# ABR | AMERICAN BOARD OF RADIOLOGY

# Remote Qualifying (Core) Exam Guide

## Diagnostic Radiology & Interventional Radiology/ Diagnostic Radiology

2022

# Contents

# Getting Started

## Exam Registration

Registration for this exam is completed on the Cognitive Expertise page in myABR. Log in to myABR and select the Cognitive Expertise option from the left-hand menu. You will receive an email from the ABR when registration opens.

Please keep your email address updated in myABR to ensure that you receive these important exam-related communications.

Additional details regarding exam eligibility and registration can be found on the website.
> DR Qualifying (Core) Exam Prerequisites and Registration
> IR/DR Qualifying (Core) Exam Prerequisites and Registration

## Studying for the Exam

The Qualifying (Core) Exam is developed by volunteers from a wide range of practice settings and reflects the breadth of information a candidate is expected to know by the time of an exam. While we offer study guides on our website, each candidate should decide what type of resources he or she should use for our exams. Candidates who use test preparation materials developed by other organizations or commercial entities should not expect an ABR exam to completely align with these materials in scope or type of questions.

For additional information, please visit the ABR website.
> Preparing for the DR Qualifying (Core) Exam
> Preparing for the IR/DR Qualifying (Core) Exam

# Technical Requirements

## Computer System Requirements

The computer system requirements listed below provide a basic overview of a system that will meet the technical requirements for ABR remote exams. Prior to your exam, you will be encouraged to complete a technical verification to ensure your system meets minimum connectivity and internet browser compatibility requirements. In addition, there will be ample opportunity before each exam to gain familiarity with the software and systems through an Exam Readiness Check. The Exam Readiness Check will allow you to simulate the actual exam day experience well ahead of your scheduled exam and confirm that your computer and location setup meet your expectations. If you change your computer specifications or location after your initial Exam Readiness Check is complete, we highly recommend you complete it again with your new setup.

**Basic computer requirements:**
- Internet/Network: reliable broadband internet connection, minimum 5 Mbps (megabit per second) download and 1 Mbps for upload
  ◦ Check your connection speed
- Computer: Desktop or laptop (no iPad) with Windows 10 or MacOS X 10.11 or higher
- Computer memory: minimum of 4GB RAM
- Computer drive/storage: minimum of 10GB of free disk space
- Monitor: ≥ 13" and 1080p minimum
  ◦ Check your monitor resolution
- Keyboard and mouse
- Internet browser: latest version of Google Chrome
  ◦ Check your version of Google Chrome
- Audio: microphone and computer speakers
- Camera: webcam with a minimum of 640 x 480 @ 10 frames per second
  ◦ *Note: webcam will be used for the 360º room security scan and exam proctoring*
  ◦ *Note: use of virtual backgrounds is not permitted*

**IMPORTANT NOTE:** You assume full responsibility for ensuring your computer setup meets the requirements for remote exams. This includes integrity of equipment, internet connectivity, system performance, side-view webcam placement, and other issues related but not limited to the above that are outside the control of the ABR or our exam security vendor, Proctorio®. ABR staff are not able to provide technical support regarding individual setup for remote exams.

## Monitor Performance Self-Check (complete prior to exam day)

The monitor performance self-check is intended to show imaging findings that should help determine if your laptop or desktop monitor is sufficient for ABR remote exams.

## Exam Readiness Check and Sample Questions (complete prior to exam day)

We highly recommend that you complete the Exam Readiness Check in the location and with the computer that you plan to use on exam day.

You will receive an email with an authenticated link that will allow you to access the Exam Readiness Check after you complete your exam registration in myABR.

The Exam Readiness Check provides a unique opportunity to familiarize yourself with the exam interface and navigation before the day of your exam. It is important that you complete the Exam Readiness Check to fully understand the functionality of the exam interface, including case navigation, flagging questions, using the image manipulation tools, starting/ending a break, and question content blocking.

**IMPORTANT NOTE:** We highly recommend that you complete the Exam Readiness Check in the location and with the computer that you plan to use on exam day.

When the Exam Readiness Check is launched, a quick technical verification is initiated to ensure that your microphone, webcam, internet connection, and computer software are optimized for the exam. You may need to download an updated version of Google Chrome and the Proctorio® extension for Google Chrome to complete this technical verification.

After you complete the Exam Readiness Check, Sample Questions will become available. The purpose of these questions is not to test your knowledge of content that will be on the exam but rather to allow you to gain a level of comfort with the variety of possible question types and with navigation of exam controls.

## Proctorio® Candidate Information

Information on getting set up with Proctorio® is available here. You may download the Proctorio® extension here.

# Location Requirements

Your ABR computer-based Initial Certification exam will take place in a remote location of your choosing, provided that place meets the basic requirements listed below. Our expectation is that the space selected will be sufficiently private where interruptions and the presence of other people would be unexpected or unlikely to occur during the exam. If location interruptions are anticipated to be frequent or prolonged, arrangements should be made to use a different location to take the exam. Brief/sporadic interruptions could occur unexpectedly. In those cases, ABR senior staff will do a post-exam review to determine if the interruptions had potentially significant impact on the exam. Most brief/sporadic events would likely be deemed inconsequential.

## Private and Quiet Space

- Alone, away from other people
- Free from background noise and interruptions
- Clear workspace

## Permitted

- Secondary monitor
  - Not required but may be preferred. The monitor must be connected to the computer being used to take the exam and not a secondary device.
  - If you choose to use a secondary monitor, you will need to disable any other monitors connected to your computer.
- ABR Exam Day Help Desk Flyer
- Cell phone or other mobile device
  - A mobile device is permitted in the room as long as it is kept out of arm's reach.
  - You should have a mobile device accessible in case you need to contact the ABR regarding a connectivity issue or we need to contact you. Under no other circumstances should a mobile device be used during the exam.
  - Mobile devices may be used during breaks.
- Whiteboard (8.5" x 11" maximum), dry erase markers, and an eraser
  - Not required. The exam interface has an electronic notepad you can use during the exam.
- Beverages and snacks
- Facial tissue
- See list of Allowable Personal Items

## Not Permitted

- Other individuals in room
- Open books, notes, and other study materials
- Camera or other recording devices (other than your webcam)
- Watch
- Scratch paper
- Calculator (exam software includes a calculator)
- Headphones, earbuds, earplugs, and anything else that goes in or over the ear (with the exception of the allowed items listed below)

## Allowable Personal Items

Please note that you do **NOT** need to request testing accommodations for the specific items indicated below. However, if any other accommodations are needed that are **NOT** listed below, the formal Exam Accommodations request process must be followed.

### Medicine and Medical Devices

- Arm/shoulder sling
- Bandages
- Braces: neck, back, wrist, leg, or ankle
- Casts/cervical collar
- Cough drops/hard candies
- Chapstick/lip balm
- Earplugs (ABR provided only)[1]
- EpiPen
- Eye drops
- Eye patches
- Eyeglasses (without a case)
- Glucose monitor
- Glucose tablets
- Handheld magnifying glass (nonelectric, no case)
- Ice packs/nonelectrical heating pads
- Inhaler
- Medical alert bracelet
- Medical/surgical masks
- Medical rubber gloves
- Nitroglycerin tablets
- Pillow/lumbar support
- Pills
- Stool for elevating a limb
- Walking boot casts

### Medical Devices (Attached to a person's body)

- Continuous Glucose Monitor
- Heart rate monitor
- Insulin pump
- Oxygen tank
- Spinal cord stimulator
- TENS units (Transcutaneous Electrical Nerve Stimulation) for nerve pain

### Communication Aids

- Hearing aid/cochlear implant
- Vocal cord magnifiers

### Mobility Devices

- Cane
- Crutches
- Knee scooter
- Walker
- Wheelchair

[1] The ABR will send all registered candidates a set of earplugs well in advance of exam day.

# Exam Accommodations

## ADA Accommodations

The ABR complies with the Americans with Disabilities Act (ADA) and makes reasonable accommodations in exam procedures for individuals with documented disabilities.

Candidates with disabilities may request modifications in the administration of an exam. The ABR will grant such requests unless modifications would place undue burden on the ABR or fundamentally alter the measurement of the knowledge and skills the exam is intended to assess.

Candidates considering the need for modifications must submit an application (link below).

All required documentation must be submitted to the ABR no more than one year and no less than six weeks in advance of the exam date. Candidates anticipating the need for accommodations are encouraged to contact the ABR office well in advance to allow sufficient time for producing any required documentation.

Failure to comply with this deadline may result in the candidate being scheduled without special accommodations.

Application for ADA Accommodations

Once a candidate has been approved for exam accommodations, he or she will receive notification of approval with any updates necessary. Although candidates will register for exams and select start times through myABR, certain accommodations may require modification to existing exam appointments. The candidate will be notified of any changes.

## Nursing and Expectant Mother Accommodations

The ABR supports nursing and expectant mothers and makes reasonable accommodations in exam procedures for individuals making a request.

Nursing and expectant mothers may request modifications in the administration of an exam. Candidates should submit a request using the form provided below. Requests should be submitted to the ABR no less than one week in advance of the exam date. Typical accommodations include additional break time. Once an accommodation request is submitted, ABR staff will follow up to inquire about how best to accommodate the candidate's specific needs during the exam event.

Nursing/Expectant Mother Accommodation Request

# Exam Day Check-in

## Starting Your Exam Day

You will receive two email notifications with information about starting your exam.

**1. Five business days prior to your exam.**
This notification will contain a link for starting your exam on exam day. *This link is unique to each examinee, so please do not share with other test takers.*

**2. Exam day.**
This notification will contain a link for starting your exam. *This link is unique to each examinee; please do not share with other test takers.*

On exam day, you may also start by logging in to myABR and navigating to the Cognitive Expertise menu on the left-hand side.

## Third-Party Remote Proctoring

The ABR has partnered with Proctorio®, an exam security vendor, to help with exam check-in and remote exam proctoring during your exam. You must use a Side-View Webcam during the exam.

## Technical Verification

Before starting the exam, you will go through an automated process that validates your system's ability to run the remote proctoring software. This typically starts with the installation of Google Chrome and the Proctorio® Google Chrome extension (if not already installed). Once the extension is installed, the system validates the quality of your internet connectivity and confirms the remote system can access your webcam and microphone. This process usually takes approximately one minute.

## Identification Check

The identification check is performed using an automated process in the exam software. This process requires you to show one of the acceptable forms of identification using your webcam. ABR staff will validate the identification during post-exam processes. Personal information is protected using an encrypted key code that is only available to the ABR.

Identification must be from the following list and must include your signature and a recent recogniz-able photograph. Your name and photo must be on the same side of the ID. This ID must be current (not expired).

**Forms of acceptable identification[1] are:**
- Valid driver's license.
- Valid state-issued identification card.
- Valid passport or passport card.

[1] *Military identification is not acceptable due to limitations of Title 18, US Code Part I, Chapter 33, Section 701. See more information here.*

## Room and Workspace Scan

The room and workspace scan is performed using an automated process in the exam software and takes approximately one minute. The automated system will prompt you to do a room scan, turning your webcam in a 360-degree floor-to-ceiling pan to survey the room and workspace. You will have the opportunity to repeat the room and workspace scan if needed. Be aware that you may need to perform a room and workspace scan multiple times during the exam. The scans are required to show that you don't have prohibited items in the room or on your workspace.

**A short overview of the process:**

1. The software will check to make sure your webcam and microphone are working properly and that screen sharing has been activated. You will be asked to share your screen.

2. The software will ask you to slowly move the webcam around the room to verify that you are alone and that your desk is clear of prohibited items. Any prohibited items must be removed before your exam can begin. Once you have completed your room scan, place your webcam with a side-view angle.

3. Your exam launch button will be enabled when your exam is fully prepared for delivery.

4. The testing computer must be in a private room, and you must be able to use it without interruption. Proctorio® will continuously record both you and your testing environment through the webcam feed. Recordings will be reviewed after the exam by ABR staff.

   Refer to the Location Requirements section for details regarding what is permitted and not permitted in your exam room.

5. No other people (i.e., guests, visitors, family members) are allowed in your testing room.

6. No electronic devices other than the computer being used to test, one mobile device for contacting the ABR, and a webcam are allowed in the room. This includes signaling devices such as pagers and alarms, cameras or other photographic or duplicating devices (other than the webcam), personal digital assistants (PDAs), recording devices or other hand-held computers, watches, tablets, and digital music players (e.g., iPod).

7. If you need assistance during your exam, contact the ABR using the ABR Exam Day Help Desk phone number. Do not initiate a chat with the Proctorio® online administrator unless you are instructed to do so by ABR staff.

8. No talking or any other form of communication is permitted once your exam has begun.

9. You are prohibited from reproducing, communicating, or transmitting any exam content in any form for any purpose. Copying or communicating content is a violation of the ABR Exam Security Policy.

10. You may not exit the webcam view or use a cell phone or other electronic devices during the exam unless there is a failure in connectivity or you are on a break. You may use your cell phone or other electronic devices during the intermission.

## Side-View Webcam

**All candidates taking computer-based exams are required to use side-view webcams. Those who don't will have their exam event invalidated.** A room and workspace scan will still be required prior to each exam session.

The side-view webcam placement allows more visibility of your workspace to ensure a sufficiently secure exam environment. Only one side-view webcam is required. No other webcam is needed during the exam. Please review the placement details below and check out the short demonstration video on our YouTube page.

**The webcam placement must show a clear view of the following:**
- Monitors in workspace (only one monitor may be used during the exam).
- You and the entire surface of your workspace.
- Dry erase whiteboard (if being used).

**Below are a few hints to help you achieve an acceptable side-view webcam feed:**
- Place the webcam:
  ◦ at least six inches above the workspace surface;
  ◦ three to four feet away from where you are sitting.
- Webcam cord will likely need to be at least five feet long.
- Use only one webcam during your exam.


✓ **Acceptable Side-View**
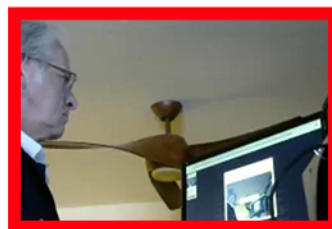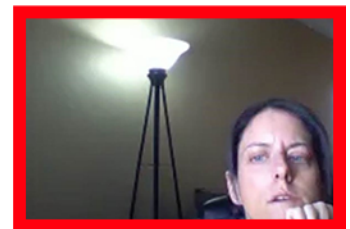

✓ **Acceptable Side-View**


🚫 **Unacceptable Side-View**
Cannot see entire monitor
or entire workspace


🚫 **Unacceptable Side-View**
Cannot see surface
of workspace


🚫 **Unacceptable Side-View**
Cannot see monitor
or entire workspace

# Exam Day Logistics

## ABR Exam Day Help Desk

Approximately 48 hours before the exam, you will receive an email with the ABR Exam Day Help Desk phone number to be used only for contacting ABR staff for urgent issues related to your exam **on exam day**. If you have questions prior to exam day, please contact us at information@theabr.org or (520) 790-2900.

## Schedule

This table outlines your exam-day schedule, including breaks and intermission.

| Day | Session | Registration / Check-in (minutes) | Number of Questions | Exam Time | Tutorial / Practice (minutes) | Total Exam Time | Break Time[1] (minutes) | Total Time[2] |
|---|---|---|---|---|---|---|---|---|
| 1 | a | 10 | 117 | 2 hours and 7 minutes | 20 | 2 hours and 27 minutes | 15 | 2 hours and 52 minutes |
| Required intermission (60 minutes) | | | | | | | | |
| 1 | b | 10 | 109 | 1 hour and 58 minutes | N/A | 1 hour and 58 minutes | 10 | 2 hours and 18 minutes |
| Total for day 1 | | | 226 | | | | | 6 hours and 10 minutes |
| 2 | a | 10 | 117 | 2 hours and 7 minutes | N/A | 2 hours and 7 minutes | 15 | 2 hours and 32 minutes |
| Required intermission (60 minutes) | | | | | | | | |
| 2 | b | 10 | 100 | 1 hour and 49 minutes | N/A | 1 hour and 49 minutes | 10 | 2 hours and 09 minutes |
| Total for day 2 | | | 217 | | | | | 5 hours and 41 minutes |
| 3 | a | 10 | 120 | 2 hours and 10 minutes | N/A | 2 hours and 10 minutes | 15 | 2 hours and 35 minutes |
| Required intermission (60 minutes) | | | | | | | | |
| 3 | b | 10 | 94 | 1 hour and 42 minutes | N/A | 1 hour and 42 minutes | 10 | 2 hours and 2 minutes |
| Total for day 3 | | | 214 | | | | | 5 hours and 37 minutes |
| | ALL | | 657 | | | | | 17 hours and 28 minutes |

[1] This exam is scheduled with a one-hour required intermission each day between sessions.
Break time is calculated at 5 minutes per hour (rounded up to the next hour).
You can take more breaks than these; however, your exam time will continue to count down.

[2] This is the total allotted time for the exam. Your total exam time may be less.

## Breaks

Please take time to go through the Exam Readiness Check to ensure a full understanding of how to start and end breaks, and how content blocking works after you return from a break.

Breaks are provided during each exam session (see chart above). You determine when to take a break and how many are taken. If you exceed the provided break time, you may still take breaks, but it will affect your exam time.

**IMPORTANT NOTES:** You may leave the room during a break, but you must keep your webcam on and maintain your remote connection. After returning from a break, you will **NOT** be allowed to change (or add) a response to exam questions that were viewed prior to starting the break. This includes all answered, unanswered, and flagged questions.

## Intermission

Intermission is a required 60-minute break between exam day sessions. If you end your first exam session early, you will not be able to start the second session early. A reminder of the start time for your second session will be provided when you end your first session. When you end your first session, you will be logged out of the exam. You should close your browser to end the webcam recording. You will need to re-establish your remote connection when you start your second session.

## Scoring and Results Posting

Results for the Qualifying (Core) Exam are posted within one month of the last day of the exam administration.

All ABR exam scoring is criterion referenced, meaning that a passing standard is established in advance of the exam. The exam is not graded on a curve and there is no set percentage of failures.

After the exam has been scored, your results will be posted in myABR. Your program director and chair will receive the same information to help in evaluating and improving their training program.

Please refer to the scoring and results page for more information.

DR Qualifying (Core) Scoring and Results
IR/DR Qualifying (Core) Scoring and Results

# Computer-based Remote Exam FAQs

## 1. How do you know it is really me taking my exam?

Using the computer's webcam, ABR staff will compare your face with a photo ID. You must verify your identity during the exam process by showing a picture ID that has your name and photo on the same side.

## 2. Can I take my proctored exam on a laptop or tablet?

ABR remote exams can be taken on a desktop computer or laptop with a Windows or Mac operating system. You may not use a tablet, iPad, Kindle, or other mobile device.

## 3. Are secondary or overflow monitors allowed?

Yes. A secondary or overflow monitor is allowed. The monitor must be connected to the computer being used to take the exam and not a secondary device. If you choose to use a secondary monitor, you will need to disable any other monitors connected to your computer.

## 4. Is software installation required for remote access?

Yes. To take an ABR remote exam with Proctorio®, you must be using the latest version of Google Chrome. You also must install the Proctorio® Chrome browser extension. You can install this extension at getproctorio.com. You only need to install this extension once and it should take less than 30 seconds.

## 5. Where should I take the remote proctored exam?

Please refer to the information in the Location Requirements for details on the location you choose for your exam.

## 6. Can I use books or notes during my remote exam?

No. Please refer to Location Requirements for details.

## 7. Can I use additional software during my online exam?

No. You must close all other programs or windows on your computer before you begin the exam.

## 8. What if I need to use the restroom during the exam?

You can select the Break function in the exam software. Any exam content you have seen prior to your break will not be available to answer after you return, so you will want to answer all items that you have seen prior to taking a break. You may also be asked to complete another room scan after returning from a break.

## 9. Will there be any room scans after my initial exam check-in is complete?

Yes. A room scan will be performed at the start of each exam session and can be required at any time during your exam.

## 10. What if I need extra time to take the exam?

Exam accommodations are available to candidates needing more time to take the exam. Requests for accommodations must be made in advance of the exam date. Please refer to the Exam Accommodations page on our website for more information.

### 11. Is someone watching me while I take my exam?

No. The ABR requires video, audio, and screen capture. Proctorio® will continuously record both you and your testing environment through the webcam feed. Recordings will be reviewed after the exam by ABR staff.

### 12. How do I access my exam on exam day?

Please refer to Starting Your Exam Day for more information about how to start your exam.

### 13. Do I need to schedule my exam time in advance?

Yes. You will need to complete the exam registration process to secure a slot for a specific exam event. Please see Exam Registration for more information.

### 14. If I need help using Proctorio® during the exam, where do I go?

If you need technical assistance during the exam, please contact the ABR using the ABR Exam Day Help Desk phone number.

### 15. Where can I go to learn more about Proctorio®?

Please visit https://proctorio.com/about.

### 16. How do I know that my privacy is protected?

Proctorio® uses zero knowledge encryption technology that ensures your information is encrypted when it leaves your computer, is transferred, and then stored in the Cloud. All information collected during the exam is done so securely. The online proctored exam information is stored in a fully secure environment.

### 17. Will Proctorio® ever obtain or give out my personal information?

Never. Proctorio® does not and cannot collect personal identifying attributes on any user, so there's no information to give to third parties.

### 18. How do I know that Proctorio® isn't collecting information from my computer when I'm not in an exam?

Proctorio® only runs when you're active in a remote exam session. Since Proctorio® runs in your browser, you can rest assured there's no separate program collecting your data. In addition, you can uninstall the Proctorio® extension from your browser when you have completed the exam.

### 19. Who can view exam recordings?

Only the ABR can unlock and view the exam recordings, not Proctorio®. Data is secured using a state-of-the-art double encryption technology that ensures that all your exam data is safe from hacking attempts.

# ABR

## Useful Resources

**myABR:**
https://myabr.theabr.org/

**Monitor Performance Self-Check:**
https://www.theabr.org/monitor-performance-self-check-dr-and-ir

**Proctorio®:**
https://proctorio.com/support