



COVID-19 response:

Guidance on the resumption of less urgent/elective vascular and endovascular surgery

Vascular Society of Great Britain & Ireland and GIRFT

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Background

The first versions of these documents were published in April 2020 (Vascular Society)^A and June 2020 (Vascular Society and GIRFT).^B The COVID-19 (CV19) situation has evolved considerably over the last six months and it was always the intention to update advice to reflect the changing situation.

While the COVID-19 scenario continues to evolve, the initial peak has passed. There is currently a markedly lower CV19 bed occupancy in most units, and the available theatre capacity has increased. These factors, combined with a build-up of postponed higher risk vascular cases, means there is a need to rapidly resume treating less urgent and elective vascular surgery.

Differences remain locally, regionally and across NHS England and the NHS in the devolved nations, and while there may be a reluctance to have variable recommendations in place, this variability reflects local need. **The ability to react to a second wave CV19 surge needs to be preserved, especially in view of the recent reported rise in prevalence.**

September 2020 update

Recent major changes include:

- After a period with lower prevalence of CV19 in the community there has been a recent marked rise, and there are marked and dynamic local variations
- Less pressure on ITUs
- A gradual return of some elective working
- Increased CV19 testing
- Fewer PPE shortages
- Green pathways in many units
- Significant local and regional variations in service recovery
- Growing pressure from other specialties on operating resources
- Increased turnover time in theatres, resulting in fewer patients being treated per list
- A growing backlog of surveillance AAA requiring intervention
- Re-starting of AAA screening

Advice

The advice regarding the resumption of less urgent and elective vascular surgery is divided into two parts; **overriding principles** and **specific timelines** for intervention. The fluid nature of the CV19 pandemic may require review and revision of this guidance.

A. https://www.vascularsociety.org.uk/userfiles/pages/files/Newsletters/2020/VS%20V6%20Resumption%20of%20elective%20vascular%20surgery_.pdf

B. <https://www.vascularsociety.org.uk/userfiles/pages/files/Newsletters/VascularServicesGIRFTJun20d.pdf>

Overriding principles

These are principles rather than recommendations; similar to the original Vascular Society and GIRFT CV19 advice.^{C,D} Units must interpret the general advice given and also take into account their local situation. Shared decision making with patients, MDT working and documentation should recognise that *'time intervals may vary from usual practice and may possibly result in greater risk of an adverse outcome due to progression or worsening of the condition, but we have to work within the resources available locally and nationally during the crisis'*, as stated in the NHS England guidance on surgical prioritisation during CV19.^E

Key factors to consider

1. The patient and the clinical need for intervention

Risk vs benefit of surgery e.g. AAA diameter.
Cardio-respiratory fitness and other co-morbidities.
Possibility of an endovascular option.
Poor outcomes in those vascular patients who develop CV19 post operatively.
Consent in a CV19 world.

2. The unit's standard functioning for vascular and endovascular surgery

Complex vascular surgery requires a multidisciplinary interdependent team. It includes the medical, nursing, scientific and allied healthcare professional workforce working in pre-operative, surgical, anaesthetic, interventional radiology, critical care and ward areas.
Functioning MDT (face to face or online).
Case scheduling/waiting list management - slower turnover of patients.
Robust clinical governance (see section 8).

3. The unit situation in terms of the prevalence of CV19

Supply chain issues (i.e. PPE/surgical/anaesthetic - including drugs/IR stock).
Adequate critical care capacity.
Ability to isolate non-CV19 patients and return to normal specialty (vascular) ward circumstances.
End of re-deployment of staff to other areas.
Staff testing for CV19 - this appears variable but should be readily available.

4. Mitigation against the risk of hospital acquired CV19

In most areas of the UK and Ireland it is anticipated that a single unit model will apply; this ensures standards of care deviate as little as possible from POVS.^F
In areas where a second unit model is developed, a second surgeon (and interventional radiologist when appropriate) must be assigned responsibility for vascular inpatients from the surgeon/IR providing cover at the network's arterial centre.
Appropriate arrangements should be in place for management of complications, critical care and endovascular bail-out etc.
Further CT imaging may be indicated when there has been a significant delay to endo/open surgery.

Single unit model

Red/Green pathways; clean streams (green) of care (CV19-ve) from admission, through imaging (& endo-intervention), surgery, immediate post-op (recovery, ITU, ECU), ward to post-op care and follow up.
Specialist input into inpatient care even when 'cohorted' in a CV19 clean or green area.
Day surgery units may offer a potential Green environment for surgery such as vascular access (VA). With high incidence of CV19 on some haemodialysis units, some VA may justify a Level 2 rating.
Variably robust Green pathways now exist in most vascular units.

- C. https://www.vascularsociety.org.uk/userfiles/pages/files/Newsletters/2020/Presidents%20update%2027_03_20.pdf
- D. <https://www.vascularsociety.org.uk/userfiles/pages/files/Newsletters/VascularServicesGIRFTJun20d.pdf>
- E. <https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/03/C0221-specialty-guide-surgical-prioritisation-v1.pdf>
- F. <https://www.vascularsociety.org.uk/userfiles/pages/files/Document%20Library/VS%202018%20Final.pdf>

5. Workforce issues

In response to the CV19 surge, both consultants and trainees in many units are working or have been working on significantly more intense rotas. Some medical staff have been covering sick, self-isolated or shielded colleagues. Most trusts have temporarily suspended study and, in some cases, annual leave. Much vascular activity is either mostly or entirely consultant led/delivered.

Few individuals have had significant breaks or rest since the start of the CV19 crisis. The physical and mental health and resilience of both individuals and teams need to be considered before and during resumption of less urgent activity. Short term variants in clinical practice were essential. However, if the change in working practice is likely to be sustained, plans need to include how we look after the entire vascular workforce, not forgetting our trainees, nurses, vascular scientists, interventional radiologists and vascular anaesthetists.

6. Training

During the initial CV19 surge, many juniors were redeployed to medicine and intensive care. While this was entirely appropriate there was often a very slow return of these trainees to vascular surgery. Deployment outside vascular surgery will compromise training.

Safe restoration of normal vascular surgery cannot occur without appropriate staffing at all levels. Resumption of less urgent and elective vascular surgery, with the freeing up of vascular juniors from CV19 related non-speciality commitments, allows resumption of surgical training. Each trainee should have a supportive PDP to account for their training deficit due to CV19, in line with the JCST statements on ARCP outcome 10.

7. Research

Participation in CV19-related research and audit is encouraged (i.e. COVIDSURG, COVER). These studies will provide important lessons from patient management during the CV19 pandemic.

8. Clinical governance

Enhanced clinical governance procedures will need to be in place during the recovery phase from CV19. This should include vascular anaesthetic and critical care input. National Vascular Database (NVR) submissions should include completion of the newly introduced fields to document any impact to patient care from CV19. The risks associated with CV19 must be documented on directorate and trust risk registers (i.e. deferments of treatment, risk cross-infection, workforce changes).

Where there are significant deviations from usual practice, **discussion within an MDT or with a second consultant is advised**. This reasoning should be clearly documented in the notes.

Where second centres are used for activity, clinical governance must be in place, including reporting of outcomes to the NVR.

9. Innovative working practices

There will be an ongoing need to continue working in an innovative manner, building on the digital technology and new practices that have been embraced. This includes virtual clinics, MDTs, and WhatsApp working groups. Significant changes in practice have been made, streamlining patient flow and improving aspects of care in many units.

Specific timelines for urgent care for vascular disease in the recovery phase of the CV19 pandemic

NHS England, with the support of the surgical colleges, produced a clinical guide to surgical prioritisation with classification into four groups for vascular (including IR) procedures, and this has been revised to reflect the evolving clinical situation:

Priority 1a	<p>Emergency operation needed within 24 hours</p> <ul style="list-style-type: none"> • Vascular injury/ occlusion (Limb - including compartment syndrome, mesenteric occlusion & AV fistula) • Uncontrolled external haemorrhage - any site/source • Ruptured AAA • Surgical revascularisation (embolectomy/bypass) • IR Thrombolysis for acute ischaemia • Septic / diabetic foot
Priority 1b	<p>Urgent operation needed within 72 hours</p> <ul style="list-style-type: none"> • Acute on chronic limb ischaemia • Surgical revascularisation (embolectomy/bypass) • Symptomatic carotid disease • Amputation for limb ischaemia • DVT thrombolysis for phlegmasia or end organ failure (renal/hepatic)
Priority 2	<p>Surgery that can be deferred for up to 4 weeks</p> <ul style="list-style-type: none"> • Chronic severe limb ischaemia - no neurology • Some larger AAAs • Ongoing diabetic foot surgery
Priority 3	<p>Surgery that can sometimes be delayed for up to 3 months</p> <ul style="list-style-type: none"> • AAA >5.5cm (<i>ideally within 8 weeks</i>) • Vascular access surgery
Priority 4	<p>Surgery that can usually be delayed for more than 3 months</p> <ul style="list-style-type: none"> • Vein surgery • AVMs without complications • Thoracic outlet syndrome • Claudication

Timelines differ for Priority 1b, 2 and 3 from Vascular Society Provision of Vascular Services 2018 recommendations. The following advice is provided to units in respect of this:

Abdominal Aortic Aneurysm

POVS 2018: Asymptomatic large abdominal aortic aneurysms should be treated within eight weeks of diagnostic confirmation, in both screened and unscreened patients.

NHSE CV19 Priority L2 (<= 4 weeks) for AAA>6.0cm, L3 (<= 12 weeks) for AAA 5.5cm. However, this classification (P1-4) does not fit the standard guidelines for AAA patients.

The view of the Vascular Society and GIRFT is that an extension up to three months from detection to treatment for AAA diameter 5.5 cm is an acceptable response to CV19; not least as, in the 2019 National Vascular Registry (NVR) report, a significant proportion of patients with large AAAs waited more than 12 weeks for surgery.

AAA surgery presents a particular challenge, with a growing backlog of surveillance AAAs now requiring intervention and with the re-starting of the National AAA Screening Programme (NAAASP). It can be predicted this will further increase the number of patients with AAA requiring intervention.

Pre-CV19 in the UK and Ireland, AAA surgery carried a very low complication rate (~0.4% mortality for EVAR and 3.2% for open AAA). NVR figures submitted during the CV19 crisis suggest an approximately five-fold increase in mortality in AAA patients who develop respiratory complications. While it is crucial that AAA surgery restarts, it must be in a safe fashion. Individual units need to increase activity without significantly prejudicing outcomes. Local units need to react to the local prevalence of CV19 and the local set up.

Prioritisation

Vascular Society and GIRFT advice is for units to prioritise:

- **Larger AAAs over smaller ones**
- **If equivalent in size, those AAAs that have waited longest**
- **Screened and unscreened AAA patients should have equal urgency**

Hospitals need to ensure all patients (cancer or otherwise) get access to surgery based on clinical need.

Capacity

There should be an urgent full restoration to pre-CV19 levels of vascular surgical capacity (elective lists and NCEPOD).

It is important to recognise that infection prevention and control requirements can restrict throughput within operating sessions and the total capacity matches P1-3 demand.

Data from July 2020 suggests only 20% of vascular units have access to the same number of elective lists as pre-CV19, and this had risen to 35% by early September 2020.

Carotid endarterectomy for symptomatic disease

POVS 2018: Carotid endarterectomy for symptomatic patients should be performed within seven days from referral.

[NHSE CV19 Priority L1b \(<=72 hours\)](#)

Vascular Society and GIRFT advice is that units should continue to treat symptomatic patients urgently.

Critical limb ischaemia

Timelines for management of critical limb ischaemia in POVS 2018 have been superseded by the introduction of the peripheral arterial disease quality improvement framework (QIF). It is recommended that the QIF 'admitted patient pathway', recommending revascularisation within five days, is prioritised as [NHSE CV19 Priority Level 1b \(acute on chronic\)](#). Amputation for limb ischaemia is similarly prioritised as [NHSE CV19 Level 1b](#).

Vascular Society and GIRFT advice is that without urgent intervention these patients are likely to have worse outcomes. The balance of decision making regarding intervention may favour endovascular intervention to minimise hospital stay and the need for a prolonged recovery period, accepting that this will vary from unit to unit based on local resources and facilities.

Recommended timelines for 'admitted pathway' for CLI - rapid progression, deep tissue injury and/or infection, and/or uncontrolled pain	
Time to admission	< 48 hours from decision to admit/ transfer
Consultant review	< 12 hours from urgent admission < 24 hours from planned admission
Investigation for revascularisation	< 48 hours from admission
Primary revascularisation procedure	<5 days

Patients presenting with a stable manifestation of CLI are prioritised as [NHSE CV19 Priority Level 2](#) (Chronic severe limb ischaemia - no neurology; deferred for up to 4 weeks).

Vascular Society and GIRFT advice is that when a decision is made to defer intervention this should be a shared decision, clearly recorded and MDT ratified. People with CLI and diabetes are especially vulnerable during CV19. Where possible, 'hot clinics' to minimise emergency department attendance should be kept open, alongside networked hospitals diabetic foot services.

Maintaining open communication with network clinicians, practice nurses and podiatrists is essential. Ideally units should offer non face to face consultation (i.e. Attend anywhere®).

Recommended timelines for 'non-admitted pathway' for CLI - ulcer, minor necrosis, mummified toes, superficial infection or controlled pain	
Vascular surgeon 'face to face review'	<= 7 days
Cross-sectional imaging	<= 7 days
Revascularisation	<= 14 days

Recommended timelines for the amputation pathway - when differs from CLI admitted pathway	
Diabetic review	< 12 hours from admission
Pain team review	< 12 hours from admission
Procedure	< 48 hours from decision to amputate