Vascular Surgery Curriculum
Purpose Statement

Purpose statement

Proposal for August 2019

The purpose statement addresses the requirements of the General Medical Council's Excellence by Design: standards for postgraduate curricula[1] (theme 1) and the Shape of Training Review. It sets out patient and service needs, scope of practice and the level of performance expected of doctors in training.

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1. Purpose statement for Vascular Surgery

1.1 The curriculum scope of practice, service, patient and population needs

The purpose of the curriculum for Vascular Surgery is to produce, at certification, competent doctors, able to deliver excellent outcomes for patients as consultant Vascular surgeons in the UK. The curriculum will provide consultant Vascular surgeons with the generic professional and specialty-specific capabilities needed to manage patients presenting with the full range of acute and elective vascular conditions, inclusive of the operation or procedure. Trainees will be entrusted to undertake the role of the Vascular Surgery Registrar during training and will be qualified at certification to apply for consultant posts in Vascular Surgery in the United Kingdom or Republic of Ireland. Within these areas the model of Consultant Vascular Surgery practice is consistent, in that it follows the creation of Vascular networks with a hub and spoke working pattern around an arterial centre. This model is followed throughout the British Isles and Ireland and is consistent with the structure described in the 'Provision of Vascular Services' [2] document.

Patient safety and competent practice are both essential and the curriculum has been designed so that the learning experience itself should not affect patient safety. Patient safety is the first priority of training demonstrated through safety-critical content, expected levels of performance,

critical progression points, required breadth of experience and levels of trainer supervision needed for safe and professional practice. Upon satisfactory completion of training programmes, we expect trainees to be able to work safely and competently in the defined area of practice and to be able to manage or mitigate relevant risks effectively. A feature of the curriculum is that it promotes and encourages excellence through the setting of high-level outcomes, supervision levels for excellence, and tailored assessment and feedback, allowing trainees to progress at their own rate.

The Curriculum covers the three phases of the Vascular training pathway. In Phase 1 the trainee will achieve Core Surgical Competences with a view to entering the vascular training pathway through national selection at ST3 or having followed a Vascular themed run through training having been appointed at ST1. In Phase 2 the trainee will acquire the relevant general surgery skills and so allow introduction to all aspects of Vascular Surgery. The progression of vascular competence is guided and bench marked by the respective ST4 and ST6 check lists. The completion of Phase 2 will be marked by the trainee reaching the level of knowledge, clinical and professional required to be assessed as a day 1 consultant in Vascular Surgery and so be eligible to sit the Intercollegiate Speciality Board Exam in Vascular Surgery. In Phase 3 trainees will continue to develop the full range of Vascular technical skills required for certification as defined by the syllabus.

It will be possible for trainees to develop further advanced competencies based on patient need in a geographical area or to deliver a specialist service requirement. This technical development may be undertaken as post CCT activity and recognised with a credentialing process.

Whilst the Indicative time for Vascular Surgical training will be 6 years for uncoupled and 8 years for run through training, the actual length of training may be shorter or longer than the indicative time according to the rate at which competencies are achieved

1.2 Shape of training review

The Shape of Training (SoT) review[3] provides an opportunity to reform postgraduate training to produce a workforce fit for the needs of patients, producing a doctor who is more patient focused, more general and has more flexibility in career structure. The Vascular Surgery curriculum meets the main recommendations of SoT as shown below.

1. *Takes account of and describes how the proposal will better support the needs of patients and service providers:*

The curriculum will produce Vascular Surgeons able to manage the generality of an unselected Vascular Surgery on call service, since a majority of patients presenting with vascular surgery conditions do so as emergency or urgent cases requiring definitive treatment.

The curriculum framework articulates the outcomes required to work as a consultant vascular surgeon and utilising the holistic judgement of the supervisors ensures that the trainee progression through the key phases is consistent with safe and effective care of the patient. Service providers and patients benefit from the output of training being Consultant Vascular Surgeons trained to

provide all aspects of elective and emergency vascular surgery within the Hybrid theatre requirement of the 'Provision of Vascular Services'[2].

The development since 2013, of Vascular Surgery as an independent specialty has demonstrated improved outcomes for patients undergoing index vascular procedures, as shown by the National Vascular Registry. Service providers no longer require Consultant Vascular Surgeons to participate in the General Surgery on call as part of their scope of practice. Where major trauma services are provided by an employer it is possible by following the Trauma Training Interface Group (TIG) syllabus and completing the Vascular curriculum, to train to a level to provide that service.

The curriculum has been matched to the requirements of the latest 'Provision of Vascular Services'[2] document and has been developed in consultation with stakeholders, including trainees, trainers, employers, lay representatives and other groups, to produce a curriculum that is fair, flexible, non-discriminatory, fit for purpose today with the capacity to evolve in future iterations in response to changing needs of patients.

Following the requirements of the 'Provision of Vascular Services'[2] document for the provision of a hybrid operating theatre within an Arterial centre allows the Vascular Surgeon to lead the vascular surgery team to deliver the necessary care in a single setting both safely and effectively.

Since 2013 the Vascular SAC has been able to facilitate the development of Vascular Surgery as a separate specialty that is in keeping with the 2017 Shape of Training[3] recommendations such that multiple co-morbidity patients presenting acutely can be managed whilst addressing any acute vascular issues.

2. *Ensures that the proposed curriculum to CCT equips doctors with the generic skills to participate in the acute unselected take and to provide continuity of care thereafter:*

The curriculum will produce surgeons with both the generic knowledge and clinical skills to treat patients with respect to their co-morbidity and their vascular presentation. Trainees will be expected to participate in an unselected vascular surgery take throughout their training. As part of their development trainees will complete a one year placement in general surgery, including the participation in the acute General Surgery take. This undertaken at the start of Phase 2 of training will develop the technical skills in the safe navigation of the intra-abdominal contents to allow for vascular operative exposures and in the perioperative care of acutely unwell patients. By the end of Phase 2 trainees will have the knowledge to manage the acute unselected take in vascular surgery.

3. *Where appropriate describes how the proposal would better support the delivery of care in the community:*

The nature of the open arterial component of Vascular Surgery is such that it is largely performed in tertiary or regional hub arterial centres. The Curriculum will equip the surgeon with the skills to

support and deliver the existing model of a local (spoke) elective endovascular and venous interventional service along with outpatient clinics and multi-disciplinary teams (MDTs) closer to the patient at network district general hospitals (DGHs). Only minor surgery can be performed in the community; however the curriculum allows skills to be developed to deliver outpatient clinics in community hospitals and GP practices along with performing day case procedures in adequately equipped community hospitals where suitable governance arrangements are in place.

The curriculum encourages trainees to be vigilant for opportunities to learn from other health care professionals, for example General Practitioners (GPs), nurses and practitioners in different disciplines. Working with and learning from these groups adds a richness and diversity to the training programme. Examples of this could include working with Occupational Therapy to manage an amputee's rehabilitation within the community.

4. *Describes how the proposal will support a more flexible approach to training:*

The curriculum describes clinical Capabilities in Practice (CiPs) shared with other specialties in surgery supporting flexibility for trainees to move between the specialties in line with the recommendations set out in the GMC's report to the four UK governments[4]. The CiPs include the Generic Professional Capabilities (GPCs) common to all medical specialties, facilitating transferability of learning outcomes across other related specialties and disciplines. It will, therefore, be possible for trainees to transfer generic knowledge, clinical and surgical skills to another surgical specialty without restarting at CT1/ST1 level. As an example, prior learning of history-taking, physical examination, health promotion, medical record keeping and technical skills in one specialty may allow accelerated learning in the clinical areas of another specialty with identical requirements for communication skills, team-working and empathy, compassion and respect for patients. Consequently, trainees will acquire generic skills in the CiPs which can be transferred to other surgical specialties, or to other non-surgical specialties. Trainees who choose a different career route may be able to have a shorter than usual training pathway in their new training programme, in recognition of learning already gained.

This flexible approach with acquisition of transferable capabilities will allow training in the specialty to adapt to current and future patient and workforce needs as well as to changes in surgery with the advent of new treatments and technologies.

5. *Describes the role that credentialing will play in delivering the specialist and sub-specialist components of the curriculum:*

Post-certification credentialing will be considered for super-specialist areas of work to meet service and patient needs, these areas are detailed in 1.4.2. (*Please see Reference Section for GMC definition of 'Credentialing')*

1.3 The high-level outcomes of Vascular Surgery

The curriculum is outcomes-based, specifying the high-level generic, shared and specialty-specific capabilities that must be demonstrated to complete training. There is a greater focus on the generic professional capabilities common to all doctors.

1.3.1 Capabilities in Practice

The high-level outcomes of the curriculum are expressed as Capabilities in Practice (CiPs). The 5 shared describe the professional tasks or work within the scope of Vascular Surgery. These are:

1) Manages an out-patient clinic

2) Manages the unselected emergency take

3) Manages ward rounds and the ongoing care of inpatients

4) Manages an operating list

5) Manages a multi-disciplinary meeting

By the completion of training and certification, the trainee must demonstrate that they are capable of unsupervised practice in all CiPs.

1.3.2 Generic Professional Capabilities

Embedded within each CiP are the full range Generic Professional Capabilities (GPCs) which describe the professional responsibilities of all doctors in keeping with Good Medical Practice.

These attributes are common, minimum and generic standards expected of all medical practitioners achieving certification or its equivalent. The GPCs have equal weight in the training and assessment of clinical capabilities and responsibilities in the training programme. The nine domains of the GPC framework are:

1. Professional knowledge
2. Professional skills
3. Professional values and behaviours
4. Health promotion and illness prevention
5. Leadership and team-working
6. Patient safety and quality improvement
7. Safeguarding vulnerable groups
8. Education and training
9. Research and scholarship

1.3.3 Supervision levels

The assessment of CiPs draws on the holistic judgement of Clinical Supervisors by ascribing the supervision level required by the trainee to undertake each CiP to the standard of certification. The level of supervision will change in line with the trainee's progression, consistent with safe and effective care for the patient. Typically, there should be a gradual reduction in the level of supervision required and an increase in the complexity of cases managed until the level of competence for independent practice is acquired. The supervision levels are:

Level I	Able to observe only
Level II	Able to act with direct supervision: a) supervisor present throughout b) supervisor present for part
Level III	Able to act with indirect supervision
Level IV	Able to act unsupervised
Level V	Demonstrates performance to a level well beyond that expected of a day one consultant

Phase 1 of training will be completed when the appropriate level of competency (as defined in 1.4 below) has been achieved in each CiP, and a trainee will be eligible for certification when level IV has been achieved. Level V indicates excellence.

1.3.4 Descriptors

Each CiP contains key descriptors associated with the clinical activity or task and all the GPC descriptors. The descriptors are intended to help trainees and trainers recognise the level of knowledge, skills and professional behaviours which must be demonstrated for independent practice. All descriptors will be taken in to account when carrying out assessment and they will be used by Clinical Supervisors to highlight where trainees achieve excellence at a faster rate and when targeted training is necessary in the manner of an exception report. They, therefore, provide the basis for specific, constructive feedback to the trainee. The CiPs will also provide trainees with a self-assessment, providing an opportunity to show insight and actively engage in the feedback discussion.

1.4. Progression through training

Trainees will enter Vascular Surgery training via a national selection process at either ST3, or through the ST1 Improving Surgical Training Pilot run-through programme. Trainees will learn in a variety of settings using a range of methods, including workplace-based experiential learning in

a variety of environments, formal postgraduate teaching, simulation based education and through self-directed learning.

Vascular Surgery training is outcome-based rather than time-based. However, it will normally be completed in an indicative time of 8 years (2 years phase 1, 4 years phase 2 and 2 years Phase 3) for those entering run through training at ST1 and 6 years for uncoupled trainees entering at ST3 (4 years in phase 2 and 2 years in phase 3).

There will be options for those trainees who demonstrate exceptionally rapid development and acquisition of capabilities to complete training more rapidly than the current indicative time of 8 years. There may also be a small number of trainees who develop more slowly and will require an extension of training in line the Reference Guide for Postgraduate Specialty Training in the UK (the Gold Guide[5]).

Trainees who choose less than full time training (LTFT) will have the indicative training time extended pro-rata in accordance with the Gold Guide. LTFT trainees will perform both elective and out of hours duties pro rata throughout the time of LTFT.

The programme will be divided into 3 phases –

- Phase 1 will follow the Core Surgical Curriculum for acquisition of both technical and non-technical generic skills, with a Vascular Surgery theme (of at least 6 months) to the first 2 years of training for run through trainees. Run through trainees in the IST pilot and trainees on an academic training pathway will progress to Phase 2 after the award of an Outcome 1 at the Annual Review of Competence Progression (ARCP) at ST2. Those uncoupled trainees, including the military trainees, completing core surgical training or equivalent would enter Phase 2 of Vascular training at ST3 via national selection.

- Phase 2 will take an indicative time of 4 years during which trainees will gain the GPCs and the knowledge, clinical skills and professional behaviours of Vascular Surgery expected of a day 1 consultant in the specialty, as defined in the CiPs and the syllabus. At the start of Phase 2 the trainee will be placed in General Surgery for 1 year to gain skills in safe navigation of abdominal contents and perioperative management in elective and emergency settings. There will be the facility to undertake a further year of general surgery on call, along with vascular progression, to ensure the development of the required competencies. They will then be exposed to all aspects of the generality of emergency and elective vascular surgery during the rest of Phase 2. There will be a critical progression point at the end of this Phase 2, satisfaction of which will permit application to sit the Intercollegiate Board Exam in Vascular Surgery.

- Phase 3 will take an indicative time of 2 years during which time trainees will gain all the technical skills necessary in the generality of Vascular Surgery to deliver all aspects of open and endovascular emergency, urgent and elective procedures, of the Vascular curriculum that are necessary to perform safely as a day 1 consultant
- The further development of certain aspects of the curriculum for a trainee can be facilitated based on the needs of the service (either local or national), the preference of

the trainee, trainees skills and the ability of the programme to support the trainee in that development. Where a programme cannot facilitate the additional curriculum development of trainees, Out of Programme Training (OOPT) can be utilised.

- On completion of Phase 3 trainees will be eligible for certification and for recommendation to enter the specialist register. Trainees who do not meet the requirements of Phase 3 within the expected 2 years may require an extension of training time in accordance with the Gold Guide.

Training Interface Groups (TIGs)
TIGs have been optional syllabus modules in surgical curricula since 2002 and provide advanced training before certification which combines curricular elements of at least two specialties in important areas of patient care. Vascular Surgery is one of parent specialties in the following TIG:

Training Interface Group	Parent Specialties
Trauma	Vascular Surgery, General Surgery, Plastic Surgery, Oral & Maxillofacial Surgery and Trauma and Orthopaedic Surgery

Interdependence with other specialties

Vascular Surgery has several areas of interdependence with other specialties that are variable in their extent based on local service requirements and patient needs. The specialties of Cardiothoracic Surgery, Cardiology, Diabetes Medicine, Interventional radiology, Renal medicine, Stroke Medicine and Transplant Surgery all have a degree of interdependence with Vascular Surgery. Some of this interdependence relates to MDT working and would be assessed as part of Generic Capabilities of Practice and so it would be entirely appropriate for a specialty representative to teach / feedback on / assess a Vascular Surgery trainee and for Vascular Surgery trainers to reciprocate.

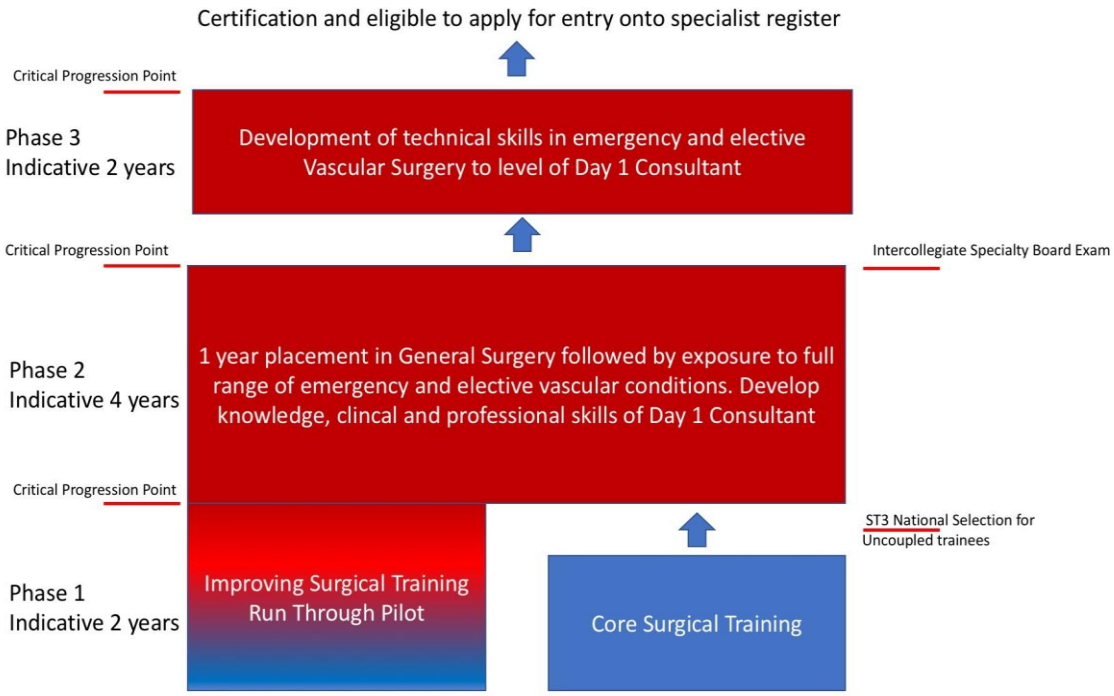
With respect to interdependence of technical skills between Interventional Radiology and Vascular Surgery, the variation of delivery will relate to local service requirements and structure. The development of these technical skills may be delivered by either specialty or in partnership to mirror the local pathways and so ensuring that neither specialty has any curriculum compliance or delivery issues.

1.4.1 Critical Progression points

Indicative levels of supervision are indicated for the end of phase 2. At the end of phase 2 trainees are required to reach level IV for all the shared Capabilities in Practice.

Excellence will be recognised by:

a) achievement of Level V in any of the Capabilities in Practice
b) exceeding the supervision level expected for the end of Phase 2
c) achievement of a supervision level at an earlier stage than would normally be expected
d) recognition of particularly good performance in any of the descriptors within a Capability in Practice



1.4.2 Training Pathway

1.4.3 Proposed place of Credentialing in Training/Post-training

Credentialing is defined as a process which provides formal accreditation of competencies (which include knowledge, skills and performance) in a defined area of practice, at a level that provides confidence that the individual is fit to practise in that area (GMC).[6]

Credentialing will be particularly relevant for surgeons who work in niche areas of medical practice that are not covered by existing standards for training and in new and emerging areas of medical practice.

The SAC is enthusiastic about working with the GMC to introduce a process of credentialing to enhance medical regulation and patient protection by:

- providing a framework of standards and accreditation in areas where regulation is limited or absent
- providing patients and employers with information about doctors' particular capabilities and current areas of competence
- providing better recognition of doctors' capabilities to support:
    - improvements in workforce flexibility and professional mobility
    - the new architecture for postgraduate medical education
- providing recognition of the capabilities of cardiac and thoracic surgeons to assure the public, service providers and employers that they have met and are maintaining UK standards in their field
- developing detailed frameworks, standards, assessment processes and proposals for quality assurance

Areas within the specialty which could be considered suitable for credentialing:

Open Thoraco-Abdominal Aneurysm Surgery / Management

Complex Endovascular Aneurysm Management (FEVAR / BEVAR)

Management of Aortic Dissection

Endovascular treatment of complex (TASC C/D) aorto-iliac/ femoro-popliteal/ infra-popliteal disease

References

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