

MULTIPLE CHOICE

ARTIFACTS - PRACTICE SET

PROPOSED FOR REVIEW - questions are the author's verbatim Q&A; distractors are auto-selected from other answers in the same bank and must be checked by a subject-matter reviewer (a distractor could coincidentally be correct). Not authoritative assessment content.

1. In which medium is comet tail artifact more commonly seen?

- A. Medium with no attenuation
- B. High propagation speed medium
- C. Medium with no reflectors
- D. Low propagation speed medium

2. What is a form of noise seen with Doppler imaging?

- A. Enhancement
- B. Focal banding
- C. Clutter
- D. Edge shadow

3. True or False? If corrective actions are taken, artifacts can disappear.

- A. False
- B. True

4. Which artifact is created when sound reflects off a strong reflector and is then directed back toward the transducer a second time?

- A. Focal enhancement
- B. Lateral resolution artifact
- C. Comet tail
- D. Mirror image artifact

5. What is another term for comet tail?

- A. Range error artifact
- B. Ring down artifact
- C. Mirror image artifact
- D. Focal banding

6. What term describes the ability to accurately position a moving structure?

- A. Temporal resolution
- B. Contrast resolution
- C. Elevational resolution
- D. Spatial resolution

7. True or False? Lateral resolution artifact can display a reflector as a wide line instead of a point.

- A. False
- B. True

8. Which artifact creates one reflection from two closely spaced reflectors along the beam axis?

- A. Lateral resolution artifact
- B. Mirror image artifact
- C. Axial resolution artifact
- D. Comet tail artifact

9. What is transmission with a bend?

- A. Attenuation
- B. Refraction

- C. Reflection
- D. Scattering

10. How is enhancement related to the speed of sound traveling in a medium?

- A. It occurs only in high-speed media
- B. It is unrelated to propagation speed
- C. It occurs only in low-speed media
- D. It is caused by speed error

11. What does reverberation artifact add to the image?

- A. Too many reflections
- B. No displayed echoes
- C. Only deeper real structures
- D. Too few reflections

12. Which artifact is seen when some pulses travel directly to and from a reflector, while others take an indirect path?

- A. Axial resolution artifact
- B. Enhancement artifact
- C. Slice thickness artifact
- D. Multipath artifact

13. What term means echo-free?

- A. Hyperechoic
- B. Anechoic
- C. Hypoechoic
- D. Isoechoic

14. What is spatial resolution related to?

- A. Pixel density
- B. Doppler angle only
- C. Wall filter frequency
- D. Output power only

15. Which artifact appears when the beam dimension is larger than the reflector size?

- A. Aliasing artifact
- B. Slice thickness artifact
- C. Crosstalk artifact
- D. Speed error artifact

16. What artifact appears as a hyperechoic region extending below an abnormally low attenuating structure?

- A. Reverberation
- B. Shadowing
- C. Enhancement
- D. Lateral resolution artifact

17. Which artifact appears as a hyperechoic, side-to-side enhancement at the depth of the focal zone?

- A. Edge shadow
- B. Focal enhancement
- C. Mirror image artifact
- D. Comet tail

18. What does speed error artifact look like?

- A. Reflectors at incorrect depths, or a cut or split in an object
- B. A bright band only at the focal zone
- C. A dark region deep to a strong attenuator
- D. Multiple equally spaced echoes

19. Which line density results in inferior spatial resolution?

- A. Maximum line density
- B. Line density unrelated to image detail
- C. High line density
- D. Low line density

20. What does refraction artifact do to lateral resolution?

- A. Degrades lateral resolution
- B. Eliminates the need for focusing
- C. Leaves lateral resolution unchanged
- D. Improves lateral resolution

21. What is an error in imaging called?

- A. Specular reflector
- B. Artifact
- C. Enhancement
- D. Attenuation

22. How are lobe artifacts reduced?

- A. Using a longer spatial pulse length
- B. Increasing output power only
- C. Subdicing and apodization
- D. Removing all focusing

23. What is another term for focal enhancement?

- A. Ring down artifact
- B. Focal banding
- C. Range error artifact
- D. Shadowing by refraction

24. What reduces an image's noise and improves signal-to-noise ratio?

- A. Turning off focusing
- B. Harmonic imaging
- C. Using fewer scan lines only
- D. Increasing slice thickness

25. What are the lobes created by an array transducer called?

- A. Side lobes
- B. Ring down lobes
- C. Range error lobes
- D. Grating lobes