

THE SOCIETY FOR  
VASCULAR TECHNOLOGY OF  
GREAT BRITAIN AND IRELAND

## NEWSLETTER

Issue 100 Spring 2018

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## Welcome to the Spring edition of the SVT Newsletter 2018

**This season we have an article on IQIPs for all of you considering undertaking IQIPS accreditation, SVT and the nation school of healthcare science review and a review of the new theory exams.**

The SVT conference may seem like a while away but please keep in mind nominations for the Anne Donald award. This is a great way of raising awareness and showing recognition to someone you feel goes above and beyond. You can find the submission form on the SVT website.

**Gurdeep Jandu**, Newsletter Editor  
newsletter@svtgbi.org.uk

### DATES FOR YOUR DIARY

#### **The Vascular Societies' Annual Scientific Meeting 2018**

28th – 30th November 2018  
<https://www.vascularsociety.org.uk/asm>

#### **VASBI Annual Meeting 2018**

27th and 28th September 2018  
<http://www.vasbi.org.uk/agm>

**President:** Sara Causley • **Vice President:** Dominic Foy • **Membership Secretary:** Lynne McRae  
**Conference Secretary:** Dominic Foy • **Treasurer:** Kamran Modaresi • **Newsletter Editor:** Gurdeep Jandu  
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# The SVT and the National School of Healthcare Science

Helena Edlin: Lead Vascular Scientist – Central Manchester and SVT rep on NSHCS

## **NSHCS Themed Board Meeting – March 2018**

This Board meeting, chaired by the professional leads for Physiological Sciences, brings together the professional bodies, the universities, the employer reps, trainee reps, lay reps and the Academy to discuss and resolve any issues raised as well as plan the future for the STP and HSST.

## **STP trainees**

The number of vascular trainees on the STP

- 2015 = 15
- 2016 = 12
- 2017 = 10
- 2018 = 11

If you are willing and able to take a trainee then use the NSHCS website to find out the contact details of your local commissioning lead who you can then contact to find out about the 2019 commissioning process in your region.

## **Mid term review of progression (MRP)**

The first mid term review will go ahead in April/May this year for the current 2nd year STP students. This is a summative assessment of which the trainee and training officer will have been informed about.

## **Ethical approval research review**

A review of the importance of the ethical approval process of the research project was undertaken. This was deemed by all (universities, NSHCS, professional bodies, current trainees and past trainees) as beneficial and essential for the continued growth of research within healthcare science professions.

The school are looking into ways in which it can help training centres who currently don't have any/much research experience to develop this.

*STP Training centre accreditation* - 620 depts involved in STP training. 530 now been assessed.

*STP improvement review* – will be published end of April.

## **Summary**

In general - a lot of support for the STP and quality of graduates produced.

No major structural changes – The 3 yrs, blended academic and work based training and exam process will remain.

A lot of support for competency based assessment – however, now need review as out of date or confusing in some cases.

Rotations – the 12 week block was not deemed a problem,

but would like more flexibility in the choice of rotation.

It was felt that communications between universities, NSHCS and employer could be better.

## **Curriculum Review**

The NSHCS are about to start the curriculum review – Vascular are keen to be a priority in this.

The SVT have formed a working group looking at the career framework for vascular science – the STP curriculum will be part of this groups remit – further info below.

## **Academy of Healthcare Science**

New academy member (Louise Collins) dealing with apprenticeships and equivalence – looking in to whether SVT AVS can be accredited separately to make the process of equivalence more appealing to members.

<https://www.ahcs.ac.uk/about/contact-us/>

## **Apprenticeships: a summary of the current state of play**

Elaine Jenkins is the Academy lead on Apprenticeships.

Three Standards have been developed by a Trailblazer group for Healthcare Science:

- Level 2 – Healthcare Science Assistants (published October 2015)
- Level 4 – Healthcare Science Associates (published May 2016)
- Level 6 – Healthcare Science Practitioners (published January 2017)

Apprenticeships must last a minimum of 12 months and include 20 per cent structured off-the-job training before the end-point assessment takes place, to develop competence in an occupation.

The end-point assessment takes place when apprentices have completed their on-programme training and is mandatory. The end-point assessments are undertaken by an independent assessment organisation, which must be on the Register of Apprentice Assessment Organisations held by the Education and Skills Funding Agency (ESFA). The assessments must follow the published end-point assessment plans, also developed by the Trailblazer Groups (see links above).

National School of Healthcare Science – can undertake the end point assessments (EPAs) for the level 2 Healthcare Science Assistant apprenticeship, the level 4 Healthcare Science Associate apprenticeship, and the level 6 Healthcare



Science Practitioner apprenticeship (where the degree is a non-integrated degree). See further information at: <http://www.nshcs.hee.nhs.uk/join-apprenticeships/apprenticeships>

## **Accredited Scientific Practice (ASP)**

The Accredited Scientific Practice (ASP) integrates both academic and work based learning and assessment. Being led by workforce and employer need the ASP will enable the workforce to undertake further specialist training as part of their employment, gaining specialist skills without the requirement to advance to the next level of the career framework. Initially the programmes will be planned based on advice from employers, professional bodies, senior scientists and through national requirements.

<https://www.networks.nhs.uk/nhs-networks/msc-framework-curricula/accredited-scientific-practice/about-accredited-scientific-practice>

## **HSST**

Accreditation of training centres for HSST is about to commence.

NSHCS ran 2 train the trainer events

There is a document available on the NSHCS website on the key roles and responsibilities for HSST trainee and trainer for those of you thinking about undertaking the HSST.

## **PTP**

PTP rep now joined the meeting, she raised the subject on mental health awareness for the PTP and STP students. This was taken very seriously and the school are looking into how they can provide more support.

## **OSFA**

All set for July. Thanks to everyone who has helped/ is going to help with this set of OSFA's.

Good luck to all those sitting the OSFA's.

## **E-Portfolio**

The new e-portfolio is now in use 'One File'

A gradual transfer over to the new system will occur this year. All current data from OLAT will be transferred.

Graduates of STP will have access to OLAT to retrieve any evidence that they want to keep – the school will be emailing everyone with how to do this.

## **Apprenticeships**

Level 4 (foundation degree) is now complete and ready for delivery – local colleges will provide this, however, I'm unaware of any up and running, Trafford and Macclesfield Colleges are potential providers in the northwest.

Level 6 (undergraduate degree) - The SVT have created a Vascular Science career framework working group from representatives from around Great Britain to develop the level 6 qualification – this group will feed in to the Exec committee and finally the NSHCS to develop the Level 6 qualification for Vascular Science.

As Helen Dixon mentioned in her last presidents report in the Newsletter, the SVT invited heads of services from around GB to attend a meeting to discuss the career framework for vascular science.

After a lot of discussion it was agreed that we should look further in to developing a level 6 (BSc) qualification to link the level 4 (foundation degree) with level 7 (MSc) qualifications.

The next meeting to formalise the working group was held on 12th April. This work is taking in to account the sonography workforce plans which is also creating a career framework for sonographers starting at level 4, the SVT sit on this group and represent the view from a vascular perspective.

The working group will also be taking into account the curriculum review for STP whilst developing the level 6 qualification.

The SVT president will report back to Heads of Service from this meeting.



**The VASBI Annual Meeting 2018 will be held at The Marriot Hotel Portsmouth on 27<sup>th</sup> & 28<sup>th</sup> Sept 2018.**

For further information, including registration fees, how to register, hotel accommodation booking, exhibition information & stand booking please contact: [vasbi.org@gmail.com](mailto:vasbi.org@gmail.com)

# IQIPS Accreditation – Should we bother?

By Alison Charig (Portsmouth Hospitals NHS Trust) and Andrew Pellew-Nabbs (Warrington and Halton Hospitals NHS Foundation Trust)

IQIPS stands for Improving Quality in Physiological diagnostic Services and this accreditation scheme has been available for several years now. There is still low take up by the majority of Physiological disciplines, including Vascular, and at the time of writing, only 2 Vascular services are IQIPS accredited.

However, the drivers for all diagnostic services to achieve accreditation are increasing. The SVT is committed to Vascular Lab accreditation and to help members we will be publishing some Newsletter articles to advise members on how to go about the process of accreditation. These will be written by SVT members from the accredited labs and will focus on various aspects over the next year.

This first article explores the increasing pressure on labs to gain accreditation, explains some of the benefits, and offers advice on how you can start the process. Subsequent articles will focus on ways that you can satisfy the requirements of the 4 assessed domains: patient experience, safety, facilities and the clinical aspects.

## The drivers for accreditation

Whilst accreditation is not mandatory at the moment, it is strongly endorsed by NHS England, the NHS Medical Director and Chief Scientific Officer <https://www.networks.nhs.uk/nhs-networks/healthcare-science/key-documents/161011-nhs-england-position-statement-diagnostic-accreditation/> and is recognised by commissioners and the CQC as a marker of quality <https://www.ukas.com/services/accreditation-services/physiological-services-accreditation-iqips/>. Accreditation will inform CQC inspections, commissioning decisions and will increasingly be used in service assessment and contracting.

The establishment of Genomics Centres is also increasing the pressure on diagnostic services in these centres to be accredited <https://www.england.nhs.uk/wp-content/uploads/2016/09/100k-genomes-project-paving-the-way.pdf> Is your service within one of the 13 Genomics centres? – make sure you know.

Patients are also being encouraged to find out whether the services they access are accredited [https://www.ukas.com/download/brochures/Providing-Confidence-in-your-Healthcare-Provision-UKAS-B27-8-2017\\_2.pdf](https://www.ukas.com/download/brochures/Providing-Confidence-in-your-Healthcare-Provision-UKAS-B27-8-2017_2.pdf). Patients are prompted to think about where they would prefer to have their diagnostic test – in a department where they can be confident in the competence of the staff, suitability of equipment and has a 'badge of quality'.....or one which doesn't?

We should be asking ourselves the same question.

## Why are there so few accredited services?

This is an interesting question and perhaps better answered by those in departments who haven't sought accreditation, but the main barriers seem to be: time; cost; facilities; lack of management support and a lack of perceived benefits. We hope to help you find ways around some of these hurdles, convince you of the benefits and perhaps dispel some of the myths.

## How can we get management support?

The best way to get management support will be to ensure your managers are aware of the IQIPS scheme and the increasing pressure on services to achieve this.

You could think about inviting your Chief Executive or Medical Director or Head of Governance or Quality to the department, and presenting a short PowerPoint to your divisional board. You could approach your Trust Lead Scientist for help, as they should have been tasked with promotion of accreditation schemes within your Trust. You could also consider joining with other diagnostic services to increase the profile of accreditation within your Trust. And if you are under the Radiology umbrella you could consider joining with their ISAS (Imaging Services Accreditation Scheme) accreditation application as a Vascular extension which will minimise your overall workload.

For any of these management interactions, or when you need to produce a business case for resources/funding you could use the links above to ensure you include evidence of the drivers and benefits. Don't forget that mention of the CQC "tick-box" for accredited services will be very helpful.

Birmingham, Imperial and Cambridge have secured board-level support for accreditation programmes so if you are in one of these Trusts you shouldn't have to do much persuading!

## How can we get around lack of time?

Clinic lists too busy? Vacant vascular scientist posts? Significant training commitments? No time to do anything other than scan?

This may not be as hard to improve as you think – but it does require 'thinking out of the box' to see what you can do with the resources that you have.

Do your vascular scientists also undertake admin tasks?  
- Could you re-jig your department's staffing profile and turn a vacant Band 7 post into 1 or 2 lower band posts such as a clerical officer / HCSW / clinic assistant. This would release vascular scientist time, make clinics run much more smoothly and efficiently and give all staff groups greater job satisfaction. If you don't have spare funding, could you take an Admin Apprentice? – many Trusts support apprenticeship programmes, and once you have evidenced the improvement in efficiency, you can prepare a business case for permanent funding.

Do you vet your referrals or just scan every request because it's quicker than querying? Are you scanning stroke patients who aren't suitable for surgery; ?PE patients who will have a CTPA? You could arrange meetings with your referrers to streamline pathways and ensure all your scans have the potential to actually alter patient management. This type of collaboration will be assessed by IQIPS, so this process will help to tick one of the IQIPS boxes as well as potentially releasing more time.

Are you engaging with the Scientist Training Programme (STP)? Currently these trainees are centrally funded and although their training covers many aspects outside of just scanning, they will contribute to your service as they gain and embed their scanning skills. This is a really good way of growing your workforce and you will find that these trainees bring a wealth of skills to your service; they can also help with the IQIPS preparation as some aspects of service development will help them with their STP competencies. We don't know how long this training route will be funded for though – so make sure you talk to your Trust Lead Scientist and ensure that you know who your local Education Commissioners are, and tell them that you want a trainee – they administer allocation of places and usually start this process in the August a year ahead of trainee placement.

Are you expecting your Vascular Scientists to scan for 100% of their time? You probably need to consult the professional guidance on prevention of upper limb disorder (WRULD), and the SVT Professional Standards Committee will soon be uploading some guidance on the SVT website, so make sure to read this too. Regular protected time away from scanning has many advantages: reduced risk of WRULD; time for service development, audit, research, IQIPS, and improved staff morale and retention. You may also find that efficiency and throughput are improved overall.

The work involved in gaining accreditation may initially seem daunting – but the good working practices of most departments will already be enough to satisfy most of the criteria laid out in the IQIPS domains. If you take the time to review some of these criteria, you may be surprised at how much of it you can already evidence

in the normal working processes of your service.

## **Our facilities are unsuitable?**

Historically Vascular Labs inhabit less than optimal facilities and they are often 'shoe-horned' into seemingly unsuitable spaces. This should not be seen as a barrier to seeking accreditation, as there are many things that you can do to improve things. The main thing to remember is that IQIPS does not have requirements around a particular level of accommodation, but the focus is more on how you provide your service safely within any constraints that you have. The implementation of departmental policy and risk assessment is helpful with this, and enables you to ensure you have ways of dealing appropriately within the constraints. If the rest of your service meets the accreditation standard and there are insurmountable hurdles in terms of your facilities, this can then be used as a driver for change with your management team.

## **What will be the benefits to our service?**

Accreditation through IQIPS is not a one-off exercise, nor is it an event sent to seemingly disrupt your service once every 1-2 years and which requires a furious short-burst of preparation a couple of weeks beforehand!

IQIPS is a process of continuous improvement, designed to encourage your service to seek opportunities to drive quality and improve your patient experience. So, there are lasting benefits to engaging with this process through the development of whole systems and practice, as well as more immediate results as you provide evidence for the four IQIPS domains.

Examples of these may include:

### **Clinical**

- Implementing clinical audit and using it to measure improvement in practice.
- Image review sampling to maintain consistency in high quality image acquisition throughout your team(s).
- Development and maintenance of systems to support engagement in research and innovation, and validation of new techniques.

### **Facilities**

- Maintaining high standards of cleanliness through improved engagement with 3rd party contractors.
- Using the IQIPS process to facilitate positive change in accommodation – e.g. improved waiting areas; scan rooms and machinery.
- Supporting the timely resolution of equipment faults.

### **Safety**

- Improve the use of incident reporting to focus on recurrent issues and target change.

- Ensure you have the resources and equipment available to you to protect staff when lone working.

## Patient Experience

- Enhancing patient feedback and using these data more effectively to provide even better services.
- Working with patient groups to tailor the information we provide and ensure it meets the needs of all of our patients.
- Ensuring privacy and dignity for our patients and supporting changes in your department that protect these

Perhaps one of the most valuable utilities of the IQIPS process is its capacity for leveraging change. It can be incredibly difficult to achieve infrastructural change in some Trusts which can hamper efforts to improve services for our patients. If your organisation supports accreditation however, it can be easier to overcome these challenges and access support and funds for improvements that you may have been seeking for some time.

As stated above, the position of NHS England outlined in October 2016:

***“We fully support a commissioning system focus on the prioritisation of accredited diagnostic services. We are confident that with continued resolute focus, accreditation will become the baseline standard for diagnostic services across the NHS in England.”***

So, an overarching benefit to your service is that you would already meet the standard increasingly sought by commissioners when procuring diagnostic services. Diagnostic services are subject to increasing competition across the UK, and accreditation takes time. If we wait to be asked by our commissioners to provide an accredited service – we risk having already left it too late to get started.

The process of accreditation yields many more benefits along the way than just this end goal; however, as it states itself on the IQIPS website, IQIPS is a ***“professionally-led assessment and accreditation scheme that is designed to help healthcare organisations ensure that patients receive consistently high quality services, tests, examinations and procedures delivered by competent staff working in safe environment”***.

IQIPS can serve to provide assurance to our patients that not only are we seeking to provide the highest level of care and quality right now, we will strive to improve into the future to always give the best care we can.

It assures our patients that we are independently deemed competent to undertake their assessment(s)

and that the facilities and equipment used as part of this is safe and fit for purpose. It also provides patients with the confidence that the testing we carry out is patient-focussed and quality driven.

Accreditation serves to also assure our colleagues from other departments, partners within our Trusts and wider networks that we hold ourselves to the highest standard and our results are underpinned by robust quality systems and can facilitate greater collaboration to the benefit of our services and to our patients.

Although the IQIPS process is not meant to replace CQC inspections, CQC recognise the value of clinical accreditation and uses it as an information source to support its inspections. So, whilst UKAS accreditation will not exempt your department from future CQC inspections, it is likely that your accreditation means that your department already meets most of the standards covered in CQC inspection and future CQC inspections may be significantly reduced in scope because of this.

Accreditation can really benefit your service and your patients in any way that you wish it to, tailored to the needs and ambitions of your department. The IQIPS domains provide a user-friendly framework within which you can build on existing good practice and incorporate systems that support you in continually driving forward the quality of your services to the benefit of your patients, staff and department.

## We want to gain accreditation - where do we start?

- Look at the resources on the United Kingdom Accreditation service (UKAS) IQIPS web pages <https://www.ukas.com/services/accreditation-services/physiological-services-accreditation-iqips/apply-for-iqips-accreditation/>
- Register with and use the traffic Light Ready (TLR) on-line tool <http://www.ukas.com/services/accreditation-services/physiological-services-accreditation-iqips/iqips-tlr-refundable-package/>
- Attend a Preparation for Accreditation workshop, these run every month throughout the year <http://www.ukas.com/services/accreditation-services/physiological-services-accreditation-iqips/iqips-preparation-workshops/>
- You will need to be organised, so identify one person who can take responsibility for organising your documentation and evidence.
- If you don't have written protocols, policies or standard operating procedures (SOPs), now is the time to start. Don't forget the saying “If it isn't written down, it didn't happen”, this applies to every process.
- You will also need a document management system. Some Trusts/departments may want to invest in something commercially available, but this



isn't necessary. All you need is an IT system which staff can access so that your policies/protocols etc are easily available. Use of shared drives and folders and subfolders will make organisation easier. You will need to think about who has 'read' and 'write' access to the various parts and how you will regularly review documents.

- You will also need to have a method of document control – this just means that all policies etc need a version number and review date and subsequent versions include a summary of any changes - you could incorporate 'headers & footers' for this.
- You will need to provide evidence for various aspects of your service, so read the IQIPS standards, put a copy up in the department, so that you are familiar with what is required. ....and then start keeping copies of e mails and any other documents which show that you are meeting the requirements – perhaps have a separate IT folder for IQIPS evidence, subdivided into the 4 domains, and further subdivided as appropriate.

#### Anything else we can do?

You could also suggest that someone from your department trains as an IQIPS technical assessor. This will give you an insight into the process from another perspective and will help with your knowledge about what is required as you prepare for your own accreditation. UKAS are seeking more applicants for this role as currently there are only 2 Vascular assessors. More information is available here: <https://www.ukas.com/services/accreditation-services/physiological-services-accreditation-iqips/apply-to-be-an-iqips-assessor/> or from Alison.charig@porthosp.nhs.uk

#### How much does it cost?

The fees for use of the TLR preparation for accreditation system are given on the UKAS website (link above). Once you are ready for accreditation the associated fees for assessor time and site visits will be quoted by UKAS and are dependent on the scope of the activity, size of the service and number of locations. Maintenance of accreditation is a cyclical process with on-site visits and web-based assessment in alternating years and the costs reflect this. These are just estimates, but give "ball-park" figures which may be useful for business planning purposes:

- For a single site service the costs are around £3,100 for years with a visit and around £2,300 for the alternate years (+vat)
- For a larger department with 3 or 4 locations it will be around £4,000 and £2,300 to £3,000 respectively. (+ vat)
- You can reduce these costs by joint application with another physiology department – thereby sharing the costs of the web-based assessments, but on-site visits will still need to be paid for by each department.

If you need more accurate figures, please contact UKAS [askiqips@ukas.com](mailto:askiqips@ukas.com)

#### Final thoughts

- "Quality is never an accident. It is always the result of intelligent effort" John Ruskin
- "Quality means doing it right when no one is looking" Henry Ford
- "Quality is not an act, it is a habit" Aristotle

## 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, [president@svtgbi.org.uk](mailto:president@svtgbi.org.uk) by **5pm on 16<sup>th</sup> November 2018**. The prize will be awarded at the 2018 ASM if we receive an appropriate nomination.



# SVT Theory Exams Spring 2018

## Registration Information

There will be a new registration process commencing in Spring 2018 through the American Registry for Diagnostic Medical Sonography (ARDMS). It is important that we strive to create a more accessible and streamlined process so we appreciate your continued patience while we perfect the process. Apologies for the delay in the release of the exam dates however this is due to the ongoing work to improve the SVT theory exam system.

### Please find the relevant information below:

- Registration for the Spring 2018 SVT theory exams opens on 1st May 2018.
- Applications can be made through the SVT website education page where there will be a link to the SVT exam registration on the ARDMS website.

### Important dates:

- Exam applications made through ARDMS via SVT website – 1st May until 6th June 2018
- Pearson Registration Opens (candidates may make their appointments) – 1st May until 13th June 2018
- Exam window (both exams) – 15th May until 20th June 2018

The theory exams will be run electronically through a number of Pearson Vue test centres located around the UK:

**London, Belfast, Crawley, Edinburgh, Glasgow, Reading, Salford (Manchester), Sutton Coldfield (Midlands), Watford and Dublin (New Horizons test centre)**

Registration will close on 6th June 2018. There will be no late entrants allowed so please ensure you register before the closing date. Please be aware that the slots at the Pearson Vue centres fill up on a first come first served basis and therefore late entrants may not receive their first choice appointment time or location.

The cost is £100 for each exam. Candidates must be current members of the SVT.

Any candidates requiring extra time for a qualifying medical condition should contact the theory exams officer ([theoryexam@svtgbi.org.uk](mailto:theoryexam@svtgbi.org.uk)) with evidence in advance of application through ARDMS.

\*\*\*Please note that there will also be a change to the way that the exams are marked.\*\*\*

The primary test result will still be a PASS or FAIL decision. however in addition, you will receive a scaled score, ranging from 300 to 700. A scaled score of 555 is required to pass both theory examinations.

The scaled score is not a percentage of correct answers, nor is it built on a “curve” where a certain percentage of scores would pass and a certain percentage would fail.

If you have any queries please contact [theoryexam@svtgbi.org.uk](mailto:theoryexam@svtgbi.org.uk)



# A Review of the New Vascular Theory Exams

Aliya Dhanji-Lakha

I am probably one of the few lucky vascular scientists that have had the opportunity to sit the SVT theory exams in both formats: the “old” paper-based and the “new” online examination.

It is difficult for me to comment on the variety/format of questions in depth between the two examinations as I sat the physics exam in paper-based format and the technology one the following year online; however, I found that there were no questions with diagrams on the online examination, which I think would be useful to answer some questions and add variety in the paper.

I personally also found it difficult staring at a computer screen, concentrating hard for 2.5 long hours and not being able to underline/highlight key words in the question to help (an exam technique I find useful). I was also under the assumption that as the examination was carried out online the results would be released sooner,

however this was not the case and actually took longer as you have to wait for the examination period to finish before the board can meet and finalise test scores.

One of the biggest advantages of sitting the online examination is not having to make your way to a test centre miles away for most of us at the crack of dawn on a particular day. In addition it also means you have the choice of being able to do both, the technology and physics exams on different days still completing them both within 1 year, instead of having to do a 6 hour exam in one day.

To summarise, I feel like old is gold and find that although the only disadvantage of sitting the paper examination is getting up early I still find it the best format. However going forward the online examination does allow for more flexibility and is a step in the right direction.

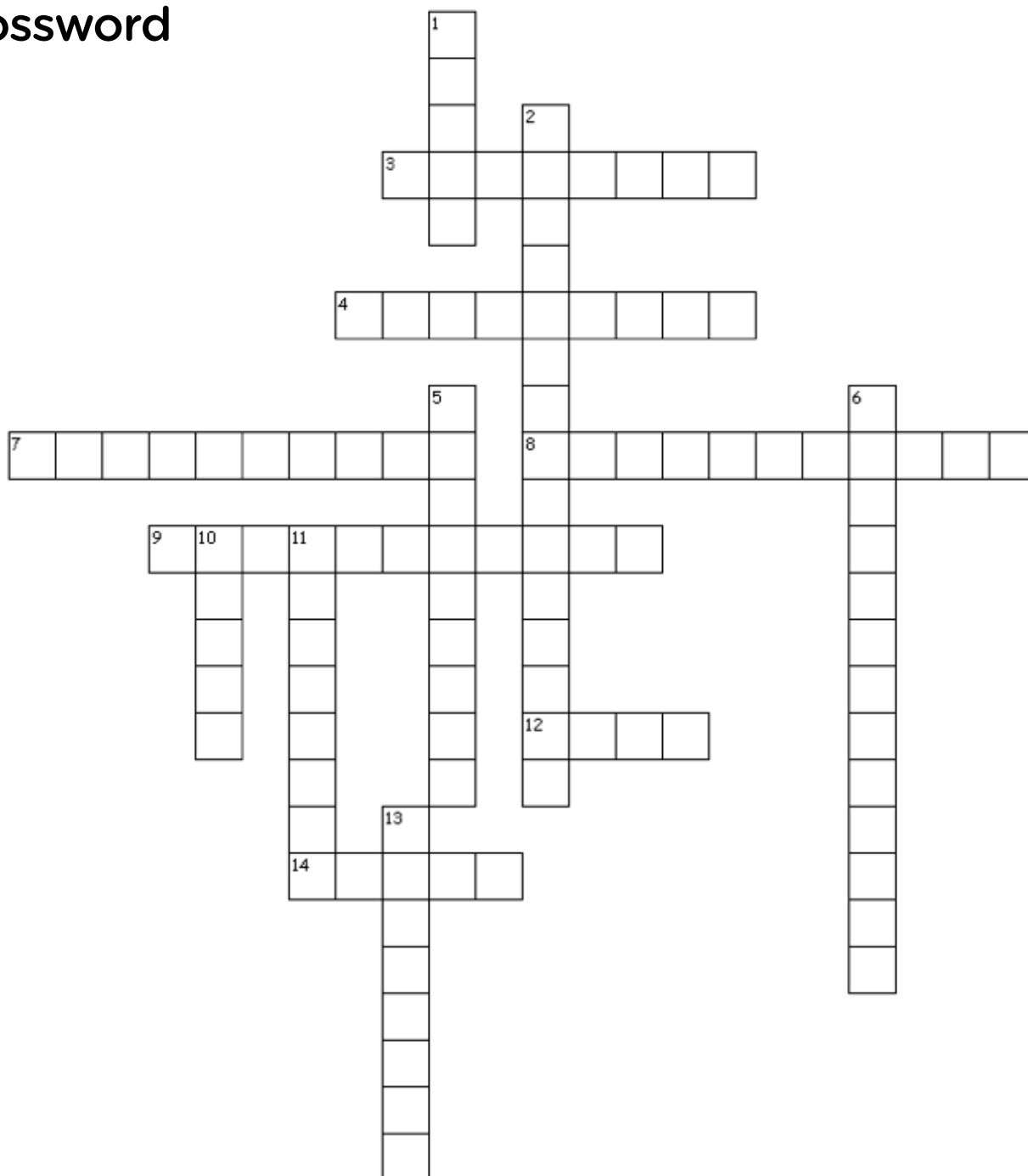
## Physics Trainee Competition

1. What is the average velocity of ultrasound in soft tissue at 5.0MHz?
2. What determines the speed of sound in tissue?
3. The angle of refraction is described by which law?
4. What relationship do frequency and depth have?
5. What is the intensity reflection coefficient?
6. For an ultrasound frequency of 8MHz, what is the wavelength in soft tissue?
7. When RBCs move away from the transducer, is the Doppler shift positive or negative?
8. What is the Doppler equation?
9. From a transducer frequency of 6MHz, an angle of insonation of 60° and a blood velocity of 80cm/s, what will be the Doppler frequency?
10. What is aliasing? How can you overcome this?

**Please send answers to Laura Haworth, member of the Education Committee, at:  
[laura.haworth@mft.nhs.uk](mailto:laura.haworth@mft.nhs.uk)**

**The winner will receive a £25 book token and have their answers printed in the next newsletter**

# Crossword



## Across

3. A paired artery and vein that runs along the fibula
4. The name of an equation which explains the conservation of energy principle appropriate for flowing fluids (9)
7. Difficult or unclear articulation of speech (10)
8. A balloon is inserted into an artery in order to open up a narrowing (11)
9. An index used in transplant kidney ultrasound assessment (10)
12. A non-invasive method of assessing the overall extent of peripheral arterial disease in the lower limbs (4)
14. A wire mesh used to hold open a narrowed blood vessel (5)

## Down

1. A simple test to check for dual arterial flow to the hand (5)
2. A manoeuvre used for diagnosing TOS which involves pushing the chest outward (15)
5. The smallest blood vessel (9)
6. A deep vein that joins the popliteal at the same level as the short saphenous vein (13)
10. Open sores which can be venous, arterial or mixed (5)
11. A narrowing of a blood vessel (8)
13. If this number exceeds 2000 you should expect turbulence (8)

**28th – 30th November 2018**  
Scottish Event Campus, Glasgow

[www.vascularsociety.org.uk](http://www.vascularsociety.org.uk)  
[www.svn.org.uk](http://www.svn.org.uk)  
[www.svtgbi.org.uk](http://www.svtgbi.org.uk)

Abstract submission  
now open

@VSGBI  
[@vascularnurses](https://twitter.com/vascularnurses)  
[@svtgbi](https://twitter.com/svtgbi)

## Abstract submission is now open for The Vascular Societies' Annual Scientific Meeting 2018

We are pleased to announce that the Vascular Society, Society of Vascular Nurses and the Society for Vascular Technology are working together for the third consecutive year to bring you one single integrated event – **The Vascular Societies' Annual Scientific Meeting**. The ASM will be returning to Glasgow on the **28th – 30th November** and will be held at the Scottish Event Campus.

Abstract submissions are 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 for your diary include:

- ☐ **Wednesday 11th July 2018** abstract submission closes at 12 noon
- ☐ **Friday 31st August 2018** online registration opens

[Click here to submit an abstract](#)

**We are looking for abstract submissions to be made under the following topics:**

### Society of Vascular Nurses

- ☐ Any topic

### Society for Vascular Technology

- ☐ Research Proposal (Trainee Vascular Scientists)
- ☐ New Category: presentations of recently completed research projects by newly qualified vascular scientists.
- ☐ Scientific (any relevant subject including case studies)

### Vascular Society

- ☐ Aortic (open and endovascular) / Trauma
- ☐ Audit / Training / Education
- ☐ Basic Science
- ☐ Carotid
- ☐ Other
- ☐ PVD / Diabetic Foot / Amputation
- ☐ Renal / Mesenteric / Vascular Access
- ☐ Venous





If you have any questions please contact the abstract manager on email [asm@vascularsociety.org.uk](mailto:asm@vascularsociety.org.uk) or phone 01506 292034.



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## ASK THE PRESIDENT

**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](mailto:newsletter@svtgbi.org.uk) and your questions could be published in the next newsletter.

**Crossword Answers from Winter 2018 issue**

**ABPI** A non-invasive method of assessing the overall extent of chronic peripheral arterial disease in the lower limbs (4)

**Allen** A simple test to check for dual arterial flow to the hand (5)

**Gastrocnemius** A deep vein that joins the popliteal at the same level as the short saphenous vein (13)

**Pulsatility** An index used in transplant kidney ultrasound assessment (10)

**Bernoulli** The name of an equation which explains the conservation of energy principle appropriate for flowing fluids (9)

**Reynolds** If this number exceeds 2000 you should expect turbulence (8)

**Ulcer** Open sores which can be venous, arterial or mixed (5)

**Stenosis** A narrowing of a blood vessel (8)

**Angioplasty** A balloon is inserted into an artery in order to open up a narrowing (11)

**Peroneal** A paired artery and vein that runs along the fibula

**Stent** A wire mesh used to hold open a narrowed blood vessel (5)

**Capillary** The smallest blood vessel (9)

**Dysarthria** Difficult or unclear articulation of speech (10)

**Costoclavicular** A manoeuvre used for diagnosing TOS which involves pushing the chest outward (15)