Department of Vascular Surgery - Guideline for pre-anaesthetic work-up by surgical residents and interns

Introduction:

The Department of Anaesthesia and Acute Pain Medicine can provide important guidance on the perioperative care of your patients. In addition to providing anaesthesia, we have specific expertise in:

- assessing perioperative risk
- optimisation of medical conditions prior to surgery
- planning post-operative care including acute pain management

The Department of Anaesthesia and Acute Pain Medicine is able to offer the following services in order to help with appropriate pre-anaesthetic work-up and optimisation of your surgical patients:

- Review in PAC-Anaesthesia for elective surgical patients (often possible at short-notice)
- Review on the ward for in-patients or urgent cases
- Contribution to and presentation at case-conferences or MDM's
- Phone advice where appropriate
- Review of notes and telehealth-consult with patient (especially for country patients) to help work out the best course of action

Below is a guide for pre-anaesthetic work-up for patients having vascular surgery. It should be used to help guide the following situations:

- When to refer to PAC-Anaesthesia
- When to notify the Vascular Surgery Clinical Lead Anaesthetist (Dr Des McGlade, contactable via switch) or the Anaesthetist In-Charge (14471) if a patient is scheduled for surgery
- What investigations to order pre-operatively (that are in addition to the investigations required by the surgical unit)

    - Basic blood tests, including FBE, U&E and a valid Gp & hold may be indicated depending on the nature of the procedure and patient factors. They are not considered here.
- When to book an HDU/ICU bed

This is intended to be a guide only, and not all patients or operations will fit neatly in to this approach. The Anaesthetic Department is always available to offer advice and help on 4471.

Referral Guidelines:

Low-risk Operations:

- Lower- limb angiogram procedures
- Measuring aortic angiograms
- AV fistula formation
- Amputations of the toes and feet

Patients having low-risk operations should not have complex pre-operative investigations. They are unlikely to need referral to PAC-Anaesthesia.

Intermediate-risk procedures:

- Endovascular aortic aneurysm repair (straightforward aneurysm)
- Open infra-inguinal operations including fem-pop bypass and femoral end-arterectomy
- Above-knee and below-knee amputations
- Carotid endarterectomy

Patients having intermediate-risk operations may potentially need referral to PAC-Anaesthesia, complex pre-operative investigations or an HDU bed post-operatively. Examples of this include:

- Patients with confirmed or likely significant cardiac disease, in particular moderate or severe aortic stenosis, moderate or severe pulmonary hypertension, symptomatic cardiac failure or symptomatic or unstable ischaemic heart disease
- BMI > 50
- Patients unable to achieve 4 METS (eg. Climb a flight of stairs)

Patients who fit in to any of these categories should be treated as for “high-risk operations” below.

High-risk operations:

- Open aortic surgery
- Complex endovascular procedures on the aorta including fenestrated grafts and TEVAR (not straightforward EVAR)

All patients having high-risk operations should be referred to PAC-Anaesthesia. If the patient is from the country and there are issues with travel, then please try and refer to PAC-Anaesthesia on the same day, or discuss with the Anaesthesia Department to see if other arrangements are possible.

These patients may also need an HDU bed booked. Below is a guide to investigations that may be appropriate (adapted from Up to Date).

Investigations:

- ECG
    - indicated only for patients > 60 years old and those with cardiac disease, peripheral vascular disease, cerebrovascular disease and/or vascular risk factors (all of these are clearly common in this surgical group)
- CXR
    - rarely indicated and should not be routine; occasionally useful if there is clinical suspicion of undiagnosed respiratory disease; not useful for assessing severity of CCF or COPD, or for predicting the risk of post-operative respiratory failure
- TTE
    - Indicated if the patient has had an abnormal TTE or confirmed cardiac disease (eg cardiac failure, pulmonary hypertension, aortic stenosis) and no TTE in the last 2 years
    - May also be indicated if the patient has undiagnosed shortness of breath or clinical evidence of undiagnosed cardiac disease (eg a new murmur, new atrial fibrillation, signs of cardiac failure)
- Spirometry
    - Not useful for risk stratification
    - Unlikely to be useful in patients who already have a diagnosis of COPD or other respiratory disease
    - Occasionally useful for assessing response to treatment or diagnosing the cause of dysponea
- Non-invasive cardiac stress tests (dobutamine stress-echo or thallium stress test)
    - May be considered if the patient has symptoms suggestive of myocardial ischaemia, especially if pre-operative revascularisation (CABG or PCI) could be considered; May also be indicated if the patient cannot achieve 4 METS and is having intermediate or high risk surgery
    - If you are considering ordering a non-invasive cardiac stress test based on clinical suspicion then please also discuss these patients with the anaesthetist doing the list (via ext 14471) or the Vascular Surgery Clinical Lead Anaesthetist (Dr Des McGlade, contactable via switch). A perioperative physician or cardiologist will also need to be involved to ensure appropriate follow-up of the test result.

Other situations in which referral to PAC-Anaesthesia or discussion with the anaesthetic department will be useful:

- Past-history of anaesthetic complication/difficulty
- Severe chronic pain or opiate tolerance
- Severe liver or renal disease

ICU/HDU beds:

- Elective vascular surgery patients may require an ICU or HDU bed
- HDU/ICU beds will routinely be required for open aortic surgery and where there are complex surgical issues such as concern about spinal cord ischaemia
- Other cases will need to be discussed on a patient by patient basis

Mandatory referral to PAC-Anaesthesia:

- Open aortic surgery
- Complex endovascular procedures on the aorta including fenestrated grafts and TEVAR