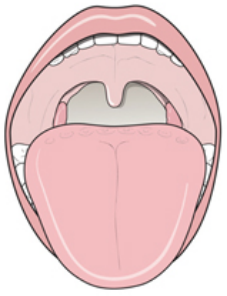
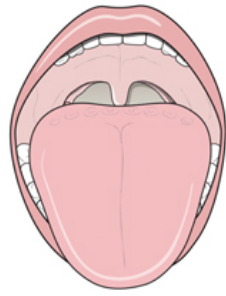
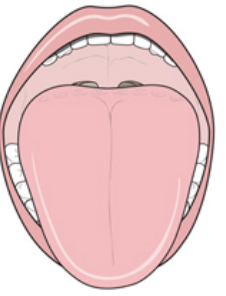
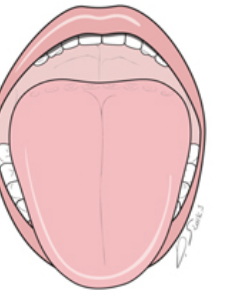


## Preoperative Evaluation

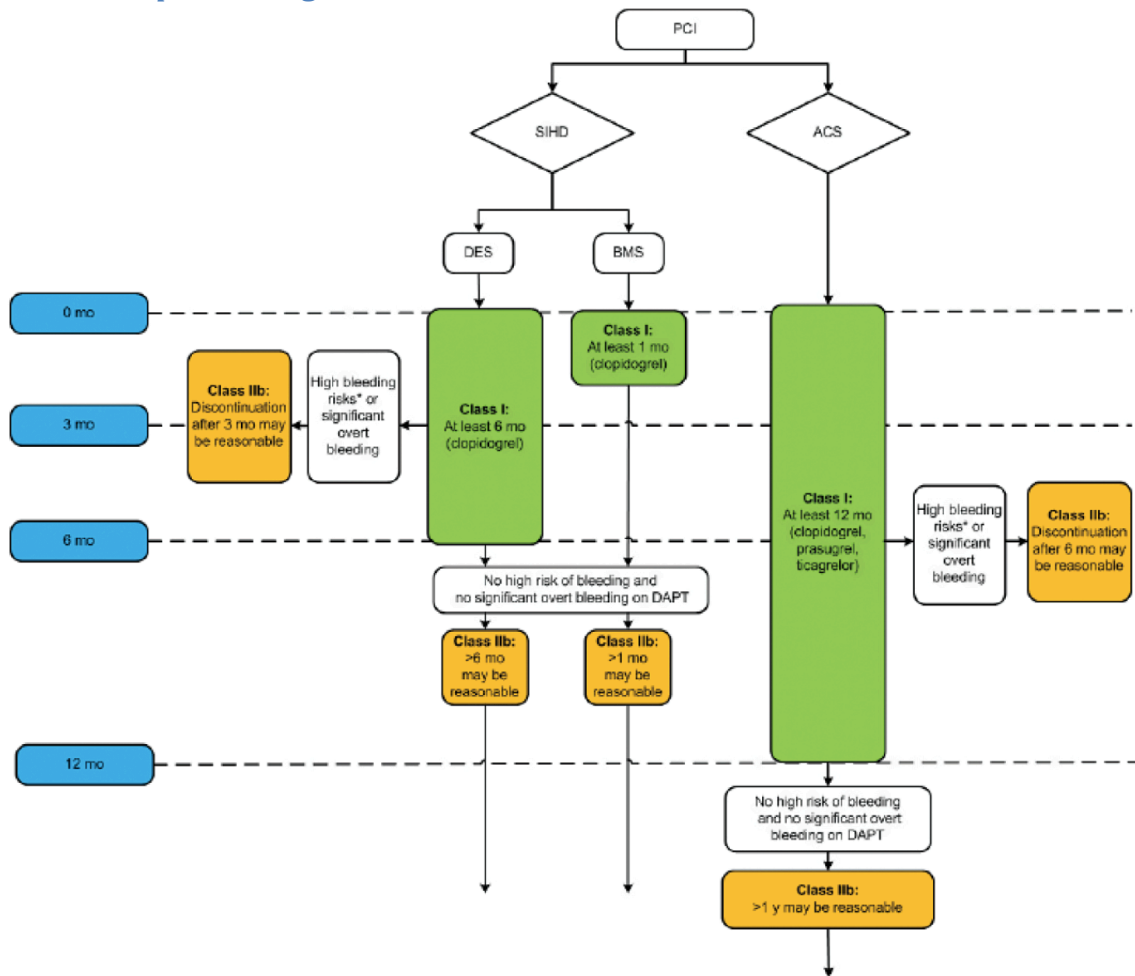
- Cardiorespiratory fitness or functional capacity not only predicts outcome and preoperative complications, but also indicate a need for further evaluation
- Patient's unable to attain an average level of exercise (4 to 5 METs, such as walking four blocks or up two flights of stairs) are at increased risk of perioperative complications
- ASA physical status classifications
  - 1: healthy patient without organic, biochemical, or psychiatric disease
  - 2: A patient with mild systemic disease with no significant impact on daily activity
  - 3: Significant or severe systemic disease that limits normal activity, e.g. renal failure on HD, NYHA Class 3 CHF
  - 4: Severe disease that is a constant threat to life or requires intensive therapy, e.g. MI, respiratory failure requiring mechanical ventilation
  - 5: moribund patient who is likely to die in the next 24 hours with or without surgery
  - 6: brain-dead organ donor
- Mallampati Airway Classification

I	II	III	IV
Soft palate, uvula, and pillars are visible	Soft palate and base of the uvula are visible	Only soft palate is visible	Only hard palate is visible
			

## Cardiac Evaluation

- The benefits versus the risks of coronary revascularization before noncardiac surgery are controversial. The only randomized prospective study of preoperative revascularization versus medical management failed to show a difference in outcome

### Antiplatelet algorithm

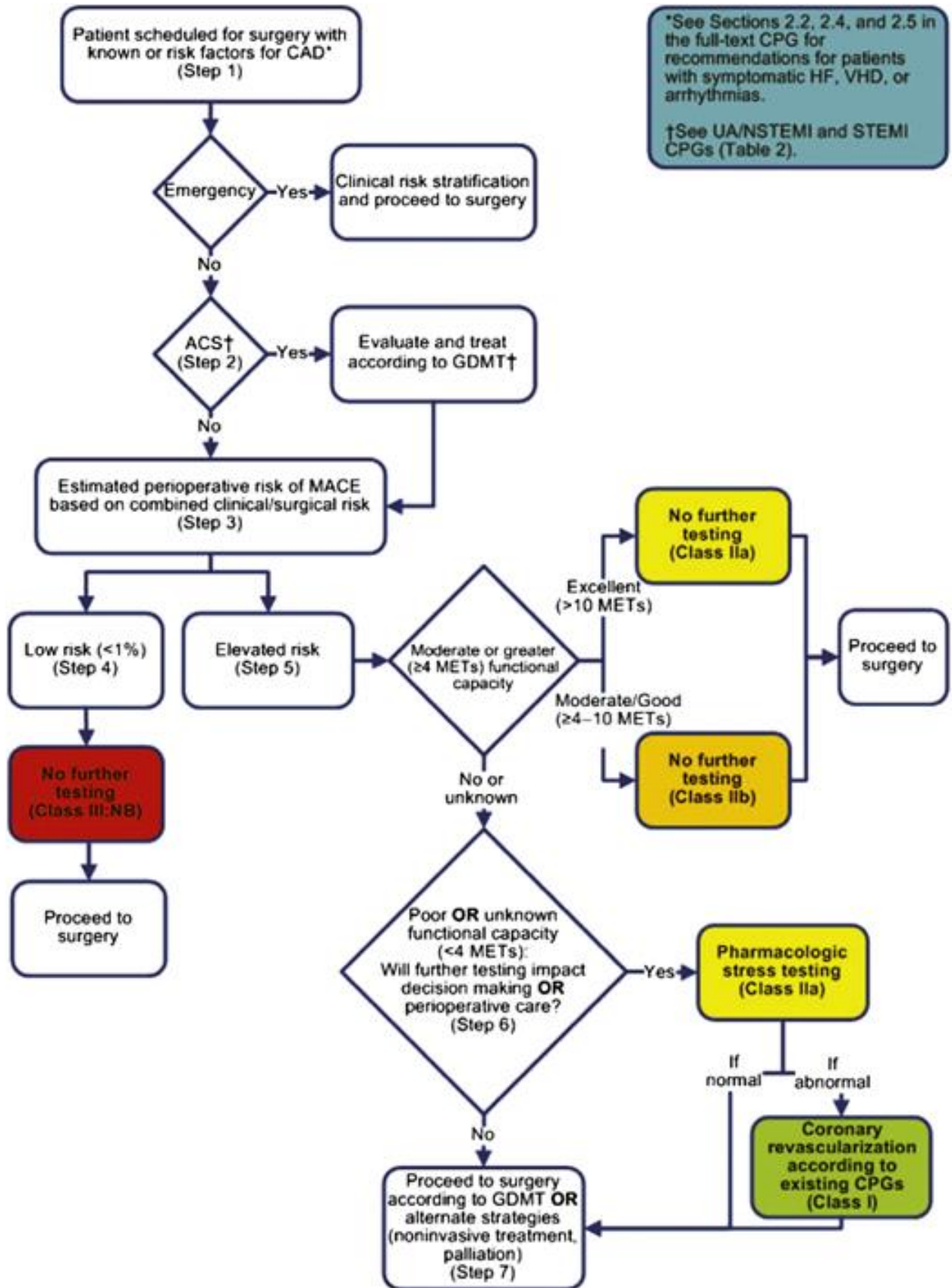


- Because decompensated heart failure is a high-risk cardiac condition elective surgery should be postponed if these symptoms are discovered: recent weight gain, shortness of breath, fatigue, orthopnea, peripheral edema, recent changes in management
- Diastolic murmurs are always pathologic and require evaluation
- Regurgitant heart disease is better tolerated perioperatively than stenotic disease
- Severe aortic stenosis is associated with a high risk for perioperative complications

- Elective surgery should be delayed for patients with severe hypertension (SBP >200, DBP >115) until BP is less than 180/110
- Antibiotic prophylaxis for endocarditis is no longer recommended except for the following: prosthetic cardiac valve, previous infective endocarditis, or congenital heart disease

### *Pacemakers/ICD*

- In general if the surgery is taking place below the umbilicus then the cautery should theoretically not interfere with the device and you can proceed to surgery
- If the patient has a pacemaker and they are pacemaker dependent, then placing a magnet over the device usually places the pacer in asynchronous mode (DOO)
- If the patient has a pacemaker/ICD then placing a magnet will disable the antitachycardia function (shock) and maintain the pacemaker function. So if they are pacemaker dependent and you have placed a magnet over the ICD/pacemaker device, then cautery can interfere with the pacer function and cause malfunction and an unstable heart rhythm
- It is best practice to have the rep reprogram a device to asynchronous mode if a patient has an ICD/pacemaker and they are pacemaker dependent
- It is best practice to call the manufacture and ask what a magnet does when placed over that specific device because not all devices function the same with a magnet placed on them
- If a magnet is placed over a pacer for surgery then having it interrogated post-op is best practice as well



### Revised cardiac risk index

- History of ischemic heart disease
- History of congestive heart failure
- History of cerebrovascular disease (stroke or transient ischemic attack)
- History of diabetes requiring insulin use
- History of chronic kidney disease (Cr >2 mg/dL)

### Obesity

STOP-BANG questionnaire to assess for obstructive sleep apnea

- STOP: Snoring; Tired; Observed Not Breathing; Blood Pressure (2 or more = high risk)
- STOP-BANG: STOP + BMI > 35, Age > 50, Neck > 40 cm, Male (3 or more = high risk)

### Pulmonary Evaluation

- Well-controlled asthma does not increase perioperative complications
- Poorly controlled asthma, as evidenced by wheezing on exam, are at higher risk for complications
- Unlike asthma, COPD increases the risk of pulmonary complications; however there is no degree of severity that absolutely precludes surgery
- Surprisingly the risks with COPD are less than those with heart failure, advanced age, or poor general health
- Routine pulmonary function tests, CXR, or ABG do not predict postoperative pulmonary complications and offer little more information than clinical evaluation

### Renal Evaluation

- Renal insufficiency is a risk factor probably equal to CAD
- Dialysis is performed within 24 hours of surgery, but not immediately before to avoid acute volume depletion and electrolyte alterations.
- Chronic hyperkalemia may not need treatment if K is less than 6 mEq/dL and within the range of a patient's established levels

### Diabetic Evaluation

- Targeting control in the immediate perioperative period likely will not have a substantial impact on outcomes
- Diabetic ketoacidosis and hypoglycemia (glucose <50) are the only conditions that absolutely warrant perioperative intervention

## Testing

- Healthy patients of any age and patients with known, stable, chronic disease undergoing low-to-intermediate risk procedures are unlikely to benefit from any routine tests
- It is misguided to believe that discovering abnormalities on ECGs, CXR, or blood work impacts care or outcomes for many patients or procedures
- A test is ordered only if the results will impact the decision to proceed with the planned procedure or alter the care plans
- CXR do not predict postoperative pulmonary complications
- Recommendations for preoperative resting ECG
  - Indicated: patients with a least one clinical risk factor who are undergoing vascular surgical procedure **OR** patients with known heart disease, peripheral artery disease, or cerebrovascular disease undergoing intermediate-risk procedures
  - Reasonable: No clinical risk factors undergoing vascular procedure
  - Consider: Patient with at least one risk factor undergoing intermediate-risk surgery
  - **Not performed:** asymptomatic person undergoing low-risk procedures

## Fasting Guidelines

- Up to 8 hours: food and fluids as desired
- Up to 6 hours: light meal (toast and clear liquids), infant formula, nonhuman milk
- Up to 4 hours: breast milk
- Up to 2 hours: clear liquids only

## Medications

- Antidepressants, anti-anxiety, and psychiatric: continue
- ACE-I or ARB: **consider discontinuing** 12-24 hours before surgery if taken only for hypertension
- Aspirin: Continue for DES <12 mo, BMS <1 mo, vascular surgery, secondary prophylaxis, and known vascular disease
- Asthma medications: continue
- COX-2: **discontinue** if surgeon concerned about bone healing
- Diuretics: **discontinue** potent loop diuretics
- Plavix: Continue for DES <12 mo, BMS <1 mo, cataract surgery, vascular surgery
- H2 blocker or PPI: continue
- Insulin: Continue long acting (cut the dose in half), continue insulin pump delivery with the lowest night-time basal rate
- Narcotics: continue
- NSAIDs: **discontinue**
- Statins: continue

- Steroids: continue (consider intraoperative stress dose of 100mg Hydrocortisone)
- Thyroid: continue
- Warfarin: **discontinue** 5 days before surgery except cataract can continue