Upper GI Surgery Unit - Guideline for pre-anaesthetic work-up by surgical residents and interns for patients having upper GI 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

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

- When to refer to PAC-Anaesthesia
- When to notify the Upper GI Surgery Clinical Lead Anaesthetist (Dr Gabe Snyder, contactable via switch, or Dr Steven McGuigan) or the Anaesthetist In-Charge (4471) 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 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.

Referral Guidelines:

Low-risk and Intermediate-risk Operations:

- Lap chole
- Other straightforward laparoscopic procedures including hiatus hernia repair, Roux-en-Y and gastric sleeve or partial gastrectomy
- Most hernia repairs
- ERCP
- Gastroscopy including insertion of oesophageal stent and other procedures

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 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 (with the exception of patients having bariatric surgery – see below)
- Patients unable to achieve 4 METS (eg. Climb a flight of stairs) or who have a DASI score < 34

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

- Patients having bariatric surgery (lap sleeve or lap roux-en-Y,f or revision-type surgery including removal of lap band) do **not need referral to PAC-Anaesthesia** unless they have very clear or specific anaesthetic-related issues such as a past history of major anaesthesia complications. **Specifically they do not need to be referred to PAC-Anaesthesia based on having a high BMI**. These patients will be seen in PMU clinic, and the PMU physicians will refer patients to PAC-Anaesthesia on an as needs basis.

High-risk operations:

- Major open upper GI resections including Whipple's, gastrectomy and biliary bypass
- Liver resection, unless a small resection in a healthy patient
- Surgery for phaeochromocytoma
- Oesophagectomy
- Revision surgery – eg. Revision fundoplication, very large and complicated hernias

Patients having higher-risk operations are also more likely to need pre-anaesthetic investigation. They 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
- CXR
  - A CXR may form part of the surgical work-up, however it is not generally useful from an anaesthetic perspective
  - should not be routine
  - 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 above and beyond clinical assessment
- 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 above and beyond clinical assessment
  - 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 dyspnoea
  - Should not be routine
- Non-invasive cardiac stress tests (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 4471) or the Upper GI Surgery Clinical Lead Anaesthetist. 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 disease
- Significant pre-operative malnutrition or anaemia

Mandatory referral to PAC-Anaesthesia:

- Major open upper GI resections including Whipple's, gastrectomy and biliary bypass
- Liver resection, unless a small resection in a healthy patient
- Surgery for phaeochromocytoma
- Oesophagectomy

Country patients:

If the patients live in the country and travel is difficult then either please request a PAC-Anaesthesia review on the same day as surgical PAC, or discuss with the Clinical Lead to see if alternative plans can be made (eg telehealth consult). We can often see patients at short notice. If you are planning day of surgery admission for major surgery, then we need to be made aware of the patients ahead of time so that we can facilitate efficient care on the day and get the patient ready for an on-time surgical start.

Oesophagectomy patients:

- These patients must all come to PAC-Anaesthesia; alternatively an anaesthesia review can be organised if they are in-patients (eg having a diagnostic laparoscopy) or if they attend for neoadjuvant treatment
- These patients will participate in a Prehabilitation program which will be co-ordinated via the surgical liaison and cancer nurses
- These patients all need a TTE that is less than 1 year old

- We have a low threshold for lung function tests in these patients – they are indicated in all patients unless they have excellent functional capacity (eg can climb 2 flights of stairs without shortness of breath) and have never smoked
- Patients planned for oesophagectomy may occasionally benefit from pre-operative cardiopulmonary exercise testing (CPET). These patients may also be given a pre-operative exercise program to improve physical fitness. This should be organised by contacting the clinical lead (Gabe Snyder)

ICU/HDU beds:

- The following procedures need ICU or HDU
    - Open liver resections (unless very small resections in healthy patients)
    - Whipple's procedure or other major open hepatobiliary procedures
    - Surgery for phaeochromocytoma
    - Oesophagectomy
    - Open gastrectomy
- Other cases will need to be discussed on an individual basis
- In general, ICU do not consider obesity and OSA and indication for post-operative ICU unless there are other specific issues – this is particularly relevant for your bariatric surgical patients