

Cardiovascular Assessment in POAC

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Background to Audit

- Pre-operative assessment clinic
 - Run by House Officers and Nurse Practitioners
- Anaesthetist present every morning
- 99% of elective patients seen in POAC

Aim of Audit

- Examine cardiovascular status of patient population in POAC
- Identify intermediate risk patients
- Ascertain whether there is a need for a direct referral service to Cardiology

Method of Assessment

- American Heart and Cardiology Associations' guidelines
 - Peri-operative cardiovascular evaluation for non-cardiac surgery
- *Circulation*, 1996;93:1278-1317
 - Updated in *Circulation*, 2002;105:1257-1267
- Framework for considering cardiac risk

Guidelines Overview

- Guidelines look at three fields
 - Clinical predictors
 - Functional Capacity
 - Surgery-specific risk
- Coronary revascularisation?
- Coronary evaluation?

Clinical Predictors

- MAJOR:
 - Unstable coronary syndromes
 - Decompensated heart failure
 - Significant arrhythmias
 - Severe valvular disease
- INTERMEDIATE:
 - Mild angina pectoris (class I or II – slight limitations of ordinary physical activity)
 - Previous MI (>1 month) or abnormal Q waves on ECG
 - Compensated or prior heart failure
 - Diabetes Mellitus
 - Renal insufficiency ($\text{Cr} \geq 2\text{mg/dl}$ or $175\mu\text{mol/l}$)
- MINOR:
 - Advanced age
 - Abnormal ECG (LVH/LBBB/ST-T abnormalities or non-sinus rhythm)
 - Hx of stroke
 - Uncontrolled systemic hypertension

Functional Capacity

1 MET

Can you take care of yourself?
Eat, dress, or use the toilet?
Walk indoors around the house?
Walk a block or two on level ground
at 2 to 3 mph or 3.2 to 4.8 km per h?

4 METs

Climb a flight of stairs or walk up a hill?
Walk on level ground at 4 mph or 6.4 km per h?
Run a short distance?

4 METs

Do light work around the house like
dusting or washing dishes?

Do heavy work around the house like scrubbing floors
or lifting or moving heavy furniture?

Participate in moderate recreational activities like golf,
bowling, dancing, doubles tennis, or throwing a
baseball or football?

Greater than 10 METs

Participate in strenuous sports like swimming, singles
tennis, football, basketball, or skiing?

Surgery-Specific Risk

HIGH:

- Aortic/major vascular surgery
- Peripheral vascular surgery
- Anticipated prolonged surgical procedures

INTERMEDIATE:

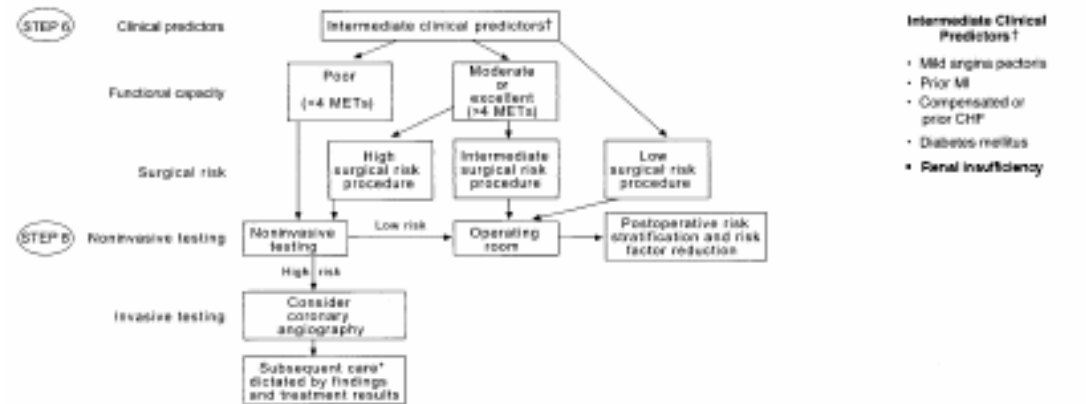
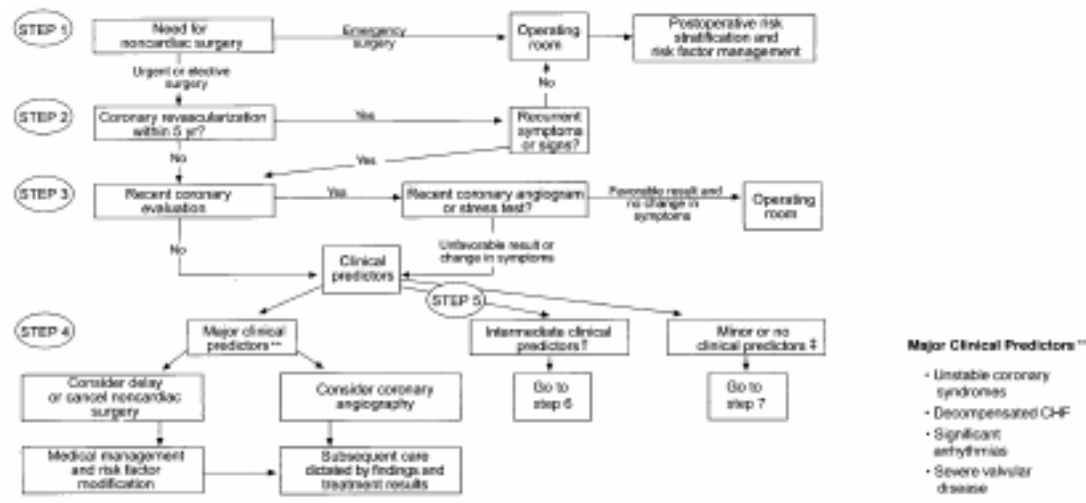
- Carotid endarterectomy
- Head and neck surgery
- Intra-peritoneal and intra-thoracic surgery
- Orthopaedic surgery
- Prostate surgery

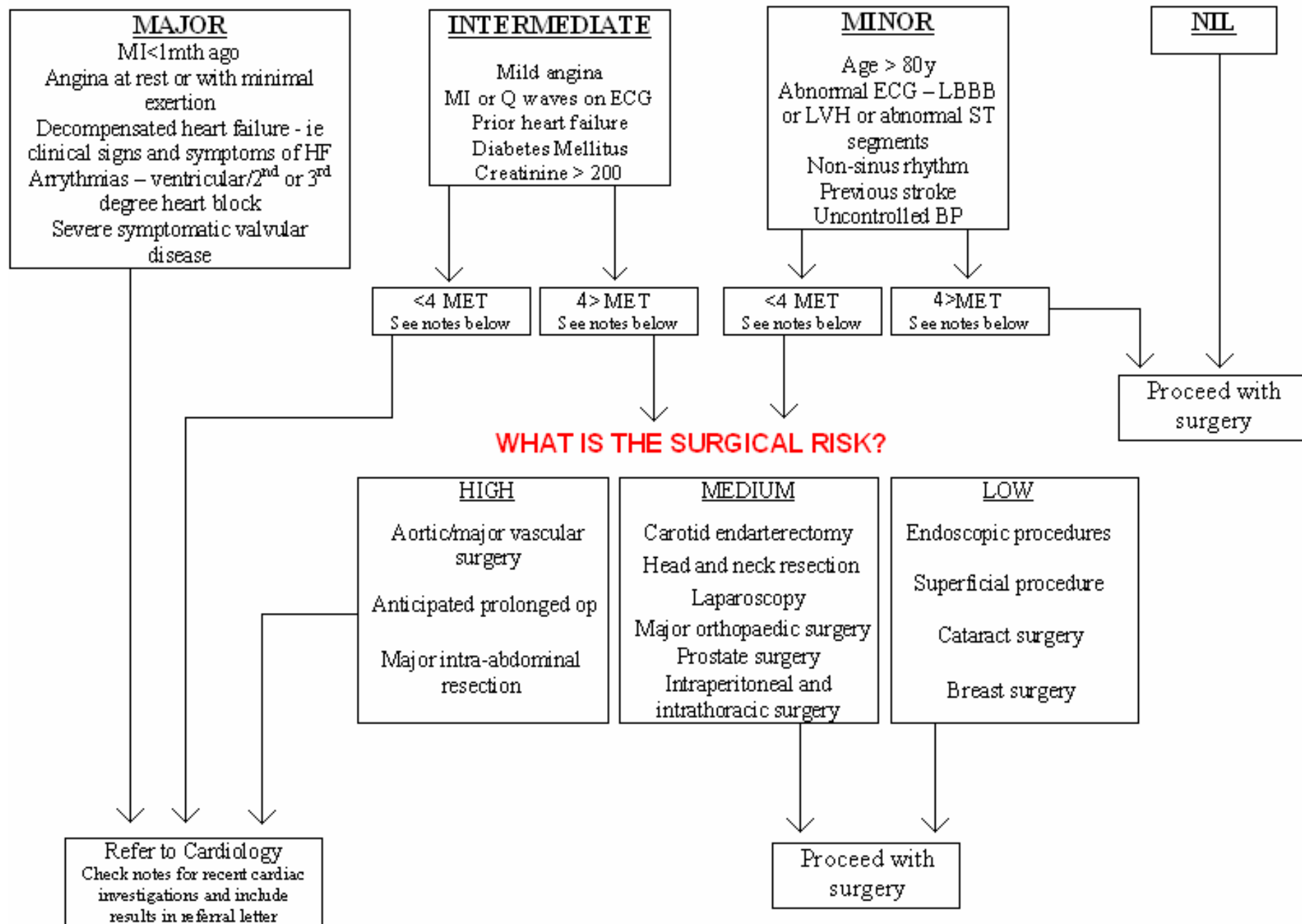
LOW:

- Endoscopic procedures
- Superficial procedures
- Cataract surgery
- Breast surgery

Referral to Cardiology

- Symptoms following coronary revascularisation
- Recent coronary evaluation – unfavourable result or change in symptoms
- Major clinical predictors
- Intermediate clinical predictors
 - Poor functional capacity
 - High risk surgical procedure
- Minor clinical predictors
 - Poor functional capacity and high risk surgical procedure





Audit Process

- Patients in POAC between 8/5/6 and 2/6/6
- 558 notes seen out of 637 notes
- 88% of patients' notes seen
- 528 notes used
- Exclusions
 - Patients undergoing procedures under local
 - Patients who did not attend POAC appointment

Results

- **Sex**
 - Female – 305
 - Male – 223
- **Speciality**
 - General – 108
 - Orthopaedics – 217
 - Dental – 12
 - ENT – 50
 - Gynaecology – 68
 - Urology – 50
 - Vascular – 13
 - Day Surgery – 173 in total, divided into specialities

Results

- **Clinical Predictors**

- Major - 5
- Intermediate - 94
- Minor - 153
- Nil – 275

- **Surgical Risk**

- High – 5
- Medium – 338
- Low – 184

Coronary Revascularisation

- CABG/Angioplasty – 11 patients
- Symptomatic since? – 3
 - Awaiting angio – TCI deferred
 - Not referred – TURP
 - Referred to anaesthetist – MTPJ fusion

Patients fitting criteria

- 35 patients should have been referred
- Major – 5
- Intermediate – 30
 - 6% of patients seen in 4 weeks
- 6 patients referred to cardiology
 - 2 not fitting guidelines
- 20/35 referred to anaesthetist

Post Audit

- Patients referred to anaesthetist who then decides re-referring on
- High-lights high risk patients to us
- Avoid unnecessary cardiology referrals and investigations
- Possibly reduce unnecessary referrals to us

Outcome

- Proven that there is a need for a direct referral service to Cardiology
- Have funding now for two specific pre-operative Cardiology clinics a month.