Cardiothoracic consult guide

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In a hurry? Make sure you know:

- What type of surgery are you asking the surgeons to consider? What is the question?
- How stable is the patient? Are they haemodynamically unstable? Is there evidence of or treatment of persistent ischemia (IV Heparin/GTN), current heart failure (acute/chronic?), or sepsis?
- What is the urgency? Now, today, tomorrow, as an inpatient, as an outpatient?
- When did the patient last have anticoagulation (heparin, warfarin, NOACs) or anti-platelets?
- What are the echo results (Ejection fraction, stenosis or regurgitation of valves)?

What history should JMOs know/collect?

- A detailed summary of the presenting complaint and timing.
- Evidence of persistent symptoms of ischaemia, heart failure or sepsis.
- Cardiovascular history and risk factors.
- When the patient last received anticoagulants (heparin, warfarin, NOACs) or anti-platelets.
- History of other organ dysfunction/pathology (liver/kidney failure; previous stroke or neurological disease; peripheral vascular disease; lung disease; coagulopathy/bleeding history).
- Any reason the patient can't/shouldn't have an operation? E.g. metastatic cancer? Advanced comorbidities?
- Previous surgical history (prior cardiac/thoracic/vascular/major abdominal surgery? – get old op reports).
- Other drug history and allergies – cardiac, others (e.g. steroids / immunomodulators – these can impair healing).

- Anything that might make surgical anatomy different or challenging. E.g. chest wall deformities like pectus excavatum/carinatum, previous irradiation of chest, previous episodes of pericarditis, old tracheostomy wounds.
- Thoracic surgery – detailed cardiovascular history: ischaemic or valvular heart disease will need to be investigated/treated before most non-urgent thoracic surgery).
- Relevant social history – affects discharge destination, sometimes prosthesis choice and need for follow up with other specialties, e.g. dentist, diabetic educator.

What examinations and investigations should JMOs perform/collect results of?

- Clinical status of the patient – current ischaemia/heart failure/sepsis?
- Do a proper, systematic cardiorespiratory examination: auscultate for heart sounds, listen to lung crackles, examine the JVP, look for signs of heart failure, look for clubbing, etc. The surgeon might not ask for specific physical signs, but it will help you put together a picture of the patient in your mind, and you will be surprised how frequently you find important things. E.g. that gangrenous toe that's been festering for 2 years that the patient forgot to mention prior to his MVR!
- Cardiac surgery workup – echo, ECG, CXR, bloods (FBC, UEC, LFT, coags), Group and Hold (rarely a need for crossmatch unless there are antibodies or high risk redo-sternotomy – the CTS registrar should arrange this if necessary), pulmonary function tests (exclude for emergency cases or critical coronary anatomy), Hep B, C, HIV screen; carotid duplex (Unit specific, best to check with CTS registrar – usually >70 years old or previous stroke or cerebrovascular history or carotid bruit).
- Imaging for cardiac cases – echo, coronary angiogram, CT scans: hard copies of images must be available, not just reports.
- Thoracic surgery – bloods, group and hold, spirometry, imaging (at the very least CXR; most often a CT chest WITH contrast or a PET scan – ask the registrar!)

What additional information would impress you?

- Asses conduit for CABG patients: check the leg veins (with patient standing), Allens test, left/right handedness, and bilateral blood pressures (good negative predictive value for subclavian stenosis if <10mmHg difference).
- Anything that might make the conduits unusable or undesirable. E.g. catheterisation via radial artery, lymphedema of limb, previous trauma.
- Obtain old operation reports: particularly for previous cardiac, thoracic or vascular surgery.
- Calculate Euroscore and/or STS score: provides well validated quantitative assessment of operative risk. Both Euroscore and STS score calculators available

online or through an app and pretty easy to use.
- Frailty assessment – is the patient from home/aged care facility? Independence with ADLs? Level of mobility? Cognitive function?
- If for valve replacement: any contra-indications to anticoagulation if patient is planned for mechanical prosthesis?

– What are common mistakes/omissions made by JMOs?

- Failing to notice a NOAC or 2nd anti-platelet – the brand names can make this difficult. It is really important to get this right because of the long half-lives/irreversibility of some of these drugs.
- Focusing on the heart or lungs and forgetting an issue with another major organ system, e.g. renal failure, liver failure or underlying malignancy.
- Failing to gather both the reports and hard copies of images (especially the coronary angiogram!) from peripheral hospitals.
- Forgetting to chase up and arrange follow up of patient's other issues after their operation is done (this should be a team effort between the registrar, JMO and nursing staff), e.g. the dental review that got delayed, the endocrinology appointment, the incidental finding of carotid stenosis that needs to be followed up by a vascular surgeon.

Helpful Resources

Come to theatre – seeing the operation (and the heart/lungs!) helps the work-up make sense! It's also pretty cool...
Want to know what you're looking at on the echo? This great resource explains the views and structures: http://pie.med.utoronto.ca/TTE/TTE_content/standardViews.html
YouTube videos to understand a coronary angiogram (or go to the cath lab and have a look!)
Broad understanding of the indications for surgery for common scenarios, e.g. indications for CABG as opposed to PCI, indications for operative management of infective endocarditis versus medical mx. Lots of good review articles online to help with this.

Tags: #anticoagulation,#cardiac surgery,#cardiothoracic,#consult guide,#coronary angiogram,#ECHO,#heart disease,#junior doctors,#lung disease,#lung surgery,#NOAC,#referral,#renal failure,#requesting a consult,#thoracic surgery