

Preoperative Pulmonary Risk Assessment and Perioperative Management

Patient 1

A 48-year-old female with a history of biliary colic and tobacco dependence is going for cholecystectomy in 4 weeks. She has smoked 2 packs per day for the past 30 yrs. Her vital signs and physical exam are normal. Her labs are normal.

What factors may increase her risk for postoperative pulmonary complications (PPCs)?

**Should she have a preoperative chest x-ray or pulmonary functions tests?
Would stopping smoking decrease her risk for postoperative pulmonary complications?**

Patient 2

A 74-year-old male with a history of COPD, hypertension, and an abdominal aortic aneurysm (AAA) presents for preoperative assessment prior to AAA repair. He has a 100 pack-year smoking history, but successfully quit 3 years ago. He had a normal coronary angiogram one year ago. He has a chronic cough productive of clear sputum that has not changed recently. He can walk up a flight of stairs, but has to stop at the top to catch his breath. His functional capacity has actually improved over the past 6 months. He is taking inhaled albuterol/ipratropium 2 puffs four times a day, inhaled fluticasone (110 mcg) 2 puffs twice a day, and hydrochlorothiazide 25 mg daily.

What factors increase his risk for postoperative pulmonary complications?

What testing, with regard to pulmonary risk, should he have prior to surgery?

What can be done perioperatively to decrease his risk for pulmonary complications?

Patient 3

A 43-year-old female with history of hypertension and an intracranial hemorrhage 1 year ago is admitted with abdominal pain. Her cerebrovascular accident left her with residual cognitive deficits and left sided hemiparesis. She has also suffered from depression and her weight declined from 180 lbs one year ago to 120 lbs today. She is bedbound, but her skin exam shows no pressure ulcers. Computed tomography of the abdomen shows findings consistent with acute appendicitis. Aside from right lower abdominal tenderness and her baseline neurologic deficits, her exam is normal. Her blood pressure is 110/80 and her heart rate is 60. Her medications are metoprolol 50 mg twice a day and hydrochlorothiazide 25 mg daily. Her labs show a white blood cell count of 17,000 per ul with 88% neutrophils. Her chemistries are normal, with the exception of albumin of 2.6 gm/dl.

What risk factors for PPCs does she have?

Does she need further testing prior to surgery?

Patient 4

A 64-year-old male with diabetes mellitus, hypertension, progressive chronic renal failure, diabetic retinopathy, presents for preoperative risk assessment prior to cataract surgery. The surgery is planned for tomorrow. He is not dyspneic at rest. His physical activity consists of walking very slowly at home from room to room, feeling his way due to his visual impairment. He uses 3 pillows under his back because he gets short of breath when lying flat. His blood pressure is 168/92 and his heart rate is 68. His exam shows decreased breath sounds bilaterally at the bases. He has 3+ edema to above his ankles bilaterally, as well. His labs show a blood urea nitrogen (BUN) of 87 mg /dl, creatinine of 5.6 mg/dl, potassium of 5.3 meq/l, and bicarbonate of 24 meq/l. His last labs were 6 months ago. At that time, his BUN was 68 mg/dl and his creatinine was 4.5 mg/dl. He is poorly compliant with his medications, which include furosemide 80 mg twice a day, metoprolol 50 mg twice a day, insulin glargine 32 units daily, and insulin lispro 8 units before each meal.

What risk factors does he have for PPCs?

Considering cataract surgery is a low risk surgery, can he proceed or does he need further testing and/or treatment?