

Preoperative Evaluation for Noncardiac Surgery When Do I Need Cardiology?

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Role of the Consultant

40% of cardiology preop consults

Not very specific or helpful “proceed with surgery”

Never “clear” for surgery: Risk stratify

Be specific in suggestions/evaluation:

Suitability for surgery and general condition?

Is there anything we can do to improve that condition

Does patient have a PCM? ICD?

Do I need Cardiology?

85 yo with CAD, DM, CRI who is not having active cardiac symptoms. Needs cataract surgery.

? Testing

? Cardiology

Do I need Cardiology?

75 yo man smoker with CAD (PCI 2006), CRI, who needs a partial colectomy. He is able to walk up stairs without difficulty. No symptoms CHF and no angina.

? Testing

? Cardiology

Do I need Cardiology?

60 yo man with DM and PAD and obesity who needs an abdominal aneurysm repair. He has severe chronic back pain and uses a cane. Is not able to get up a flight of stairs easily.

Testing?
Cardiology?

Perioperative Evaluation

Four things you need to know to get started:

1. Is the patient having active cardiac symptoms angina, CHF, rhythm issues? Recent MI?
2. How many risk factors does the patient have?
3. What is the patient's functional status?
4. Is the surgery low, intermediate or high risk?

1. Is the patient having an ACTIVE cardiac condition?



Condition	Examples
Unstable coronary syndromes	<ul style="list-style-type: none">▪ Unstable or severe angina▪ Recent MI‡ (within 30 dys)
Decompensated CHF	
Significant arrhythmias	<ul style="list-style-type: none">▪ High-grade atrioventricular block▪ Mobitz II atrioventricular block▪ Third-degree atrioventricular heart block ▪ Symptomatic ventricular arrhythmias▪ SVT/AF with HR > 100 ▪ Symptomatic bradycardia
Severe valvular disease	<ul style="list-style-type: none">▪ Severe aortic stenosis ▪ Symptomatic mitral stenosis

2. How Many Risk Factors Does the patient Have?

REVISED CARDIAC RISK INDEX

- CAD
- CHF
- CVA
- Creatinine > 2 mg/dL (CRI)
- DM

3. What is the patient's Functional Status?

1 Met 	Can You...	4 Mets 	Can You...
	Take care of yourself?		Climb a flight of stairs or walk up a hill?
	Eat, dress.		Walk on level ground at 4 mph (6.4 kph)?
	Walk indoors around the house?		Do heavy work around the house?
4 Mets	Walk a block or 2 on level ground at 2 to 3 mph	> 10 Mets	Participate in moderate recreational activities golf, bowling, dancing, doubles tennis.
	Do light work around the house like dusting or washing dishes?		Participate in strenuous sports like swimming, singles tennis

4. Is the surgery high, intermediate or low risk?

Risk Stratification

HIGH : Vascular
(cardiac risk ~5%)

Aortic aneurysm repair

Peripheral vascular surgery

INTERMEDIATE

(cardiac risk 1%-5%)

Orthopedic
Thoracic surgery

CEA and Head and Neck Surgery

LOW

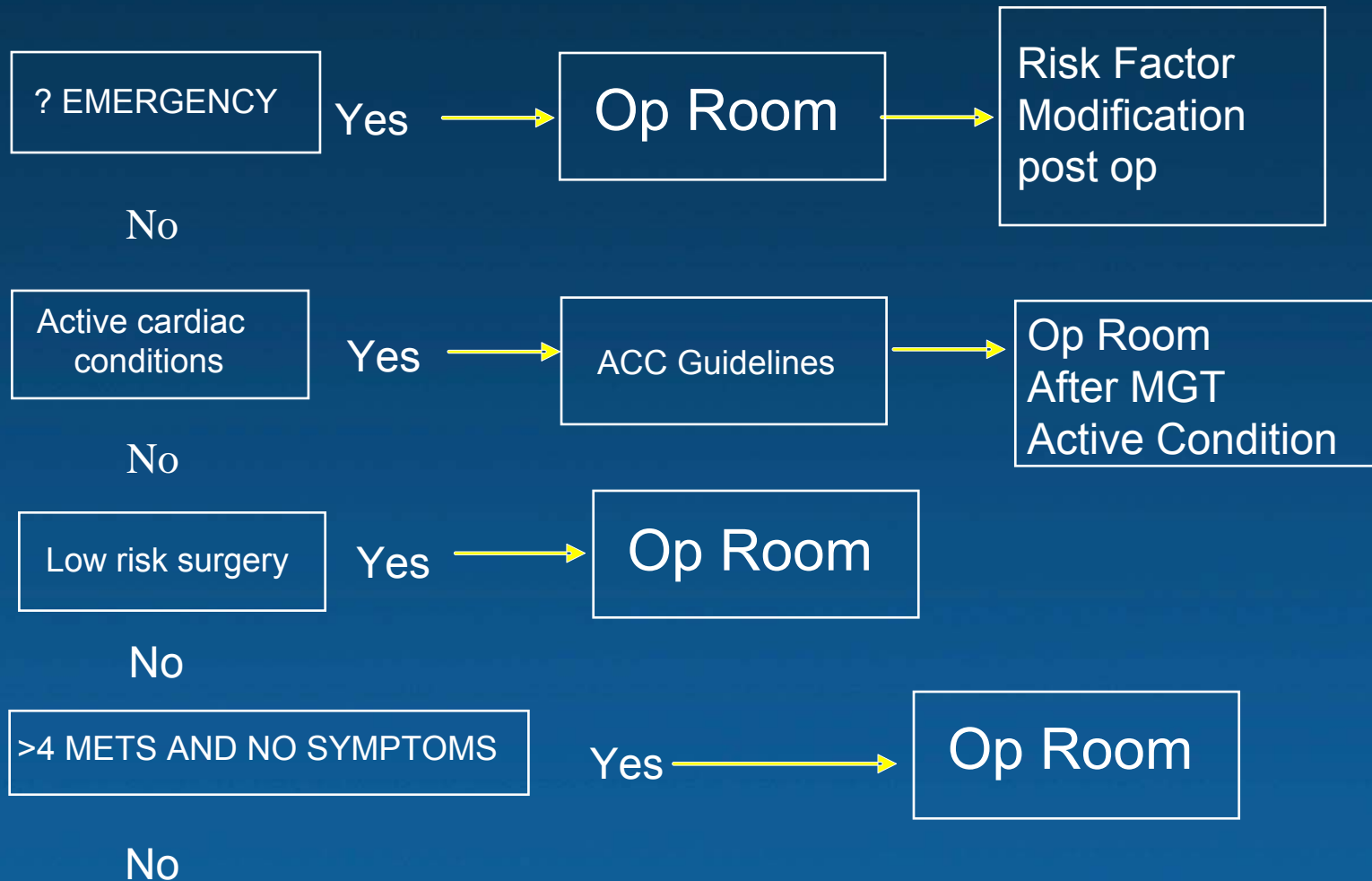
(cardiac risk <1%)

Endoscopic procedures

Superficial procedure/Breast surgery

Cataract surgery

Cardiac Evaluation and Care Algorithm for Noncardiac Surgery



Functional Status and Risk Factors

Step 5

POOR FUNCTIONAL STATUS < 4 METS

3 or more clinical RFs

Vascular Surgery

CONSIDER TESTING

Intermediate Risk Surgery

1-2 clinical RFs

Vascular Surgery

Intermediate risk Surgery

No clinical RFs

Proceed with surgery

Proceed with planned surgery with HR control

Do I Need Cardiology?

85 yo with CAD, DM, CRI who is not having active cardiac symptoms. Needs cataract surgery.

Low risk surgery

No testing

Cardiology not needed

Do I Need Cardiology?

75 yo man smoker with CAD (PCI 2006), CRI, who needs a partial colectomy. He is able to walk up stairs without difficulty. No symptoms CHF and no angina.

2 RF = CAD, CRI

Good functional capacity (> 4 METS)/No symptoms

Intermediate risk surgery risk surgery

OK to proceed to surgery with HR control

Do I need Cardiology?

60 yo man with DM and PAD and obesity who needs an abdominal aneurysm repair. He has severe chronic back pain and uses a cane. Is not able to get up a flight of stairs easily.

**1 RF, poor functional capacity (< 4 METS)
high risk surgery**

Testing reasonable in this setting

Testing may change management if high risk

Cardiology may be helpful in this context

Prognostic Gradient of Ischemic Responses During an ECG-Monitored Exercise Test in Patients With Suspected or Proven CAD

Low

No ischemia or ischemia induced at high-level exercise

High Risk Ischemic Response

Ischemia induced by low-level exercise

Drop in BP with exercise

Transient dilation LV with exercise

Preoperative Coronary Revascularization With CABG or Percutaneous Coronary Intervention

Coronary revascularization before noncardiac surgery is useful in patients with ANGINA who have:



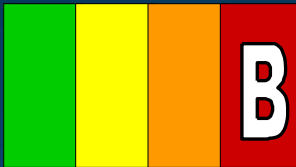
- significant LM coronary artery stenosis

- 3-vessel disease

- 2-vessel disease with significant proximal LAD stenosis + EF < 0.50 OR ischemia on noninvasive testing

DO NOT!

I IIa IIb III



Do PCI in stable patients prior to elective surgery

Elective surgery within **6 weeks** of PTCA or bare metal coronary stent or implantation

Elective surgery within **12 months** of DES implantation

Do not stop asa, Plavix/Prasagrueel for elective surgery

Recommendations for Beta-Blocker Medical Therapy

Titrated Beta Blockers for vascular surgery

- high cardiac risk
- coronary artery disease/or ischemia on a stress test
- presence of > 1 clinical risk factor

NO: Routine administration of high-dose beta blockers in the **absence of dose titration**

Perioperative Update & Guidelines

ACC Guidelines

And these are guidelines--There is always room for judgement, exceptions and caveats to unique situations ---- Good Luck!



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