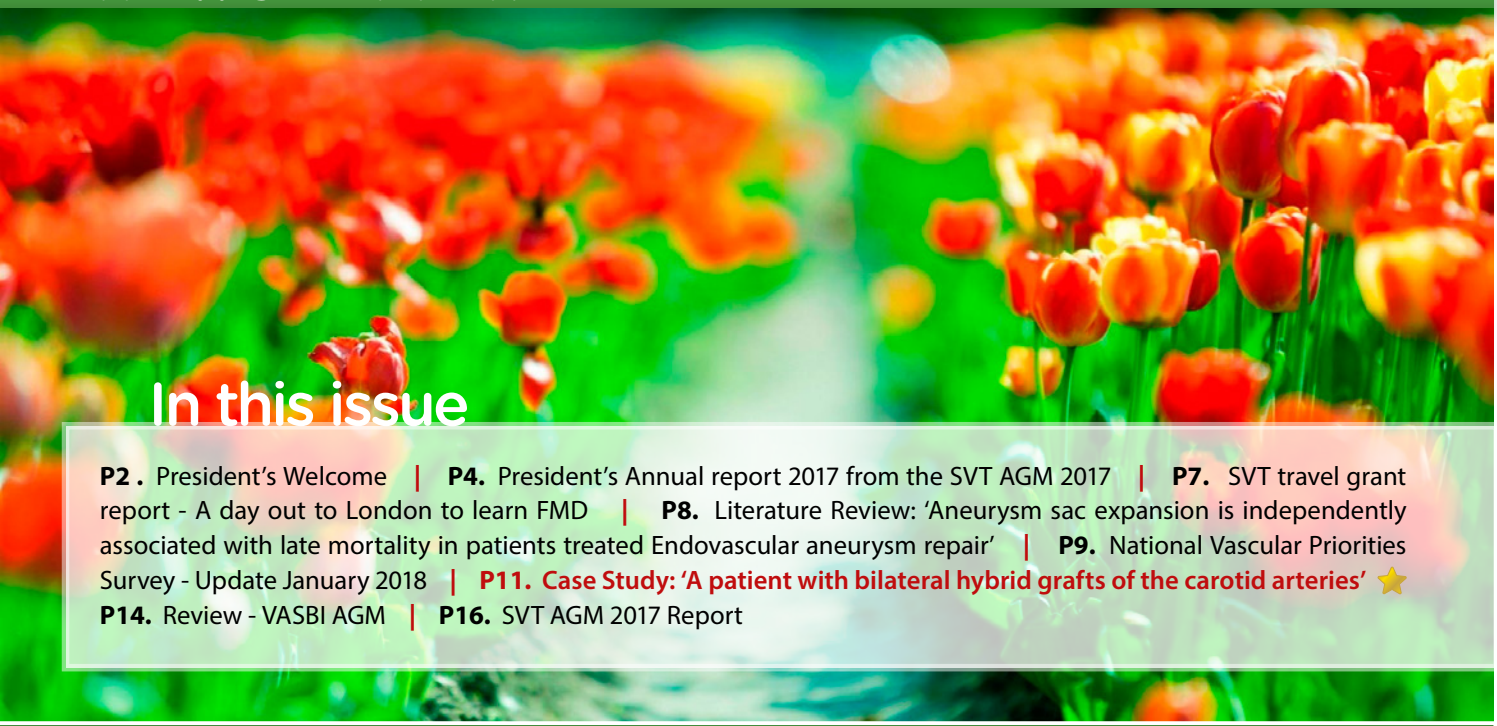
THE SOCIETY FOR VASCULAR TECHNOLOGY OF GREAT BRITAIN AND IRELAND

NEWSLETTER Issue 99 Spring 2018



In this issue

DATE FOR THE DIARY 2018

- **SVT Exams Revision Days:** April 18th & 19th.
- **Charing Cross Symposium, London:** April 24th-27th - www.cxsymposium.com

Welcome to the Spring edition of the SVT Newsletter 2018

I would like to start by saying thank you to Matthew Slater who is stepping down as PSC Chair. On behalf of everyone at the SVTGBI I would like to thank him for his time and support with this newsletter. The new PSC Chair is Siobhan Meagher from Edinburgh who has previously been Education Committee chair.

This year's SVT AGM 2017 was held in Manchester which was a great success with some very interesting presentations and workshops which I hope you all enjoyed.

Helen Dixon has now stepped down as the SVT President at the AGM 2017. I would like to personally thank Helen for all her hard work and support as the SVT president last year as well as her support and guidance for this newsletter. I would like to welcome our new president Sara Causley who has written a welcome article in this issue.

Sara Causey : New SVT President 2018

Former President Helen Dixon presenting the Presidents medal to the new president Sara Causley.

This issue, we have a great literature review and case study, an SVT travel grant report and an update to the vascular priorities survey. We have also included highlighted reports from the SVT AGM 2017 and a few pictures from the event.

A big thank you to everyone who submitted a presentation and presented at the SVT AGM 2017, there were numerous fantastic papers and presentations enjoyed by all. Congratulations goes to Adam Geale (Vascular STP Student) who is our trainee prize winner for his excellent presentation titled 'Is Aortic Arterial Stiffness A predicator for Abdominal Aortic Aneurysm (AAA) Growth Rate?' Aliya Dhanji for best the scientific paper titled ' A Retrospective Analysis Of The Growth Rate Of Common Iliac Artery Aneurysm (CIAA)'.

Please email any case studies, reviews, your experiences or any comments that you think would be of interest to members of the society, contributions may also be eligible for CPD points. We would also welcome any comments on articles published in this edition.

If you have any interesting links to an article or video you think other members may be interested in then please get in touch. As always, a £25 prize is offered to the individual chosen for sending in the article or letter of the month.

Congratulations to Emily Hillier on her literature review ' A patient with bilateral hybrid Grafts of the carotid arteries' who is our prize winner for this spring.

Gurdeep Jandu
Newsletter Editor
newsletter@svtgbi.org.uk

Sara Causley – SVT President 2018

Welcome to the Spring edition of the newsletter. I'd just like to take a minute to introduce myself. I started my career as a qualified nurse before starting my training as a clinical vascular scientist (or vascular technologist as we were called back then) in the mid 1990's, qualifying in 1998. I work for Wye Valley NHS Trust on the English-Welsh borders as a single-handed practitioner. I feel this made it more important to step up and help out on committees to ensure I didn't get left behind professionally. I started as a non-portfolio member on the executive committee before becoming membership secretary in 2007. I have always been made very welcome and would highly recommend it to anyone. As you can see you don't need to be working in a big teaching hospital to help we need everyone and it's a good way to make new friends both personally and professionally. If you would like to volunteer please don't hesitate to contact me.

I've only been in the role a few weeks but seem to have hit the ground running. This year we will be looking to provide a formalised training programme for surgical trainees and there is more work to do with the healthcare science apprenticeship programme . We will hold another head of departments meeting and I am hoping to make the website more interactive for both patients and professionals. This may include more patient information, including videos and an online forum for members.

I would just like to say thank you to Helen Dixon for all her hard work last year and for her ongoing support. I cannot mention all the committee members here by name but would like to thank everyone single one of them for continuing all their good work this year. I would like to welcome our new volunteers too and hope they settle in well and enjoy getting involved in the society.

ASKTHEPRESIDENT

Do you have any burning issues you wish to raise with the committee? If so please write in to us and ask our SVT president.

Please email us on newsletter@svtgbi.org.uk and your questions could be published in the next newsletter.

SVT AGM pictures from the Annual Dinner at the Manchester Conference Centre 2017

President's Annual Report 2017 from the SVT AGM 2017

Helen Dixon, Kings College Hospital NHS Foundation Trust

Welcome to the 2017 Vascular Societies Annual Scientific Meeting. This is also the 25th Anniversary of the Society for Vascular Technology of Great Britain and Ireland and during this time the SVT has made huge achievements in the development and recognition of our profession. None of these achievements would have been possible without the dedication and time given to the Society by those members who have taken on volunteer roles over the last 25 years.

So, I would like to start the annual report by thanking all of our member volunteers, I cannot express enough how grateful I am for the work they do and the difference they make to the SVT. The SVT is currently run entirely by volunteers who give up their time to contribute, not only to the running of the Society but also representing us on all the relevant groups and associated Societies. If anyone is interested in volunteering for the Society you can find contact details of the committee chairs on the website. Most committees offer non-portfolio roles which have no set duties and are a great introduction to the work of a committee before committing to a set role.

The development of the new website has continued over the last year and I would like to thank Lee Smith for all his hard work. Changes have been made to the administrative side to reduce the amount of manual tasks our volunteers have to complete. This includes changes to CPD submission and the way AVS status is displayed. We will also be re-introducing the publicly searchable AVS register which we had on the previous website. Members will have received an email offering them the option to opt out of the searchable register if they wish. The register will allow a name only search and will then display the result as AVS, not AVS or if you do not wish to be included as 'not found'.

Our new newsletter editor, Gurdeep Jandu, has been exploring ways to make the newsletter more interactive so you will notice some changes over the coming year. I would also encourage members to contribute to the newsletter; we are particularly interested in more scientific content. I would encourage those of you who have presented at conference to submit a summary of your work to the newsletter for those who are unable to attend. Also for our student presenters who are unable to return to present the finding of their projects at the ASM to submit to the newsletter. There is a £25 prize each issue for the best contribution. Articles should be submitted to newsletter@svtgbi.org.uk

The executive committee has discussed ways to improve SVT member benefits and as a result will be providing its members with access to a scientific journal. Starting in the New Year members will be able to access the European Journal of Vascular and Endovascular Surgery with access to four years of back issues.

I'm sure you will all have noticed that there have been changes to the provision of professional indemnity insurance provided by the Society of Radiographers (SoR), and we sent out an email to members in July to give advance notice of the changes. Those of you who work privately will likely have been affected by this and SoR have provided a contact for alternative insurance for those who are undertaking work whilst not employed by an organisation. Over the coming months members of the SVT executive committee will also be approaching contacts to investigate alternative insurance arrangements for AVS working on a self-employer (or similar) basis and we will likely be emailing members to gain information on the potential number of users for this.

Earlier this summer I was contacted by Siobhan Meagher and Heather Griffiths from Edinburgh regarding the Clinical Physiology part of the Academy for Healthcare Science (AHCS) Register. Siobhan initiated a discussion with the AHCS on the possibility of inclusion of SVT AVS on the register. We took this forward with the AHCS Director of Quality and in order to be included we had to demonstrate our methods and documentation for training, assessment and CPD in order to prove that we are working to high professional standards and keeping our skills up to date. I then sent out an email to all AVS to invite them to join the register and 128 of our AVS have asked to be included. The Clinical Physiology Register is a voluntary register and does not replace Statutory Registration with the HCPC. The AHCS continues to encourage those eligible, to apply through the equivalence process to gain Clinical Scientist status and statutory registration with the HCPC. The SVT executive committee felt that we should still take to opportunity to become part of this register for those who have not yet applied for equivalence as it demonstrates to employers and the public that those with SVT AVS are working to good standards and it has been suggested that, in future, registration (either on a voluntary register such as this or statutory registration) will be seen as essential by employers.

The SVT remains a member of the Consortium for the Accreditation of Sonographic Education (CASE) and has representation both on the member's organisation board and on the committee. We are also represented at the Academy for Healthcare Science (AHCS) and

the National School of Healthcare Science (NSHCS). As a result of these relationships we have been involved in a number of different work streams which I will try to explain in brief.

To update you on developments at the NSHCS, the level 4 healthcare science associate apprenticeship is ready for delivery and over the last year Helena Edlin, who is our representative at the NSHCS, has been working to develop additional vascular units for this. The level 4 includes 'Introduction to Vascular Science', measurement of ABPI, and of post exercise ABPI and toe pressure measurements.

Earlier this year Helena and myself were also invited to be involved in a Sonography Apprenticeship Trailblazer. An apprenticeship trailblazer can be set up when there is interest from 10 trusts in taking part in writing the 'standard' for the apprenticeship scheme and using the scheme once it is approved for delivery. This apprenticeship trailblazer group consists of employers; higher education institutes (HEI's) and associated organisations (in this case BMUS, SVT and CASE). The group will write the standard, conduct a public consultation and submit the standard to the Institute of Apprentices. Writing the 'standard' for the apprenticeship basically means defining the knowledge and skills that the apprentice will have on completion of the programme. The sonography apprenticeship will ultimately be an undergraduate scheme and therefore there will be a requirement for CASE accredited undergraduate courses in sonography.

In addition to this the SVT have been involved in the Sonography Workforce Sub-Group (SSWG). This is a sub-group of the Health Education England Integrated Imaging Workforce Group (IIWG). The IIWG was set up to look for workforce solutions for sonography and radiography and the SSWG has been assigned the task of developing ideas to deliver the sonography workforce. This group was given a quite short timeframe to come up with options for this and has been looking at a sonography career framework from bands 5 to 7/8, scope of practice and competence levels within the bands and has also become a driver for looking at regulation of the sonography profession. The group has been looking at scope of practice and rather than deciding on different tests which could be performed at different bands they have broken the career frame work down into levels of competence and degree of supervision.

Due to the development of the sonography and healthcare science professions we felt it pertinent to gain a wider perspective of the development of both the sonography and vascular science career pathways. In order to gain the views of the wider SVT we held our first SVT 'Heads of Service' meeting on 22nd September. Vascular lab leads from across the UK were invited to join the meeting and on this occasion the main topic for discussion was the potential for the development of the a vascular science career framework which could be consistent with the current developments in the sonography workforce and which would 'complete' the progression from AAA screener or healthcare science associate through to STP. There were mixed reactions to this prior to the meeting however the group discussed how there may be a role for a band 6 to perform some tests. We discussed how many departments currently practice in terms of local sign-off of band 6 trainees to perform certain scans autonomously but seeking the opinion of a band 7 for more complex cases. The development of a band 6 role could formalise this process and we discussed the methods of assessment for sign-off and the potential for modular AVS and the use of the Accredited Scientific Practice (ASP) modules. As a result of the meeting we are currently discussing the potential for a level 6 (and/or PTP) Vascular Science apprenticeships to expand the career framework and we will keep the Society up to date with this. A more detailed report from the heads of service meeting will be made available to members once it has been agreed by those present and feedback will be welcome. We are also looking at an annual 'Heads of Service' meeting which in future will be held at the ASM, the meeting will be used to look at current developments affecting our profession and discuss strategy and work we should be focussing on as a Society.

Over the last year I have been struck on several occasions by how our relatively small Society is regarded for the way we work to maintain high standards in our profession. For example whilst in Washington in September for the ARDMS Fall Meeting 2017 our methods, particularly those employed in our practical assessment, were mentioned on several occasions by the executives at ARDMS and they are also looking at ways to introduce a practical element to their assessments. Whilst going through the process of adding our AVS to the Clinical Physiology register we were also complimented on our methods of assessment and CPD.

I would like to take this opportunity to welcome back Siobhan Meagher, former chair of the Education Committee, who will be taking over the role of Chair of the Professional Standards Committee (PSC). I would also like to express our thanks to Matt Slater who will be stepping down from this role after handing over to Siobhan over the coming months. Matt has chaired the PSC since 2014 and we are very grateful for his contribution and leadership. During his time on the PSC Matt has been closely involved with producing new scanning and service protocols and revising those that already existed. He has been involved with IQIPS and the Accreditation Clinical Advisory Board (ACAG) and

has provided external reviews of scanning services. He has helped to develop relationships between the SVT and other professional groups such as VASBI and NICE. Matt will be missed by all on the PSC as well as those on executive committee.

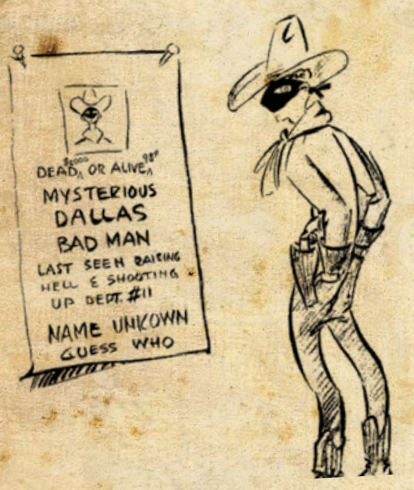
Earlier this year Tracey Gall stepped down as our past president to further her ultrasound career with MIS. Tracey has had a huge impact on the Society, helping to facilitate the collaboration with ARDMS for the delivery of the electronic exams, developing the new website and setting up the research committee to name just a few of her achievements as president. She has also been a great support to me over the last year and will be missed by all on the executive committee.

I would also like to announce that our 2019 president will be Dominic Foy. Dominic has been involved with the SVT for many years and over the last three has done a fantastic job as out conference secretary.

All that leaves is for me to hand over to your 2018 president Sara Causley. Sara has also spent many years on the committees and most recently has been our membership secretary. I'm certain Sara will do a fantastic job.

WANTED!

CASE Representative



CASE is the Consortium for the Accreditation of Sonographic Education. There are currently two SVT representatives on CASE council and a third is needed, so that we can ensure there is always good SVT representation (two people preferred at each) at the three CASE council meetings held every year (usually two in London and one in York). This involves looking at courses, and changes to courses, for post graduate sonographic education around the country. The remit of CASE council continues to evolve with changing practice and education. The SVT representatives on CASE are also CASE accreditors which may involve travelling to educational sites for on-site visits with agreement.

For more information please contact Valda on valda.gazzard@nhs.net, or Ros on Ros.Lea@mcht.nhs.uk

SVT Travel grant report: A day out to London to learn FMD

Danielle Joyce, 3rd year STP trainee, Nottingham University Hospitals

I am a 3rd year STP trainee based in Nottingham and my MSc project will compare the endothelial function of athletes and healthy controls. Arterial endothelial dysfunction is an indicator of early atherosclerotic changes and can be measured by brachial artery flow-mediated dilatation (FMD). I will use FMD to investigate whether professional ice hockey athletes have an enhanced endothelial function compared to gender and age-matched healthy control group. A secondary aim of the project is to assess the repeatability of FMD in our lab in the anticipation that it can be used for further research studies. In 2017 was fortunate to be awarded the SVT Travel/Education grant to learn Flow-Mediated Dilatation from Professor John Deanfield's team at UCL; So in August, my supervisor and I visited the William Harvey Research Institute to see Dr Scott Chiesa using FMD.

The technique involves placing a BP cuff around the forearm, the brachial artery is then imaged using ultrasound and the diameter of the brachial artery is measured and recorded.

The cuff is then inflated to 200mmHg for 5 minutes. Upon cuff release the artery diameter is recorded every 10 seconds for 5 minutes post cuff release. The brachial artery diameters are then plotted over time and the peak diameter of the artery is then compared with the baseline diameter taken at rest to give % FMD.

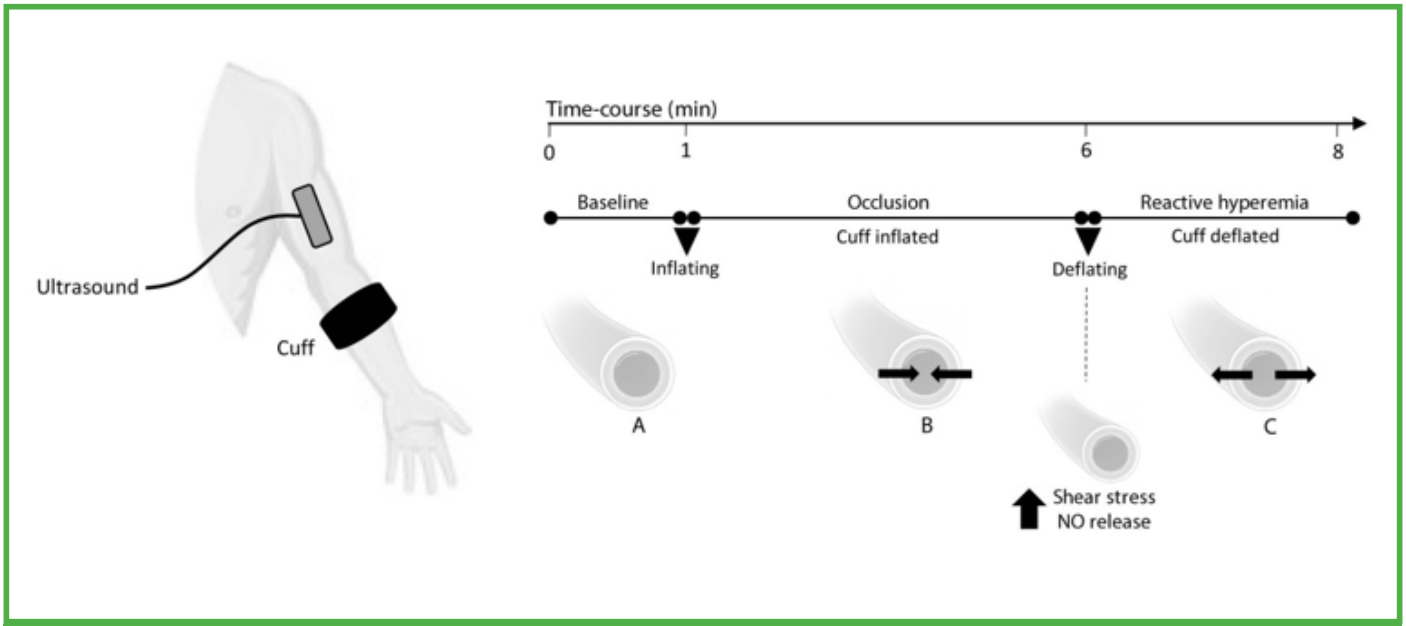


Figure 1. Overview of the FMD technique

It really helped seeing the method in action and learning the techniques to be able to bring back to my own lab and set it up. Dr Chiesa was friendly and very knowledgeable allowing us to get some vital hands-on experience of the technique. I would like to thank the SVT Research Committee for the travel grant which allowed me to go and learn this new technique and have an enjoyable day out of the office.

Aneurysm sac expansion is independently associated with late mortality in patients treated Endovascular aneurysm repair.

Deery S.E. et al, Journal of Vascular Surgery, Volume 67(1) 157-164.

Since the introduction of EVAR it has become the dominant approach to management of AAAs. Although there is clear early survival benefit of EVAR, RCTS and large studies of medicare beneficiaries show lower late survival in EVAR patients compared with open repair. Late complications from EVAR include a need for re-interventions and many of these are performed for endoleaks. Type I and type III endoleaks are generally considered to be procedural complications that necessitate intervention, but type II endoleaks have previously been thought to be more benign. Not all patients with type II endoleaks develop sac enlargement and the predictors of sac behaviour after EVAR are less well known.

This is a retrospective cohort study evaluating outcomes of patients undergoing EVAR (2003 -2011) using data from the Vascular Study group of New England registry. Patients who underwent EVAR for rupture were excluded and those patients with no 1 year follow –up were excluded. (n =365 [26%]). To evaluate sac behaviour, maximum AP diameter was compared with preoperative aortic diameter. Sac expansion was defined as an increase of at least 5mm, and sac regression was defined as a decrease of at least 5mm. Stable sac size was defined as a change of <5mm in either direction. The imaging modality was not recorded on the registry, but all patients had sufficient imaging to determine sac diameter to be included in this study.

Of 2437 patients who underwent EVAR, 1802 had complete 1 year follow up data that were included in the study. At 1 year, 162 (9%) patients experienced sac expansion, 709 (39%) had a stable sac and 931 (52%) experienced sac regression. After adjusting for age, sex, comorbidities known to affect survival, history of prior aortic surgery , concomitant procedures and re-interventions , sac expansion Independently predicted late mortality (hazard ratio 1.5; 95% CI, 1.1-2.0, P= .01). Conversely, sac regression, predicted a decrease in late mortality (hazard ratio, 0.6; 95% CI, 0.5-0.8; P=<.001). Moreover, 5 year survival rate is markedly lower among patients with sac expansion (68% vs 83%).

The simultaneous observation of risk-adjusted lower survival in patients with sac expansion and higher survival associated with sac regression suggests that sac behaviour is a potential surrogate for aneurysm related mortality. It appears that sac expansion even in the absence of identifiable endoleak is more strongly associated with late mortality than endoleak alone. Although sac expansion is often attributed to endoleak, not all patients with endoleak develop sac expansion and not all patients with sac expansion have identifiable endoleak. In this study, more than half of patients with sac expansion had no identifiable endoleak and more than one quarter of patients with type II endoleak had sac regression.

There are several limitations to this study, including those inherent to study design using registry data. Anatomical parameters (neck length, angle, iliacs etc) and whether the device was on or off IFU was therefore not taken into account as it was not included in the registry data. The rate of no detected endoleak was high (57%) and may be related to only one form of imaging used (although the study doesn't actually say which imaging was done) or inadequate imaging for detection of low flow endoleak (single phase CT, or just missed on US). In addition, it is not known if the same imaging modality was used when comparing sizes (CT with CT, US with US) as the registry used only stated sizes rather than imaging modality. Moreover, in this study the cause of death was unknown and therefore a causal relationship between AAA sac expansion and late mortality can only be inferred.

Announcement

The SVT Professional Standards Committee(PSC) is looking for new members.

The PSC is a small committee that works on SVT documentation and helps the society, vascular ultrasound services and members with wide ranging professional issues. We also have links with important organisations such as: IQIPS(UKAS),VASBI and NICE.

We are looking for an enthusiastic, discussion focussed individual with a broad knowledge of vascular ultrasound, and an eye for scientific detail.

Please email Matthew.slater@addenbrookes.nhs.uk with expression of interest.

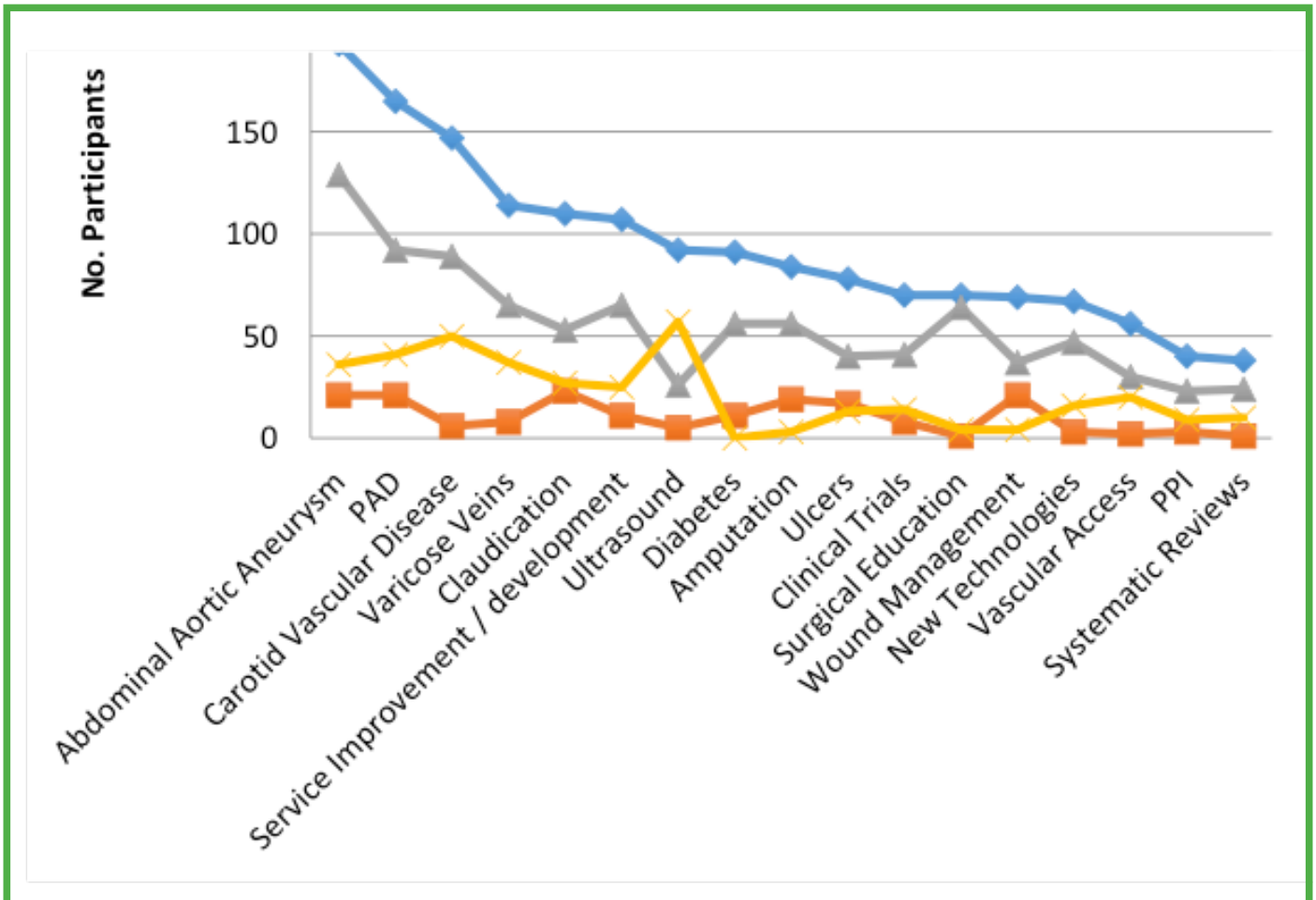
National Vascular Priorities Survey Update Jan 2018

Richard Simpson, SVT Research Committee, Nottingham University Hospital Trust.

The SVT Research Committee has been involved in a multidisciplinary project to identify future vascular research priorities, which has been led by Prof Chetter. It aims to reach a consensus on the most important research questions that need answering. It must be remembered that this process is open to all with an interest in Vascular Disease, not only those who are research active.

There have been two rounds of the survey and the table shows the response rate. Round 1 generated 1113 questions, these were amalgamated into 83 questions and send out in Round 2 for prioritisation.

	Round 1 Questions generation (1113)			**Round 2 Question prioritisation (83)**		
	Sent	Response	%	Sent	Response	%
VS	983	269	27%	585	189	32%
SVN	115	81	70%	115	36	31%
SVT	479	119	25%	479	81	17%
Other		12			17	
Total	1577	481	31%	1179	323	27%



The graph shows the spread of interest in each category.

The next two lists show the top 10 research questions overall and the top 10 from the SVT, respectively.

Top 10 overall research questions overall

1. What can be done to improve outcomes in critical limb ischaemia (including how best to identify those who would benefit from revascularisation and those who would be best managed with primary amputation or palliation)?
2. What is the optimal revascularisation strategy in diabetic patients?
3. How can we reduce the rates of major lower limb amputations?
4. How can we improve outcomes in diabetic patients with foot sepsis?
5. How can we improve clinical outcomes for patients following major limb amputation?
6. What is the most effective way to manage mixed aetiology / hard to heal / complex leg ulcers?
7. Can we characterise carotid plaque to identify patients at high risk of events and target interventions?
8. How can we best organise regional vascular services to facilitate optimal management and outcomes for vascular patients?
9. How do we optimise delivery of vascular services to improve patient experience and outcomes?
10. Can we optimise wound healing in vascular patients?

Top 10 research questions from SVT

1. Can we characterise carotid plaque to identify patients at high risk of events and target interventions?
2. What is the most effective way to manage mixed aetiology / hard to heal / complex leg ulcers?
3. How do we optimise patency rates following arterio-venous fistulae / grafts?
4. What can be done to improve outcomes in critical limb ischaemia (including how best to identify those who would benefit from revascularisation and those who would be best managed with primary amputation or palliation)?
5. How can we reduce the rates of major lower limb amputations?
6. What is the optimal revascularisation strategy in diabetic patients?
7. What is the optimal treatment strategy for proximal deep venous disease (thrombolysis, stenting, compression, surgery, anti-coagulation)?
8. Does early intervention in superficial venous incompetence prevent disease progression to ulceration?
9. Does post-operative surveillance improve patency rates of arteriovenous fistulae?
10. Can we optimise wound healing in vascular patients?

Despite some differences it is important to note the high degree of agreement between the vascular professions.

- 8 of VS, 8 of SVN and 6 of SVT top 10 questions fit with overall top 10 questions
- 28 of VS, 21 of SVN and 22 of SVT top 30 questions fit with overall top 30 questions

The next stage of the process is to form special interest groups to develop research questions and apply for funding to carry out studies to answer these questions. Additionally, a formal Priority Setting Partnership run by the James Lind Alliance will gather patient priorities and allow their views to be taken into account.

It is aimed to publish the results of this survey in a peer-review journal. Also, please watch out for the adverts to be involved in the Special Interest groups and if you have any questions or suggestions then please contact us at research@svtgbi.org.uk

SVT EXAMS REVISION DAYS 2018

University Hospital Coventry and Warwickshire

Wednesday 18th April (Physics) and Thursday 19th April (Technology)

On the day attendees are placed into small groups, under the supervision of an AVS member, and have the opportunity for discussion and practice of sample examination questions.

1 day - £45 | Both days - £80

Registration for the revision days due to open mid-February. For more information please contact Davinder Virdee on dsv_svt@hotmail.com

CPD Audit Update on 2016/17

Heather Griffiths, Co-CPD Officer

- 24 members randomly selected for audit (10% of AVS members).
- 2 members have retired from profession and therefore excluded from audit.
- 4 members were on maternity leave at time of audit.
- OUTCOME: All AVS members selected for audit (excluding two retired members) successfully passed their audit with certificates issued.

AMENDEMENTS made to CPD process.

1. As newly qualified AVS members are allocated 10 'Pre-AVS' CPD points per membership year (pro-rata), CPD can only be claimed for activities undertaken after their practical examination date. CPD earned prior to accreditation cannot be used toward CPD points total.
2. Members called for audit that are on maternity leave can now choose to either delay submission of their reflective practice and clinical activity summary sheet by 3 months, or defer until the following membership year (in line with HCPC processes). If members choose to defer they will automatically be placed on the audit list for the subsequent membership year. Members will still be required to submit their CPD points/ activities by 31st Aug to ensure AVS status is valid into the next membership year. Maternity leave points are allocated on a pro-rata basis so that CPD total is not affected.
3. Members cannot be audited more than once in any 3 year membership period.
4. Booking confirmation/receipts/agendas cannot be used as evidence of attendance.
5. The CPD process is moving towards being entirely electronic.

   Therefore members are encouraged to upload both CPD evidence and reflective practice forms together when submitting CPD activity. Clinical Activity Summary forms are not required until audit, and can be forwarded onto the CPD team when invited for audit.

   The website allows multiple documents to be uploaded at the time of CPD submission, however does not allow retrospective additions of evidence. If selected for audit, members without reflective practice forms attached to their CPD submissions may have to delete and re-submit their CPD activity again.

   The CPD team have enquired about enabling retrospective additions of evidence for the future, if this is possible we hope to have this function ready for the 2017/18 audit.

   Audit pass certificates are issued via email.

Revised CPD document will be released within the 'Education' section of the SVT website in January 2018. Members are welcome to contact the CPD with any queries or issues with the amendments above. Please contact the CPD team on cpd.avs@svtgbi.org.uk.

A Patient with bilateral Hybrid Grafts of the Carotid Arteries

PRIZE ARTICLE

Emily Hillier, Trainee Vascular Scientist, King's College Hospital.

The case discussed here is a of a 78 year old female who presented with stroke-like symptoms to her GP and was subsequently referred to a neurologist in December 2007. She suffered transient aphasia and left sided weakness. This lady has a history of six weeks of radiotherapy of the face and neck for squamous cell carcinoma of the face in 1993. Patients who have undergone radiotherapy to the neck area are at high risk of developing carotid artery stenosis (Dorresteijn et al., 2010). The exact mechanism by which radiation causes carotid stenosis is not known, but it is thought that it directly injures the vessel, resulting in intimal proliferation, medial necrosis and adventitial fibrosis, thus causing accelerated atherosclerosis (Choy et al., 2017).

The magnetic resonance imaging (MRI) scan was suggestive of right side pontine infarction and a duplex scan of the carotid arteries showed significant disease of the Right Internal Carotid Artery (ICA) (80-95% stenosis) and 30-49% stenosis in the left ICA. An increased velocity (PSV 1m/s) was also reported in the left vertebral artery, suggestive of vertebral artery stenosis.

The decision was made not to intervene surgically as this was a complex lesion and at the time of vascular review, four months had elapsed since initial presentation, during which time no further symptoms occurred. Furthermore, the patient was not keen on surgery. Therefore, the plan was to treat this lady conservatively and with aspirin.

At the beginning of 2015, she re-presented with problems with her balance. As part of investigations, a duplex scan of her carotid arteries was performed. There was no significant change on the right side compared to the previous scan (now reported as 70-79%). However, there was progression of disease in the left ICA, now reported as 80-89%. The vertebral arteries were reported as normal. Following further consultation, it was decided this lady would now benefit from a left carotid endarterectomy due to the progression of disease. This was discussed with the patient and she was keen to undergo the surgery.

At the end of January 2015 she underwent surgery. A standard endarterectomy was performed with good proximal end point. The plaque at the distal end point was ulcerated and the disease had completely destroyed the posterior arterial wall. Therefore, it was impossible to achieve a safe distal end point. So, decision to perform a bypass graft was made. A 6mm X 5 cm stent GORE® Hybrid graft was implanted in the left ICA (See Image 1).

Image 1: B-mode Ultrasound image of the right hybrid graft.

The GORE® Hybrid Vascular Graft is constructed with a PTFE graft proximally and transitions to a nitinol reinforced stent-like segment more distally. The PTFE graft is anastomosed to the common carotid artery (CCA) with a standard surgical anastomosis. The distal anastomosis is performed with a suture-less technique where the stent-like segment is inserted into the lumen of the distal ICA and deployed, secured in place with a purse string suture.

A carotid duplex scan was performed a month later, which reported the hybrid graft as patent with no significant stenosis and no significant change on the right side. This lady was seen in clinic by the vascular surgeon in April 2015 and it was decided she would also undergo an endarterectomy of the right ICA. She was asymptomatic. The endarterectomy was performed in May 2015 and similar to the left side, a hybrid graft was inserted due to unachievable distal end point. The follow-up duplex scan in June showed both grafts patent with no stenosis (See Image 2). She was followed up with duplex scan and clinic consultation every six months.

In September 2017 during a routine follow-up scan, a >90% stenosis was detected within the mid-section of the right ICA stent (see Image 3). She was placed on dual anti-platelet therapy and no intervention was planned as the patient was asymptomatic. A further scan was performed a month later, with no significant changes. She remains asymptomatic and is next due for a scan in February 2018. The nature of this lesion is unclear but appears to be soft and homogenous. Its location at mid-stent, means it is unlikely to be neo-intimal hyperplasia.

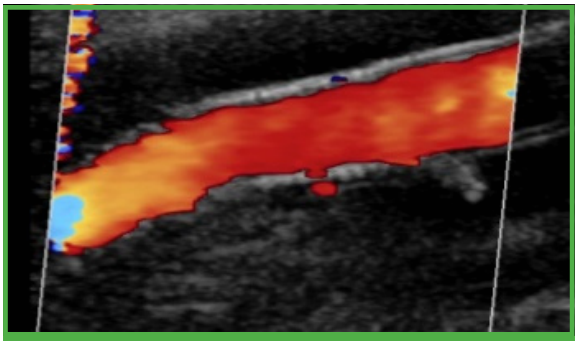


Image 2: Colour flow image of the hybrid graft.

The velocity criteria used to grade stenosis in the native ICA cannot be used when grading stenosis within a carotid artery stent. But in this case PSV >6 m/s was considered consistent with >90% stenosis. There are a number of papers in which the authors have suggested some velocity criteria for standard stents (see references below). However, there is some variation between authors, and there is no robust data for the velocity criteria for hybrid grafts.

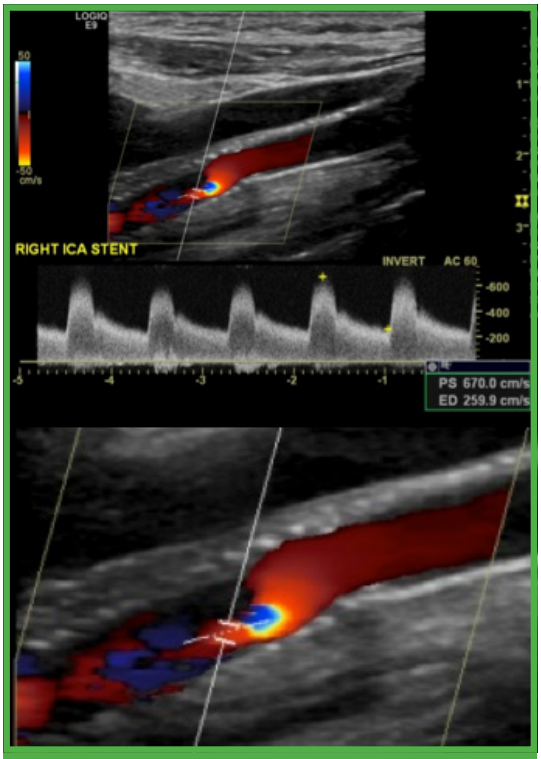


Image 3: (a) Colour flow image showing right mid-stent stenosis in September 2017. (b) Zoomed-in image of stenosis.

Hybrid grafts are not widely used, however they can provide a rescue option during challenging endarterectomy, for example, in patients who have had radiotherapy to the neck. Assessing these hybrid grafts with ultrasound can be difficult as there is no established velocity criteria for assessing stenoses. Furthermore, it may be difficult to visualise the full length of the graft as the distal end may be beyond the region accessible with ultrasound.

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SVT Research Grants

The SVT Research Committee is pleased to announce the **2nd round** of the relaunched SVT Research grants. We have designed two types of awards, which are open to both ordinary and special interest groups.

The ***Research/Innovation*** award is for small-scale studies such as pilot or feasibility studies, with the hope that larger grants will be applied for at a later date. There is a total of £9,000 per year, with a maximum of £4,000 per award.

The ***Travel grant*** is for things like travel to another lab to learn a new modality or conference expenses to present results. There is total of £1,000 available, with a maximum of £250 per award.

For both of these awards we will operate a top down funding approach, so the best applications will get the full amount and so on.

More information from:

https://www.svtgbi.org.uk/research/svt-grant-application-resources/

Please email Richard Simpson with any questions and to submit the application forms:

research@svtgbi.org.uk

Deadline: 23rd March 2018

Vascular Access Society of Britain and Ireland AGM

Belfast, September 2017 - Richard Craven, CVS, Plymouth, Devon.

Last September saw the Titanic Belfast Centre, Northern Ireland, and the howling winds around the city, host the eighth, two day VASBI AGM, the international conference for nephrologists, radiologists, surgeons, sonographers and renal nurses (the latter forming the largest proportion of the society's members.)

Since its inception in 2010, the society has sought to improve care for haemodialysis (HD) patients through improved vascular access, promoting best practice, professional and patient education and fostering high quality research. It represents all members of teams caring for these patients.

The VASBI AGM has been attended and written about by SVT members before, and I first attended the meeting in 2012, where I met Dr. Sarah Lawman, recent Society President. It was obvious to us how the quality of fistula scanning varied in departments and research, and how technically difficult they are to perform. As part of my membership with the SVT's Professional Standards Committee, we discussed the possibility of participation by SVT members in the Society.

And this brings me back to 2017, overlooking the very place the RMS Titanic was built. The AGM had a diverse format that included two scientific sessions, presenting valuable experience and new research ranging fistula creation; patency and commitment to interventions to maintain fistulae; their salvage; AVG types and their natural history, efficacy and pseudoaneurysm prevention technology; 'button hole' technique; vascular access services and how they vary; the social and practical aspects of being a patient undergoing continued HD.

Scientific presentations of particular interest included:

- data from QE University Hospital, Glasgow, showing early placement of stents in central veins distal to AVGs is better than angioplasty alone, and preferably inserted prior to graft thrombosis;
- an award winning presentation from the same group, detailing the journey and burdens during the first 365 days on HD for 144 patients. The study prospectively reviewed service strategy, patient outcome and costs (e.g. type of access, intervention, bacteraemias, admissions) from referral for first HD session to completion of the first 365 days on HD. In this study, five distinct events were evident:

» CVC required throughout first year
» CVC switched to AVF/AVG
» AVG required throughout
» AVF switched to AVG/CVC
» AVF throughout.

Patients with an AVF used throughout incurred least cost, followed by AVG used throughout, then CVC throughout, AVF switched to another method, then CVC similarly switched. Overall, providing and maintaining services is clearly shared across nephrology, surgery and imaging departments, with patient journeys and costs governed by the vascular access type used. This data was regarded by medical delegates as some of the best presented in many years, and essential for forming future business cases for service provision;

- QE Hospital Birmingham presented their experience on percutaneous fistula formation (pAVF), where the ulnar artery and adjacent ulnar vein are joined using an EverlinQ device, thereby distributing arterial flow between the cephalic and basilic veins via perforators. HD pump speeds averaged 350mL/min, with 820mL/min in the brachial artery. Flow rates were shown to be lower than expected in conventional fistulae, but cannulation is successful, akin to accessing a normal vein, and intervention is reportedly lower than other types of fistula.
- Chloe Rai, Vascular STP at Birmingham Heart of England Foundation Trust compared volume flow rates (VFR) between arteries supplying and the vein forming, an AVF, six weeks post fistula creation. Eight RCF and six BCF were assessed. Overall there was moderate correlation between artery and vein VFR, a strong correlation between artery and vein VFR in BCF, but a weak one in RCF. 75% of RCF and 50% of BCF showed inflow arterial VFR greater than in the fistula itself. The presentation's conclusion stated a comparison with vascular access flow is required to determine this study's accuracy.

There were stalls and presentations from surgical instrument specialists, sessions dedicated to renal nurses, debates on the use of CVC for 'crash landing' renal patients, and a multidisciplinary discussion on the legal aspects of consent in HD.

The 'Mega MDT,' an interactive feature of the VASBI AGM, involved presentations on a number of real clinical scenaria, with options given for the next step in a patient's care and electronically voted for by the audience. Here I had presented a case where a functional stenosis was caused in a BCF when the fistula stretched over the head of the humerus as the patient lay supine, something that was noted as a stenosis on angiogram and treated with angioplasty. These functional stenoses have been noted to resolve when the patient sits upright, negating the need for treatment, but highlighting concerns for the position a patient is scanned or dialysed in.

There were 22 Poster presentations (ranging FeMRI pre and post fistula assessments; clinical and haemodynamic predictors of fistula function; endovascular treatments for fistulas; patient education; HCA roles.) Highlights for the poster presentations included:

- A comparison between clinic assessment and ultrasound (US) using 'rule of sixes' to determine AVF maturity; Chloe Rai and her colleagues at Birmingham's Heart of England Trust took their cue from the National Kidney Foundation's (yet to validated) recommendations that AVF should be considered ready for HD if on US:
  - Fistula diameter >6mm
  - Fistula depth <6mm
  - Flow ≥600mL/min.
- Fistulae were clinically considered suitable if a well developed thrill was noted in a palpable vein. Scans were done by a CVS. All forty fistulae in the study were assessed as above. Functional dialysis was defined as six successful, consecutive HD sessions with two needle cannulation. Both US and clinical assessment showed 52.5% of AFV ready (no significant difference.), with US and its rule of sixes having 75% sensitivity and 100% specificity, versus 65% and 0% on clinical assessment respectively. However, the forty subjects in the study were not enough to validate to 'rule of sixes' criteria.
- A group in Dundee employed 3D non contrast MRI of the arm and central vessels to assess AVF function in six volunteers in a bid to overcome some limits posed by US. Subjects had MRI pre and post AVF creation. Anatomy and blood velocities were obtained. US scans were also done at the same time to aid MRI in locating the proposed or formed anastomosis, and obtain velocities to assist MRI analysis. MRI images were used to measure vessel dia. and obtain cross section area (CSA) for VFR measurements.Changes in CSA in arteries and veins, irregular dilation, changes in PSV and vein and artery waveform could be detected, but images near the anastomosis were poor in all subjects, possibly due to flow being out of the plane of view.

A superbly experienced surgeon and guest speaker from the USA gave a talk on the practical and legal process of developing his own surgical instruments for use.

The final part of the conference involved three workshops; 'vascular access imaging and treatment,' 'all you need to know about AV grafts' and 'ultrasound use in renal patients.' Dr. Jennifer Hanko, conference organiser, Max Troxler, Vascular Surgeon and I provided hands-on fistula scanning sessions to delegates using volunteers from Belfast's HD community.

The broad mix of professions at VASBI meetings gives an academic and very friendly, collaborative atmosphere to the society; it really is its strength, and recognises the value all disciplines play in caring for the haemodialysis patient. As a Clinical Vascular Scientist attending I was very much made to feel welcome, and that our profession had a crucial rôle.

Conference attendance fees included annual society membership, annual online subscription to the Journal for Vascular Access, and the AGM dinner held right in the heart the Belfast's impressive Crumlin Road Gaol (now with no inmates!) The food, company and AGM were a perfect blend of meeting very interesting, experienced and practical people, with an emphasis on academia and inclusion of all professions involved in caring for some of the most vulnerable patients we come across as Vascular Scientists. The presentations and experience brought to Belfast showed how important collaboration is and how much work goes on in parts of the UK and Ireland that is crucial in renal medicine; VASBI membership and attending the AGM are highly recommended! Keep an eye on their website for conference details and training days.

Ann Donald Scientist of the Year Award 2018

Call for Nominations

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. Completed applications should be sent to the SVT President, Sara Causley, president@svtgbi.org.uk. The prize will be awarded at the 2018 ASM if we receive an appropriate nomination.

SVT Reports

Education Committee Report 2017

Naavalah Ngwa-Ndifor, Education Committee Chair

As is tradition, the year began with the Fundamental Study Days at Addenbrookes. This is a two day course providing a basic overview of the syllabus suitable to anyone interested in vascular ultrasound or intending to take the theory exams. These were followed up in March by the Tutorial Days at University Hospital Coventry.

These are small group sessions run over two days providing attendees with practice questions and exam techniques that have been found to be very rewarding when it comes to sitting the theory exams.

In 2018 both the Fundamentals Days and the Tutorial Days will be held at University Hospital Coventry.

2017 has been monumental for the SVT as it has marked the move of our theory exams from paper-based to a paperless system.

Throughout June and July the first digital theory exams were held at Pearson Vue centres across Great Britain and Ireland in collaboration with our American counterparts Inteleos/ARDMS.

Of the 26 candidates who sat the Vascular Technology exam, 85% passed with a mean score of 79%.
Of the 47 candidates who sat the Physics, Haemodynamics and Instrumentation exam 66% of candidates passed with a mean score of 74%.

We are pleased to report that the pass rate has increased from the previous year for both examinations as the Vascular Technology exam and the Physics, Haemodynamics and Instrumentation exam had pass rates of 77% and 60%, respectively.

The new system has increased accessibility for candidates as they are now able to take the exams over a range of dates and at various Pearson Vue sites across Great Britain and Ireland. We were also able to dispense with the re-sit exam meaning that candidates can also test during the Autumn without the requirement of having previously sat the exam in the Spring session. The Autumn Theory Exams are currently being held up until the 6th December.

There have been 13 successful practical exams this year, 2 failed and 11 pending at the time of writing. We are always on the lookout for volunteers to become external examiners for which training can be provided so please contact the practical exams officer Coleen Franco at Coleen.Franco@nuh.nhs.uk if you are interested in becoming an External Examiner. It is a great way to support trainees and gain valuable CPD points.

This year we have seen a lot of change to the committee.

Veni Ramachandran stepped down as co-CPD Officer to be replaced by Hannah Lines and Ed Ramage stepped down as Fundamentals Day Organiser with Asif Dilshad taking his place. We also saw the return to the committee of Helen Dawson as Technology Exams Officer.

Amy Bolsworth will be taking over the role of SVT Graduate Trainee Representative from Laura Haworth who will be taking on a non-portfolio role on the committee.

On behalf of the committee I would like to express my gratitude to all members of the committee for their contribution and time and I wish the outgoing members all the best in their future endeavors.

Professional Standards Committee Review 2016/2017

Matthew Slater, SVT PSC Chair

This has been my fourth year as professional standards committee chair and it has been another rewarding yet challenging year. We have been a small, experienced committed team of five this year. Richard Craven and Alison Charig continued as members, Mel Williams has returned to the committee from maternity leave and Lila Elliot has just left to begin maternity leave.

This year has been a very document heavy year with the service specifications being completely revamped. Historically, with the Service specifications being created first, followed by the performance guidelines, there were a few repeated sections and inconsistencies. Therefore, all of the service specifications and performance guidelines have been revamped to ensure consistency.

Continuing on a document front we have discussed and produced SVT guidance and advice on work related upper limb disorders. This has taken into account a wide range of resources and advice from professional bodies to produce a thought provoking document. It's an important issue as I'm sure we all either suffer from or know a colleague who has upper limb/back problems as a result of ultrasound.

As you are aware 2017 has been a significant year for IQIPS with the scheme now being run and supported by UKAS. I have stepped down as the SVT representative on the Accreditation advisory group and Alison Charig has taken up this role. Alison has extensive knowledge of IQIPS having herself been through the accreditation process and will be an excellent representative.

Richard Craven has continued his links with VASBI this year

and attended their AGM at the end of September. He supported an AVF scanning workshop providing his expertise and also performed a short presentation. NICE have been developing the AAA guidelines this year both are currently due to publish draft guidelines in May 2018. Unfortunately in early 2017 the diagnostic services guideline was discontinued.

After four years as PSC chair I will be stepping down to pursue other goals (both work related and non-work related). I feel I have done as much as I can in four years and feel the committee needs fresh impetus. I cannot recommend enough working with the SVT; I have found it interesting, enlightening and stressful at times. If you are considering volunteering with the SVT please come forward as it is an excellent way to continue your professional development and contribute to the society.

Siobhan meagher the former chair of the SVT education committee will be an excellent replacement and PSC chair, I am going to assist in the transition for a few months as she will be new to the role. I am delighted to be passing on the role to such an experienced and knowledgeable individual.

Membership Secretary Report

Sara Causley, President

The membership has continued to grow strongly this year. The membership as of the 22nd October 2017 was 522.

This comprises:

- Ordinary 503
- Honorary 8
- Associate 8
- Special Interest Group 3

41 members have not renewed their membership but remain within the 'grace period' before their memberships lapse 4 months after their renewal date.

This calendar year we have had 42 new members including:

- 10 Modernising Scientific Careers Trainees
- 15 AVS Trainees
- 5 completing other training courses
- 1 AAA screening technician

*Figures are correct as of 20th October 2017

BMUS

Emma Waldegrave AVS MSc, BMUS Representative

The SVT and BMUS continue to collaborate on educational and professional issues, with SVT representation on BMUS Science and Education committee and close communications between the societies on professional issues.

The SVT work in partnership with BMUS to deliver vascular sessions at BMUS AGM each year. This year, the Annual Scientific Meeting will be held at Cheltenham Racecourse and will run over three consecutive days. The SVT have organised two vascular sessions on more advanced topics, such as; carotid plaque characterisation techniques, and the development of carotid Doppler velocity criteria, delivered by esteemed speakers including Crispian Oates. Vascular workshop sessions on DVT and carotid imaging will be running also, and are an excellent resource for new trainee clinical vascular scientists, as well as general sonographers looking to gain more hands on experience in DVT and carotid scanning. Details of all vascular sessions are listed below. For registration please go to http://www.bmus.org and follow the Ultrasound 2017 link.

BMUS ASM 6th, 7th and 8th December, Cheltenham:
Two vascular sessions organised by the SVT will be held on Thursday 7th of December.

Thursday 7th December 09:00 – 10:30
Understanding velocity criteria for grading carotid disease - *Crispian Oates*
Future of Carotid disease assessment - *S Rogers*
Plaque characterization and Grey Scale Median Assessment - *R Simpson*
Doppler velocity accuracy - *N Dudley*

Thursday 7th December 11:00 – 12:30
Iliac Endothelial Fibrosis - *F D'Abate*
Popliteal entrapment - Overview and Assessment - *A Kindon*
DVT Assessment and NICE Guidelines - *L Smith*

Wednesday 6th December
Carotid Master Class workshop
This session will focus on the more difficult pathologies that could be encountered when scanning the carotid arteries. These include dissection near occlusion/trickle flow and non-atherosclerotic disease.
Combining hands-on practical and live demonstration with short lectures the aims of this session are to improve the optimisation of machine controls and build confidence in assessing and reporting difficult cases.

Friday 8th December
DVT Practical workshop
The Easy Guide to Scanning for Deep Vein Thrombosis (DVT) Does a DVT request make your heart sink? Don't feel confident? Think calf veins are impossible? Give arm DVTs to someone else? Struggle to see iliac veins? Wonder when to do what and why? Then this pair of practical workshop sessions is for you.

This popular training session provides 3 hrs of practical training with experts in this field, is ideal for students and those wishing to improve their technique and is again led by Borsha Sarker.

Professional Issues:
This year has seen much progress in workforce planning led by HEE (Health Education England) to address the current and future workforce shortages across a range of imaging careers. BMUS representatives have participated in this work with HEE to develop a new sonography career framework that will ensure the future workforce capacity is robust. As part of this work a group called The Integrated imaging workforce meeting group (IIWFM) has been developed and is tasked with three main aspects of the sonography workforce:

1. The Scope of practice of sonographers (from graduate to a reporting sonographer and on to Consultant sonographer)
2. Training placement and capacity
3. Regulation of the workforce.

BMUS professional standards committee members are leading the Scope of Practice for sonographer's. This group has developed work, originally undertaken by Skills for Health, looking at differing levels of responsibility and practice, and differing career and education levels. From preceptorship to advanced practitioner.

Key to developing education and preceptorship programs is an accreditation body, and CASE will play a major role in this. HEE are supporting CASE to develop competencies and learning outcomes by providing man power and pump priming funding for CASE for this aspect of work.

Our work with BMUS has many mutual benefits, and we look forward to another productive year working together.

Research Committee update 2017

This was the first year of the renewed SVT grants programme. To ensure we fund high quality research the applications undergo a peer review process that is independent, expert and proportionate.

- Independent: At least two external peer reviewers, additional to 2 Research Committee members. The SVT Executive Committee approves where there is a conflict of interest.
- Expert: Peer reviewers have knowledge of the subject.
- Proportionate: The level of review is commensurate with the size and complexity of the study.

This had led to the SVT being recently recognised as an NIHR non-commercial partner, which means our Research/Innovation grants are eligible for NIHR Clinical Research Network support if the study:

- Requires HRA Approval
- Is a discrete structured research project with an appropriate study protocol
- Is of clear value to the NHS
- Involves NHS patients, staff, premises, facilities or resources

2017 grant outcomes
For the 2017 round of grants, we had 3 applications to the Research/Innovation grant and one for the

Travel/Education grant. Details of these will be presented at the AGM.

2018 grant open
I can also announce the 2018 round is now open with £10,000 available (up to £4,000 for the

Research/Innovation grant and up to £250 of the Travel/Education grant).

Application forms to be found at research@svtgbi.org.uk

Closing date: 23rd March 2018 at 2pm

National Survey for Vascular Research

You all should have received the emails regarding the Vascular Priorities Survey. The details of the response rate and he next steps to be taken will be announced at the AGM.

Other

We are investigating the possibility of holding an SVT Research study day/ workshop and we are also looking to develop national research projects that you can be involved in; please let us know if you are interested.
I would like to thank Steve and Laura for their help over the last year.

Any comments, suggestions or assistance please contact us: research@svtgbi.org.uk

Income and Expenditure Summary for 12 Month Period

Ending 31st August 2017

Total Funds as at 31st August 2017	
Current Account	£45,503.03
Reserve Account	£106,687.03
Total Sterling Funds	**£152,190.06**
Current Account	
Income	£48,538.80
Expenditure	£48,563.46
Reserve Account	
Opening Balance at 1st September 2016	£106,668.39
Income	
Bank Interest	£18.64
Bank Transfer	£N/A
Total Income	**£18.64**
Closing Balance	**£106,687.03**

Income and Expenditure Current Account Summary For 12 Month Period

Ending 31st August 2017

Total Income	**£48,538.80**
Total Expenditure	**£48,563.46**
Closing Balance as at 31st August 2017 (cleared funds)	**£45,503.03**

Expenditure 1st September 2015 – 31st August 2017	
Academy	£479.00
AGM	£509.68
CASE	£1623.30
Catering	£3483.38
Education Committee	£4983.82
Membership	--
Newsletter	£1225.00
Postage/Printing	£1953.97
Prizes	£1200.00
Professional Standards Committee	£1569.36
SVT Executive Committee	£7401.13
Website	£14397.60
Worldpay	£1150.53
Research Committee	£13.50
Practical Examination Costs	£836.16
Refunds	£555.00
Grants (Travel)	£215.50
Accounting fees	£355.08
Miscellaneous	£6610.24
Total	**£48563.46**

Income 1st September 2016 – 31st August 2017	
AGM	£4271.60
Advertising	£5200.00
Examination Fees	£4320.00
Online exam fees	£6400.00
Membership	£23300.07
Study / revision days	£5047.13
Miscellaneous Income	--
Total	**£48538.80**

Committee Members 2018

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