

# Framework for improving the results of elective AAA repair 2011

**Aim: To halve the elective mortality rate for AAA surgery in the UK (to 3.5%) by 2014**

In 2009, the Vascular Society of Great Britain and Ireland published a framework for quality improvement in elective AAA surgery. This accompanied the Provision of Services to Patients with Vascular Disease 2009 document and together these were designed to aid surgeons who may need to introduce changes to their vascular practice.

A more detailed version of the framework was published on the VSGBI website - [www.vascularsociety.org.uk](http://www.vascularsociety.org.uk) with a review date of 2011

Since 2009, the delivery of service to patients with vascular disease has changed significantly. A programme of service re-organisation is in progress and has been driven by countrywide regional service reviews, the publication of volume outcome data, the introduction of the European Working Time Regulation, the establishment of the NHS Abdominal Aortic Aneurysm Screening Programme (NAAASP) and the continued progress towards specialty status for Vascular Surgery. This document reflects the updated 2011 framework and was approved by the Council of the Vascular Society in September 2011. The details of the framework are due for further review in 2013.

## The 2011 framework

### Preoperative

- All patients should undergo standard preoperative assessment and risk scoring, including cardiac, respiratory, renal, diabetes, peripheral vascular disease, as well as CT angiography to determine their suitability for EVAR<sup>1</sup>.
- Each hospital should have defined pathways for the correction of significant medical risks (cardiology/renal/respiratory) before intervention.
- All patients should be seen in preassessment by an anaesthetist with experience in elective vascular anaesthesia. At this stage, medication should be reviewed and optimised for the intervention<sup>2</sup>.
- All elective procedures should be reviewed preoperatively in an MDT that includes surgeon(s) and radiologist(s) as a minimum. Ideally, a vascular anaesthetist should also be involved to consider fitness issues that may affect whether open repair or EVAR is offered. Facility to offer both procedures should be available either in house, or by referral through an agreed pathway.

### Operation

- Interventions should be undertaken (or supervised) by consultant surgeon/radiologist/anaesthetist with training and expertise in elective vascular procedures and a routine clinical practice in this specialty.
- Open AAA repair should include the following components: normothermia, cell salvage, rapid infuser, easy access to blood products (within 1 hour) and availability of haemostatic agents including glue<sup>3</sup>.
- EVAR should only be undertaken in a sterile environment of theatre standard, with optimal imaging facilities. A range of rescue stents and devices should be immediately available, together with the expertise to deploy them<sup>4</sup>.



## Facilities

Elective AAA repair should only be undertaken in hospitals where:

- There is a 24/7 on-site vascular on call rota for vascular emergencies of 1:6 or greater, covered by consultant vascular surgeons and interventional radiologists, to ensure adequate postoperative care<sup>5</sup>.
- There is a 24/7 critical care facility with ability to undertake mechanical ventilation and renal support, and with 24 hour on-site anaesthetic cover<sup>5</sup>.
- Wards for dedicated vascular patients should be available with the provision for single sex cubicles or bays.
- At least one endovascular theatre or theatre specification interventional radiology suite is required, preferably with a fixed C arm and a dedicated X-ray table.
- A minimum number of AAA procedures are undertaken. It is recommended that hospitals undertaking fewer than 33 elective AAA interventions per year (100 over three years) should not continue to offer these procedures<sup>6</sup>.
- Hospitals should know their AAA mortality and should seek to validate both national audit and Trust data. They should be able to demonstrate safe practice.
- Units with mortality rates for elective repair of 6% or greater should seek external professional review of their care processes<sup>7</sup>.
- An on-site vascular laboratory should be available.
- Specialists undertaking aortic intervention should submit all their procedures to the National Vascular Database, and undertake regular review of their practice and outcomes (morbidity and mortality meetings).

Data supporting the framework can be found in the Provision of Services to Patients with Vascular Disease (POVS) 2012, which is published on the VSGBI website: [www.vascularsociety.org.uk](http://www.vascularsociety.org.uk)

## Footnotes

- (1) Specific recommendations for preoperative investigations and risk scoring will become available after investigation by the VS Audit and Quality Improvement Committee.
- (2) Recommendations concerning perioperative medication are available via the Vascular Anaesthesia Society: <http://www.vasgbi.com/>
- (3) Recommendations on the management of major haemorrhage have been published by NICE; <http://www.nice.org.uk>
- (4) Details concerning equipment requirements have been published by the Joint MRHA/VSGBI working Group and can be found at: [www.mhra.gov.uk/Publications/Safetyguidance/Otherdevicesafetyguidance/CON105763](http://www.mhra.gov.uk/Publications/Safetyguidance/Otherdevicesafetyguidance/CON105763)
- (5) Cover may be provided within a centralised service or from a designated arterial hospital as part of a modern vascular network. Centres without 24/7 vascular cover should make immediate arrangements to transfer their elective and emergency arterial services to a local large volume arterial hospital.
- (6) Hospitals who undertook fewer than 100 procedures in 2008-2011 inclusive should move their elective aortic interventions to the nearest major vascular centre. This is because it will never be possible to prove 'evidence of safety' for their aortic procedures. It should be noted that this recommendation is made with the knowledge of a known volume-outcome relationship for AAA repair. In the future, outcome modelling is likely to result in the recommended volume of procedures being higher (evidence from North America suggests the minimum number of procedures per annum should be nearer 50).
- (7) 6% is the achievable standard set by the NHS Abdominal Aortic Aneurysm Screening Programme. The standards document can be accessed at <http://aaa.screening.nhs.uk/quality>

Vascular teams that cannot meet the requirements of the above framework should engage actively with service managers and commissioners to effect the changes required to develop safe and effective services that meet the local needs of their patients with vascular diseases.