

Thoracic-A Format-B

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General Instructions

1. Read the question X 2.
2. Outline the question in 2 minutes.
3. Take the test, recording responses if possible. If you are self-testing, read the question and then answer. If you are tested by someone else, have them read the question and then answer.
4. Compare your outline to mine.
5. Compare your answers to mine, on paper (section D) and tape (tape set 3 of 3).

Testing Drill: Ranger attack!

A 56 year-old, 70 Kg, 5'8" tall male is brought to the operating room for a left upper lobectomy.

HPI: Patient noted the onset of a productive cough 6 weeks ago and an episode of hemoptysis 10 days ago. He was seen by a pulmonary specialist who noted a 2 cm mass in his left upper lobe on chest x-ray. Fiberoptic bronchoscopy revealed irregularity of the left upper lobe bronchus, and biopsy revealed carcinoma. Metastatic workup was negative.

PMH: Uncomplicated myocardial infarction 4 months ago. He notes angina with exercise over the past month. A stress test 7 days ago showed minimal ST segment depression at a heart rate of 120 beats per minute without angina. An echocardiogram revealed an ejection fraction of 55%.

Medications include diltiazem and nitroglycerin PRN. He has no allergies. He smoked 2 packs of cigarettes per day for 25 years until 10 days ago. He drinks an occasional beer.

Phys. Exam: P 72, BP 140/80, R 20, T 37.1° C. His airway appears normal. Chest auscultation reveals expiratory wheezes over left posterior upper lung field. Cardiac exam is normal. He has no organomegaly or peripheral edema.

Chest X-Ray: 2 cm mass and small infiltrate left upper lobe.

EKG: Q waves in II, III, aVf with T wave inversion in same leads.

Lab Studies: Hgb 14.5 gms/dl, normal electrolytes and normal coagulation studies.

He arrives in operating room at 10:00 AM with 1" nitropaste, having taken his diltiazem at 7:00 AM.

Specific Instructions: Testing Drill

After outlining for 2-3 minutes, administer the test to yourself by reading the question and then answering or request a colleague, spouse, or friend to ask you the following questions. Try to get "Big Red" and "Spiels" scripting into battle. Tape the answers. Listen to your tape and compare your answers to mine. This will provide practice and improve verbalization--exactly what the exam is all about.

1. **Induction:** Would you induce with thiopental? Why/Why not? Propofol? What is your choice? Why? The surgeon requests a double-lumen tube. How do you respond? How do you confirm its position? Is a right-sided tube appropriate? Why/Why not?
2. **Anesthetic Selection:** Is nitrous oxide-opioid anesthesia appropriate? Why/Why not? What is your choice? Why? Would halothane be preferable if the patient has reactive airway disease? Would you prefer another inhalation agent in this patient? Why?
3. **Intra-operative Hypoxia:** After 20 minutes of one-lung ventilation, SpO₂ is decreased from 99% to 90%. What is your interpretation and response? Explain rationale for therapeutic choices. What if SpO₂ is 80%?
4. **Massive Blood Loss:** The surgeon loses control of the pulmonary vein and the patient loses 1200 ml blood in two minutes. Two units of packed cells are available. How would you manage? Why? Blood pressure is not responding to volume replacement. What is your plan? Explain your rationale. Ischemia is detected on the ECG. How does it influence your management? What is your plan? Why?

POST-OPERATIVE CARE-8:40 A.M.

1. **Extubation Criteria:** How will you decide the suitability for extubation? Explain your rationale. How does this criteria for this patient differ from an ASA-1 cholecystectomy patient? Explain.
2. **Post-Operative Ventilatory Support:** Assume an ABG at the end of surgery with a double-lumen ET tube and bilateral ventilation shows the following: PaO₂ 65, PaCO₂ 58, pH 7.29 with F₁O₂ .5 and spontaneous ventilation. Interpret the blood gas. How will you proceed? Why? If you decide to ventilate in the ICU will you change the ET tube? Why/Why not? Discuss ventilatory settings. Discuss IMV vs. PCV. Discuss PEEP.
3. **Pain Management:** Would PCA be a good choice? Why/Why not? Is a thoracic epidural a better choice? Why/Why not? If an epidural is placed, what medications would you administer? Why?
4. **Myocardial Ischemia:** 8 hours after surgery the patient complains of anterior chest pain and you note new S-T segment elevation on the bedside monitor. How will you proceed? Why? 30 minutes later, his blood pressure is 80/30 and you note tachypnea and diffuse rales. Discuss evaluation and management.
5. **Nerve Injury:** Following extubation and at the time of discharge from the ICU, the patient complains of numbness over the ulner distribution of his right forearm and hand. What might be the cause(s)? How will you evaluate? Is there any treatment for this? What will you tell the patient?
6. **Jaundice:** 4 days after surgery, the patient's bilirubin is 6.5 mg/dl. The surgeon questions if anesthesia might be the cause. How do you respond? Discuss further evaluation.

ADDITIONAL TOPICS-8:55 a.m.

1. **Obstetrical Anesthesia:** Pre-eclampsia: Urgent C/S for fetal distress is scheduled for a 19 year old parturient who is pre-eclamptic and in active labor. She is receiving MgSO₄ and intermittent hydralazine. Blood pressure is 150/110. What would be your choice of anesthesia? Why? Discuss advantages/disadvantages of epidural anesthesia. How would you control blood pressure? Why? What are your goals? Explain.

2. **Post-CABG tamponade:** A 65 year old man underwent an uncomplicated CABG 16 hours earlier and was extubated 4 hours ago. In the past hour his BP fell from 110/70 to 70/50 and the CVP rose from 8 to 22 mmHg. What are the possible etiologies? How would you evaluate and manage? If tamponade is suspected and mediastinal exploration is required, how would you provide anesthesia? Explain.

3. **Temperature:** A 48 year old man is undergoing a radical prostatectomy during general anesthesia. Two hours into the operation, his esophageal temperature is 34.5 C. What is your management? The surgeon attributes a problem with bleeding to the hypothermia. Do you agree? Why/Why not? What might be the mechanism? Explain. How will temperature influence your plans for extubation? Describe.

Five Evaluation Points: Objective

1. What facts were stated inadequately or incorrectly?
2. Was the "Red line" observed?
3. Was the induction of anesthesia both well formulated and effectively presented?
4. Flesh wounds, not necessarily mortal but troubling and cause for concern?
5. Were there any obvious "head shots", clear "killing mistakes" which would necessitate a return visit to the battlefield next year?

Five Evaluation Points: Subjective

1. Voice modulation?
2. Hands?
3. Eye contact?
4. Convincing under enemy fire? General demeanor? Sense of credibility and worthiness?
5. Was the Ranger Corporal a "small target", avoiding blunders and obvious enemy pillboxes or did he or she waltz directly into same?

Overall

1. Could the Ranger Corporal face the best the enemy has to offer if the battle were fought today? Why/Why not?