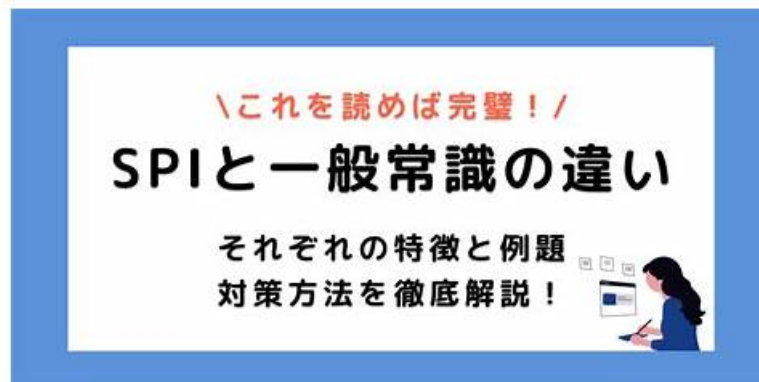


# SPI試験の準備方法 | 効果的なSPI日本語参考試験 | 便利なSonography Principles and Instrumentation入門知識



無料でクラウドストレージから最新のXhs1991 SPI PDFダンプをダウンロードする: <https://drive.google.com/open?id=1f9BohuAcV4uN4sOMejfnSZ6rgQM9RTPX>

より多くの時間を節約できるように、お支払い後10分以内にSPIテストガイドをオンラインでお送りします。時間の無駄を避けるため、できるだけ早くこれらのSPIトレーニング資料を学習できることを保証いたします。私たちARDMSは、時間は世界で最も貴重なものだと信じています。これが、Sonography Principles and Instrumentation学習効率と生産性の向上に専念する理由です。SPI調査の質問の利点をいくつかご紹介します。SPIの質問をご覧ください。

長年の努力と革新とクライアントベースのコンセプトを中心に、当社は業界の旗艦企業に成長しました。当社は、SPI試験の準備の質の向上に苦勞し、SPIスタディガイドの研究と革新に多大な努力とお金を投資しています。業界での当社のブランド名は、優れたSPI学習ガイドで有名です。高品質、思いやりのあるサービス、絶え間ない革新、そしてSPI試験問題での最初の顧客の概念は、当社の4つの柱です。

>> SPI日本語参考 <<

## 実際の-100%合格率のSPI日本語参考試験-試験の準備方法SPI入門知識

どのようにARDMS SPI試験に準備すると悩んでいますか。我々社のSPI問題集を参考した後、ほっとしました。弊社のSPIソフト版問題集はかねてより多くのIT事業をしている人々は順調にARDMS SPI資格認定を取得させます。試験にパスする原因は我々問題集の全面的で最新版です。

### ARDMS SPI 認定試験の出題範囲:

トピック	出題範囲
トピック 1	<ul style="list-style-type: none"><li>• Provide Clinical Safety and Quality Assurance: This section of the exam measures skills of Clinical Ultrasound Supervisors and focuses on maintaining safety and quality standards in ultrasound practice. It includes infection control protocols, transducer and machine integrity checks, and quality assurance testing using tissue-mimicking phantoms. The section also requires familiarity with statistical parameters like sensitivity and specificity to evaluate diagnostic performance and ensure consistent, reliable imaging outcomes.</li></ul>
トピック 2	<ul style="list-style-type: none"><li>• Manage Ultrasound Transducers: This section of the exam measures skills of Ultrasound Technicians and focuses on the management and proper use of different types of transducers. It evaluates knowledge of transducer components, frequency selection, and application of various 2D, 3D, 4D, and nonimaging transducer concepts. Candidates must show they can choose the appropriate transducer for specific examinations and make necessary frequency adjustments to ensure image quality.</li></ul>

トピック 3	<ul style="list-style-type: none"> <li>• Perform Ultrasound Examinations: This section of the exam measures skills of Sonographers and covers how to conduct ultrasound procedures while ensuring patient safety and diagnostic accuracy. It includes understanding of imaging protocols, ergonomics, patient care, and the interaction between sound and tissue. Candidates are expected to demonstrate abilities to manage patient encounters, apply 3D and 4D and contrast imaging concepts, identify and correct artifacts, and follow confidentiality and privacy standards throughout the scanning process.</li> </ul>
トピック 4	<ul style="list-style-type: none"> <li>• Optimize Sonographic Images: This section of the exam measures skills of Diagnostic Medical Sonographers and assesses their ability to enhance image quality using advanced optimization techniques. It includes understanding axial, lateral, elevational, and temporal resolution, as well as manipulating gain, depth, magnification, and dynamic range. Examinees are expected to apply harmonic imaging, spatial compounding, and gray-scale techniques to produce clear, accurate diagnostic images.</li> </ul>
トピック 5	<ul style="list-style-type: none"> <li>• Apply Doppler Concepts: This section of the exam measures skills of Vascular Sonographers and evaluates understanding and application of Doppler ultrasound principles. It includes knowledge of Doppler angle, flow dynamics, and color and spectral Doppler imaging. The section also covers eliminating aliasing, interpreting waveforms, applying continuous and pulsed wave Doppler, and optimizing Doppler gain and scale to accurately measure blood flow and velocity within vessels.</li> </ul>

## ARDMS Sonography Principles and Instrumentation 認定 SPI 試験問題 (Q65-Q70):

### 質問 # 65

How is variable transmit focus with a linear phased array accomplished?

- A. Modifying the impedance of the acoustic lens
- B. Reshaping the matching layers
- C. Mechanically rotate array elements
- D. Adjusting relative delay times of the array elements

正解: D

解説:

Comprehensive and Detailed Explanation From Exact Extract:

In phased arrays, transmit focus is electronically controlled by varying the timing (delays) of the activation of elements.

Principles and Instrumentation state:

"Electronic focusing is achieved by introducing varying time delays to individual elements, allowing beam focusing at different depths."

Mechanical rotation (A) applies to older mechanical probes.

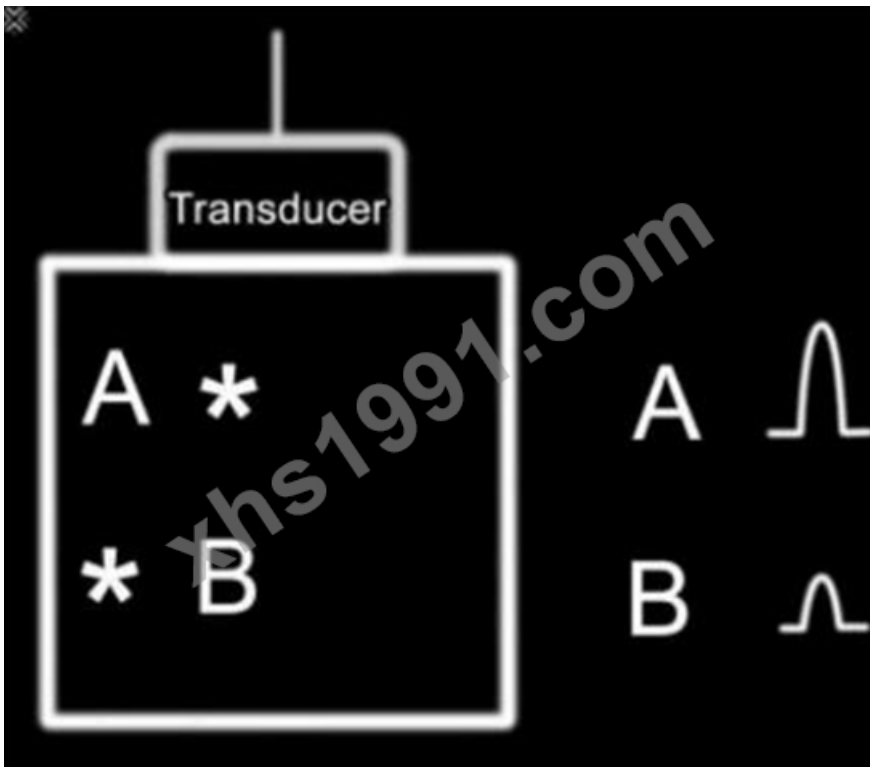
Matching layers (B) and acoustic lens impedance (C) do not control focusing electronically.

Therefore, the correct answer is D: Adjusting relative delay times of the array elements.

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### 質問 # 66

Which aspect(s) would best explain why the amplitude of the signal from reflector B in this diagram is less than that from reflector A?



- A. Propagation speed differences
- B. Elasticity of the medium
- C. Attenuation
- D. Acoustic impedance differences

正解: C

解説:

Comprehensive and Detailed Explanation From Exact Extract:

As ultrasound travels through tissue, it experiences attenuation - a reduction in signal amplitude due to absorption, scattering, and reflection. The deeper the reflector, the greater the attenuation. Therefore, the signal from reflector B (deeper structure) is weaker than from reflector A (shallower structure) primarily due to attenuation.

According to Principles and Instrumentation:

"Attenuation is the reduction in ultrasound beam strength as it propagates through tissue, resulting in decreased signal amplitude from deeper structures." Elasticity affects stiffness but not amplitude directly.

Propagation speed differences cause refraction or displacement, not amplitude changes.

Acoustic impedance differences cause reflection strength variations at interfaces but do not account for depth-dependent amplitude reduction.

Therefore, the correct answer is A: Attenuation.

質問 # 67

In addition to velocity, which factor affects acoustic impedance?

- A. Penetration depth
- B. Tissue density
- C. Transducer frequency
- D. Attenuation coefficient

正解: B

解説:

Comprehensive and Detailed Explanation From Exact Extract:

Acoustic impedance (Z) is determined by the product of tissue density ( $\rho$ ) and propagation speed (c), expressed as:

$$Z = \rho \times c$$

According to Principles and Instrumentation:

"Acoustic impedance is a property of the tissue, determined by its density and the speed of sound through it."

- \* Penetration depth (A) does not affect impedance directly.
  - \* Attenuation coefficient (B) affects signal loss, not impedance.
  - \* Transducer frequency (D) is independent of tissue impedance.
- Therefore, the correct answer is C: Tissue density.

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### 質問 # 68

What is the effect of increasing the sample volume on the spectral Doppler signal tracing?

- A. Decreased aliasing
- **B. Increased noise**
- C. Increased velocity sensitivity
- D. Decreased sweep speed

正解: B

解説:

Comprehensive and Detailed Explanation From Exact Extract:

A larger sample volume collects Doppler signals from a wider region, which can include multiple velocities and noise. This leads to a broader spectrum (spectral broadening) and may introduce additional noise into the signal.

According to sonography instrumentation reference:

"Increasing the sample volume size increases the likelihood of including multiple velocity components and noise, resulting in spectral broadening and reduced spectral clarity." Therefore, the correct answer is B: Increased noise.

### 質問 # 69

What device is used to determine axial resolution?

- A. Beam profiler
- B. Hydrophone
- C. Doppler phantom
- **D. Tissue-mimicking phantom**

正解: D

解説:

Comprehensive and Detailed Explanation From Exact Extract:

A tissue-mimicking phantom contains small targets at known separations to evaluate the system's axial resolution, lateral resolution, depth calibration, and more.

Principles and Instrumentation state:

"Tissue-mimicking phantoms assess spatial resolution (axial, lateral), depth accuracy, and penetration performance."

- \* Hydrophones (B) measure acoustic pressure.
- \* Beam profilers (C) assess beam characteristics.
- \* Doppler phantoms (D) test Doppler function.

Therefore, the correct answer is A: Tissue-mimicking phantom.

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### 質問 # 70

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我々はARDMSのSPI試験問題と解答また試験シミュレータを最初に提供し始めたとき、私達が評判を取ることを夢にも思わなかった。我々が今行っている保証は私たちが信じられないほどのフォームです。ARDMSのSPI試験はXhs1991の保証を検証することができ、100パーセントの合格率に達することができます。

SPI入門知識: <https://www.xhs1991.com/SPI.html>

- SPIトレーニング □ SPI出題内容 □ SPI資格参考書 □ □ [www.shikenpass.com](http://www.shikenpass.com) □ に移動し、▶ SPI □ を検索して無料でダウンロードしてくださいSPI復習解答例

