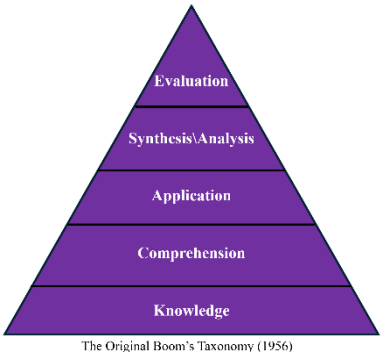
GLOBAL EMERGENCY MEDICAL REGISTRY

Emergency Point of Care Ultrasound Endorsement (EPOCUS)
Test Preparation Guide

This guide is to assist those taking the Advanced Practice Paramedic (APP) or Resuscitation Officer (RO) exam from the Global Emergency Medical Registry.

Exam Composition:
The exams are 50-100 questions in length, the questions are drawn from the GEMR test bank for the EPOCUS endorsement. The exam consists of multiple choice and true/false questions. The exam utilizes Blooms Taxonomy for question development and the exams, although may vary, generally have the following makeup:



The Original Boom's Taxonomy (1956)

50%	Knowledge	(Recall of information, Observation, Listing, Locating, Naming) and
	Comprehension	(Understanding, Translating, Summarizing, Demonstrating, Discussing)
25%	Application	(Utilizing and Applying Knowledge, Using Problem Solving Methods, Designing)
15%	Synthesis	(Using old concepts to create new ones, Inferring, Predicting, Combining) and
	Analysis	(Identify the parts and explaining how the steps work together in the overall structure or purpose)
10%	Evaluation	(Evaluating outcomes, Solving, Judging, Recommending, Rating)

Exam Time:
The candidate has 2 hours to complete the exam.

Exam Oversight:
GEMR requires the candidate to agree to exam oversight through an online exam Artificial Intelligence (AI) system. The system will monitor the candidate's desktop and activate the laptop or desktop computer camera.
If the Artificial Intelligence system finds the candidate behaving outside its set perimeters or accessing resources over the computer or phone during the exam, the AI will auto report this to the GEMR audit committee and stop the exam.
Thus, to sit for a GEMR exam, the candidate must have internet access, a laptop or desktop computer, and the ability to be present without interruptions for the time the exam is in process.

Question Origins:
Questions are written from the objectives listed on the "Information & Reference" tab at gemr.org

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What Should a Candidate Review:
A candidate who completes a program of study that includes all didactic, skill, and clinical objectives listed for their certification level at gemr.org should have only light to moderate difficulty with the exam.

Should the candidate decide to study prior to taking the exam, which we highly recommend, we would suggest the candidate might wish to review the following materials:

Websites:

1. The Global Emergency Medicine Registry Blog (https://www.gemr.org/blog/) where GEMR provides bi-weekly updates on current science and materials. We also post longer explanations of new science and summaries of basic science concepts.
2. The Resuscitation Group Blog (https://www.resuscitationgroup.com/blog/), where they answer quite a few of the more in depth questions that students have inquired about recently, as well as a new science summary paper posted about every two weeks on average.
3. ILCOR Publications page (https://ilcor.org/publications), this can be a helpful reference for the current guidelines; please remember that current guidelines are always a year behind to allow for review of science from the previous year.
4. Circulation, the journal of the American Heart Association (https://www.ahajournals.org/journal/circ) has an in-depth site with multiple resources for the AHA instructor.
5. Resuscitation, the journal of the European Resuscitation Council (https://www.resuscitationjournal.com/) has a wide variety of resources for resuscitation science and somewhat different takes on current science than the North American view.
6. STATPEARLS (https://www.statpearls.com/home/index); Covering 172 medical specialties, the organization helps practitioners make the most informed clinical decisions.

Books:

1. Basic Emergency Ultrasound Student Reference Manual; Michael Christie, ATREC Inc, 2024

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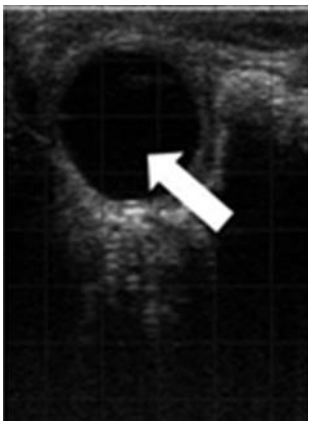
Sample Questions:

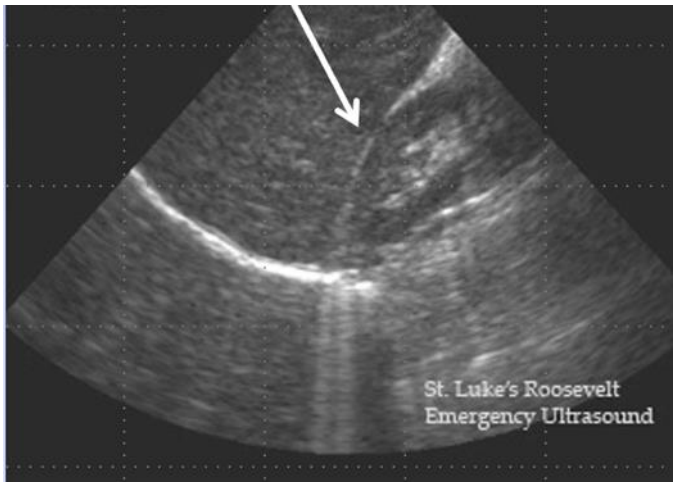


1. The arrow in the image presented here indicates which of the following?
   a. Hyperechoic
   b. Hypoechoic
   c. Anechoic
   d. None of the above

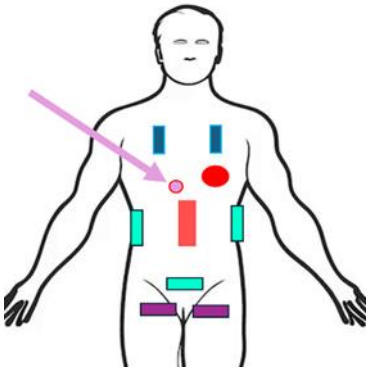
2. When used for examination of the lungs during respiratory distress, ultrasound has been shown beneficial in identifying:
   a. Pneumonia
   b. Pleural effusion
   c. Pneumothorax
   d. All of the above

3. In the BLUE protocol, a finding of Abolished (no) lung sliding, plus lung point, indicates:
   a. Pneumonia
   b. Pulmonary Edema
   c. Asthma
   d. Pneumothorax

4. In the image provided, what is the anatomy the arrow is pointing to?
   a. Liver
   b. Morrison's pouch (Hepatorenal pouch)
   c. Kidney
   d. Bowel



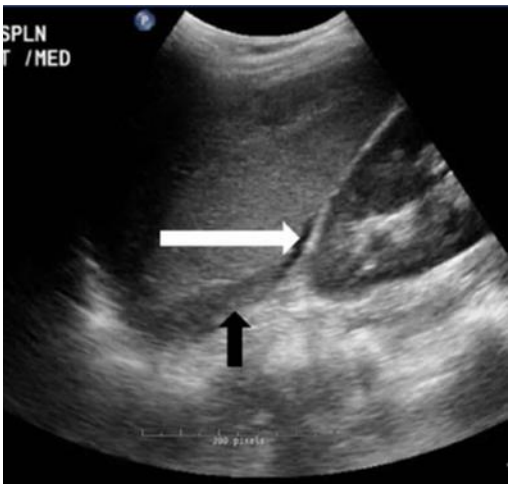
5. In the image provided, the arrow is pointing at what view in the RUSH Protocol?



   a. Pulmonary view
   b. Parasternal long cardiac view.
   c. Inferior vena cava view
   d. Aortic slide view

6. Studies have shown that ultrasound can be used during cardiac arrest to detect potentially reversible causes, such as pericardial effusion, tamponade, and right heart strain, which can inform termination of resuscitation.
   a. Correct
   b. Not Correct

7. In the image at right, the white arrow signifies which of the following?



   a. Free Fluid in Morrison's Pouch
   b. Liver rupture
   c. Hemothorax
   d. Free Fluid in the Splenorenal Recess

8. The RUSH protocol has also been included in rapid multi-organ protocols to improve the accuracy of the diagnostic process in challenging clinical situations, such as:
   a. Undifferentiated hypotension
   b. Sepsis
   c. Cardiac arrest
   d. All of the above

9. In the CAUSE Exam, you patient is showing Pulseless Electrical Activity with heart movement, with a flattening right ventricle, collapsing left ventricle, and fully collapsing IVC with ventilation; this implies which of the following may be present?
   a. Pericardial Effusion
   b. Normal Heart Pathology
   c. Diastolic Refilling derangement or Hypovolemia
   d. Electrolyte Imbalance or Acidotic State

10. In the lung image provided shows which of the following?
    a. A-Line
    b. B-Line
    c. Lung Sliding
    d. Lung Point

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Sample Question Answers:

1. C
   Anechoic (black on the screen).

2. D
   Answer found on page 6 of Basic Emergency Ultrasound Student Reference Manual

3. D
   Answer found on page 11 of Basic Emergency Ultrasound Student Reference Manual

4. B
   Hepatorenal pouch (aka “Morrison’s Pouch”)

5. C
   Answer found on page 16 of Basic Emergency Ultrasound Student Reference Manual

6. A
   Answer found on page 18 of Basic Emergency Ultrasound Student Reference Manual

7. D
   Ultrasound of patient’s upper left quadrant shows splenic hematoma (black arrow) and free fluid in the splenorenal recess(white arrow)

8. D
   Answer found on page 14 of Basic Emergency Ultrasound Student Reference Manual

9. C
   Answer found on page 21 of Basic Emergency Ultrasound Student Reference Manual

10. A
    image shows A-Line