Pre-Admission Clinic (PAC) [Guide for Junior Medical Officers]

Version 1. 13/3/21 Draft by Staff Anaesthetists: Dr Sarah Lee & Dr Sue Chew

The purpose of this document is to provide JMOs with assistance in making appropriate referral to anaesthetics for pre-operative evaluation of patients awaiting elective procedures.

Patients may need to be referred to anaesthetics for discussion due to:

1. **High risk surgery (*Appendix 2*) that is complex and requires further planning including postoperative destination e.g. HDU/ICU referral**
2. **Complex patients *(Appendix 1)* with multiple or unstable medical conditions that require further optimisation and discussion regarding their fitness for surgery**
    a. It would be good to read through the patient's notes on CPF and summarize the patient's comorbidities and stability as documented by the various medical subspecialties looking after them
    b. It would also be important to look up the latest investigations e.g. blood investigation, ECG, transthoracic echocardiogram, angiogram, respiratory function tests, CPET or other imaging results.
3. **Specific anaesthetic issues e.g. previous problems encountered with past anaesthesia experience** *(Anaphylaxis under anaesthesia, known difficult airway, previous major neck or airway surgery, radiotherapy treatment near airway, family history of anaesthesia issues e.g. Malignant hyperthermia/Suxamethonium Apnoea)*
    a. Look at EMR (under "documentation" tab) for previous anaesthesia encounters. If the patient has been seen in PAC-Anaesthesia or had major surgery in the hospital in the last 2 years AND has remained medically stable during this time, they may not need to be seen by the anaesthetist again unless specific anaesthesia related issues e.g. Malignant Hyperthermia. However, we will always be more than happy to help you with any concerns/questions you may have.
4. **Specific discussion about the patient's perioperative risk**
    a. Subjective assessment of functional capacity does not correlate well with major morbidity or mortality post elective non-cardiac surgery and hence other validated tools such as the **NSQIP Surgical Risk Calculator** may be used to estimate perioperative risk.
    b. The Duke Activity Scale Index is also good for objectively estimating a patient's functional status. https://www.mdcalc.com/duke-activity-status-index-dasi
    - subjectively assessed preoperative functional capacity did NOT accurately identify patients with poor cardiopulmonary fitness or predict postoperative morbidity or mortality.
    - DASI score of <34 has been associated with an increased risk of 30-day death, myocardial infarction and moderate to severe complications.

It would be useful to use this NSQIP Calculator for all your patients. When having the discussion with the anaesthetist, it would also help them have a better idea on the risk estimated for the particular patient.
https://riskcalculator.facs.org/RiskCalculator/PatientInfo.jsp

5. **Patients where surgical pathology has significant haemodynamic or other effects** – e.g. SVC obstruction, tracheal compression, anterior mediastinal mass

6. **Management of postoperative pain in patients with complex or chronic pain**
    a. The Anaesthetist may advice you to refer the patient directly to the APS team (APS reg: 0435 603 844; APS nurse: 0477 321 237).

Appendix 1 (Guide to High-Risk Patients)

Systems Review	Condition
Cardiac	Ischaemic Heart Disease - NSTEMI/STEMI in the last year - Unstable angina - All patients with stents DASI score <34 Valvular lesions e.g. Aortic Stenosis - Including patients who have had Valve replacements/TAVI Congestive Cardiac Failure (CCF) (poorly controlled/current/recent admission for this) Arrhythmias e.g. New Atrial Fibrillation or current AF with rate >100, SVT, etc - Take note if patients have had history of presyncope/syncopal episodes associated with palpitations that have not been worked up Presence/Reliance of PPM/AICD Cardiomyopathy (Dilated, Hypertrophic Cardiomyopathy, Ischaemic, Restrictive, Arrhythmogenic RV cardiomyopathy, others) Pulmonary Hypertension especially if moderate (mPAP 41-55 mmHg) or severe (mPAP>55 mmHg) Congenital Cardiac disease (Unrepaired/repaired/palliated) Prolonged QT syndrome May also be indicated if patient has undiagnosed shortness of breath or clinical evidence of undiagnosed cardiac disease e.g. new AF, signs of CCF, new murmur Peripheral Vascular Disease with clinical features of underlying coronary artery disease (e.g. anginal symptoms, dyspnoea, risk factors such as diabetes, smoking, hypertension & hyperlipidaemia)
Respiratory	Asthma - Brittle/poorly controlled (wide variation of Peak Expiratory Flow, in spite of large doses of steroids); - Multiple asthmatic flares requiring hospital/ICU admissions or intubation previously Chronic Obstructive Airway Disease (COAD) - Moderate to severe/poorly managed - On Long term steroids OR Home Oxygen - Frequent admission to hospital for exacerbations Myasthenia Gravis Cystic Fibrosis Obstructive Sleep Apnoea - Moderate/Severe - Good to find out if patient is compliant with CPAP (if warranted) - Ensure that patient brings CPAP machine especially if staying overnight/multi-day admission.

	- Use the STOPBANG score if patient has underlying symptoms suggestive of OSA: https://www.mdcalc.com/stop-bang-score-obstructive-sleep-apnea Previous Pneumonectomy Any patient who has undiagnosed shortness of breath on exertion e.g. cannot climb flight of stairs when previously could (could also be cardiac related)
Endocrine/Metabolic	Severe Liver disease Carcinoid syndrome Phaeochromocytoma - secreting Significant pre-operative malnutrition e.g. low albumin, low BMI All patients with Insulin Dependent Diabetes Mellitus (Type I/II) Poorly controlled diabetes mellitus (Type I or II) HbA1C >9% - Patients on combination SGLT-2 with poor glycaemic control (may need to refer to endocrinology for outpatient optimisation) Renal patients on dialysis may have other complex comorbidities and depending on surgical risk may need an anaesthetic assessment Adrenal Insufficiency Thyrotoxicosis Porphyria Morbid Obesity (whilst BMI quoted is >50, it might be worthwhile touching base with anaesthetist for anyone with a BMI>40)
Haematology	Haemophilia Anaemia (Hb 130g/L male and <120g/L female) especially if undergoing major, high risk surgery - If anaemic, check ferritin levels - If Ferritin levels <30 mcg/L, patient has iron deficiency anaemia and may require further GI investigations depending on advice from the gastroenterology team. They may also require Fe therapy Thrombocytopenia <100 in surgery with risk of major blood loss e.g. prostatectomy Thalassaemia major Sickle cell disease Recurrent DVT/Pulmonary Embolus Patients declining blood products (e.g. Jehovah's witness) where major blood loss (>500mls) possible
Rheumatology	Ankylosing spondylitis Rheumatoid arthritis/Scleroderma (may affect ease of intubation)/CREST syndrome
Neurology	Multiple sclerosis

	Uncontrolled Epilepsy Cerebrovascular accident <3/12 Myasthenia Gravis Myotonic dystrophy Motor Neurone Disease Muscular dystrophy Cerebral Palsy Paraplegia/Quadriplegia Other neuromuscular conditions
Transplant	Patients with previous Transplant (e.g. Renal, Liver, Lung, Heart)
Others	AGE > 80 Achondroplasia Patients with Down's syndrome/chromosomal syndromes Chronic/complex pain patients e.g. on methadone/chronic high opiate use - OMEDDs>60 - Opioids via alternative delivery systems - SL buprenorphine or ketamine/fentanyl lozenges - Therapeutic cannabis use - On opioid maintenance therapy: methadone/suboxone - With devices e.g. intrathecal pumps, syringe drivers, spinal cord stimulators Active significant ETOH intake (e.g. >10 standard drinks a week and > 4 standard drinks on a daily basis) Active Illicit or non-prescribed drug use
Anaesthetic issues	History of difficult airway/potential difficult airway e.g. Radiotherapy/major ENT surgery involving neck/airway Allergy to anaesthetic agent Personal/Family history of Malignant Hyperthermia

Patients who have been seen in PAC in the last 12 months and whose medical condition has remain unchanged or patients who have had a recent (in the last 12 months) uneventful surgery/anaesthetic MAY not need to go to anaesthetic PAC. Please ask the PAC anaesthetist if referral is required.

Appendix 2 (Guide for High-Risk Surgeries)

Unit	Surgery
Gynaecology	Abdominal/Radical hysterectomy Radical oophorectomy Laparotomy Pelvic exenteration Surgery combined with 2nd surgical unit i.e. colorectal/urology e.g. Gynae-oncology
Colorectal	Complicated bowel resections Abdomino-perineal resection (APR) Other major intra-peritoneal procedures, including cases involving surgeons from other units Laparoscopic assisted colectomy Laparotomy
ENT	Laryngectomy Pharyngectomy Neck dissection Other major head and neck procedures including major head and neck cancer cases Cases involving free-flap reconstruction
General Surgery	Very large open hernia repair Major intra-abdominal procedures, especially those involving retroperitoneal structures Thoracic surgery Bariatric Surgery
Endocrine/Breast	Parathyroid surgery Complex thyroid surgery e.g. if patient has symptomatic tracheal compression or a large retrosternal component Mastectomy Surgery for phaeochromocytoma
Hepatobiliary	Major open upper GI resections including Whipple's, gastrectomy and biliary bypass Liver Resection Oesophagectomy Nissen Fundoplication for hiatus hernia repair Revision surgery e.g. revision fundoplication
Plastics	Free-flap surgery

	Complex and prolonged procedures Complex procedures involving airway/head and neck
Urology	Nephrectomy Cystectomy Other major intra-peritoneal or retro-peritoneal procedures Prostatectomy (open/laparoscopic)
Vascular	Intermediate risk procedures May need referral to PAC-Anaesthesia, complex preoperative investigations or an HDU bed post-operatively Intermediate risk: - Endovascular aortic aneurysm repair (straightforward aneurysm) - Open infra-inguinal operations including fem-pop bypass and femoral endarterectomy - Above-knee and below-knee amputations High Risk: - Open aortic surgery - Complex endovascular procedures on the aorta including fenestrated grafts - Carotid endarterectomy
Endoscopy	Endoscopy is generally a low-risk procedure and so referrals to PAC-Anaesthesia are uncommon Very occasionally, it may be useful sending an elective endoscopy patient to PAC-Anaesthesia Clinic when extremes of pathophysiology are present - Unstable or end-stage cardiac or respiratory conditions e.g. Home Oxygen for COPD, Pulmonary HTN - BMI>50

If you are unsure at any time, please approach the anaesthetist at PAC for further advice or call the anaesthetist in charge (if anaesthetist not available at PAC) on 0427 149 373. Please review EMR and CPF for patient history and investigation results.

Appendix 3
What the anaesthetist may want to know about the patients you have referred.
You may not have the information for all these points but they are worth thinking about.

1. **Patients' details**
    a. Age
    b. Comorbidities
        i. Severity of condition
        ii. How medical optimized is the condition?
    c. If patients have multiple comorbidities, are they seeing other specialists for management?
        i. When was their last visit with their medical specialist?
        ii. What did the medical specialist suggest? Are they happy that patient's condition is stable?
        iii. Were there any changes to their medications recently?
        iv. Any investigations suggested by the specialist? Have they been done? What was the results? Any follow ups arranged?
    d. Patients' current medications
        i. Any recent changes?
        ii. Are patients compliant?
        iii. With regards to anticoagulants/antiplatelets, what is the plan from team regarding withholding of these?
        iv. Specific medications of note: Antiplatelet/Anticoagulant therapy, Antiarrhythmic (e.g. digoxin, amiodarone, sotalol or other beta blockers), diuretics, steroids (what dose? How frequently?), SGLT-2 inhibitors, Insulin for poorly controlled DM, Antihypertensives in poorly controlled Hypertension, chronic high dose opiate use
2. **Surgical details**
    a. Operation
    b. Category
    c. Long duration/high risk of major blood loss/major surgery?
    d. Is there a likelihood that postoperative HDU/ICU would be required?
3. **Patient's previous anaesthetic experience if any**
    a. It is reassuring when patients have had previous general anaesthetic experience with no concerns however, depending on the surgery, our airway plans may differ, it is still good information to provide anaesthetists with, we would be most appreciative of such information.
    b. Any particular complications? E.g. known difficult airway, Family history of Malignant Hyperthermia or Suxamethonium Apnoea (these conditions are very rare but potentially life threatening, most patients will volunteer this information if known)
    c. Any specific drug reactions or allergies?
    d. Previous awareness?
    e. Previous difficult IV access?

Other notes

- ***Chronic/Complex pain patients***
  - Oral Morphine Equivalent Daily Dose (OMEDD) is a marker of analgesic potency and it allows comparisons between different opioids in terms of their ability to produce the same analgesia as would be expected from a given dose of morphine.
  - Equianalgesic dose conversion is not an exact science and patient related factors can cause further variability. However, the Faculty of Pain Medicine, Australian and New Zealand College of Anaesthetists (FPM ANZCA) has produced a free opioid calculator app
    - http://www.opioidcalculator.com.au
    - This opioid equianalgesic calculator is also available as a smart phone application in both Apple and Android versions.
  - Studies have shown that high-dose opioids are associated with worse functional outcomes and an increased risk of death.
  - We would encourage you to speak to the PAC anaesthetist for further advice regarding the suitability of making an early APS referral for postoperative pain management in complex patients with:
    - High OMEDD >60
    - History of abuse
    - Any signs of aberrant use
    - Polypharmacy (dangerous combinations of benzodiazepines, opioids etc)
  - Please check the patient's medication history on SafeScript https://www.safescript.vic.gov.au
- ***Patient with language barrier***
  - It may be challenging to arrange for certain interpreters to be present for the day of surgery e.g. Hakka Chin, Balkan language e.g. Albanian (no interpreters normally available). This might be worth arranging in advance if the date of surgery is known.
  - Attendance in PAC with a family member can be extremely useful so as to provide patients with the opportunity to receive information and have relevant discussions with their support person.
- ***Patient with cognitive impairment***
  - Is there an appointed Medical Power of Attorney (MPOA)?
  - Consent issues may arise if patient does not have an appointed MPOA
  - Does the patient have an updated Advanced Care Directive?
- ***Patients with AICD (Automatic Implantable Cardioverter Defibrillator)/PPM***
  - In most patients, a detailed patient information card will be present detailing
    - Type of device and model number
    - Date and Indication for insertion
    - Current settings (Rhythm and functioning, is the patient pacing dependent?)
    - When was the device last checked?
    - What were the results of the recent interrogation of the device?
  - In patients with such device, the main questions we would have, other than those above, would be if the surgery has potential for generation of Electromagnetic interference (EMI), should the mode of the PPM be changed to asynchronous mode of pacing (for the patient who. Is pacing dependent) or if the anti-tachycardia function of the AICD must be suspended (Technician may need to be present on the day to turn this function off for surgery then back on in recovery)

Hotlines
Box Hill

- Acute Pain Service: 0477 321 237
- Anaesthetist in Charge: 0427 149 373 (Dial this number when making referrals for preoperative assessments if patient is on the ward and requiring emergency surgeries)
- Anaesthetic Registrar/Pain Reg: 0435 603 844
- ICU Registrar: 839 68287
- Switch Doctors only: 988 11800

Maroondah

- Anaesthetic Registrar: 99557420
- ICU Registrar: 870 63077

For any other questions, please feel free to email me on sarah.lee@easternhealth.org.au