

# Certified Diagnostic Ophthalmic Sonographer (CDOS) Practice exam (Sample)

## Study Guide



**Everything you need from our exam experts!**

**This is a sample study guide. To access the full version with hundreds of questions,**

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**SAMPLE**

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# Introduction

Preparing for a certification exam can feel overwhelming, but with the right tools, it becomes an opportunity to build confidence, sharpen your skills, and move one step closer to your goals. At Examzify, we believe that effective exam preparation isn't just about memorization, it's about understanding the material, identifying knowledge gaps, and building the test-taking strategies that lead to success.

This guide was designed to help you do exactly that.

Whether you're preparing for a licensing exam, professional certification, or entry-level qualification, this book offers structured practice to reinforce key concepts. You'll find a wide range of multiple-choice questions, each followed by clear explanations to help you understand not just the right answer, but why it's correct.

The content in this guide is based on real-world exam objectives and aligned with the types of questions and topics commonly found on official tests. It's ideal for learners who want to:

- Practice answering questions under realistic conditions,
- Improve accuracy and speed,
- Review explanations to strengthen weak areas, and
- Approach the exam with greater confidence.

We recommend using this book not as a stand-alone study tool, but alongside other resources like flashcards, textbooks, or hands-on training. For best results, we recommend working through each question, reflecting on the explanation provided, and revisiting the topics that challenge you most.

Remember: successful test preparation isn't about getting every question right the first time, it's about learning from your mistakes and improving over time. Stay focused, trust the process, and know that every page you turn brings you closer to success.

Let's begin.

# How to Use This Guide

**This guide is designed to help you study more effectively and approach your exam with confidence. Whether you're reviewing for the first time or doing a final refresh, here's how to get the most out of your Examzify study guide:**

## **1. Start with a Diagnostic Review**

**Skim through the questions to get a sense of what you know and what you need to focus on. Don't worry about getting everything right, your goal is to identify knowledge gaps early.**

## **2. Study in Short, Focused Sessions**

**Break your study time into manageable blocks (e.g. 30 - 45 minutes). Review a handful of questions, reflect on the explanations, and take breaks to retain information better.**

## **3. Learn from the Explanations**

**After answering a question, always read the explanation, even if you got it right. It reinforces key points, corrects misunderstandings, and teaches subtle distinctions between similar answers.**

## **4. Track Your Progress**

**Use bookmarks or notes (if reading digitally) to mark difficult questions. Revisit these regularly and track improvements over time.**

## **5. Simulate the Real Exam**

**Once you're comfortable, try taking a full set of questions without pausing. Set a timer and simulate test-day conditions to build confidence and time management skills.**

## **6. Repeat and Review**

**Don't just study once, repetition builds retention. Re-attempt questions after a few days and revisit explanations to reinforce learning.**

## **7. Use Other Tools**

**Pair this guide with other Examzify tools like flashcards, and digital practice tests to strengthen your preparation across formats.**

**There's no single right way to study, but consistent, thoughtful effort always wins. Use this guide flexibly — adapt the tips above to fit your pace and learning style. You've got this!**

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## **Questions**

- 1. What does topographic echography evaluate?**
  - A. Internal structure and sound attenuation**
  - B. Location, extension, and shape**
  - C. Reflectivity and movement**
  - D. Color and contrast of tissues**
- 2. What is immersion biometry primarily used for?**
  - A. Measuring intraocular pressure**
  - B. Determining the correct intraocular lens (IOL) power for cataract surgery**
  - C. Measuring peripheral vision**
  - D. Calculating the thickness of the cornea**
- 3. Why is the anterior chamber depth measured using ultrasound?**
  - A. To assess corneal curvature**
  - B. To evaluate risk for angle-closure glaucoma**
  - C. To determine lens opacity**
  - D. To check for retinal tears**
- 4. Which imaging modality is often combined with ultrasound for comprehensive eye assessment?**
  - A. Computed tomography (CT)**
  - B. Magnetic resonance imaging (MRI)**
  - C. Optical coherence tomography (OCT)**
  - D. X-ray imaging**
- 5. What does the white arrow signify in the context of the examination?**
  - A. It indicates the location of the retina**
  - B. It points towards an open angle**
  - C. It identifies the optic disc**
  - D. It marks the ciliary body**



- 6. What frequency range is typically used for A-scan measurements?**
- A. 5-10 MHz**
  - B. 10-15 MHz**
  - C. 15-20 MHz**
  - D. 20-25 MHz**
- 7. How might a patient's movement during an ultrasound exam affect the imaging results?**
- A. It can enhance the clarity of images**
  - B. It can produce motion artifacts, compromising image quality**
  - C. It has no effect on the imaging quality**
  - D. It helps in locating the precise position of ocular structures**
- 8. What factor can adversely affect the accuracy of B-scan imaging?**
- A. Pupil dilation**
  - B. Movement of the patient during the exam**
  - C. Environment light exposure**
  - D. Type of ultrasound gel used**
- 9. What is the significance of the vitreous body in ophthalmic ultrasound?**
- A. It helps in focusing light onto the retina**
  - B. It can reveal information about retinal detachment and other pathologies**
  - C. It maintains intraocular pressure**
  - D. It aids in the formation of images**
- 10. What effect does damping material have in an ultrasound probe?**
- A. It enhances the echo return time**
  - B. It limits the vibrations of the crystal**
  - C. It increases sound intensity**
  - D. It improves image resolution**

## **Answers**

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1. B
2. B
3. B
4. C
5. B
6. B
7. B
8. B
9. B
10. B

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## **Explanations**

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## 1. What does topographic echography evaluate?

- A. Internal structure and sound attenuation
- B. Location, extension, and shape**
- C. Reflectivity and movement
- D. Color and contrast of tissues

Topographic echography, also known as topographic ultrasound, focuses primarily on assessing the location, extension, and shape of anatomical structures within the eye. This technique provides detailed information regarding the spatial relationships and dimensions of various tissues, which is crucial for diagnosing and managing different ocular conditions. By evaluating the location, extension, and shape, practitioners can gain insights into how these structures interact with each other and detect abnormalities such as tumors, cysts, or other lesions. This type of information is vital for planning surgical interventions or other therapeutic approaches. While other imaging techniques might focus on aspects such as internal structure and sound attenuation or the reflectivity and movement of tissues, the specific aim of topographic echography is to provide a clear picture of how different structures are positioned and how they relate to one another in three-dimensional space. This makes it an essential tool in the field of ophthalmology for accurate assessment and diagnosis.

## 2. What is immersion biometry primarily used for?

- A. Measuring intraocular pressure
- B. Determining the correct intraocular lens (IOL) power for cataract surgery**
- C. Measuring peripheral vision
- D. Calculating the thickness of the cornea

Immersion biometry is primarily used for determining the correct intraocular lens (IOL) power for cataract surgery. This technique involves immersing the eye in a fluid medium, which allows for more accurate measurements of the eye's dimensions compared to traditional methods. By providing a clearer view of the eye's anatomy and reducing the impact of corneal curvature and irregularities, immersion biometry enhances the precision with which the axial length of the eye is measured. This is critical for calculating the appropriate lens power needed to correct the patient's vision post-surgery, ensuring optimal outcomes for cataract patients. While other options such as measuring intraocular pressure, measuring peripheral vision, and calculating corneal thickness are also vital components of ophthalmic assessments, they do not typically involve immersion biometry or directly relate to the process of selecting IOL power.

### **3. Why is the anterior chamber depth measured using ultrasound?**

- A. To assess corneal curvature**
- B. To evaluate risk for angle-closure glaucoma**
- C. To determine lens opacity**
- D. To check for retinal tears**

Measuring the anterior chamber depth with ultrasound is important for evaluating the risk for angle-closure glaucoma. In angle-closure glaucoma, the angle between the iris and cornea can become obstructed, leading to increased intraocular pressure. A shallow anterior chamber depth can indicate a narrow angle, making the eye more susceptible to sudden closure of the angle and, consequently, a higher risk for acute angle-closure glaucoma. Ultrasound is particularly useful in this context because it provides an accurate assessment of the anterior chamber depth, especially in cases where visualization through conventional methods may be limited, such as in patients with cataracts or other opacities. By obtaining precise measurements, the healthcare provider can better predict the likelihood of angle closure and manage patient care accordingly. The other options, such as assessing corneal curvature, determining lens opacity, or checking for retinal tears, involve different anatomical structures or pathologies that do not specifically relate to the assessment of the anterior chamber depth in the context of glaucoma risk.

### **4. Which imaging modality is often combined with ultrasound for comprehensive eye assessment?**

- A. Computed tomography (CT)**
- B. Magnetic resonance imaging (MRI)**
- C. Optical coherence tomography (OCT)**
- D. X-ray imaging**

Optical coherence tomography (OCT) is a non-invasive imaging technique often used in ophthalmology to obtain high-resolution cross-sectional images of the retina and anterior segment of the eye. When combined with ultrasound, OCT provides complementary information, enhancing the overall assessment of various ocular conditions. Ultrasound is particularly useful for evaluating structures like the vitreous and optic nerve, especially in cases where the media is opaque, such as in dense cataracts or vitreous hemorrhages. Meanwhile, OCT offers detailed insights into the layers of the retina, allowing for the detection of macular diseases, glaucoma, and other retinal pathologies. The synergy between these two modalities helps in achieving a thorough examination, guiding diagnosis and management effectively. Other imaging modalities, while valuable in their own right, do not provide the same complementary insights specific to ocular assessment in conjunction with ultrasound. For instance, computed tomography (CT) and magnetic resonance imaging (MRI) are more suited for evaluating orbital structures and other related conditions but lack the same detailed analysis of retinal layers that OCT provides. X-ray imaging is not typically utilized in eye assessments, as it does not offer the level of detail required for evaluating ocular structures.

**5. What does the white arrow signify in the context of the examination?**

- A. It indicates the location of the retina**
- B. It points towards an open angle**
- C. It identifies the optic disc**
- D. It marks the ciliary body**

In the context of diagnostic ophthalmic imaging, the white arrow typically signifies an open angle, especially in examinations focused on evaluating the anterior chamber of the eye and the drainage angle for conditions like glaucoma. An open angle indicates that there is a normal configuration of the trabecular meshwork, which allows for proper drainage of aqueous humor. This finding is essential as it can help differentiate between different types of glaucoma and assess the risk of increased intraocular pressure, which can lead to optic nerve damage. In ocular assessments, clarity regarding the structure being indicated is crucial for accurate diagnosis and management. Understanding how to interpret markers like the white arrow aids in recognizing the significance of anatomical relationships within the eye, particularly when the focus is on providing a clear understanding of fluid dynamics and potential pathologies.

**6. What frequency range is typically used for A-scan measurements?**

- A. 5-10 MHz**
- B. 10-15 MHz**
- C. 15-20 MHz**
- D. 20-25 MHz**

The frequency range typically used for A-scan measurements in ophthalmic ultrasound is 10-15 MHz. This choice is optimal because it strikes a balance between adequate resolution and penetration depth required for accurately measuring the dimensions of the eye, such as the axial length and the distance to internal structures. Higher frequencies, such as those in the 15-20 MHz or 20-25 MHz ranges, provide better resolution but can be limited in their ability to penetrate deeper structures, which may be necessary depending on the patient's anatomy or the specific condition being evaluated. Conversely, lower frequencies like those in the 5-10 MHz range may penetrate deeper but compromise resolution, making it difficult to obtain precise measurements. Thus, 10-15 MHz represents the appropriate frequency range for A-scan measurements, ensuring both clarity of data and sufficient depth of visibility within the ocular structures.

**7. How might a patient's movement during an ultrasound exam affect the imaging results?**

- A. It can enhance the clarity of images**
- B. It can produce motion artifacts, compromising image quality**
- C. It has no effect on the imaging quality**
- D. It helps in locating the precise position of ocular structures**

When a patient moves during an ultrasound exam, it can lead to the creation of motion artifacts. These artifacts occur because ultrasound relies on precise timing and the detection of reflected sound waves to generate clear images. Movement disrupts this synchronization, making it difficult for the ultrasound machine to accurately capture the needed information from the tissues being imaged. This can result in blurred or distorted images, which compromise the overall quality of the ultrasound. The examination of ocular structures relies heavily on the clarity of the images produced, as optimal visualization is essential for accurate diagnosis and assessment. Thus, motion artifacts significantly hinder the diagnostic process by obscuring the relevant anatomical details that need to be evaluated.

**8. What factor can adversely affect the accuracy of B-scan imaging?**

- A. Pupil dilation**
- B. Movement of the patient during the exam**
- C. Environment light exposure**
- D. Type of ultrasound gel used**

Movement of the patient during a B-scan imaging exam can significantly compromise the accuracy of the results. B-scan ultrasound relies on precise positioning and stability to generate clear images of the ocular structures. If a patient moves, even slightly, during the procedure, it can lead to motion artifacts, making it difficult to obtain crisp, high-quality images. This can obscure important details and may result in misinterpretation of the findings. In contrast, while factors like pupil dilation, environmental light exposure, and the type of ultrasound gel utilized can influence various aspects of imaging, they do not directly affect the accuracy of the spatial representation of structures in the same way patient movement does. Pupil dilation is necessary for certain procedures, while light exposure primarily pertains to optical imaging. The choice of ultrasound gel can affect the coupling and attenuation of sound waves but is less impactful than patient movement in terms of real-time image acquisition and clarity.



**9. What is the significance of the vitreous body in ophthalmic ultrasound?**

- A. It helps in focusing light onto the retina**
- B. It can reveal information about retinal detachment and other pathologies**
- C. It maintains intraocular pressure**
- D. It aids in the formation of images**

The vitreous body plays a crucial role in ophthalmic ultrasound, particularly due to its ability to provide valuable information regarding retinal conditions. The vitreous humor, which is a gel-like substance filling the space between the lens and the retina, can manifest various pathologies that are essential to assess during an ultrasound examination. In the context of retinal detachment, the ultrasound can detect changes in the echogenicity of the vitreous, which may indicate the presence of fluid accumulation or other abnormalities associated with the detachment. Additionally, conditions such as vitreous hemorrhage or tractional forces can also be observed, aiding in the diagnosis and management of various ocular diseases. Thus, the significance of the vitreous body in ophthalmic ultrasound lies in its ability to provide critical insight into the status of the retina and surrounding structures, which is essential for effective clinical decision-making.

**10. What effect does damping material have in an ultrasound probe?**

- A. It enhances the echo return time**
- B. It limits the vibrations of the crystal**
- C. It increases sound intensity**
- D. It improves image resolution**

Damping material plays a critical role in the functioning of an ultrasound probe by limiting the vibrations of the crystal. In ultrasound transducers, the piezoelectric crystals generate sound waves when they are electrically stimulated. If these crystals were allowed to vibrate freely, they would continue to oscillate for too long and produce multiple echoes, leading to a poorer quality image due to overlapping signals. By incorporating damping materials, the oscillation of the crystal is shortened, allowing for a quicker stopping of vibrations after the initial pulse. This results in improved pulse characteristics, such as the temporal resolution of the ultrasound images. More precisely, it enhances the ability to obtain clearer images by reducing the ringing effect that can occur with undamped crystals. The reduction in the duration of the sound pulse also helps in better delineation of structures, which is essential for accurate diagnostics in ophthalmology. In summary, the damping material is crucial for optimizing the performance of an ultrasound probe by effectively controlling the vibrations of the crystal, leading to improved imaging capabilities in clinical practice.

## Next Steps

**Congratulations on reaching the final section of this guide. You've taken a meaningful step toward passing your certification exam and advancing your career.**

**As you continue preparing, remember that consistent practice, review, and self-reflection are key to success. Make time to revisit difficult topics, simulate exam conditions, and track your progress along the way.**

**If you need help, have suggestions, or want to share feedback, we'd love to hear from you. Reach out to our team at [hello@examzify.com](mailto:hello@examzify.com).**

**Or visit your dedicated course page for more study tools and resources:**

**<https://diagopthalmicsonographer.examzify.com>**

**We wish you the very best on your exam journey. You've got this!**