

COVID-19 response:

# Guidance on resumption of vascular surgery

National Joint Vascular Implementation Board

June 2020



# 1. Purpose

This guidance document follows a special meeting of the National Joint Vascular Implementation Board to bring together views from clinicians in GIRFT (England), Vascular Clinical Reference Group and vascular professional societies (including the Vascular Society of Great Britain and Ireland, Society of Interventional Radiologists, Society of Vascular Technologists, Society of Vascular Anaesthetists, and Society of Vascular Nurses) to consider joint advice to the wider vascular community in the light of COVID-19 experience to date, and to suggest measures for the resumption of a more normal vascular service in the future. We acknowledge with the geographical variations, manpower constraints and hospital facilities, some of the proposed solutions will not be possible.

In addition to supporting frontline vascular clinicians, this guidance should inform the work of commissioners, both NHSE as the single commissioner of specialised vascular services, and CCGs as commissioners of local vascular services including diabetic foot pathways.

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## 2. Background

In response to the initial peak of the COVID-19 pandemic guidance was issued by the Vascular Society that restricted vascular surgery, with the aim of reducing unnecessary exposure to hospitals, deferring less urgent cases and reducing length of stay or dependency on ITU<sup>1</sup>.

This had a number of impacts including that only larger or symptomatic AAAs were considered for surgery. There was also a temporary halt to AAA screening. Both may have contributed to a delay in planned aneurysm surgery for patients under surveillance.

In many Trusts carotid surgery stopped completely on a temporary basis and was replaced by enhanced medical therapy.

There was a move towards a greater proportion of minimally invasive treatments for AAA and critical leg ischaemia.

The service has seen a reduction in referrals across a range of specialties, including vascular services (for example, neurological referrals for carotid endarterectomy, general practice and diabetology for peripheral vascular disease). In addition, a proportion of patients are presenting late, due to a reluctance to attend hospitals, particularly for peripheral vascular disease.

There is emerging evidence of postoperative complications occurring in half of patients with perioperative SARS-CoV-2 infection associated with high mortality<sup>2</sup>, leading to advice that where there is a risk of COVID-19 infection, thresholds for surgery during the COVID-19 pandemic should be higher than during normal practice, particularly in men aged 70 years and older. These concerns will need to be taken into account in planning for the re-start of planned urgent surgery.<sup>3</sup>

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## 3. General advice for Vascular Surgery resumption

### 3.1 In-patient Arrangements

#### Pathways:

- There should be a clearly defined, separate, Blue Pathway (uncertain COVID-19 status or positive) for all emergency and very urgent vascular cases with designated beds, operating facilities and intensive care facilities. These patients are those that are too urgent to await the results of COVID-19 tests.

Similarly, there should be a clearly defined, separate, Green Pathway (confirmed COVID-19 negative) for all planned urgent vascular interventions with separate identified beds, operating facilities, recovery areas and intensive care facilities before planned operating can commence.

- Patients to be admitted for planned vascular procedures should self-isolate for 2 weeks prior to admission in line with national guidance<sup>4</sup>, and any regional guidance follow a Green Pathway. Trusts to consider whether only the patient should be self-isolating or the whole household according to risk.
- Testing and pathways for planned patients should be consistent with national guidelines.
- All patients admitted urgently should be managed as suspected COVID-19 (Blue Pathway) until proved otherwise.

- Following a Green Pathway major vascular intervention, the patient's clinician should advise on the need for further self-isolation at discharge in the light of local conditions and the patient's clinical circumstances. This is both to reduce the risks of a negative effect from COVID-19 infection on surgical outcome and to allow the patient to be re-admitted to Green Pathway (if required).
- Trusts should review opportunities to share facilities across networks where appropriate, to support the management of COVID-19/non-COVID-19 flows.
- Where there are difficulties establishing a separate the Green Pathway, Trusts should conduct a risk assessment of local arrangements, and work with NHSE/I and CCG commissioners to agree an acceptable approach, including consideration of the use of other hospitals, including the independent sector or partnering with a neighbouring Trust/network. The risk assessment should consider:
  - the risks to patients and staff associated with the potential for COVID-19 infection;
  - the risks of diverting patients away from the usual pathway, particularly if this results in loss of the multidisciplinary expertise (eg interventional radiology, ITU etc) at the vascular hub; and
  - the impact on interdependent services.
- In light of public concerns about attending hospitals, Trusts should give assurances to patients, where possible, in relation to local arrangements and their safety.
- A regular and effective Multidisciplinary Team (MDT) meeting (virtual, face to face or composite of both) remains key to delivering safe open and endovascular surgery.
- Clinicians should consider the risk profile of each individual patient and prioritise accordingly.
- Long procedures – for operations expected to last longer than 2 hours we recommended that there should be 2 surgeons present as surgery is very onerous in full PPE (see 3.5 below).
- Segregation of clinical teams into Green and Blue should be considered, for instance a Green surgeon doing elective surgery ideally should not be on call for emergencies. Regular staff COVID-19 testing would also be required.
- Trusts should recognise the importance of training and ensure that opportunities for training are monitored and maintained.
- Rapid completion of the NVR datasets gives contemporaneous outcome information.
- Consider inclusion in COVID-19 research studies such as the COVER Study<sup>5</sup> run by VERN (Vascular and Endovascular Research Network) a trainee led collaborative, supported by the Vascular Society. This is collecting prospective observational data as part of a multi-national research project. To date there are over 816 operations on record with longitudinal follow-up (Tier 2). In addition, 340 patients are part of a decision-making study (Tier 3).

## 3.2 Outpatients

- Consider the use and further development of technology to support remote consultation and ensure there is appropriate up to date IT to support this activity.
- Where patients must attend for face to face appointment, vascular out-patient clinics should be one-stop wherever possible, attended by vascular technologists with appropriate scanning technology. It is imperative that appropriate PPE is available for all staff, and guidelines for use are followed by all staff.
- Consider whether outpatient facilities could be located in separate Green areas, where possible. Follow national and regional guidance on managing the clinic/surgery environment to promote effective infection prevention and control by reducing waiting, enforcing social distancing and enhanced cleaning.

## 3.3 Testing protocol for COVID-19

- Patients should be tested according to national and regional guidance.
- Local testing capacity continues to vary by region. This will need to be factored in to local plans for service restoration.

## 3.4 Radiology

- Close liaison with the interventional radiology team is a key component to delivering safe and timely minimally invasive interventional care.
- Trusts should review their radiology arrangements in relation to Blue and Green Pathways to ensure minimum risk of COVID-19.
- Angioplasty patients should be treated as day cases as often as possible to minimise the number and duration of admissions.

## 3.5 PPE

- Current Guidelines suggest only full PPE for high speed drills and saws. The Vascular Society supports full PPE for all positive or suspected COVID-19 positive patients, particularly when there is a strong likelihood of high-pressure blood loss<sup>6</sup>. There should be availability of full PPE at the surgeon's discretion for the entire scrub team.

## 3.6 Audit data

- Early unpublished data from the NVR, covering the period 24/2 – 21/5, suggests that outcomes in COVID-19 positive patients may be markedly less good than normal. Formal analysis of this data is underway, but in the meantime, surgeons should take this into account in weighing the risks and benefits of major surgery.

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# 4. Aneurysm surgery

## 4.1 AAA Screening

- The NAAASP has currently suspended AAA screening, but is planning for a re-start shortly. PHE, NHSE and commissioners are working on restarting the NAAASP restarting and is due to be published shortly.
- It is likely that when AAA screening re-starts the patients already on the surveillance programme should be dealt with first before starting to screen new patients.

## 4.2 Thresholds

- The threshold for intervention for screen detected patients remains at 5.5cm with the same 2-week and 8-week targets, but with exception reporting and the ability to defer surgery until it is deemed safe.
- The risk benefit balance has temporarily changed and is suggesting an increase in the threshold for elective surgery to 7cms. This should revert back to 5.5cm incrementally as the systems begin to cope better with the CV19 crisis.
- Currently the Vascular Society considers that aneurysms measuring 5.5-6cm can be delayed for up to 12 months and those 6-7cm for 6 months.
- The timing of any changes to aneurysm threshold locally should take account of available resources and the resilience of the Green Pathway.

## 4.3 Infra-renal aneurysms

### 4.3.1 Elective

- Planned surgery (open and EVAR) should follow a Green Pathway, supported by agreed national pre-op testing protocols.
- The use of a hybrid theatre gives more flexibility for different treatment options and potentially better outcomes. As many services have only one hybrid theatre, use for both elective and urgent cases is challenging. Trusts should review vascular access to hybrid theatres for both emergency and planned treatment to determine how Green and Blue pathways might be maintained. Appropriate decontamination times and procedures will be required.

### 4.3.2 Emergency (ruptured)

- Currently there are no emergency Green Pathways in place, so patients should be treated on a Blue Pathway with appropriate infection management and control.
- EVAR for ruptured AAA remains the procedure of choice where the anatomy permits, and local facilities exist.
- Open surgery on a blue pathway carries a higher than usual risk for patients but may be the only option.
- Trusts should continue to review their outcome data for both elective and emergency open surgery.

## 4.4 Complex Aneurysms

- Complex aneurysms will require specialised Green Pathways. Currently very few complex aneurysms are being treated.

## 4.5 AAA - Proposed Metrics

- Number of cases
  - Length of stay
  - CV19 status on discharge
  - Time in ITU/HDU
  - 30 day mortality and emergency readmissions
  - 90 day mortality and emergency readmissions
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## 5. Carotid Endarterectomy

### 5.1 Carotid endarterectomy - pathway

- Carotid endarterectomies should be treated as urgent planned but not emergency.
- Assessing the urgency of surgery must balance the inherent risk of stroke with risk of delay of surgery. During the peak of the CV19 crisis, the risk of open surgery (CEA) was deemed too high and best medical therapy was considered safest. The balance of risk has changed and CEA within two weeks is recommended.

### 5.2 Carotid endarterectomy – proposed metrics

- Number of cases
  - Time from presentation to surgery
  - COVID-19 status on discharge
  - Length of stay in hospital including HDU/ITU
  - 30-day review of mortality, stroke rate and emergency readmission
  - 90-day review of mortality, stroke rate and emergency readmission
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## 6. Peripheral Vascular Disease

### 6.1 Peripheral Vascular Disease - pathway

- One-stop hot foot clinics (ideally daily and at least every two days) should continue to be available.
- Diabetic foot / hot foot MDTs should continue to meet.
- Appropriate risk stratification into Green (unlikely) and Blue areas needs to be considered. Geographical, rather than temporal separation is recommended – but may not be possible in all units.

### 6.2 Peripheral Vascular Disease – proposed metrics

- Number of angioplasties
- Number of open reconstruction procedures
- Number of major amputations
- Length of stay
- Length of stay in ITU/HDU
- Mortality at 30 days and 90 days
- Emergency readmissions at 30 days and 90 days

## References:

- <sup>1</sup> COVID-19 virus and vascular surgery, Vascular Society, 20 March 2020. Available at: [https://www.vascularsociety.org.uk/professionals/news/113/covid19\\_virus\\_and\\_vascular\\_surgery](https://www.vascularsociety.org.uk/professionals/news/113/covid19_virus_and_vascular_surgery)
- <sup>2</sup> Mortality and pulmonary complications in patients undergoing surgery with perioperative SARS-CoV-2 infection: an international cohort study COVIDSurg Collaborative May 29, 2020 Available at: <https://www.thelancet.com/action/showPdf?pii=S0140-6736%2820%2931182-X>
- <sup>3</sup> Resumption of less urgent and elective (endo-) vascular surgery, Vascular Society, 29th April 2020 Available here: [https://www.vascularsociety.org.uk/\\_userfiles/pages/files/Newsletters/2020/V5%20Resumption%20of%20elective%20vascular%20surgery%20MJB-CI%2030\\_04\\_20%20\\_002\\_.pdf](https://www.vascularsociety.org.uk/_userfiles/pages/files/Newsletters/2020/V5%20Resumption%20of%20elective%20vascular%20surgery%20MJB-CI%2030_04_20%20_002_.pdf)
- <sup>4</sup> Operating framework for urgent and planned services in hospital settings during COVID-19, NHS England, Version 1, 14 May 2020. Available here: <https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/05/Operating-framework-for-urgent-and-planned-services-within-hospitals.pdf>
- <sup>5</sup> COVER study, UK Vascular and Endovascular Research Network Available here: <https://vascular-research.net/projects/cover-study-covid-19-vascular-service-study/>
- <sup>6</sup> COVID-19 virus and vascular surgery, Vascular Society, 27th March 2020. Available at: [https://www.vascularsociety.org.uk/\\_userfiles/pages/files/Newsletters/2020/Presidents%20update%2027\\_03\\_20.pdf](https://www.vascularsociety.org.uk/_userfiles/pages/files/Newsletters/2020/Presidents%20update%2027_03_20.pdf)

## Note:

The National Joint Vascular Implementation Board was established in 2018 to provide a forum for joint working to ensure that vascular services in England meet the requirements of the national service specification, and the recommendations of the GIRFT National Report: Vascular Surgery (March 2018). The Programme Board is jointly chaired by Professor Michael Horrocks, GIRFT national clinical lead and Dr Michael Gregory, NHS England clinical lead for Action On Vascular.

Membership includes representatives from GIRFT, NHS England (including the Clinical Reference Group), specialist societies: VS, BSIR, VASGBI, SVT, and SVN; and patient and public representation.