

MGH Geriatric Exam

1) Which of the following is an independent predictor of mortality in elderly patients undergoing major cardiovascular surgery?

- A. Age >75
- B. ASA class 2 or greater
- C. Renal insufficiency
- D. Reactive airway disease

2) Thyroid cancer in the elderly, when compared to younger patients

- A. Has a lower mortality rate
- B. Has a lower risk of metastases
- C. Is more likely to have vascular invasion
- D. Is proportionally less likely to be follicular carcinoma

3) For each decade of advanced age, cardiac output decreases by approximately

- A. 2%
- B. 5%
- C. 10%
- D. 14%

4) The most common valvular abnormality requiring surgery in elderly patients is

- A. Aortic stenosis
- B. Aortic insufficiency
- C. Mitral stenosis
- D. Mitral insufficiency

5) Protein energy malnutrition in an elderly surgical patient can result in

- A. Decreased range of motion of major joints
- B. Decreased glomerular filtration rate
- C. Decreased mucosal proliferation
- D. Decreased mental status

6) Renal transplantation in elderly patients

- A. Should be considered only if predicted life expectancy is >5 years
- B. Requires greater immunosuppression than in younger recipients
- C. May be accomplished by transplanting two kidneys from "extended criteria donors"
- D. Results in worse graft function than in younger recipients

7) What percent of breast cancers in the United States are diagnosed after 75 years of age?

- A. 5%
- B. 15%
- C. 25%
- D. 35%

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- 8) The most common indication for surgery in the elderly is
- A. Obstructive vascular disease
 - B. Thrombotic vascular disease
 - C. Biliary tract disease
 - D. Colorectal disease
- 9) Which one of the following lung cancers is more common in elderly patients than younger patients?
- A. Small cell
 - B. Squamous cell
 - C. Adenocarcinoma
 - D. Large cell
- 10) Maximal pulmonary capacity at age 70 is what percent of maximal pulmonary capacity at age 30?
- A. 90%
 - B. 70%
 - C. 50%
 - D. 30%
- 11) Which of the following tests of function in an elderly patient can be used to predict the time to recover after surgery?
- A. Hand grip strength
 - B. Timed up and go test
 - C. Functional reach test
 - D. All of the above
- 12) Which one of the following changes occurs in the kidney with aging?
- A. Increased filtration area
 - B. Increased creatinine clearance
 - C. Decreased glomerular filtration rate
 - D. Decreased sensitivity to many anesthetic agents
- 13) Indications for surgical treatment of primary hyperparathyroidism in elderly patients include
- A. 10% decrease in creatinine clearance
 - B. Urinary calcium excretion >100 mg
 - C. Serum calcium >12.0
 - D. Altered mental status
- 14) With respect to surgical risk assessment, frailty
- A. Is associated with postoperative mortality, but not overall complication rate
 - B. Is best measured by serum prealbumin levels
 - C. Is best measured by history and physical parameters
 - D. Cannot be improved preoperatively
 - E. Is affected only by age

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15) Metabolism of pharmacologic agents in patients older than 75 years is characterized by?

- A. Decreased volume of distribution for water-soluble drugs
- B. Decreased volume of distribution for lipid-soluble drugs
- C. Increased binding to plasma proteins
- D. Increased anticholinergic receptor expression
- E. Decreased enteric absorption

16) A 97-year-old widowed man has had a known inguinal hernia for more than 20 years. It was asymptomatic until recently when, after a bout of bronchitis, he began experiencing intermittent crampy pain centered about his hernia. This hernia had always been reducible, but recently the hernia has increased in size and is now occasionally difficult to reduce. The patient has a mild cognitive deficit but is otherwise quite healthy, performing all of his own personal care. He takes no medications. He would like to have his hernia repaired because it is interfering with his walking regimen at his assisted living facility. His son, who has his durable power of attorney, thinks that he is too old for an operation. Which of the following would be the best management?

- A. Counsel him that at this advanced age, operative repair would entail prohibitive risk.
- B. Wait until he has a documented episode of incarceration, then perform emergent repair.
- C. Schedule an elective open herniorrhaphy
- D. Schedule an elective laparoscopic herniorrhaphy
- E. Refer him for outpatient physical therapy for strengthening and conditioning

17) A 75-year-old man is undergoing surgical evaluation for newly diagnosed, nonobstructing, right-sided colon cancer. Abdominal CT scan shows no evidence of metastases. His medical history is significant for hypertension, diabetes mellitus requiring insulin therapy, and coronary artery disease. He underwent bare metal stent placement 1 week ago and is currently on clopidogrel and aspirin. Which of the following is the most appropriate recommendation for treatment of his colon cancer?

- A. Administration of systemic chemotherapy
- B. Immediate right hemicolectomy while on dual antiplatelet therapy
- C. Discontinuation of clopidogrel and aspirin for 1 week, followed by right hemicolectomy
- D. Surgical treatment delayed for 4-6 weeks after stent placement
- E. Referral to a cardiac surgeon for evaluation for coronary revascularization before right hemicolectomy

18) Which of the following statements is incorrect regarding hepatic function in the elderly?

- A. The number of hepatocytes decreases
- B. Hepatic blood flow declines
- C. Synthetic capacity decreases
- D. There is increased sensitivity to and decreased clearance of certain drugs

19) Which of the following statements is incorrect regarding acute appendicitis in the elderly?

- A. Perforation rate appears to increase with age > 80 years
- B. Elderly patients benefit from an open operative approach versus laparoscopic
- C. Elderly patients usually present with lower abdominal tenderness that may not have localized to the right lower quadrant in up to 20% of patients.

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D. Postoperative morbidity and mortality is increased in the elderly compared with younger patients

20) 80 year old hypertensive and diabetic female presented with post-prandial abdominal pain and was found to have symptomatic gallstones on workup. Labs are normal but she remains symptomatic and refuses to return to her senior condominium until the pain resolves. What is the best recommendation?

- A. Cholecystostomy tube
- B. Open cholecystectomy
- C. Laparoscopic cholecystectomy
- D. Pain analgesics and discharge

21) A 72-year-old man 6 months after sigmoid colectomy and end colostomy for diverticulitis is requesting elective colostomy reversal. He has a history of renal insufficiency and diabetes but is otherwise asymptomatic. Which of the following statements is FALSE regarding this patient's preoperative risk assessment for coronary artery disease?

- A. Both patient-related risks and operative risks are important for coronary risk assessment
- B. Renal insufficiency and diabetes are cardiac risk factors
- C. Age older than 70 years is a cardiac risk factor
- D. The highest incidence of perioperative myocardial infarction is within the first 3 days after surgery
- E. Laparoscopic colostomy reversal would reduce the overall risk of cardiac complications.

22) A 77-year-old man presents with a 4-day history of worsening shortness of breath. He has a history of coronary artery bypass grafting. Two weeks ago, he underwent a colon resection for cancer. On physical examination, his blood pressure is 70/40 mm Hg, his pulse is 115 beats per minute, and his respiratory rate is 34 breaths per minute. His arterial blood gas is pH = 7.52, pCO₂ = 28, pO₂ = 45. His first troponin is elevated. An echocardiogram demonstrates moderately reduced right ventricular function, no evidence of intracardiac thrombi, and no patent foramen ovale. A CT angiogram of the chest is performed which reveals large obstructive emboli to the pulmonary arteries bilaterally (massive PE). Which of the following is the next best step in management of this patient?

- A. Administration of enoxaparin
- B. Infusion of urokinase into the pulmonary artery
- C. Placement of an IVC filter
- D. Percutaneous catheter embolectomy
- E. Open pulmonary embolectomy

23) You plan to perform a distal pancreatectomy with splenectomy for a pancreatic adenocarcinoma in a 65-year-old man with no significant comorbidities. Which of the following statements regarding venous thromboembolism (VTE) prevention in this patient is TRUE?

- A. This patient is at moderate risk of VTE in the postoperative period
- B. Sequential compression stockings are equivalent to subcutaneous low molecular weight heparin (LMWH)
- C. LMWH for 28 days after surgery lowers VTE rates by 60%
- D. Enoxaparin is superior to fondaparinux in preventing VTE
- E. Lifelong low-dose aspirin (81 mg) is recommended to prevent VTE.