



APPLIED EXAM

Objective Structured Clinical Examination (OSCE) Content Outline

Each OSCE scenario will address one of the following skills.

A. Communications & Professionalism

1. Discussion of Treatment Options and Informed Consent (*Obtain informed consent from a patient*)

The successful candidate will demonstrate the following behaviors:

- Demonstrates understanding of and concern for the situation of the patient
- Explains the indications for the proposed treatment options
- Explains conduct of proposed treatment options in lay terms
- Explains benefits and risks of treatment options, including both less severe/more common and more severe/less common relevant risks
- Discusses strategies for minimizing risks of the treatment options
- Elicits questions and responds appropriately in lay terms
- Confirms a final decision with the patient regarding the treatment options and obtains affirmative consent without coercion

2. Peri-procedural complications (*Conduct a focused evaluation of a peri-procedural complication, formulate an action plan, and discuss this plan with the patient*)

The successful candidate will demonstrate the following behaviors:

- Elicits history relevant to the complication and current symptoms
- Performs focused physical evaluation if appropriate
- Discusses potential causes
- Discusses potential outcomes
- Presents plan for further evaluation and/or treatment if appropriate
- Elicits questions and responds appropriately in lay terms
- Demonstrates understanding of and concern for the situation of the patient

3. Ethical issues (*Frame and discuss appropriate plans to address common ethical dilemmas in clinical care settings*)

Anesthesiologists face ethical issues related to patients, colleagues, organizations, and society. To identify and frame ethical questions productively, anesthesiologists must understand ethical principles and be able to communicate in a professional, compassionate, and patient-centered manner. Addressing ethical issues requires anesthesiologists to identify stakeholders, obtain relevant information, clarify acceptable options, determine preferences, offer advice based on these preferences, negotiate differences, and act consistent with the core principles of respect for patient autonomy, beneficence, non-maleficence, and justice.

The successful candidate will be able to identify ethical issues and incorporate them into

their discussions with patients, families and other stakeholders as they relate to:

- Confidentiality and privacy
- Decision-making capacity, informed consent, informed refusal and voluntariness
- Distribution of resources
- Interprofessional obligations
- Organ procurement
- Potential conflicts of interest
- Potentially inappropriate treatment
- Life-sustaining medical treatment

4. Communication with other professionals (*Effectively communicate with other healthcare team members in a professional manner*)

The successful candidate will demonstrate the following behaviors:

- Communicate in a clear and professional manner
- Prioritize communication of information most relevant to patient care
- Demonstrate understanding of the concerns and perspective of other health care professionals through active listening
- Recognize the potential for conflict and initiate conflict resolution as appropriate

Candidates may also be asked to demonstrate understanding and application of team-related skills, including:

- Leadership - team orientation and coordination
- Mutual performance monitoring
- Backup behavior
- Adaptability
- Providing formative feedback and facilitated debriefing

5. Practice-based Learning and Improvement (*Articulate and apply principles of patient safety and quality improvement to a clinical scenario*)

The successful candidate will demonstrate behaviors consistent with application of commonly-accepted elements of quality improvement processes, including those directed toward patient safety; these elements include the following:

- Measure current outcomes and benchmarks if appropriate
- Devise change in practice in collaboration with stakeholders if appropriate
- Educate and train clinicians regarding change in practice as appropriate
- Implement change in practice
- Measure outcomes after change in practice

B. Technical Skills

1. Interpretation of monitors (*Identify clinical conditions associated with patterns of data presented on monitors*)

The candidate will be presented with simulated monitors which will include relevant parameters from the list below:

- Electrocardiogram

- Arterial blood pressure: non-invasive (value) or invasive (waveform and value)
- Central venous pressure – waveform and value
- Pulmonary arterial pressure – waveform and value
- Pulmonary artery occlusion pressure - value
- Cardiac output - value
- Mixed venous oxygen saturation - value
- Pulse oximetry – waveform and value
- Capnography – waveform and end tidal value
- Airway pressure – waveform and peak, PEEP values
- Airway flow - waveform
- Tidal volume – waveform and end-tidal values
- Respiratory rate, Inspiratory and Expiratory Times
- Flow-volume loops - waveform
- Temperature - value

The successful candidate will integrate this information to identify clinical conditions chosen from among the following areas:

- a. Perioperative cardiac events
- b. Perioperative respiratory events
- c. Other perioperative emergencies
- d. Ventilatory modes used in normal and critically-ill patients

2. Interpretation of echocardiograms and surface ultrasound of lung (*Interpret basic transthoracic or transesophageal, lung and pleura images relevant to anesthesia practice*)

The successful candidate will be able to identify the view, identify relevant anatomy, make qualitative diagnostic assessments, and provide treatment recommendations for scenarios chosen from among the following areas:

- a. Biventricular function and wall motion
- b. Presence or absence of an atrial septal defect
- c. Volume status assessment- hypovolemia and response to volume therapy
- d. Pulmonary emboli
- e. Air emboli
- f. Basic valvular lesions
- g. Pericardial effusions
- h. Aortic dissection
- i. Pleural effusion
- j. Pneumothorax
- k. Pulmonary edema

Transesophageal echocardiography images will be chosen from the following 11 views specified in the Consensus Statement on Basic Perioperative Transesophageal Echocardiography (J Am Soc Echocardiogr 2013;26:443-56):

- a. Midesophageal Four Chamber
- b. Midesophageal Two Chamber
- c. Midesophageal Long Axis
- d. Midesophageal Ascending Aortic Long Axis

- e. Midesophageal Ascending Aortic Short Axis
- f. Midesophageal Aortic Valve Short Axis
- g. Midesophageal Right Ventricular Inflow-Outflow
- h. Midesophageal Bicaval
- i. Transgastric Midpapillary Short Axis
- j. Descending Aortic Short Axis
- k. Descending Aortic Long Axis

Transthoracic echocardiography images will be chosen from the following 5 views specified in the International Evidence-Based Recommendations for Focused Cardiac Ultrasound (J Am Soc Echocardiogr 2014;27:683.e1-e33) (testing to start in 2022):

- a. Parasternal Long Axis
- b. Parasternal Short Axis (Left Ventricle Midpapillary)
- c. Apical Four Chamber
- d. Subcostal Four Chamber
- e. Subcostal IVC Assessment

Lung and diaphragm ultrasound images will be chosen from the Anterior Mid-Clavicular Line and Posterior Axillary Line views, respectively (testing to start in 2022)

3. Application of ultrasonography (*Identify relevant normal anatomy using ultrasonography*)

Candidates who take the virtual APPLIED Exam will not participate in this skill station.

The successful candidate will identify the relevant anatomy using an ultrasound probe with a simulated patient and, where applicable, may be asked to demonstrate simulated needle placement technique for scenarios chosen from among the following procedures:

- a. Vascular cannulation
 - i. Internal jugular vein
 - ii. Cubital fossa vessels
 - iii. Radial artery
 - iv. Femoral vessels

- b. Nerve blocks
 - i. Interscalene brachial plexus
 - ii. Supraclavicular brachial plexus
 - iii. Infraclavicular brachial plexus
 - iv. Axillary brachial plexus
 - v. Transversus abdominis plane (TAP)
 - vi. Femoral
 - vii. Adductor canal (saphenous)
 - viii. Popliteal sciatic

- c. Point of care ultrasound
 - i. Heart (testing to start in 2022)
 - Parasternal Long Axis

- Parasternal Short Axis (Left Ventricle Midpapillary)
 - Apical Four Chamber
 - Subcostal Four Chamber
 - Subcostal IVC View
- ii. Lung (testing to start in 2022)
- Pleura
 - Diaphragm
 - Artifacts (A-lines, B-lines)
- iii. Abdomen (testing to start no earlier than 2022)
- Right upper quadrant (assessment for free fluid)
 - Left upper quadrant (assessment for free fluid)
 - Pelvis (assessment for free fluid)
 - Gastric (assessment of content and volume)