Yu CJ, Stoller P. CA 1 Quiz 1.1 Preop Evaluation. *Anesthesia Education Toolbox.* https://atb.synaptecqbank.com/neuralweb/learn/open/5d3a31c49115f. Published July 25, 2019.

Anesthesia ToolBox CA 1 Curriculum Study Guide
Preoperative Evaluation: Theme 1
Self-Guided Learning
Quiz 1.1 Preop Evaluation
Corinna Yu, MD and Philip Stoller, MD

Q1.
A 57-year-old man with hypertension, morbid obesity (BMI 35 kg/m^2), COPD on 2 L oxygen via nasal cannula, obstructive sleep apnea on CPAP 10 cmH_2O, and bladder cancer presents for a radical cystectomy. On physical exam, he has a thick beard, large neck circumference, and a large tongue. The soft palate and the base of the uvula are visible. What McCormack and Lehane view do you expect during direct laryngoscopy?
a. Grade I
b. Grade II
c. Grade III
d. Grade IV

Answer: C.
If you are able to visualize the soft palate and the base of the uvula, the patient has a modified Mallampati Class III airway exam. This correlates to a McCormack and Lehane Grade III laryngoscopic view, which is visualization of only the epiglottis. A grade I view would include the full view of glottis, a grade II view would be a partial view of the glottis, and a grade IV view would be neither glottis nor epiglottis seen.

Mallampati SR, Gatt SP, Gugino LD, et al. A clinical sign to predict difficult intubation: a prospective study. Can Anaesth Soc J 1985; 32: 429–34.

Cormack RS, Lehane J. Difficult tracheal intubation in obstetrics. Anaesthesia 1984; 39: 1105–11.

O'Leary AM, Sandison MR, and Roberts KW. History of anesthesia; Mallampati revisited: 20 years on. Can J Anaesth. 2008 Apr; 55(4):250-1. PMID 18378973. doi: 10.1007/BF03021512.

Airway Assessment: Airway Online Module 24

ABA Content Code: I.B.1.a / 1.B.3.c.1.

Q2.

A 53-year-old man no prior medical history presents to preoperative anesthesia clinic for abdominal hernia repair. He has greater than 4 METs and review of systems is negative. His family history is positive for myocardial infarction. What is the next best step?
a. Start perioperative beta blockade two weeks before surgery.
b. Start perioperative beta blockade on the day of surgery.
c. Consult cardiology.
d. No further action required.

Answer: D.

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Based on the 2014 ACC/AHA Guideline on Perioperative Cardiovascular Evaluation and Management of Patients Undergoing Noncardiac Surgery, this patient does not need further testing or treatment. Beta blockers should be continued in patients chronically taking beta blockers. In general, they should not be started on patients perioperatively unless preoperative risk stratification tests put them at intermediate- or high-risk for myocardial ischemia.

Fleisher, LA, & Fleischmann, KE et al. (2014). 2014 ACC/AHA Guideline on Perioperative Cardiovascular Evaluation and Management of Patients Undergoing Noncardiac Surgery. Circulation. 2014; 130:e278-e333. https://doi.org/10.1161/CIR.0000000000000106

Jette, Sidney K, & Blumchen, G. Metabolic Equivalents (METS) in Exercise Testing, Exercise Prescription, and Evaluation of Functional Capacity. (1990). Clin. Cardiol. 13, 555-565. https://onlinelibrary.wiley.com/doi/epdf/10.1002/clc.4960130809.

ABA Content Code: 1.B.1.d.8.

Q3.
A 40-year-old woman with uterine fibroids presents for laparoscopic hysterectomy. She smokes 1.5 packs per day of cigarettes for the past 20 years and was seen in the emergency room 3 days ago for pneumonia and is currently on antibiotics. On exam, her temperature is 38 degrees Celcius, SpO2 is 89% on room air. She is wheezing, using accessory muscles to breathe, and is unable to speak in full sentences. What should you do next?

a. Cancel the case.
b. Prescribe oral steroids.
c. Consult pulmonary.
d. Proceed with the case.

Answer: A.
You should cancel the case. This patient is at increased risk for pulmonary perioperative complications given her recent pneumonia. She is clearly symptomatic based on her fever, low oxygen saturation, and clinical exam. This is an elective case and should be cancelled. Although steroids could be useful to her, they should be prescribed by a physician who will continue to follow her clinical course. A pulmonary consult is not necessary at this time. Anesthesiologists should recognize their role as perioperative consultants.

Canet, J., et al. Prediction of Postoperative Pulmonary Complications in a Population-based Surgical Cohort. Anesthesiology. 12 2010, Vol. 113, 11338-1350. doi.10.1097/ALN.0b013e3181fc6e0a.

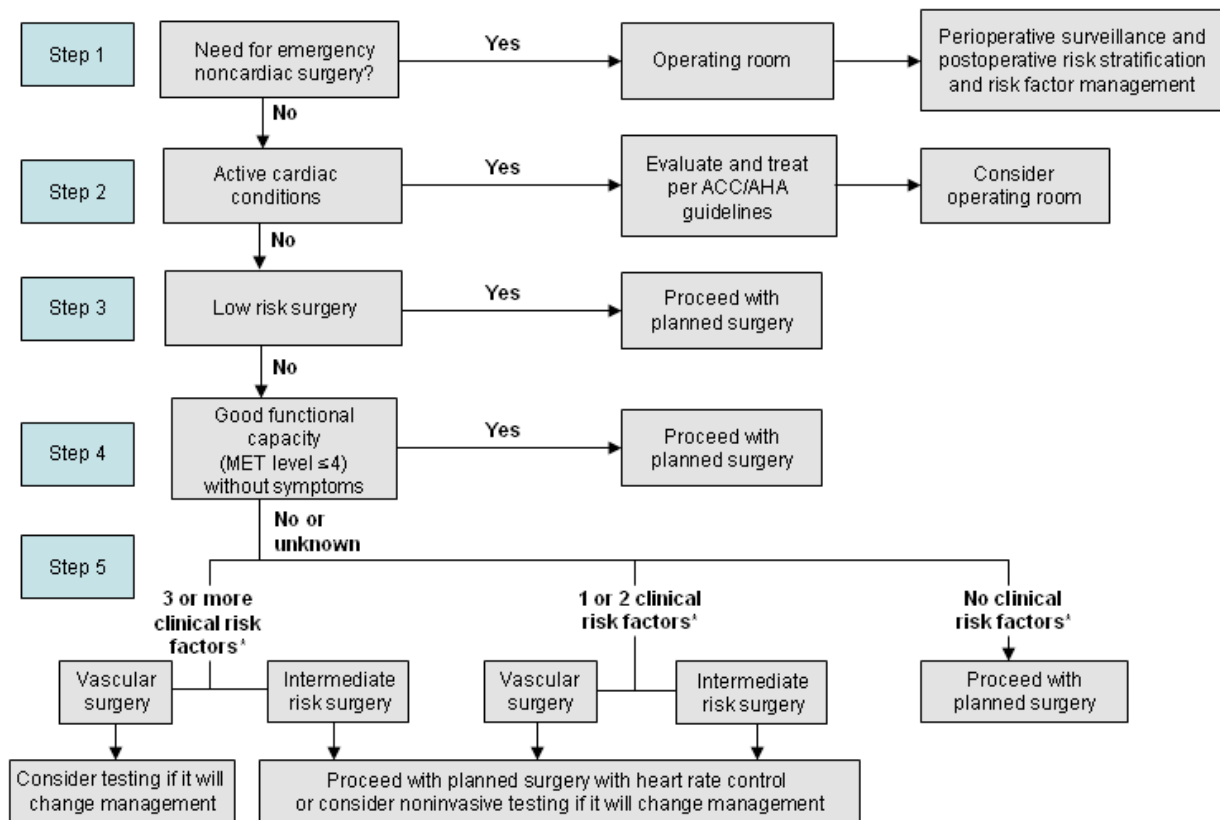
ABA Content Code: 1.B.1.b.1

Q4.
A 60-year-old woman presents for her first screening colonoscopy. Her past medical history is significant for diet controlled diabetes, chronic kidney disease with creatinine value of 1.3 mg/dL and coronary artery disease with stent placement 3 years ago. She takes aspirin only. She has had no issues since her stent placement and denies chest pain or dyspnea, although she leads a sedentary lifestyle and typically only walks from one room of her home to another. Which of the following is the best next course of action?

a) Cancel the procedure as her coronary disease with stent placement constitutes an active cardiac condition.
b) Proceed as she is 10 years overdue for her first screening colonoscopy and the case is deemed an emergency.
c) Proceed only after further cardiac testing occurs and she is cleared by a cardiologist.
d) Proceed with a low-risk elective procedure.

Answer: D.
Despite endorsing <4 METs you may proceed with this low-risk procedure after ruling out any active cardiac condition. If this were an intermediate-risk procedure she may require further cardiac testing based on the total of her revised cardiac risk index (RCRI) score (of which only CAD is definitively stated in the stem).

https://www.mdcalc.com/revised-cardiac-risk-index-pre-operative-risk



Adapted from Fleisher LA, et al. **"2014 ACC/AHA guideline on perioperative cardiovascular evaluation and management of patients undergoing noncardiac surgery: a report of the American College of Cardiology/American Heart Association Task Force on practice guidelines." J Am Coll Cardiol. 2014;64:e77-e137.** * Clinical risk factors include ischemic heart disease, compensated or prior heart failure, diabetes mellitus, renal insufficiency, and cerebrovascular disease.

ABA Content Code: 1.B.1.b.2.

Q5.
A 53-year-old man with stable CAD and drug-eluting stent placement 9 months ago presents to preoperative anesthesia clinic prior to a laparoscopic left colectomy for suspected malignancy. He is currently taking clopidogrel and aspirin per recommendations for dual

antiplatelet therapy. He has greater than 4 METs and review of systems is otherwise negative. Which is the best course of action regarding his dual antiplatelet therapy?

a) Delay elective case until 1 year after stent placement.
b) Proceed with the case continuing dual antiplatelet therapy perioperatively.
c) Hold clopidogrel, continue aspirin, and resume dual antiplatelet therapy when appropriate.
d) Repeat coronary angiography and proceed if negative

Answer: C.
Current recommendations regarding new generations of drug-eluting stents state that patients with stable ischemic heart disease should continue dual antiplatelet therapy (DAPT) with clopidogrel for 6 months. Given that he is 9 months out, it is reasonable to hold clopidogrel, continue ASA and proceed to the operating room. DAPT should be resumed post operatively.

Levine **GN, Bates ER, Bittl JA, et al. 2016 ACC/AHA Guideline Focused Update on Duration of Dual Antiplatelet Therapy in Patients With Coronary Artery Disease: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. An Update of the 2011 ACC/AHA/SCAI PCI Guideline, 2011 ACC/AHA CABG Guideline, 2012 ACCF/AHA/ACP/AATS/PCNA/SCAI/STS SIHD Guideline, 2013 ACC/AHA STEMI Guideline, 2014 ACC/AHA NSTE-ACS Guideline, and 2014 ACC/AHA Perioperative Guideline. J Am Coll Cardiol 2016; Mar 29. (https://www.acc.org/latest-in-cardiology/ten-points-to-remember/2016/03/25/14/56/2016-acc-aha-guideline-focused-update-on-duration-of-dapt)**

ABA Content Code: 1.B.1.d.7.

Q6.
A 23-year-old woman (5'3", 115 kg) presents for open reduction internal fixation of left tibial fracture after being hit by a drunk driver. She last ate solid food at 9 PM, last intake of clear liquid at 2 AM. Initial vital signs include BP 120/80, HR 110, RR 28, SpO2 97% on room air. Her pain is currently 10/10 despite receiving dilaudid 2 mg IV an hour ago. It is 5:00 AM and the surgeons are pressuring you to start the case, declaring it an emergency. What is the next best step?

a) Delay the case until you have a baseline hemoglobin.
b) Proceed with a standard induction and intubation.
c) Proceed with a rapid sequence intubation.
d) Delay the case until she is appropriately NPO.

Answer: C.
The surgeons have declared this case an emergency, so delaying or cancelling the case is not advisable. Despite being NPO for clears for more than 2 hours and NPO for solids for more than 8 hours, she has morbid obesity (BMI=45), an emergency surgery, and narcotic consumption that put her at an increased risk for aspiration and should receive a rapid sequence intubation.

Practice Guidelines for Preoperative Fasting and the Use of Pharmacologic Agents to Reduce the Risk of Pulmonary Aspiration: Application to Healthy Patients Undergoing Elective Procedures: An Updated Report by the American Society of Anesthesiologists Committee on Standards and Practice Parameters. https://anesthesiology.pubs.asahq.org/article.aspx?articleid=1933410

Preoperative Fasting - CA 1 Mini PBLD 1.2 - Learner

ABA Content Code: 1.B.1.d.6

Q7.
You are working in an outpatient, stand-alone, ambulatory surgery center that only accepts patients for surgery who are ASA physical status classification 1 and 2 according to their policy. Your patient is a 42-year-old woman with diabetes mellitus and end stage renal disease on hemodialysis through an AV fistula in her left arm. She is here for excision of lipoma on her left posterior shoulder. She was last dialyzed yesterday and her preoperative potassium is 3.8 mmol/L and her fasting blood sugar this morning is 110 mg/dL. What is the best anesthetic plan?

a. General endotracheal intubation.
b. General laryngeal mask airway placement.
c. Monitored anesthesia care.
d. Cancel the case.

Answer: D.
This patient is an ASA physical status classification 3 due to her end stage renal disease on dialysis, even if her diabetes is currently under control upon presentation and regardless of the location or invasiveness of the surgery. It is against the surgery center's policy to take care of her in this setting. If she was in a hospital setting, any of the three anesthetic plans in A, B, or C could potentially be acceptable based on discussion with the patient and the surgeon about other co-morbidities and surgical positioning.

https://www.asahq.org/standards-and-guidelines/asa-physical-status-classification-system

ABA Content Code 1.B.1.c

Q8.
A 49-year-old woman recently diagnosed with breast cancer presents for a partial left mastectomy. Her past medical history includes a transsphenoidal hypophysectomy for craniopharyngioma 4 years earlier. She takes steroids daily. The patient states her endocrinologist told her to ask her anesthesiologist for "stress dose steroids." What medication should be given?

a. Dexamethasone 8 mg.
b. Hydrocortisone 100 mg.
c. Methylprednisolone 125 mg.
d. Prednisone 50 mg.

Answer: B.
Hydrocortisone is the drug of choice for stress dose steroids due to its glucocorticoid and mineralocorticoid activity. Patients taking chronic steroids may be at risk for adrenal crisis intraoperatively during periods of stress because of their inability to mount a cortisol response. This can lead to intraoperative hypotension unresponsive to fluids and vasopressors. The decision to give stress dose steroids or not is a topic of debate, and more research needs to be done.

Liu, MM, et al. Perioperative Steroid Management: Approaches Based on Current Evidence. Anesthesiology 7 2017, Vol. 127, 166-172. doi: 10.1097/ALN.0000000000001659. https://anesthesiology.pubs.asahq.org/article.aspx?articleid=2626031

ABA Content Code 1.B.1.d.3

Q9.
A 39-year-old woman with ulcerative colitis presents for laparoscopic colectomy. She has several allergies noted in the chart, including penicillin and sulfa, both of which she states caused a rash. The surgeon has requested ceftriaxone to be given preoperatively. Which of the following is an appropriate response?
a. Administer ceftriaxone as requested, ensuring negative test dose.
b. Discuss administration of amoxicillin clavulanate for gram negative coverage.
c. Discuss administration of Bactrim for improved MRSA coverage.
d. Discuss administration of Septra due to her penicillin allergy.

Answer: A. Although initial studies reported a 10% cross-reactivity between penicillin and cephalosporins, more recent data show rates between 0.17% and 0.7%. The original studies may have had higher rates due to contamination of cephalosporin preparations by trace amounts of penicillin G. It is generally accepted practice to administer a 1st generation cephalosporin in the absence of an anaphylactic reaction to penicillin. Further, there is no evidence of cross-reactivity among 2nd, 3rd and 4th generation cephalosporins.

https://www.pharmacytimes.com/publications/health-system-edition/2017/may2017/penicillin-allergies-and-crossreactivity-with-other-betalactams

Campagna, JD, Bond, MC, et al. The Use of Cephalosporins in Penicillin-allergic Patients: A Literature Review. Journal of Emergency Medicine. (2012). Volume 42, Issue 5, Pages 612-620.

https://www.openanesthesia.org/preoperative_antibiotics_anesthesia_text/

https://www.openanesthesia.org/antibiotic-crossreactivity/

ABA Content Code: 1.B.1.d.9.b.

Q10.
A 62-year-old man with coronary artery disease s/p coronary artery stent to the left anterior descending artery presents for open Whipple procedure. His surgeon is requesting an epidural for post-operative pain control. The patient denies recent symptoms of angina, had a negative stress test in the past year, and last saw his cardiologist a month ago, with a medical optimization note in the chart allowing him to discontinue clopidogrel for up to a week prior to surgery. His last dose of clopidogrel was 3 days ago. What should you do next?
a. Place the epidural for post-op pain control.
b. Inform the patient and surgeon you will not place the epidural.
c. Place an intrathecal catheter for post-op pain control.
d. Consult cardiology.

Answer: B.
Based on the American Society of Regional Anesthesia and Pain Medicine's Guidelines for neuraxial placement in patients on antithrombotic or thrombolytic therapy, clopidogrel should be discontinued 7 days prior to neuraxial procedures. Since this patient only discontinued his medication for 3 days, you should not place an epidural or intrathecal catheter. Consulting cardiology is not necessary since they already gave their recommendations regarding the potential discontinuation of clopidogrel prior to surgery. Inform the patient and surgeon you will not place the epidural and will use alternatives to treat his pain. If the surgeon insists upon an epidural for his patient, the case can be rescheduled.

Horlocker, TT et al. Regional Anesthesia in the Patient Receiving Antithrombotic or Thrombolytic Therapy: American Society of Regional Anesthesia and Pain Medicine Evidence-Based Guidelines (Fourth Edition). (2018). Regional Anesthesia and Pain Medicine, 43(3), 263-309. doi: 10.1097/AAP.0000000000000763.
https://rapm.bmj.com/content/rapm/43/3/263.full.pdf

ABA Content Code: 1.B.1.d.7 / 1.B.1.d.10 / 1.B.2.b.5