



ABO Oral Exam Procedures Manual

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American Board of Ophthalmology

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1. Examination Overview

The second of two evaluations in the American Board of Ophthalmology (ABO) certification process, candidates become eligible for the oral examination after passing the written exam. On the oral examination, candidates are presented with a series of clinical scenarios and asked to discuss how they would care for each patient. This assessment is administered online and takes approximately four hours to complete.

Note: These policies are subject to change without notice at the discretion of the American Board of Ophthalmology.

1.1. Test Purpose Statement

The Oral Examination is designed to evaluate how candidates apply and communicate clinical knowledge, judgment, and decision making in the care of patients in a professional and ethical manner.

1.2. Examination Content

The oral examination is a case-based assessment. ABO examination cases, also known as Patient Management Problems (PMPs), are clinical scenarios or prompts designed to provide candidates with the opportunity to demonstrate their knowledge, judgment, and decision-making skills in ophthalmic patient care.

Topic Areas

Because the Board issues certification in ophthalmology (not in the various subspecialties of ophthalmic practice), the topic areas on the oral examination reflect the breadth of the knowledge base for the entire specialty. Each candidate's oral examination will provide an opportunity to address seven cases from each of the following six topic areas for a total of 42 cases:

1. Anterior Segment of the Eye
2. Optics, Visual Physiology, and Correction of Refractive Errors
3. Pediatric Ophthalmology and Strabismus
4. External Eye and Adnexa
5. Neuro-Ophthalmology and Orbit
6. Posterior Segment of the Eye

Source Material

Content for the oral examination is not limited to a single publication or curriculum. As an independent standard-setting and assessment organization, the ABO neither requires nor endorses the purchase of particular study guides, tools, or texts. While reference material may be found in the American Academy of Ophthalmology's BCSC Basic and Clinical Science Course book series, all examination cases are uniquely

developed by board-certified subject matter experts who draw from many sources, including actual practice experience. Some cases on the examination will be similar to those seen in daily practice, while other cases may ask candidates to recall unusual or atypical patient scenarios encountered during residency or in peer-reviewed literature. All cases are thoroughly vetted by diverse teams of subject matter experts from varying practice settings across the country and contain aspects of patient care that have been deemed essential for every newly graduated ophthalmologist to know.

The ABO publishes a freely available consensus-based [content outline](#) to describe the spectrum of oral examination content. The Board recommends that candidates look to the content outline as a starting point for building a personalized program of review; however, this document is not intended to serve as a comprehensive study guide.

1.3. Examination Format

On exam day, candidates will move through three separate exam appointments. Each exam appointment covers two paired subject areas (see [Examination Topics](#)), is 50 minutes long, and consists of 14 total cases.

To begin each appointment, candidates will enter a new Zoom room where two examiners will each present seven clinical scenarios for discussion. Candidates who finish all 14 cases in less than the allotted 50 minutes may return to the break room early.

Over three appointments, candidates will meet at least six examiners and discuss a total of 42 cases. A candidate's test day is about four hours long, including time for candidate orientation, security protocols, and breaks. Candidates are expected to remain online for the entire session.

* Candidates are permitted to skip questions if they are struggling. However, they will **NOT** be able to return to any skipped questions, and it will count against their score.

1.3.1. Examination Sessions

Each candidate is assigned to an examination session on Friday, Saturday, or Sunday. Each session lasts a total of four hours, which includes time for orientation, security procedures, and candidate breaks.

Candidates must test during their assigned session—no rescheduling is permitted. Session assignments are sent via email and posted on the [Candidate Status Page](#) approximately eight (8) weeks prior to the exam.

1.3.2. Examination Appointments

An exam session consists of three distinct exam appointments. Each exam appointment is hosted by two examiners, covers two clinical subject areas (see [Examination Topics](#)), is 50 minutes long, and covers 14 clinical cases. This amounts to a total of 42 cases on the exam.

During each appointment, the two examiners will each ask seven questions in the paired subject areas. Both examiners will score the candidate independently on all of the cases covered during the appointment. In the case of technical issues, a senior ABO official or another examiner may step in for an examiner until the issue is resolved. When a new examiner is training, the mentor examiner will ask all of the questions during the first appointment and both examiners will score the candidate.

1.3.3. The Role of Examiners

During each examination appointment, candidates will meet two experienced, board-certified ophthalmologists referred to as examiners. Examiners are responsible for presenting each clinical case and evaluating candidates' handling of the required data acquisition, diagnosis, and treatment.

Examiners are volunteers who have been ABO-certified for at least three years, are actively participating in Continuing Certification, and have been reviewed and approved to represent the ABO in the oral examination process by the Board of Directors.

To become an examiner, volunteers begin a mentoring program that requires shadowing an experienced examiner prior to giving their first examination. Examiners are required to participate in an extensive training program that addresses how to administer an examination, how to score an item, techniques for supporting candidates throughout the exam day, technical requirements and exam day troubleshooting, and a detailed review of each clinical case on the exam. Examiners are evaluated on each of these key training elements after each exam and provided with a performance review and suggestions for improvement, if necessary.

Examiners also complete a bias training session. The session covers conscious and unconscious bias in the context of making judgments about candidates' performance on an oral examination. The training includes reflective exercises related to cognitive biases and sets expectations for standardization in exam delivery and scoring. To further prevent bias, examiners are not permitted to examine candidates they have trained, interviewed, worked with, or know in any professional or personal capacity. Candidate and examiner assignments are carefully considered in advance with this rule in mind.

Examiners are not compensated for their role and provide their time and expertise out of a deep commitment to the mission of board certification.

1.3.4. Case Discussions

During the exam, each clinical case will be introduced by an examiner who will also display the case information on their shared Zoom screen. Upon presentation of the case, candidates are expected to describe their approach to managing the patient's care in each scenario. Examiners may interrupt the candidate's explanation or ask additional questions, as described in more detail below. Please see the [Candidate Performance Criteria](#) for a description of the recommended discussion format.

Questioning by Examiners

Examiners are responsible for presenting candidates with seven cases in each encounter. To better manage


the time and their role as evaluators, examiners may interrupt candidates to ask specific types of questions. An examiner's questions may or may not be a reflection on how the candidate is performing on a case. For example:

- In each case discussion, candidates are expected to demonstrate an understanding of how certain information is used or why a specific test may be valuable. For these reasons, examiners may ask questions such as, "Why is this information useful for making a diagnosis or formulating a management plan?" or "How would you perform this surgery?"
- If a candidate veers off track or seems unfocused, the examiner may ask questions to redirect. For example, if a candidate makes a correct diagnosis but then suggests an incorrect or inadequate therapy, the examiner might ask: "What if that therapy didn't help? What other treatment might you consider?" The examiner may ask similar questions to confirm or explore a candidate's knowledge, even when the candidate is performing well.
- For the sake of time management, the examiner may interject and move on to the next case. To the candidate, this may seem abrupt and sound like "Thank you, let's move on."

A Professional, Personalized Conversation

Examiners complete extensive training on how to administer a fair, objective assessment in a live setting. They are trained to be considerate and respectful whenever they need to interrupt a candidate. However, examiners are not permitted to encourage, teach, or acknowledge right and wrong answers. Some examiners will not smile or nod their heads while candidates are speaking, and while this might come across as unfriendly, please know that all examiners have the best interests of the candidates in mind.

Examiners are also trained to adapt their examination style to what they observe about each candidate's delivery. To a candidate, this may mean having different interactions and experiences with each examiner. Candidates should be prepared for different styles, pacing, and personalities while knowing that the examination questions and rules for scoring remain standardized.

 Since the examiners will be solely responsible for controlling the flow and pacing of the exam, candidates should not use timers, clocks, watches, etc. during the examination.

1.4. Candidate Performance Criteria

Examiners assess candidate performance on each case in the categories of Data Acquisition, Diagnosis, and Management. The ABO encourages candidates to treat the performance criteria outlined in this section as a useful checklist for the formation of a clear, systematic, and comprehensive approach to each case.

1.4.1. Data Acquisition

Data Acquisition refers to how well the candidate obtains historical and examination information to fully

evaluate a particular case. This rating is used to assess the acquisition of data critical to the provision of quality patient care. Candidates are required to:

- Elicit relevant historical information from the patient.
- Identify important findings in the clinical examination and order appropriate testing.

1.4.2. Diagnosis

Diagnosis refers to the candidate's ability to synthesize historical and physical evaluation information, along with appropriate ancillary testing data, to arrive at a correct diagnosis and reasonable alternative diagnoses. Candidates are required to:

- Generate a differential diagnosis based on information collected in the history, ocular examination, and ancillary testing.
- Identify the most likely diagnosis.

1.4.3. Management

Management refers to the appropriateness of the treatment plan, including prognosis, follow-up, and the ability to manage complications. Other important components of management that may be evaluated are communication, professionalism, and systems-based practice competencies. Candidates are required to:

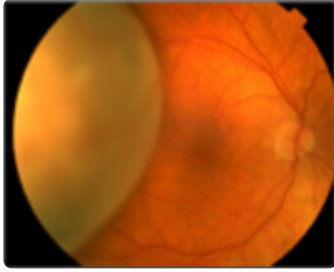
- Provide a safe and effective plan for medical and/or surgical management of patients with the conditions depicted or described, including possible alternatives and/or the proper referral of the patient.
- Recognize potential complications of proposed treatments including surgery and make accurate inferences regarding the expected outcomes and prognosis.
- Be able to communicate the management plan in a clear and ethical manner, which may include explaining how information is communicated to the patient or family.

1.4.4. Example

Below is a transcript of [oral examination sample video #3](#) with the examiner's questions and candidate's correct responses mapped to each area of the performance criteria.

Case #3

Examiner: Our next patient is a 58-year-old man seen for blurred vision in the right eye. Describe what you see in the photo.



- ✿ **Data Acquisition:** Refers to how well the candidate obtains historical and examination information to fully evaluate a particular case. This rating is used to assess the acquisition of data critical to the provision of quality patient care. Candidates are required to:

Elicit relevant historical information from the patient.

Candidate: I would like to ask this patient about the time course of onset and progression as well as any previous history of trauma, surgery. Any history of cancer, any weight loss, or any other history of smoking or other problems which might put him at risk.

Identify important findings in the clinical examination and order appropriate testing.

Examiner: What else would you be looking for on your eye exam?

Candidate: Do a comprehensive eye exam specifically look in this eye for any other possible peripheral lesions and also in the other eye as well. Look to see if any other possible lesions are present like the multifocal disease.

- ✿ **Diagnosis:** Refers to the candidate's ability to synthesize historical and physical evaluation information, along with appropriate ancillary testing data, to arrive at a correct diagnosis and reasonable alternative diagnoses. This rating requires the candidate to:

Generate a differential diagnosis based on information collected in the history, ocular examination, and ancillary testing.

Examiner: What would be in your differential diagnosis?

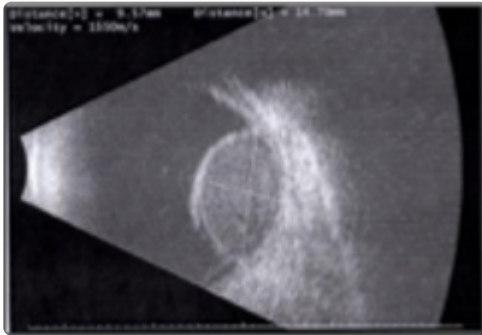
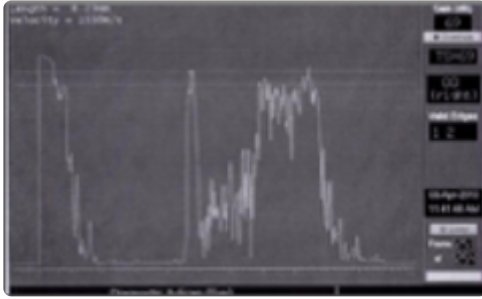
Candidate: Differential diagnosis of the choroidal lesion includes choroidal melanoma, metastatic choroidal disease, as well as suprachoroidal hemorrhage and choroidal effusions following any kind of surgery or trauma.

Identify the most likely diagnosis.

Examiner: Are there any other investigations you would perform for this patient?

Candidate: Yes, at clinic I would like to get an A scan and B scan to differentiate between the lesions which I have mentioned.

The examiner shows these test results to the candidate:



Upon requesting, reviewing, and interpreting the A and B scans, the candidate concludes:

Candidate: So, based on these findings my top differential is choroidal melanoma.

✿ **Management:** Refers to the appropriateness of the treatment plan, including prognosis, follow-up, and the ability to manage complications. Other important components of management that may be evaluated are communication, professionalism, and systems-based practice competencies. This rating requires the candidate to:

Provide a safe and effective plan for medical and/or surgical management of patients with the conditions depicted or described, including possible alternatives and/or the proper referral of the patient.

Examiner: And with your leading diagnosis, how would you manage the patient?

Candidate: For medium sized choroidal melanoma, the top treatment choice is going to be plaque brachytherapy.

Recognize potential complications of proposed treatments including surgery and make accurate inferences regarding the expected outcomes and prognosis.

Candidate: In COMS trial, it was shown that enucleation versus this treatment is not going to change the survival, and this is a method that preserves the eye.

Be able to communicate the management plan in a clear and ethical manner, which may include explaining how information is communicated to the patient or family.

Examiner: How would you discuss the prognosis with the patient?

Candidate: As I mentioned, if I have the genetic profile based on the FNA, it is going to be very helpful because some fall into low-risk categories, some are in high-risk categories, but lifelong they need to be followed and repeatedly they need to have these imagings and liver function test, chest x-rays to look for

metastasis but obviously the prognosis is better than systemic melanoma.

✿ Additional sample videos can be located on the [ABO website](#).

1.5. Scoring Procedures

Scoring for the Oral Examination is based on a candidate's ability to appropriately diagnose and manage patients in the 42 clinical scenarios presented over the course of the exam. All test items are weighted equally, the exam is scored using a compensatory model, and results are based on whether the candidate does or does not meet the passing standard.

1.5.1. Item Weighting

Each test item (or clinical case) contributes equally to a candidate's score. Contrary to popular rumor, there are no trick questions or "whammies" embedded into the test where an incorrect answer results in the automatic failure of the entire exam.

1.5.2. Scoring Model

Scoring for the oral examination is what's known as "compensatory." Compensatory scoring models allow for strong performance in one content area to compensate for poor performance in another content area as long as the overall score meets the performance standard.

1.5.3. Performance Standard

Scoring for the Oral Examination is based on a candidate's ability to appropriately diagnose and manage the patients described in the 42 clinical scenarios presented, all of which are equally weighted. Results are based on whether each candidate meets the overall passing standard. Scores are not adjusted in relation to how well other candidates perform, and though statistically unlikely, this method makes it possible for all candidates to pass the exam provided they meet the standard.

The current passing standard was set in 2021 and will be maintained until the next passing standard study, which occurs approximately every five years. The passing standard is not released. Additional information about the standard setting process is outlined below.

Between passing standard studies, the passing standard is maintained through a psychometrically validated equating process. Statistical equating is used to ensure the performance standard is consistent across multiple administrations of the Oral Examination. Essentially, this means that while the numerical passing score may change with each administration, candidates are not disadvantaged when one administration is more difficult than another. This process accounts for the 4-6-week interval between an exam administration

and the release of results.

As a final quality assurance measure before scores are finalized, a key validation process is performed. This process considers the performance of all test items (PMPs), flags any potentially underperforming items and sends them for re-review by subject matter experts to confirm correctness and fairness. If an item is determined to be flawed, it is removed from scoring.

The Standard Setting Process

The cut score or minimum passing standard is set by a group of practicing, board-certified ophthalmologists. The panel members are selected to represent diversity in gender, practice area, time since initial certification, practice environment, and geographical location. Some of the standard setting panelists are examiners whereas others are ABO diplomates who have no knowledge of the Oral Examination other than what they remember from when they took the test themselves. The process is overseen by a psychometrician who is trained in defensible standard-setting practices supported by research.

A standard setting study was held for the March 2021 examination immediately following its administration. The panel discussed and determined a definition of “minimal competence.” In other words, they documented what critical knowledge and skills are necessary for board-certified-level practice. The standard is set such that all examinees theoretically could meet the standard regardless of their peers’ performance; this is referred to as a criterion-referenced standard.

Next, the standard setting panel reviewed the Oral Examination content (the Patient Management Problems, or PMPs). Each group member independently rated the items using the Angoff method(1), which is arguably the most commonly used standard setting method in licensure and certification examinations(2),(3). Specifically, the panelists are asked to conceptualize a candidate who just barely passes and make judgments about this hypothetical candidate’s performance on different PMPs. Eighteen participants (listed below) served on the 2021 standard setting panel, and their ratings and judgments were aggregated and reviewed by the psychometrician. They also participated in independent, holistic judgments about the overall examination difficulty and relevance(4),(5).

| 2021 Standard Setting Panel |
|--|
| Ann Acers-Warn, M.D., Board of Directors |
| Mark A. Alford, M.D. |
| Cynthia S. Chiu, M.D. |
| Amy S. Chomsky, M.D. |
| Laura D. Cook, M.D. |
| Matthew A. Cunningham, M.D. |
| Geoffrey T. Emerick, M.D. |
| Thomas A. Graul, M.D. |

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| Hans Grossniklaus, M.D., Board of Directors |
| Niloofar Piri, M.D. |
| Jennifer A. Sivak, M.D. |
| Divya Srikumaran, M.D. |
| Cristin D. Subramaniam, M.D. |
| Linda M. Tsai, M.D. |
| David E. Vollman, M.D. |
| Keith Warren, M.D., Board of Directors |
| Christi M. Willen, M.D. |
| Chi-Wah Rudy Yung, M.D. |

These data were presented as a recommendation to a subset of the Board of Directors who reviewed and approved the standard(6). Although ultimately a policy decision, the standard setting process is designed to be as objective as possible by following best practices outlined in the Standards for Educational and Psychological Testing(7) and decades of professional literature in educational measurement and psychometrics.



After the passing standard was set in 2021, it has been maintained as the standard over time while accounting for small changes in form difficulty. In other words, even if an oral examination is slightly more challenging than a previous version, that difference is psychometrically accounted for so that all examination forms require the same amount of content mastery in order to pass.

Another helpful resource on standard setting developed by the American Board of Emergency Medicine is available [here](#).

References

- (1) Angoff, W. H. (1971). Scales, norms and equivalent scores. In R. L. Thorndike (Ed.), *Educational measurement* (pp. 508-600). Washington DC: American Council on Education.
- (2) Mills, C. N., & Melican, G. J. (1988). Estimating and adjusting cutoff scores: Features of selected methods. *Applied Measurement in Education*, 1(3), 261-275.
- (3) Plake, B. S., & Cizek, G. J. (2012). Variations on a theme: The modified Angoff, extended Angoff, and yes/no standard setting methods. In G. Cizek (Ed.) *Setting performance standards* (pp. 181-199). New York, NY: Routledge.
- (4) Hofstee, W. K. B. (1983). The case for compromise in educational selection and grading. In S. B.

Anderson and J. S. Helmick (Eds.), *On educational testing* (pp. 109-127). San Francisco, CA: Jossey-Bass.

(5) Schnabel, S., Risk, N. (2020, September). Objectifying the Subjective: How the Cognitive Experience of Panelists Shapes the Standard Setting Process. Presentation at the 2020 Association for Test Publishers Innovations in Testing Conference.

(6) Geisinger, K.F. & McCormick, C.M. (2010). Adopting cut scores: Post-standard-setting panel considerations for decision makers. *Educational Measurement: Issues and Practice*, 29(1), 38–44.

(7) American Educational Research Association, the American Psychological Association, & the National Council on Measurement in Education. (2014). Standards for educational and psychological testing. Washington, DC: American Educational Research Association.

1.5.4. Pass/Fail Results

About 4-6 weeks following the exam, candidates are notified via email that their pass/fail results are available to review online on their [ABO Status Page](#). At this time, no additional performance feedback is provided.

Re-score Requests

Candidates who do not pass the exam may write to the [Board Office](#) to request a re-score. The re-score process will verify that: 1) All mathematical calculations were performed correctly in determining the candidate's pass/fail result; and 2) The results of each case were attributed to the correct candidate. This process may take several business days. The re-score process does **NOT** re-evaluate actual exam day performance and is not a reconsideration of correct answers.



Candidates who experience an exam day issue or irregularity that they believe may have impacted their performance must report the issue to the ABO in writing immediately following the exam.

2. Rules & Requirements

Candidates do not need to travel to a test center, but must identify a quiet, distraction-free room in their home or office to participate in the examination. All test-takers must provide their own laptop or desktop computer with a webcam, working two-way audio, a reliable internet connection, and must have pre-installed the latest version of the Zoom [desktop app](#). More technical specifications are detailed in the equipment section of this manual.

2.1. Cancellations & No-Shows

Administering a board certification examination requires a significant commitment on the part of the Board and our candidates. As such, we encourage you to carefully consider your future availability prior to registering for an examination and taking the steps necessary to ensure that you can appear for your exam as scheduled. In the event that an unanticipated issue requires you to change your plans, please consider the following policies:

Registered candidates who are **Board Eligible** may:

- **Withdraw** prior to the [registration deadline](#) to receive a refund minus a \$300 administration fee. To withdraw, email the [Board Office](#).
- **Cancel** after the [registration deadline](#) has passed but at least 61 days before the test. Doing so will forfeit 50% of the registration fee. You will be refunded the balance. **Cancellations received within 60 days of the examination are fully non-refundable.** To cancel, email the [Board Office](#).

Registered **candidates who are no longer Board Eligible are also ineligible for refunds** in any amount, regardless of the date of withdrawal or cancellation. For more information, please consult the [Board Eligibility Policy](#).

* Exam staff will attempt to contact any candidate who fails to arrive at their appointed examination check-in time. Candidates who do not contact the ABO, cannot be reached by phone or email, and do not appear for testing will receive no score and will forfeit their examination fee.

2.2. Equipment and Internet Speed

The virtual oral examination relies on the use of functional equipment and adequate internet access. The following sections will detail specific technical requirements.

If you experience any difficulties with your equipment, you can [schedule an appointment with an ABO troubleshooter](#). Any scheduled appointments must be completed **no later than one week prior to your**

exam.

2.2.1. Exam Devices

Computers

To complete the exam, candidates will need a desktop or laptop computer (with one of the required [operating systems](#)) and a reliable internet connection.

Monitors/Screens

For security purposes, candidates must use a single monitor/screen configuration. **No dual monitor setups.** Candidates are encouraged to select a suitable exam device with the screen size in mind.

Limited Use of Phones/Mobile Devices

iPhones, Androids, and other mobile devices **are not** permitted for use as primary exam devices. Only in instances where there is an in-exam technology failure may the candidate: 1) join the exam using Zoom's mobile app, 2) dial into the exam by phone, or 3) connect to the internet using the phone's mobile hotspot. These instances require review and approval by exam personnel. *Further instructions may be found under the [Internet Speed](#) and [Audio and Video](#) sections.*

During the exam, candidates may use their cell phones only to report a technical issue to the ABO and/or to receive calls from ABO troubleshooting staff. No other calls, texts, or messages may be sent or received from the time of exam-day orientation through the completion of the exam. Additionally, phones may not be used to browse the internet, read email, play games, or engage in any other activities, even during candidate downtime and break times.

The ABO strongly recommends disabling all phone alerts and setting the phone to silent mode for the duration of the exam appointment. It will be at the discretion of the examiner as to whether any exam interruptions caused by unauthorized candidate calls, texts, messages, or alerts constitute a breach of security that may require the termination of the exam.

2.2.2. Do Not Disturb Mode

Candidates are **highly encouraged** to disable all computer notifications during the exam. Check out these step-by-step instructions for [Windows users](#) and [Mac users](#).



Mac users are also **required** to [disable Siri](#).

2.2.3. Charger

The device must be plugged in to an outlet or charger at all times during the exam.

2.2.4. Supported Operating Systems

- macOS X with macOS 10.9 or later
- Windows 11
 - **Note:** Windows 11 is supported on version 5.9.0 or higher.
- Windows 10
 - **Note:** Devices running Windows 10 must run Windows 10 Home, Pro, or Enterprise. S Mode is not supported.
- Windows 8 or 8.1
- Windows 7
- Ubuntu 12.04 or higher
- Mint 17.1 or higher
- Red Hat Enterprise Linux 6.4 or higher
- Oracle Linux 6.4 or higher
- CentOS 6.4 or higher
- Fedora 21 or higher
- OpenSUSE 13.2 or higher
- ArchLinux (64-bit only)

2.2.5. Supported Web Browsers

- Windows: IE 11+, Edge 12+, Firefox 27+, Chrome 30+
- Mac: Safari 7+, Firefox 27+, Chrome 30+
- Linux: Firefox 27+, Chrome 30+

2.2.6. Supported Processor and RAM

Processor

- Single Core 1Ghz or higher at minimum. Dual Core 2Ghz or higher recommended (i3/i5/i7 or AMD Equivalent)

RAM

- 4GB Recommended

2.2.7. Internet Speed

This is what is optimal for a Zoom video meeting with screensharing.

- Candidates can conduct a test of their internet speed at [Speedtest.net](https://www.speedtest.net) – Download speed should reach **30Mbps** or higher.
- To ensure an optimal internet speed throughout the exam, please ensure that other devices sharing the internet connection are not streaming, downloading, or conducting tasks that may consume internet bandwidth.
- A wired connection would provide the most ideal experience but is not necessary.

2.2.8. Audio and Video

Candidates may use the built-in camera and audio from the computer. Candidates are also permitted to use external audio and video options such as a headset, USB-connected microphone, or camera. We **strongly discourage** using a Bluetooth headset in order to avoid any battery issues. If you decide to use a headset for the exam, we recommend using a wired headset. Candidates are **NOT** permitted to join their Zoom meeting by phone. The candidate must use their computer audio, unless approved as an exception when a candidate is having issues with audio that cannot be resolved by a troubleshooter. In this case, the candidate can use their phone to call in to the meeting, but they must 1) attest to the examiners that they will not use the phone for any other reason, and 2) have the phone visible (i.e., in their hand or in the camera view, not in their lap) if possible.

- The camera should be placed as close to the display as possible.
- Newer computers may only have a USB-C port and an adapter may be necessary to attach a USB-3 connected microphone or camera.
- For Audio, the Zoom desktop client on Windows supports buttons for devices made by these manufacturers: Aver, Crestron, Jabra, Logitech, Plantronics, Polycom, Shure, Yamaha, and Yealink.

2.2.9. Zoom Application

Candidates are expected to download and install the latest version of the [Zoom desktop application](#). The account used for testing should display the candidate's first and last name as it appears on their registration. Candidates are not required to download or install any additional applications.

2.3. Test Environment

- Candidates must have access to a quiet, suitable space for the four-hour examination session.
- The space must be well-lit.
- The test environment/or camera view of the test environment should be as clear of personalized information as possible (e.g., academic degrees, family photos, etc.). This does not mean that the space must specifically designed for the virtual oral examination, but it should not be set up or staged to inform the examiners about the individual's background.
- Virtual backgrounds are not permitted.
- Note-taking is not permitted. (Candidates who [qualify for accommodations under ADA guidelines](#) must apply for this testing accommodation at least four months prior to the exam.)
- Desk should be free of any clutter or unnecessary materials. Beverages such as water, coffee, or tea, and personal care items such as tissues or cough drops are permitted.
- Only the candidate may enter and exit the test environment. Other persons, including children, are prohibited, as are pets.

2.4. Professional Dress

Candidates are expected to appear for their virtual appointments in professional business attire. Clothing should be free of any organizational or institutional logos or insignias. Candidates should be mindful that exam security procedures require that webcams stay turned on until the completion of the entire examination. This means that the candidate will be visible on camera at all times, including when they stand up to leave the room or take a break.

2.5. Candidate Conduct

Examiners will treat all candidates respectfully and professionally; in return, the same is expected of candidates. Candidates are asked to be cooperative with exam personnel, communicative about any technical issues that may be interfering with their examination experience, and refrain from engaging in any actions that might raise doubts about the integrity of their exam performance. Specifically, candidates will be instructed to keep their eyes forward and focused on the examination content displayed for them during each exam appointment. There should be no need to click out of the Zoom application or to use the mouse while discussing a case. Candidates should direct their comments and questions directly to the examiner delivering the case. Non-compliance with these requirements may lead to the termination of a candidate's exam.

2.6. Special Accommodations

The ABO provides reasonable testing accommodations to support candidates with special needs.

- Candidates who qualify for accommodations under ADA guidelines should refer to the Board's [testing accommodations policy](#) for more details about the application process. The deadline for requests is four months prior to test day.
- Pregnant and nursing mothers taking the examination are invited to apply for [additional break time](#). Requests should be submitted at the time of registration.

3. Candidate Resources

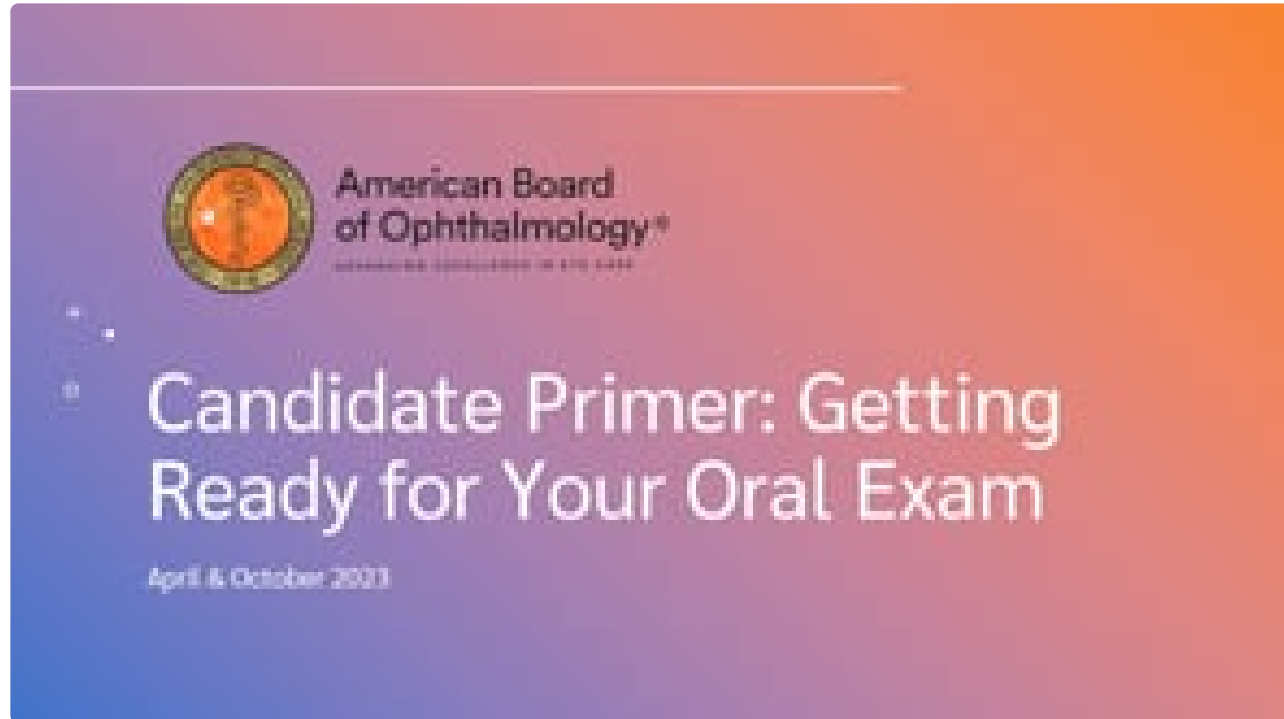
The ABO has carefully curated a collection of resources to help candidates in their preparation for the Oral Examination. These include:

- [Candidate Primer Video](#)
- [Content Outline](#)
- [Exam Prep Materials](#)
- [Candidate Concierge](#)
- [Informational Webinar](#)
- [Tech Appointments](#)

Candidates are highly encouraged to review each of these resources prior to attempting the Oral Examination.

3.1. Candidate Primer Video

The best way to ensure your setup and testing environment is good to go on exam day is by watching the newly developed Candidate Primer Video. If you need additional guidance or confirmation after watching, we encourage you to [schedule an equipment check appointment](#) with an ABO troubleshooter.



<https://player.vimeo.com/video/799888313>



If you're short on time, you can [download the slides](#) and read them instead.

3.2. Content Outline

The American Board of Ophthalmology has developed a [content outline](#) (PDF) for the Oral Examination. The purpose of the content outline is to outline the list of examination topic areas that will be covered on the Oral Examination. Pursuant to exam development best practices, the content outline will be reviewed once every 3-5 years to ensure it stays relevant to current practice.

About the Oral Examination Content Outline

Development of the content outline adhered to psychometric guidelines for exam development and relied primarily on existing evidence-based literature and expert consensus. In 2016, the ABO conducted a practice analysis survey of diplomates with diversity in gender, age, practice type, and geography. The purpose of the survey was to gather feedback on the relative importance of each of the examination topic areas. This information was aggregated and used to calculate the relative weight assigned to each of the topic areas.

Update December 2020: In 2020, the Oral Examination changed from delivery of up to 10 Patient Management Problems (PMPs) to 7 PMPs per subject. As a result, a group of Optics and Refractive subject matter experts condensed the topics areas from seven into three in order to build appropriate parallel test forms for 2021. A group of diplomates were surveyed to provide their feedback on the relative importance of the three subdomains which was used to calculate the assigned weight to each.

Using this Document

The Board recommends that candidates look to this outline as a starting point for building a personalized program of review; however, this document is not intended to serve as a comprehensive study guide. As an independent standard-setting and assessment organization, the ABO neither requires nor endorses the purchase of particular study guides, tools, or texts. (Additional information about the source material for this exam can be found in the [Examination Topics](#) section.)

For further assistance locating preparation materials, the ABO suggests talking to peers and colleagues about what resources they have used and found most helpful or contacting a professional society such as the American Academy of Ophthalmology or a subspecialty organization for advice, recommendations, and information about their educational materials.



The Oral Examination Content Outline is available as a [PDF](#).

Providing Feedback

The American Board of Ophthalmology is committed to the continuous improvement of its assessment tools and processes for certification. Suggested updates for the next version of the Oral Examination Content Outline may be sent to ContentOutline@abop.org. Comments must reference the specific section of the outline to which you are referring and provide a source/documentation for the content you are

recommending. All comments will be directed to the appropriate review committee. General questions about the certification process and examinations should be sent to info@abop.org.

3.3. Exam Prep Materials

Candidates are highly encouraged to check out the [ABO website](#) for a comprehensive set of resources dedicated to preparing for the Oral Examination. This page includes:

- [Candidate Performance Criteria](#): Understand how exam performance is assessed in three specific areas: data acquisition, diagnosis, and management. The ABO **highly encourages** candidates to treat this resource as a useful checklist for the formation of a clear, systematic, and comprehensive approach to each case.
- [Sample Cases](#): Review the five clinical cases representative of the examination. This will give you a chance to practice your approach to each case and give you an idea of what the cases will look like on exam day.
- [Case Discussion & Analysis Videos](#): Watch candidates navigate the sample cases with an examiner and then review the examiner's discussion of the correct answer. This will show you the correct way to approach these sample cases in this virtual exam format.



Please note: the video for [Sample PMP #5](#) highlights a **failing performance** due to incorrect diagnosis and management.

3.4. Candidate Concierge

When candidates are assigned to a virtual oral examination administration, they will also be provided with an ABO staff concierge to answer general questions and provide experience support. Contact information for your personal concierge can be found on your [Status Page](#). You can expect your Candidate Concierge to email you intermittently in the several weeks leading up to your exam to connect you with resources that can help you prepare for your test.

3.5. Informational Webinar

In preparation of the April and October 2023 exam administrations, ABO staff put together the following on-demand webinar that details the most important information every candidate needs to know about prepping for and taking this exam. This 20-minute video covers board prep materials, sample exam questions, and exam scoring, along with a special preview of what to expect on the day of the exam. Everything you'll see and hear is also explained in more detail in this Candidate Manual.

Video

<https://player.vimeo.com/video/801379236>

✿ If you're short on time, you can [download the slides](#) and read them instead.

3.6. Tech Appointments

The ABO is providing the opportunity for all candidates to pre-test their camera, audio, and exam setup with a tech support professional. Candidates are encouraged to schedule a tech appointment to ensure there are no issues with their equipment prior to exam day.

All tech appointments must be scheduled [here](#).

✿ Any scheduled appointments must be completed no later than **one week prior** to your exam.

4. Test Day Procedures

Candidates will be provided with a link to their examination appointment approximately three (3) days prior to the examination. This link will also be located on the candidate's [ABO Status Page](#). Candidates will click on their Oral Examination link at the appointment time to begin their test appointment. The candidate will remain in this test appointment for the entire four-hour exam. The meeting host will move the candidate in and out of exam rooms and scheduled breaks according to the candidate's exam schedule.

4.1. Check-In & Security

Candidates are required to check-in and attend a 20-minute orientation on exam day. This time will be spent ensuring all individuals are present and connected, checking IDs for security purposes, and reviewing the exam protocol, including appropriate examiner/candidate interaction, explanation of the timeline and breaks, and frequently asked questions. Candidates who do not check-in for orientation at the scheduled time will not be admitted to the examination and their examination fee forfeited.

4.1.1. Identification

At check-in, candidates must present an unexpired, U.S. or Canadian (in English) government-issued form of identification (such as a driver's license or passport) that includes their photograph and signature. **Please make sure you have this ID ready when joining the examination.** The Host of your examination will ensure that this identification matches your first and last name as it appears on your [Candidate Status Page](#). The only acceptable difference is the presence of a middle name or middle initial.

4.1.2. Room Check

To ensure that examination integrity is maintained and to grant candidates the opportunity to correct potentially disqualifying security issues prior to the start of the examination, the ABO performs a brief room security check at the time of candidate check-in.

This security check is to ensure compliance with the ABO's testing environment guidelines and benefits both the ABO and the candidate by documenting that no other individuals and no unauthorized items (such as books, notes, or electronic devices) are proximal to the candidate's testing area. To conduct this screening, candidates must use their webcam to show a 360-degree view of the room. Candidates may also be asked to share their computer desktop and open their task manager to demonstrate that no other applications or programs are running.

For the duration of the examination and break times, candidates may not access phones* or electronic devices, use pen and paper, access written materials, or use their computers for any purpose other than the test. Doing so compromises the security of the examination and may result in termination of the test appointment, invalidation of the candidate's score, and permanent exclusion from the board certification

process. These policies are necessary to protect the integrity of the examination.

*In the event of an internet outage or computer error, candidates may retrieve their phones to call the Board Office at 610-664-1175 to report the issue and obtain technical assistance. The presence of a phone for any other purpose, unless expressly authorized by ABO exam personnel, will be grounds for termination of the examination.

4.1.3. Candidate Verbal Agreement

Candidates must verbally state that they are adhering to the ABO's agreement for examination integrity and understand the consequences of non-compliance.

The Candidate Verbal Agreement states:

Prior to your sitting for this examination, you agreed to the ABO Virtual Oral Examination Agreement. You are also asked to verbally acknowledge that you will not violate the Examination Irregularity Policy and/or the Non-Disclosure Policy and/or the Acknowledgement/Cooperation Agreement, or you will not give or receive aid in connection with this examination, or engage in any other conduct that subverts or attempts to subvert the integrity of the examination or the ABO certification. Please state "yes, I agree."

4.2. Candidate Orientation

On test day, candidates must join the virtual meeting at their assigned start time (using the Zoom link provided approximately three days prior to the test) to participate in the orientation session. Although orientation takes place in a large virtual room where other candidates may be visible, actual examination appointments take place in private Zoom rooms where only one candidate and two or more examiners are present at a time.

4.3. Zoom Navigation

The virtual oral examination consists of three 50-minute exam appointments. Following orientation, the meeting host will admit each candidate to his/her first exam room on the exam schedule. At the end of each exam appointment, candidates will return to the main waiting room during the scheduled 10-minute breaks between exams. At the conclusion of the third exam appointment, candidates will leave the meeting. Candidates should not disconnect from the Zoom platform until the entire examination has been completed. No special Zoom training is required for candidates to navigate the examination.

4.4. Breaks

Scheduled Breaks

Ten-minute breaks are scheduled between exam appointments. Candidates will return to the main meeting room during this time and are required to leave their camera, computer, and audio on during the entire break. These breaks are scheduled for candidates to use the restroom, get a snack, and move around.

During breaks, use of tablets/cell phones, using the computer on which the examination is being administered, and reviewing or taking notes is prohibited.

Unscheduled Breaks

In the event that a candidate needs to take an unscheduled break during the examination, the candidate must alert the examiners, specify the reason and time interval, and acknowledge that they will forfeit that time on their examination. Unscheduled breaks will be documented in the candidate's examination file.

4.5. Troubleshooting & Issue Monitoring

The ABO does not record examinations. Quality assurance and issue monitoring happen through observation.

At any time, candidates and examiners may request support for technical issues. Candidates should notify their examiner (or their examination host when in the break room) whenever assistance is required.

On exam day, teams of senior ABO officials and staff closely take the following measures:

- Senior officials (experienced examiners and/or Board Directors) periodically visit exam rooms to provide quality control, monitor examiner performance, and ensure that the test is being given in accordance with Board guidelines.
- Approximately 42 other ABO exam personnel are actively monitoring and supporting the exam as it happens. This support team includes technical managers, examination hosts, tech support, examination administration coordinators, candidate experience specialists, and exam security managers. The ABO uses a digital monitoring system to communicate about issues in real-time and track exam appointments. If a technical issue impacts a candidate's exam, the ABO staff will work directly with the senior official, examiners, and candidates to immediately resolve the issue.

Candidates should report in writing any additional concerns or interruptions to their test day immediately following their examination.

4.5.1. Distractions & Interruptions

The ABO anticipates that unexpected distractions and interruptions may occur at times during an examination. Distractions and interruptions include, but are not limited to background noise that interferes with the ability to conduct the exam. Examiners, in consultation with the senior ABO officials, will determine if the distraction or interruption can be handled or if the exam must be terminated. The latter consequence will be considered an interrupted test appointment. The reasons for the interrupted test appointment will be documented and the candidate will be contacted by ABO staff that day to discuss retest options.

4.5.2. Retests

The ABO will offer examination retests for candidates who are unable to test due to documented technical issues that prevent the full administration of the examination. Technical issues will be documented, and ABO staff will contact the candidate on the originally scheduled examination date. It will not be possible to reschedule a test appointment during the same examination administration weekend. Candidates will be provided options within three days of the interrupted test appointment to reschedule for a future date.

If a candidate is able to complete the examination, but feels that their test performance was affected by technical issues, the candidate can request a retest by writing to the [Board Office](#) within three days of the examination and explaining the reason for the retest request. Retest requests will be considered based on the request and in consultation with the examiners and staff involved in the test administration. By making this request, the candidate will waive the completed examination results, even if the result was a passing score. Candidates will be informed of their retest options within seven days of receipt of the written request.

4.6. Post-Exam Survey

Following the examination weekend, candidates will be asked to complete an experience survey. Examination results will be provided via email and posted on the candidate's status page 4-6 weeks after the examination.

5. Policies & Disclosures

The ABO believes in the premise “trust but verify.” We trust that in the pursuit of board certification, you will conduct yourself with respect for the certification credential, your professional reputation, and your patients. However, we also will ask you to comply with basic security and identity verification measures to ensure fairness for all candidates and to protect the integrity of the exam.

It is a violation of federal law to reproduce, in whole or in part, ABO examination content in any way. Candidates who share or receive ABO examination content also risk the lifetime loss of eligibility for board certification. Of note, there is no advantage to providing content to or receiving content from other candidates because the questions for each examination form will be unique.

We have taken into account the potential challenges of online exam delivery and have adjusted our policies and processes accordingly. Please carefully read this manual for information about [technical specifications](#) and [in-exam troubleshooting](#) in the event of a computer or internet glitch.

5.1. Candidate Agreement

I hereby apply to the American Board of Ophthalmology (ABO) for the issuance of a certificate of qualification as a specialist in ophthalmology and for examinations relative to that certificate, all in accordance with and subject to the Rules and Regulations of the ABO. A complete copy of the [Rules and Regulations](#) is available on the ABO website. By electronically signing this Agreement and submitting it to the ABO, I agree to be legally bound by and to abide by all of the terms and conditions of this Agreement and the Rules and Regulations of the ABO. I agree that upon the issuance to me of a certificate of qualification, I shall become bound by the Bylaws of the ABO and shall remain bound by the Rules and Regulations of the ABO as they may be amended from time to time.

I hereby certify that I have read and accept the terms and conditions of this examination set forth in the Rules and Regulations of the ABO. I understand and agree that the virtual oral examination is supervised by examiners, staff, and others who are responsible to the ABO and are empowered by the ABO to ensure that the examination is conducted securely and appropriately and in accordance with the Rules and Regulations of the ABO.

I understand and agree that:

- (i) The ABO will verify my identity before I take the examination. I certify that all sources of identification I provide to the ABO for these purposes are true and accurate representations of my identity.
- (ii) The ABO will use my webcam to visually inspect and verify that my test environment meets the Board's standards for privacy and security before I am admitted to the examination. I consent to this check and understand that, in addition to my immediate surroundings, I will be fully visible to others on screen. Prior to my examination, I will take appropriate measures to remove personal or sensitive items from my test environment.

- (iii) I am responsible for ensuring that I am able to participate in the full 4-hour examination appointment in a quiet, distraction-free setting.
- (iv) I am responsible for supplying and using my own testing equipment, including a computer, webcam, internet access, and required software. I understand that this equipment must meet the [technical requirements](#) specified in this manual.
- (v) The ABO is not responsible for technical issues that may prevent the administration of the examination on the scheduled day or time. This includes equipment malfunctions and internet disruption. The ABO will not penalize me for examination administration failures on the part of the ABO or myself. If I am unable to test on the scheduled day and time due to technical failure on the part of the ABO or myself, I will be rescheduled to a future examination administration. If this happens, the ABO is not responsible for reimbursing me for time and materials spent in preparation for the examination or necessary increased preparation, including professional and personal time and materials used for examination preparation.
- (vi) My examiners, in consultation with ABO leadership and staff, may terminate my examination, without appeal, if:
- a. they determine, in their sole discretion, that my testing environment is not suitable for the examination; and/or
 - b. they are concerned about the examination security or my behavior regarding examination security, the integrity of the examination, and/or professional conduct.
- (vii) Examinations that are terminated prior to completion of the required number of questions being answered (partial examination) will not be scored, regardless of the reason.
- (viii) For the duration of the examination, including break times, I may not use pen and paper, access written materials or non-exam applications, interact with other individuals verbally or via electronic device, or operate non-exam phones, tablets, or other electronic devices except in the case of an internet outage or equipment failure where my phone may be used solely to contact the Board Office for emergency assistance. I am responsible for disabling all incoming communications, including calls, messages, virtual assistants, and pop-up notifications. I understand that, at any time for any reason, I may be asked to share my screen to demonstrate that I am in compliance with the rules and regulations of the examination. I further understand that violations of this policy will initiate potential disciplinary proceedings which may require me to provide the Board with documentation subsequent to the incident, such as, but not limited to, screenshots or phone records.
- (ix) Any irregular candidate behavior before, during, or after the examination, such as communicating with other candidates about test questions and/or answers, conversing with non-exam personnel during the exam administration, recording the examination in any manner, accessing external resources or unauthorized applications including those powered by artificial intelligence (AI) for the purpose of obtaining exam information, or otherwise giving or obtaining any information or aid to other candidates, as evidenced by observation or otherwise, on any portion of the oral examination is cause for immediate termination of my candidacy. Violations of this policy constitute grounds for the ABO to invalidate the

results of my examination and any prior examinations, to bar me permanently from all future examinations, to withhold my scores or certificate, to revoke my certificate, and/or to take any other appropriate action, including legal action.

(x) The ABO may withhold my scores and may require me to retake the oral examination or other assessment if the ABO is presented with evidence demonstrating to the ABO, in its sole discretion, that the security of the examination may have been compromised, notwithstanding the absence of any evidence of my personal involvement in the compromising activities.

(xi) The materials and questions utilized in the oral examination are copyrighted as the sole property of the ABO and must not be removed from the test area or recorded, copied or reproduced in any way. I have read and I understand the [Copyright Notice and Agreement](#) and the [Non-Disclosure Agreement](#) in the following sections. Copying, recording, or reproducing copyrighted material, in whole or in part, is a federal offense and also constitutes grounds for the ABO to take one or more of the actions listed in (viii) above.

(xii) The decision as to whether my grades and other performances on the ABO's examinations qualify me for a certificate of qualification rests solely and exclusively in the ABO, and that its decision is final.

I hereby waive and release and shall indemnify and hold harmless the ABO and persons in their capacities as the ABO's directors, members, officers, committee members, employees, and agents from, against and with respect to any and all claims, losses, costs, expenses, damages, and judgments (including reasonable attorney's fees) alleged to have arisen from, out of, with respect to or in connection with any action which they, or any of them, take or fail to take, any examination conducted by the ABO which I apply to take or take, the grade or grades given me on the examination and, if applicable, the failure of the ABO to issue me a certificate of qualification or the ABO's revocation of any certificate of qualification previously issued to me.

5.2. Copyright Notice and Agreement

All ABO initial certification and continuing certification examinations, including the content and wording of examination questions, constitute confidential ABO information protected by copyright law. Any unauthorized receipt, copying, recording, possession, or transmission of ABO written, computer-based, or oral examination questions, content, props, or other materials ("Examination Materials"), for any purpose(s), either before the examination or after an examination administration, in whole or in part, by any means, including but not limited to reconstruction from memory, is strictly forbidden. Use of ABO Examination Materials, including that which may have been reconstructed from memory, for the purpose of examination preparation or training is also strictly forbidden.

I agree not to record, copy, or reproduce Examination Materials in whole or in part in any way, including but not limited to reconstruction from memory.

5.3. Non-Disclosure Policy

As noted previously, all ABO examinations and Examination Materials are confidential and are protected by copyright law. The Examination Materials are made available to examinees solely for the purpose of becoming certified or maintaining certification in the specialty of ophthalmology. I am expressly prohibited from disclosing, publishing, reproducing, or transmitting any ABO examination or Examination Materials, in whole or in part, in any form or by any means, verbal or written, electronic or mechanical, for any purpose.

5.4. Examination Irregularity Policy

Engaging in any conduct that subverts or attempts to subvert the integrity of the examination or the ABO certification process is sufficient cause for the ABO to:

- Bar the candidate from the examination and/or future examinations;
- Terminate the candidate's participation in the examination;
- Withhold and/or invalidate the results of the candidate's examination;
- Withhold the candidate's certificate;
- Revoke the candidate's certificate;
- Require the candidate to pay the costs of the ABO's investigation; and/or
- Take other appropriate action against the candidate, including legal action.

The ABO reserves the right to take whatever measures are necessary to protect the integrity of its examinations.

5.5. Consent for Data Use and Release

To help analyze the effectiveness of my training program, and for the non-commercial purposes of the Accreditation Council for Graduate Medical Education (ACGME) and its Ophthalmology Review Committee, I hereby authorize ABO to release, in confidence, to the ACGME, the director of the program in which I have trained, and to the chair of the department of which the program is a part, the results of my performance on the examinations conducted by ABO. I also authorize ABO to use and disclose the data I submit to ABO and results of my performance on the ABO examination for ABO's internal, non-commercial mission and purposes. Additionally, where permitted by law, I authorize ABO to release data, including personally identifiable information, to other external entities in accordance with [ABO's Data Collection, Use, and Sharing Policy](#). ABO may also disclose data when required by law.

5.6. Cooperation Agreement

In the event that I am aware of an examination irregularity or the ABO investigates a potential examination irregularity, I agree to report that information to the ABO and/or cooperate fully with the ABO and to provide all relevant information in my possession to the ABO. I understand and agree that the failure to cooperate fully with the ABO will subject me to the disciplinary sanctions set forth above.

I have read the policies of this Application and Agreement carefully and I understand, agree to, and accept the obligations that the policies and the Application and Agreement impose on me.

I declare a dedication to provide ophthalmic services with compassion, respect for human dignity, and integrity.

By submitting this Application and Agreement electronically, I agree that this electronic form shall have the same legally binding effect as an original paper version would have.

5.7. Competency with Technology

Consistent with the ABMS/ACGME General Competencies in Systems-Based Practice, the ABO requires its candidates to possess sufficient competencies in information technology, including the use of personal computers, the internet, and email, for correspondence and completion of examinations and modules throughout their participation in ABO certification activities.