Department of Orthopaedic Surgery - Guidelines for pre-anaesthetic work-up by surgical residents and interns for patients having arthroplasty surgery

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 and discharge medications

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
- Advice about management of anticoagulation and antiplatelet therapy in the perioperative period

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

- When to refer to PAC-Anaesthesia
- When to notify the Orthopaedic Surgery Clinical Lead Anaesthetist (Dr Will Watson, 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)

    - All arthroplasty patients need a valid Gp & Hold, and a Hb and Cr result that is less than 3 months old
- 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.

Referral Guidelines:

The following patients usually need referral to PAC-Anaesthesia or discussion with an anaesthetist in advance:

- 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)

As a general principle, if a patient has been seen in PAC-Anaesthesia clinic within the last 2 years and their medical status is stable, and they are returning for a 2nd joint replacement following an uneventful first surgery, then they are unlikely to need to be seen in PAC-Anaesthesia again.

Patients with anaemia detected preoperatively should be appropriately investigated and managed before joint replacement surgery. Fe-deficiency anaemia should be treated with an iron infusion, and a repeat FBE done at 4 weeks to confirm response. This can be done via referral to the Perioperative Medicine Clinic. Some patients may need further investigation such as endoscopy. The National Blood Authority have published guidelines about investigation and management of anaemia in the pre-operative period (https://www.blood.gov.au/pbm-module-2), and these should be followed. *Patients with untreated and unexplained anaemia should not be having elective arthroplasty surgery*.

Investigations:

Below is a guide to investigations that may be appropriate (adapted from Up to Date):

- ECG
    - indicated only for patients > 60 years old and those with cardiac disease, peripheral vascular disease, cerebrovascular disease and/or vascular risk factors
- 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
- 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
    - Should not be routine
- 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, clinical suspicion of cardiac failure)
- 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
    - 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 Orthopaedic Surgery Clinical Lead Anaesthetist. A cardiologist or perioperative physician will also need to be involved to ensure that appropriate follow-up occurs.

Other situations:

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 disease
- Significant pre-operative malnutrition or anaemia

ICU/HDU beds:

- Arthroplasty patients rarely require an HDU bed