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

(Information for the Maxillofacial Surgery unit is also provided here)

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 phone-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 elective plastic surgery. It should be used to help guide the following situations:

- When to refer to PAC-Anaesthesia
- When to notify the Plastic Surgery Clinical Lead Anaesthetist (Dr Mae Yap) 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)
 - o Basic blood tests, including FBE, U&E and 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

All patients having free-flap surgery to the head and neck, or airway, should be referred to PAC-Anaesthesia.

The information below 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:

Low-risk and Intermediate-risk Operations:

- Hand and wrist surgery
- Superficial surgery

Patients having low-risk or intermediate-risk operations rarely need referral to PAC-Anaesthesia, complex pre-operative investigations or an HDU bed. Exceptions to this include:

- Patients with severe and unstable cardiac disease, in particular severe aortic stenosis, moderate or severe pulmonary hypertension, symptomatic cardiac failure or symptomatic or unstable ischaemic heart disease
- 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 “intermediate and higher-risk operations” below.

Intermediate and higher-risk operations:

- Free-flap surgery
- Other complex and prolonged procedures
- Complex procedures involving airway/head and neck

Patients having intermediate and higher-risk operations are more likely to need pre-anaesthetic investigation and/or review in PAC-Anaesthesia. They may also need an HDU bed booked, although this is rare. Below is a guide to investigations that may be appropriate (adapted from Up to Date).

Investigations:

- ECG
 - o indicated only for patients > 60 years old and those with cardiac disease, peripheral vascular disease, cerebrovascular disease and/or vascular risk factors
- CXR
 - o 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
 - o 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
 - o 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
 - o Not useful for risk stratification
 - o Unlikely to be useful in patients who already have a diagnosis of COPD or other respiratory disease
 - o Occasionally useful for assessing response to treatment or diagnosing the cause of dyspnea
- Non-invasive cardiac stress tests (dobutamine stress-echo or thallium stress test)
 - o 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
 - o 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 Plastic Surgery Clinical Lead Anaesthetist. A cardiologist or perioperative physician will also need to be involved to ensure appropriate follow-up.

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 or renal disease
- Significant pre-operative malnutrition or anaemia

ICU/HDU beds:

- Elective Plastic Surgery patients rarely require an ICU or HDU bed unless there are specific patient factors

Major MaxilloFacial Surgery

Prosthetic Temporomandibular Joint (TMJ) Replacement:

St Vincent's has recently started performing TMJ replacement surgery with 3D printed prosthesis specifically crafted for each patient. They are long surgeries taking up to 3 hours per side. This means a bilateral TMJ replacement will take 6-7 hours. These patients will most likely have chronic and debilitating TMJ pain and dysfunction. All pain medication should be continued peri-operatively. Any issues with airway management can be assessed on the day by the treating anaesthetist. It is however appropriate to discuss any patients with chronic or complex pain with the anaesthetist in advance.

Bi-maxillary Osteotomy:

These are large elective surgeries performed on almost exclusively young fit well patients. It is common for patients under 18 years of age to present for this surgery. The mid-face is fractured and repositioned, with surgery lasting 3-4 hours and is associated with 500-750ml of blood loss on average. Hospital policy states all minors are to be reviewed by anaesthesia however this is not always practical or possible. In the absence of any co-morbidity, it is appropriate to advise the treating anaesthetist they will have a minor on their list.

Bi-Sagittal Split Osteotomy (BSSO):

BSSO is an elective procedure performed on young fit patients either as a standalone procedure or in combination with a bi-maxillary osteotomy to realign jaw occlusion. Surgery lasts approx. 90 mins. In patients less than 18 years of age, as with bimaxillary osteotomy cases in the absence of any co-morbidity it is safe to proceed after advising the treating anaesthetist for that list.

Minor / Intermediate Maxillofacial Surgery

TMJ arthroscopy

TMJ discectomy + fat pad graft

Removal of arch bars