



Sonography ARDMS

Free Practice Test — 30 Real Exam-Style Questions

with full answer key & explanations

**Unlock the full bank of 749 questions
+ unlimited timed mock exams + mistake book**

Practice on the web: <https://certs.theorypractice.app/sonography-ardms>

\$2.99 / week · \$6.99 / month · cancel anytime

What you unlock: all 749 questions • unlimited timed mock exams • mistake book • instant explanations

Also on iOS & Android — and watch the full Q&A walkthrough on [YouTube @CertsQuizPrep](#)



Unlock all 749 questions + timed mock exams
→ <https://certs.theorypractice.app/sonography-ardms>

\$2.99/week or \$6.99/month · cancel anytime · scan to start



Practice Questions

Try all 30 first, then check the answer key at the back.

Want the other 719+ questions & full timed mock exams? Unlock at
<https://certs.theorypractice.app/sonography-ardms>

1. The liver is divided into right and left lobes by which structure on its visceral surface?

- A. Falciform ligament / ligamentum teres
- B. Hepatic artery
- C. Portal vein
- D. Inferior vena cava

2. Which lobe of the liver is located between the gallbladder fossa and the ligamentum venosum fissure?

- A. Right lobe
- B. Left lobe
- C. Caudate lobe
- D. Quadrate lobe

3. Which vessel is the first unpaired branch of the abdominal aorta?

- A. Celiac artery
- B. Superior mesenteric artery
- C. Inferior mesenteric artery
- D. Renal arteries

Also on iOS & Android — and watch the full Q&A walkthrough on [YouTube](#)
[@CertsQuizPrep](#)

4. Acoustic shadowing occurs posterior to which of the following structures?

- A. Soft tissue cyst
- B. Fluid-filled bladder
- C. Gallstone
- D. Normal liver parenchyma



Unlock all 749 questions + timed mock exams
→ <https://certs.theorypractice.app/sonography-ardms>

\$2.99/week or \$6.99/month · cancel anytime · scan to start



5. What is the speed of sound in soft tissue, as used in most ultrasound systems?

- A. 1540 m/s
- B. 1480 m/s
- C. 1600 m/s
- D. 330 m/s

6. Which measurement is considered MOST accurate for gestational age estimation in the first trimester?

- A. Crown-rump length (CRL)
- B. Biparietal diameter (BPD)
- C. Femur length (FL)
- D. Abdominal circumference (AC)

Want the other 719+ questions & full timed mock exams? Unlock at
<https://certs.theorypractice.app/sonography-ardms>

7. A 35-year-old woman has a 2 cm well-defined hepatic mass that is uniformly hyperechoic on ultrasound with no internal vascularity. The most likely diagnosis is:

- A. Hepatic hemangioma
- B. Hepatocellular carcinoma
- C. Focal nodular hyperplasia
- D. Hepatic abscess

8. Which document specifically grants a patient the right to make their own healthcare decisions, including the right to refuse treatment?

- A. HIPAA Privacy Rule
- B. Patient Self-Determination Act
- C. Emergency Medical Treatment and Labor Act
- D. Health Insurance Portability and Accountability Act

9. Which of the following is an acoustic variable that ultrasound waves produce as they travel through tissue?

- A. Pressure
- B. Frequency
- C. Period
- D. Wavelength



Unlock all 749 questions + timed mock exams

→ <https://certs.theorypractice.app/sonography-ardms>

\$2.99/week or \$6.99/month · cancel anytime · scan to start



Also on iOS & Android — and watch the full Q&A walkthrough on [YouTube](#)
[@CertsQuizPrep](#)

10. Which hepatic vein drains directly into the inferior vena cava and runs between the right and left lobes?

- A. Right hepatic vein
- B. Left hepatic vein
- C. Middle hepatic vein
- D. Caudate vein

11. The porta hepatis transmits all of the following EXCEPT:

- A. Hepatic veins
- B. Portal vein
- C. Hepatic artery
- D. Common bile duct

12. Posterior acoustic enhancement is characteristically seen posterior to which type of structure?

- A. Simple fluid-filled cyst
- B. Dense calcification
- C. Hyperechoic fibroid
- D. Air-filled bowel

Want the other 719+ questions & full timed mock exams? Unlock at
<https://certs.theorypractice.app/sonography-ardms>

13. Which property of sound describes the number of cycles that occur per second?

- A. Wavelength
- B. Amplitude
- C. Frequency
- D. Period

14. A gestational sac is identified but no embryo is visible. At which mean sac diameter (MSD) should a yolk sac be definitively visualized by transvaginal ultrasound?

- A. 5 mm
- B. 8 mm
- C. 13 mm
- D. 20 mm



Unlock all 749 questions + timed mock exams
→ <https://certs.theorypractice.app/sonography-ardms>

\$2.99/week or \$6.99/month · cancel anytime · scan to start



15. Which sonographic feature is most associated with hepatocellular carcinoma (HCC) in a cirrhotic liver?

- A. Posterior acoustic shadowing
- B. Arterial hyperenhancement with venous washout
- C. Uniform hyperechogenicity without washout
- D. Bilateral portal vein dilation

Also on iOS & Android — and watch the full Q&A walkthrough on [YouTube](#)
[@CertsQuizPrep](#)

16. Before performing a sonographic examination, which element is MOST essential to obtain from the patient?

- A. Insurance information
- B. Family medical history
- C. Informed consent
- D. Referring physician's pager number

17. What is the assumed propagation speed of ultrasound used by most diagnostic ultrasound systems?

- A. 1480 m/s
- B. 1540 m/s
- C. 1600 m/s
- D. 340 m/s

18. On a transverse sonogram, the main lobar fissure connecting the gallbladder fossa to the right portal vein creates which appearance?

- A. Hockey-stick sign
- B. Exclamation mark sign
- C. H-sign
- D. Starry sky appearance

Want the other 719+ questions & full timed mock exams? Unlock at
<https://certs.theorypractice.app/sonography-ardms>



Unlock all 749 questions + timed mock exams
→ <https://certs.theorypractice.app/sonography-ardms>

\$2.99/week or \$6.99/month · cancel anytime · scan to start



19. The normal adult spleen is typically located in which abdominal quadrant?

- A. Right upper quadrant
- B. Left upper quadrant
- C. Left lower quadrant
- D. Right lower quadrant

20. Reverberation artifact is caused by sound repeatedly bouncing between two highly reflective surfaces. How does it appear on the image?

- A. A single bright line at the reflector depth
- B. Multiple equally spaced echoes deep to the reflector
- C. A dark shadow posterior to the reflector
- D. Lateral displacement of structures

21. What is the relationship between frequency and wavelength in a medium of fixed acoustic velocity?

- A. Directly proportional
- B. Inversely proportional
- C. They are equal
- D. Unrelated

Also on iOS & Android — and watch the full Q&A walkthrough on [YouTube](#)
[@CertsQuizPrep](#)

22. According to the Society of Radiologists in Ultrasound (SRU) 2013 consensus criteria, at what embryonic CRL can cardiac activity be absent yet the pregnancy is NOT definitively nonviable without a follow-up scan?

- A. Less than 3 mm
- B. Less than 7 mm
- C. Less than 10 mm
- D. Less than 12 mm

23. A 28-year-old woman on oral contraceptives has a hepatic mass with a central echogenic scar and spoke-wheel vascularity on Doppler. The most likely diagnosis is:

- A. Hepatic adenoma
- B. Hepatic hemangioma
- C. Focal nodular hyperplasia
- D. Metastatic deposit



Unlock all 749 questions + timed mock exams
→ <https://certs.theorypractice.app/sonography-ardms>

\$2.99/week or \$6.99/month · cancel anytime · scan to start



24. According to standard precautions, when should a sonographer wear gloves during a patient examination?

- A. Whenever there is potential contact with blood or body fluids
- B. Only when the patient is known to have an infectious disease
- C. Only during invasive procedures such as biopsies
- D. Gloves are optional if hands are washed immediately after

Want the other 719+ questions & full timed mock exams? Unlock at
<https://certs.theorypractice.app/sonography-ardms>

25. Propagation speed of ultrasound in tissue is primarily determined by which property of the medium?

- A. Density alone
- B. Frequency of the transducer
- C. Acoustic impedance alone
- D. Stiffness (bulk modulus) and density of the medium

26. According to the Couinaud segmental system, segment I refers to which portion of the liver?

- A. Right anterior inferior segment
- B. Left lateral superior segment
- C. Right posterior superior segment
- D. Caudate lobe

27. The pancreatic tail is most closely related to which structure?

- A. Duodenum
- B. Gallbladder
- C. Right adrenal gland
- D. Splenic hilum

Also on iOS & Android — and watch the full Q&A walkthrough on [YouTube](#)
[@CertsQuizPrep](#)

28. A comet-tail artifact is a special form of which artifact?

- A. Refraction
- B. Posterior enhancement
- C. Mirror-image
- D. Reverberation



Unlock all 749 questions + timed mock exams
→ <https://certs.theorypractice.app/sonography-ardms>

\$2.99/week or \$6.99/month · cancel anytime · scan to start



29. What material is primarily used in modern ultrasound transducers to generate sound waves?

- A. Piezoelectric crystal
- B. Magnetostrictive alloy
- C. Quartz glass
- D. Carbon fiber

30. Which sonographic finding is MOST consistent with a blighted ovum (anembryonic pregnancy)?

- A. CRL of 8 mm with cardiac activity
- B. Yolk sac diameter of 5 mm
- C. Echogenic fetal bowel
- D. MSD \geq 25 mm with no embryo on transvaginal scan



Unlock all 749 questions + timed mock exams
→ <https://certs.theorypractice.app/sonography-ardms>

\$2.99/week or \$6.99/month · cancel anytime · scan to start



Answer Key & Explanations

You just practised 30 of 749. Unlock every question + timed mocks at
<https://certs.theorypractice.app/sonography-ardms>

1. A — Falciform ligament / ligamentum teres

The falciform ligament (containing the ligamentum teres, the obliterated umbilical vein) divides the liver into right and left lobes on the anterior surface. The IVC marks the right posterior boundary but does not divide the lobes.

2. C — Caudate lobe

The caudate lobe (segment I) lies posteriorly between the IVC, the ligamentum venosum fissure, and the porta hepatis; the quadrate lobe lies between the gallbladder fossa and the ligamentum teres. The correct answer here is the caudate lobe.

3. A — Celiac artery

The celiac artery (celiac trunk) is the first unpaired (ventral) branch of the abdominal aorta, arising at approximately the T12/L1 level. It divides into the left gastric, splenic, and common hepatic arteries.

4. C — Gallstone

Highly reflective or absorptive structures such as gallstones, calcifications, and gas block the transmission of sound, producing a dark shadow posterior to them. Cysts and fluid-filled structures produce enhancement, not shadowing.

5. A — 1540 m/s

The assumed propagation speed in soft tissue is 1540 m/s (or 1.54 mm/ μ s). This value is used by scanners to calculate depth from echo return time.

6. A — Crown-rump length (CRL)

CRL is the most accurate biometric for dating in the first trimester (up to ~13.6 weeks), with a margin of error of ± 5 –7 days. BPD, FL, and AC are used in the second and third trimesters.

7. A — Hepatic hemangioma

Cavernous hemangiomas are the most common benign hepatic tumors and classically appear as uniformly hyperechoic well-defined lesions. Lack of internal vascularity on Doppler and no central scar distinguishes this from FNH.

8. B — Patient Self-Determination Act

The Patient Self-Determination Act (1990) requires healthcare facilities to inform patients of their right to make healthcare decisions, including refusing treatment, and to document any advance directives. HIPAA governs privacy, not decision-making rights.

9. A — Pressure

Acoustic variables are quantities that change as a sound wave passes: pressure, particle motion (density), and temperature. Frequency, period, and wavelength are wave descriptors determined by the source, not acoustic variables.



Unlock all 749 questions + timed mock exams

→ <https://certs.theorypractice.app/sonography-ardms>

\$2.99/week or \$6.99/month · cancel anytime · scan to start

Unofficial study material · not affiliated with any certifying body



10. C — Middle hepatic vein

The middle hepatic vein lies in the main lobar fissure and drains directly into the IVC, separating the right and left lobes. The right and left hepatic veins drain their respective lobes.

11. A — Hepatic veins

The porta hepatis (liver hilum) carries the portal vein, hepatic artery proper, and common hepatic duct (bile duct). The hepatic veins drain posteriorly into the inferior vena cava, NOT through the porta hepatis.

12. A — Simple fluid-filled cyst

Fluid transmits sound with very little attenuation, so the tissue posterior to a cyst appears brighter than surrounding tissue at the same depth—this is posterior acoustic enhancement. Dense calcifications and gas cause shadowing instead.

13. C — Frequency

Frequency is the number of complete cycles per second, measured in Hertz (Hz). Diagnostic ultrasound typically uses frequencies in the megahertz (MHz) range.

14. C — 13 mm

A yolk sac should be visualized when the MSD reaches approximately 13 mm on transvaginal ultrasound. Absence of a yolk sac at this size is suspicious for an anembryonic pregnancy.

15. B — Arterial hyperenhancement with venous washout

HCC characteristically shows arterial-phase hyperenhancement followed by portal-venous washout on contrast imaging, reflecting tumor hypervascularity. This pattern is the basis for non-biopsy diagnosis per EASL/AASLD criteria.

16. C — Informed consent

Informed consent must be obtained before any diagnostic procedure. It ensures the patient understands the nature of the exam, its purpose, potential risks, and alternatives, protecting both patient autonomy and the sonographer legally.

17. B — 1540 m/s

Diagnostic ultrasound systems assume a propagation speed of 1540 m/s (the average speed in soft tissue). Using this assumption allows depth calculations via the pulse-echo technique.

18. B — Exclamation mark sign

The main lobar fissure seen in continuity with the gallbladder neck and the right portal vein produces an 'exclamation mark' or 'golf-club' appearance on transverse imaging, a reliable landmark for the interlobar division.

19. B — Left upper quadrant

The spleen resides in the left upper quadrant (LUQ), lying beneath the diaphragm between the 9th and 11th ribs, adjacent to the stomach and left kidney.

20. B — Multiple equally spaced echoes deep to the reflector

Each round-trip between the two reflectors adds a delay equal to the transit time between them, producing equally spaced parallel echoes progressively deeper in the image. The artifact is NOT a shadow or a lateral shift.



Unlock all 749 questions + timed mock exams

→ <https://certs.theorypractice.app/sonography-ardms>

\$2.99/week or \$6.99/month · cancel anytime · scan to start

Unofficial study material · not affiliated with any certifying body



21. B — Inversely proportional

Wavelength = velocity / frequency. In a fixed medium, as frequency increases, wavelength decreases — they are inversely proportional.

22. B — Less than 7 mm

SRU criteria state that an embryo with CRL < 7 mm showing no cardiac activity is suspicious but not definitively nonviable; a follow-up scan is recommended. At CRL ≥ 7 mm without cardiac activity, the pregnancy is definitively nonviable.

23. C — Focal nodular hyperplasia

Focal nodular hyperplasia (FNH) is the second most common benign hepatic tumor and classically demonstrates a central fibrous scar with radiating spoke-wheel vascularity. It is most often found in women of childbearing age.

24. A — Whenever there is potential contact with blood or body fluids

Standard precautions, as defined by the CDC, require gloves any time there is potential contact with blood, body fluids, non-intact skin, or mucous membranes — regardless of the patient's known infection status.

25. D — Stiffness (bulk modulus) and density of the medium

Propagation speed = $\sqrt{\text{stiffness} / \text{density}}$. Stiffer media conduct sound faster; denser media slow it down. Frequency is a source property that does not affect propagation speed.

26. D — Caudate lobe

In the Couinaud classification, segment I is the caudate lobe, which has independent blood supply from both portal veins and hepatic veins draining directly into the IVC.

27. D — Splenic hilum

The pancreatic tail extends toward the left, reaching the splenic hilum. It lies in the lienorenal ligament and contacts the spleen, making it the most closely related structure.

28. D — Reverberation

Comet-tail is a short, tapering reverberation artifact produced by very small, highly reflective interfaces such as metal needles or small calcifications. It is a subtype of reverberation, not refraction or mirror-image.

29. A — Piezoelectric crystal

Piezoelectric crystals (commonly PZT — lead zirconate titanate) convert electrical energy to mechanical vibration and vice versa, forming the basis of ultrasound transducers.

30. D — MSD ≥ 25 mm with no embryo on transvaginal scan

An MSD ≥ 25 mm without a visible embryo on transvaginal ultrasound is a definitive criterion for anembryonic pregnancy per SRU guidelines. The other findings may raise concern but are not definitive by themselves.



Unlock all 749 questions + timed mock exams

→ <https://certs.theorypractice.app/sonography-ardms>

\$2.99/week or \$6.99/month · cancel anytime · scan to start



Ready to pass?

Unlock the full Sonography ARDMS bank, every explanation, and unlimited timed mock exams.

Scan to start practising

<https://certs.theorypractice.app/sonography-ardms>

Watch the full video walkthrough on YouTube @CertsQuizPrep



Unlock all 749 questions + timed mock exams
→ <https://certs.theorypractice.app/sonography-ardms>

\$2.99/week or \$6.99/month · cancel anytime · scan to start