

AMERICAN ACADEMY OF OPTOMETRY
Section on Cornea and Contact Lenses

Refractive Technology Diplomate Candidates Guide
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Section on Cornea and Contact Lenses

Refractive Technology (RT) Diplomate Candidates Guide

Introduction

Optometrists have been involved in all facets of the various procedures designed to alter refractive error since their inception. In recognition of this, the Refractive Technology (RT) Diplomate award has been established by the Section on Cornea and Contact Lenses. A Fellow in good standing of the American Academy of Optometry may become a Refractive Technology Diplomate of the Section on Cornea and Contact Lenses when he or she has demonstrated a thorough and appropriate level of knowledge of the cornea and in the Refractive Technology area of expertise. As the contact lens wearing patient is frequently encountered prior to refractive surgery, and as contact lenses are a common form of treatment for post-surgical complications, a sound knowledge of the field of contact lenses is also expected. Completion of the requirements outlined in this guide will allow the candidate to demonstrate a broad base of knowledge in all phases in this field, including theoretical, technical, and clinical areas. Please frequently refer to the Web Site for the updates to the process for successful completion of your diplomacy.

Candidates Welcome

The Section on Cornea and Contact Lenses welcomes you as an applicant. We believe that the process is not only a rewarding one but that it will also be a significant learning experience. Not only will you benefit from the added knowledge, but you will be rewarded with the satisfaction of being recognized as an expert in this field. You will also meet colleagues who share mutual interest and concern from all of parts of the world to who you may refer patients and discuss both clinical and research topics with confidence. Once your candidacy has been completed, we hope that you will remain interested and curious about the corneal refractive procedures field, and that you will become involved as a leader in that field, with activities that might include lecturing, writing, and teaching within the Section and within the Academy as a whole so that more of our colleagues may become informed on this topic.

To apply as a Diplomate in the Refractive Technology track, you must:

- Be a Fellow in good standing of the American Academy of Optometry
- Submit an application form (attached) indicating your desire to become a Diplomate in Refractive Technology. The application should be returned prior to September 15^h with an application fee of \$100 (made payable to the American Academy of Optometry) and send a photograph of you to:

Refractive Technology Diplomate Award Program
Section on Cornea and Contact Lenses
American Academy of Optometry
6110 Executive Boulevard, Suite 506
Rockville, MD 20852 USA

REQUIREMENTS FOR DIPLOMATE IN REFRACTIVE TECHNOLOGY OF THE SECTION ON CORNEA AND CONTACT LENSES

Case Reports

This part of the process involves the submission and acceptance of ten (10) written case reports. The subject of these reports should be from the specific designated areas outlined below. All patients reported on should have been followed at least six months post-operatively, if a refractive procedure was applied. The case reports are the most arduous and time consuming part of the Diplomate process and are the only parts of the examination that are not conducted at the annual Academy meetings.

A. General Information

1. The purpose of the case report requirement is to allow you to demonstrate knowledge and clinical expertise in the specialties of cornea and refractive technologies, as well as in contact lenses as it relates to the refractive technology field. This requirement will also inform the Diplomate Award Committee of your understanding of the various techniques utilized in refractive procedures, the equipment used in your office for evaluating and following these patients, your general clinical knowledge in the area and the clinical philosophies used on a daily basis in managing these patients. Additionally, the information presented in the case reports is used as a basis for the oral portion of the exam.
2. Please submit an e-mail file (or three hard copies) of your first case report to the Case Reports Chair as soon as confirmation of your application is received from the Diplomate Award Chair; this will allow the Case Reports Chair to retain a copy while sending copies to two Diplomate referees for review. Case report format is described in section E. Once the Case Report Chair returns your first report, you can begin work on the remainder of the case reports. If it is returned for revision, which it frequently is, comments and critique from the Diplomate referees often saves considerable time and effort in revision. It will also give you an idea of what is expected in case reports.
3. All reports must be submitted to the Case Reports Chair by September 15th in order to be considered for that year's annual meeting. It is suggested that you have your case reports completed and sent to the Case Reports Chair much earlier than September 15th, as early submission will allow adequate time for revision. There are frequently revisions necessary, as suggested by the referees, and there must be further time so that they can be re-graded. Allow at least 4 weeks for each grading cycle. Thus, while September 15th is the absolute deadline, it would be wise to have all of the cases in the hands of the Case Reports Chair by the 1st of August.
4. **REMEMBER – DO NOT SEND ALL 10 CASE REPORTS IN WITH THE INITIAL SUBMISSION. ONLY THE INITIAL CASE REPORT SHOULD BE SENT AT THAT TIME.** A case report can only be graded on the information that is submitted. While this may seem obvious, the case report referees cannot assume that you did tests that were not reported. For instance, if you are evaluating the anterior corneal surface, explain what dyes were used, the exact procedure that you used clinically, the order in which the dyes were instilled, etc. Simply saying that you stained the eye with fluorescein is not adequate, as there are several ways in which this can be performed; some are simply inadequate and improper.

B. Current Case Report Topic Choices

Select 10 cases from the list of acceptable options. Note that case number 1 is mandatory. Cases should include a variety of treatments and a minimum of 4 different procedures. Cases may include but not be limited to LASIK, PRK, PTK, LASEK, CRT, RK, AK, ICRS, CK, LTK.

If you have a report that you wish to submit that does not fit any of the specified categories, please submit an outline of the case with an explanation to the Case Reports Chair before proceeding with its full submission. This will perhaps save you some work if the Chair does not approve the submission of the case.

1. Mandatory requirement. A typical refractive laser vision correction case. Every candidate should submit this type of case. Included in it should be a complete description of your initial evaluation, your thought process, actions, and recommendations from start to finish in a typical laser vision correction case. Include all relevant findings, citing how these findings guided you toward your final recommendation of whether to have the eye(s) treated, which surgeon and which laser you recommended, and why. Also include any special concerns or considerations that you had before, during, or after the process. The follow-up process should likewise be presented. Be certain to select a case to demonstrate knowledge at a Diplomate level.
2. A contact lens related resolution of a refractive technology case (for example, post-RK). Be certain that your case selection demonstrates knowledge in both laser vision correction and contact lens fitting post-operatively.
3. A case in which you prescribed Corneal Refractive Therapy (CRT) contact lenses. This case could be of a patient who was prescribed CRT as the primary procedure to correct refractive error or a case where CRT was prescribed to problem-solve another refractive technology procedure.
4. A hyperopic refractive vision correction case. Be sure to include a discussion of the considerations in patient selection that are different in the hyperopic patient (as opposed to the myopic patient).
5. A case that demonstrates a difference in results due to the use of different brands or types of laser, or different types of laser technique. This case should demonstrate to the reviewer that you are very knowledgeable in the technological aspects of laser vision correction and the reasons that you might choose one form of technology over another.
6. A refractive vision correction case of significant (>3.00 D) refractive astigmatism. Include your rationale for selection of a particular instrument, surgeon, and technique, including the pre-op and post-op clinical data.
7. A case of Photo Refractive Keratectomy (PRK). Include your decision-making process in recommending PRK versus another refractive procedure.
8. A case in which monovision refractive vision correction was performed on a presbyopic patient. The reason(s) for selection of monovision need to be included.

9. A laser vision case in which there were problems with the flap post-operatively. Include a description of your post-operative evaluation of flap efficacy.
10. A case in which the patient was myopic prior to refractive vision correction and over-correction resulted in hyperopia or under-correction resulted in undesired myopia. Include re-treatment and other management options.
11. A case in which drug therapy or other medical treatment was necessary to resolve post-treatment complications (for example, infection or inflammation)
12. A case in which a patient was recommended for a refractive procedure, which, in retrospect, perhaps should not have undergone the procedure.
13. A case of a patient with dry eyes (or ocular allergies) pre-operatively for whom a form of refractive procedure was recommended. Include your clinical rationale and clinical evaluation technique and suggested treatment rationale for dry eyes (or ocular allergies).
14. A case in which refractive vision correction could not be recommended due to pre-operative clinical findings (thin cornea, flat cornea, corneal irregularity, etc.) for whom another form of refractive alteration procedure was or was not recommended.
15. A refractive surgery patient with systemic disease that might have affected the outcome. Include in this case report a discussion of why (or why not) this patient was selected for treatment, what type of treatment was recommended, etc. Also, include your rationale for either including or ruling out patients with different types of systemic disease that may or may not affect the outcome of a refractive procedure.
16. A case where a patient came to see you seeking correction of an unsuccessful or problematic refractive procedure, include all pre-op and post-op data and your rationale for choosing the treatment or clinical approach used in this case.
17. A case of Photo Therapeutic Keratectomy (PTK). Include in the discussion the reasons for selection for this form of therapy.
18. A case of conductive keratoplasty (CK). Discuss the strategy in deciding on this type of treatment versus another refractive procedure.
19. A case in which INTACS was utilized, describing the usage of this technology, its' clinical applicability, and the testing and thought process used in choosing this modality
20. A case in which a clear lens extraction was performed. Include in the discussion the reasons for the selection of this form of therapy and which intraocular lens was implanted and why that lens was chosen.
21. A case in which a phakic intraocular lens implantation was performed. Include a discussion of the rationale for this type of treatment as opposed to a corneal-based surgical procedure.
22. An analysis of clinical outcomes—present a summary analysis of 30 or more cases where data are available before and after treatment that demonstrates an ability to analyze clinical care protocols and their impact on patient outcomes.

If you have a question about the appropriateness of a case, please contact the Case Reports Chair for an opinion.

C. Substitution of Published Articles/ Papers

Candidates may substitute peer-reviewed manuscripts or textbook chapters where they are a principal author in place of a written case report. These substitutions must be relevant to refractive technology and a justification for each substitution demonstrating the relevance of the submitted material should be provided by the candidate at the time of submission. A maximum of five substitutions is allowed. The Case Reports Chair and referees will decide whether or not a published article/paper is acceptable and meets the substitution requirements.

Consideration will be given to applicants who no longer see patients nor have files that might satisfy this specific case report requirement. Since this is a relatively new field, there should be very few situations in which this consideration will be allowed. In these cases, in lieu of writing a case report, a topic will be assigned relating to that particular requirement. It is realized that there are candidates who may be currently in administrative roles in laser vision correction clinics, etc., who may fit this description.

D. Updating Requirements

As one would expect in a field that is as dynamic as Refractive Technology, there will be, from time to time, changes made to the specific case report requirements. Candidates will be required to satisfy the new requirements if they have not previously done so. An exception will be made if the committee is aware that you are currently working on a case report to satisfy that particular requirement and are preparing that report for submission. It is understood, for instance, that the technology in both diagnostic and treatment instrumentation within the laser vision correction field has changed dramatically in the recent past. Thus, it is expected that case reports that encompass those changes in technology would be included in the cases that the candidate submits. However, if a case is submitted that utilizes technology that may be outdated at this time, but was current and adequate at the time that the patient was seen, consideration for that will be made when submitting case reports.

E. Case Report Format

Case reports should be double-spaced, and formatted with 1-inch margins. Electronic submissions are preferred (Microsoft word files submitted via email). If submitting case reports in hard copy, please submit an original and two copies on plain white paper. Number pages consecutively, beginning with the Abstract (the title page should not be numbered). Case reports submitted as hard copies should be stapled in the upper left-hand corner. Do not use binders.

1. Your name and address should appear on the cover letter and the title page, but not on the case report. The Case Reports Chair will assign each report a coded number and then forward the reports to two referees. This double-blind review process will ensure anonymity for the candidate, and will reduce chances for bias by reviewers.
2. Please write your reports in a clear and concise manner. In general, case reports average between 10-20 double-spaced typewritten pages, including tables, figures, and references. Case reports should not exceed 30 pages in their entirety. Please use a spell-checker in addition to careful editing before submitting. Candidates are encouraged to use line numbering to facilitate reviewer comments.

Organize and prepare the manuscript to include the following sections.

I. Abstract

Include a structured abstract of 150 words or less with the following headings: Purpose, Case Report, and Discussion.

II. Text

A. Introduction

Describe the purpose of the case report, the clinical problem illustrated in the report, and any major findings that will constitute the focus of the report. The Introduction should highlight the unique elements of this individual case in the context of the more general clinical entity that is represented by the findings presented in the following sections. Limit references to only the most relevant publications.

B. Case Report

The Case Report section should consist of the specific findings detailed below, the time of these clinical observations, as well as any supplementary material relevant to the diagnosis, and management of the patient. The following subheadings might be used in the Case Report section as applicable, or the Candidate may elect to provide similar information in a prose format: The text should be written in complete sentences rather than brief statements as would be found in the patient's chart or clinical encounter form. The only exception is when listing routine clinical findings, they may be summarized as in the example below:

DATE OF VISIT: :

Entrance visual acuity (spectacles): 20/20 OD and 20/25 OS at distance

Manifest subjective refraction: OD:
OS:

Keratometry: OD:
OS:

Slit lamp biomicroscopy:

Lids/Lashes: clear OU

Cornea: clear OU

Tears: clear OU

Upper and lower tarsal plates (palpebral conjunctiva): clear OU

Bulbar conjunctiva: clear OU

Iris: flat OU

Lens: clear OU

Anterior chamber: deep (grade IV angle) and free of visible aqueous cells or flare OU

Setting: Such as clinical practice, referral center, multi-center, institutional or other practice environment.

Intervention: State the intervention or procedures(s) performed including (one or both eyes), basis for patient selection (i.e. inclusion/exclusion criteria). If the candidate is reporting a case series, provide the number patients presented and make a clear distinction between the number of patient and the number of eyes.

Clinical Findings: Describe clinical findings or patient outcomes and measurements in an objective sequential manner with a minimum of discussion. If the candidate uses any tables or figures, they should be cited and presented in the same sequential numeric order.

Candidates are encouraged to include the following information for any case report. Note that not all of this information will be relevant in every case, or is this list intended to be a complete list of all necessary findings. The candidate should present what is necessary to demonstrate their clinical skills and standards of care. Be sure to include patient preoperative evaluations, post operative patient management, and instrumentation, Pharmacological management is valuable in addition to any significant ocular and physiological aspects of the case. If candidates have a question regarding inclusion of specific data, for the sake of completeness, include it.

1. Patient information: initials, age, gender, occupation, hobbies (as they relate to visual demands or needs), particularly as this information might relate to the discussion of the individual case.
2. Dates of all clinical observations must be included.
3. History: a complete general history, family history, a list of diseases for which the patient may be treated, and a list of medications being taken.
4. Visual and ocular history must be reported, particularly if they relate to changes that may be relevant to the refractive procedure being discussed.
5. Discuss any ocular injuries, anatomical abnormalities or surgeries that have been experienced in the past.
6. Describe the patient's daily visual requirements and the reasons that they may be seeking a surgical refractive procedure.
7. Report contact lens wearing history in detail.
8. Patient symptoms need to be properly investigated and described.
9. Diagnostic testing, including the following areas:
 - A detailed report of biomicroscopic observations.
 - External examination, including lid position and adnexa.
 - Pupil size and pupillary reactions.
 - Internal ocular findings, including ophthalmoscopic (direct and indirect), and slit lamp evaluation of the fundus.
 - Keratometry, topography, wavefront analysis, corneal thickness.
 - Refractive findings, including the relationship to contact lens wearing.
 - Report any and all serial post-contact lens refractive findings.
 - Visual acuities, distance and near, aided and unaided.
 - Binocular function, in cases where it is relevant to the case presentation.
 - Intraocular pressure.
 - Corneal diameter, if it is a significant factor, such as in LASIK.
 - Summarization of the data, including impressions, diagnosis, and recommended treatment with the clinical rationale for the treatment recommended.
10. Treatment options:
 - Discussion of treatment options for this patient, including any presentation or discussion of the risks and benefits of each option with the patient.
 - Description of the final course of treatment for this patient and justification for it.
 - Inclusion of any and all correspondence, technical data, calculations, photographs, technical data printouts, etc. related to the case with all patient identifiers removed.

11. Follow-up visits:

- History and symptoms, dates (including length of time since procedure).
- Visual and refractive results
- Biomicroscopic evaluation.
- Special testing performed.
- Discussion with the patient and advice for the patient.
- Impressions
- Treatment

Patient Outcomes: Provide sufficient detail to enable others to understand the preoperative condition of the patient, the details of the intervention received, the results of that intervention, and the basis for any clinical decisions that were made that influenced the reported findings. Describe the final clinical result and disposition of the patient, providing the length of postoperative care, basis for referral, or reason for discharging the patient.

If the candidate is reporting clinical outcomes from a substantial case series (>10 eyes), the guidelines published by Waring¹ are preferred, but not required.

Use generic nonproprietary pharmaceutical nomenclature and complete dosing information and patient instructions.

C. Discussion

Elucidate (but do not reiterate) the clinical findings, identify any significant limitations or qualifications of the reported findings, discuss the reported findings in the context of other reports especially those that may be contradictory. Excessive generalization and undue speculation should be avoided. Give equal emphasis to positive and negative aspects with respect to the management of this case, state any additional care or clinical intervention that might be recommended. Conclude with the broader clinical implications illustrated by the case report.

III. References

Candidates are encouraged to cite references (i.e. peer reviewed publications) as a basis for their clinical decisions and to contrast their findings with previously reported findings to demonstrate their depth of scholarship and critical thinking. The references should be listed numerically as an attachment to each case report, and should be formatted according to the style guidelines exemplified below.

References should be numbered consecutively in the text and in the reference list. In the text, reference numbers are entered as superscripts. Candidates are advised to use automated reference numbering software (eg Medline, EndNote or Reference Manager) since they may facilitate accurate citations and consistent formatting. PubMed offers a useful reference checker.

Any cited references should have been read in their entirety by the Candidate. Discussion and interpretation of referenced citations is appropriate subject matter for the oral examinations.

References to journal articles should include:

- 1) The author or authors (for more than three authors, list the first three followed by "et al.")
- 2) Title
- 3) Journal name

¹ 1. Waring GO, 3rd. Standard graphs for reporting refractive surgery. J Refract Surg 2000;16:459-66.

- 4) Year of publication
- 5) Volume number
- 6) Page numbers.

References to books should include:

- 1) The author or authors
- 2) Chapter title (if any)
- 3) Editor or editors (if any)
- 4) Book title
- 5) Edition (other than the first)
- 6) City of publication
- 7) Publisher
- 8) Copyright year
- 9) Pages of the chapter or section cited

Examples:

Journal article:

Thibos LN, Hong X. Clinical applications of the Shack-Hartmann aberrometer. *Optom Vis Sci* 1999;76:817-25.

Bullimore MA, Olson MD, Maloney RK. Visual performance after photorefractive keratectomy with a 6-mm ablation zone. *Am J Ophthalmol* 1999;128:1-7.

Book Chapter:

Twa M, Moreira S. Astigmatism and Toric Contact Lenses. In: Mannis MJ, Zadnik K, Coral-Ghanem C, Kara-Jose N, ed. *Contact Lenses in Ophthalmic Practice*. New York: Springer-Verlag, 2003: 109-124.

Unpublished data:

Unpublished data includes studies in preparation or submitted for publication, scientific posters, and unpublished abstracts that reviewers cannot retrieve in an electronic literature search should be included parenthetically in the text.

Example: "... As described by Jones et al. (Jones RA, ASCRS, 1997)".

The Candidate should be prepared to provide abstracts or copies of such for reviewers if requested.

Internet references:

References to material that is available via the internet are appropriate, provided the material is of peer-reviewed caliber. The online reference should be listed with URL address and date the information was last accessed. Since Internet articles may not be available at the time of review the Candidate is advised to make a printed copy of the material they are referencing so that they will be able to provide it for reviewers if requested.

Example: Bullimore MA, Dobos MJ. Repeatability and Validity of Refractive Error Using the Bausch and Lomb Zywave[ARVO Abstract]. www.arvo.org, 2003 Abstract nr 4081, Accessed December 24, 2004

IV. Tables

Information in the tables should not entirely duplicate the text. Instead, the candidate should highlight the most important trends and significant findings.

Tables should be numbered consecutively in order of citation in the text. Each table should have a brief title so that the reader can understand what is being displayed in the table without reference to the text. Tables may also be embedded in the text or each table may be submitted on separate page at the end of the text following the References and Figure legends page if any are included.

Tables should be created in a Word, WordPerfect or another word processing document using the table tools. Each table should be double-spaced.

V. Figures and Figure Legends

Figures may be embedded in word processing documents or may be attached as separate pages to the end of the case report. For embedded figures, figure legends should be included together at the bottom of the figure. For figures attached to the end of case reports, please include a separate figure legend page following any tables. Each legend should be numbered consecutively in the text, have a brief title, and contain a complete description of each figure. Ideally, the legend should contain enough information so that the figure can be understood independently of the text.

Example: Figure 1. Stromal Melting after LASIK. (Top left) The patient's cornea is shown postoperatively with severe inflammation and stromal thinning adjacent to the visual axis.

Checklist for Candidates

Below is a checklist of items required before submission. Please be sure that you have thoroughly read the instructions for preparation and submission of your case report before submitting it. Materials should be provided in the following order.

- Cover Letter indicating the case report category (see above)
- E-mail or submit three hard copies of the case report, double-spaced and formatted according to the instructions
- Title page (Title, Candidate's name, academic degree or degrees, and affiliation, complete address, phone number, fax number, and e-mail address of the Candidate) * note that this information should not appear in any other place on the case report.
- Abstract (limit: 150 words)
- Text
- References
- Figure Legends
- Tables
- Figures

Appeals Process

The section does its best to have expert reviews and hopes that candidates recognize that many good case reports may be rejected or require substantial revision. Candidates should view each case report as an individual learning opportunity. Reviewers are encouraged to provide Candidates with constructive criticism that is meant to aid in the Candidates professional growth. If you feel your experience (i.e. case report reviews) do not facilitate this objective and deserve another evaluation, you may address this issue with the Section Chair at any time.

REVISIONS: If a case report is sent back for revision, please attach a cover letter stating how and where in the case report the concerns by the reviewers have been addressed. It is also helpful to return your revision to the case report chair with highlighted print (for example italics) where changes to the original submission have been made.

F. More Case Reports Specifics----

1. As has been mentioned earlier in this outline, it is not proper to assume that the reader knows what you are thinking. It is also not understood that you have done a test if it is not reported. Remember that you are demonstrating your skill and expertise. You must explain everything in detail, particularly your rationale for any clinical decisions. Reports that solve problems and deal with difficult clinical situations are generally more highly regarded and acceptable than reports where all the clinical findings are perfect.
2. Report data in a manner that may be easily understood by the reviewer. It is acceptable to record findings as within normal limits (WNL) but only in situations where those findings have no bearing on the case being discussed. For instance, if the candidate is describing the appearance of the cornea post-operatively, WNL is simply not sufficient. Realize that, in some instances, a reviewer may be from a different part of the country or different part of the world from you and may not understand abbreviations or shorthand. The candidate will have to review each case to be sure that all information is completely reported, without the inclusion of extraneous information.
3. The six month follow-up requirements for validity of a case report will be waived in cases where the applicants' patient care setting is such that it is not the customary patient care protocol. However, note that:
 - a. The applicant must obtain all pre-op and post data that can be retrieved and include it in the case report, as one visit case reports will generally be an unacceptable format.
 - b. The Refractive Technology Case Reports Chair must review and accept the case report format and subject matter that may qualify the case report as acceptable despite being outside of the usual and customary one year pre-op and post-op rule.

G. Current Cornea and Contact Lens Diplomates Who Choose to Complete the Refractive Technology Requirements.

We encourage current Cornea and Contact Lens Diplomates to also become Refractive Technology Diplomates. The requirements will be somewhat modified. The previously stated 10 case report requirement as stated in this guide are required. In addition, candidates must pass the specific Refractive Technology portions of the Clinical (slide), Written, and Oral examinations.

H. Case Report Logistics Requirements

CASE REPORT PROGRESS IS REQUIRED BEFORE PROCEEDING WITH OTHER PORTIONS OF THE PROCESS THAT WILL LEAD TO THE DIPLOMATE AWARD

You must have at least one case report accepted before you will be allowed to attempt the remaining portions of the requirements. This must be a clinical report. It cannot be a substituted published paper. Once again, be reminded that the submission of reports is required by September 15th, but due to the fact that referees need at least 4 weeks to allow for reading and grading case reports, returning that information to the Case Report Chair, and his/her notification of each candidate, it is recommended that you do not wait until the last minute to submit case reports if you desire to participate in the other parts of the examination at the upcoming Academy meeting. Submit case reports as early as possible to allow time for revision and acceptance.

I. Orientation Meeting

You should plan on attending the Orientation Meeting for Cornea & Contact Lens Diplomate candidates. This is usually scheduled for the Thursday morning of the Annual Meeting at 6:30 or 7:00 AM, prior to the beginning of the Lectures & Workshops. Please confirm the date, time, and place of this meeting with the Diplomate Award Chair prior to making your hotel and airline reservations. All prospective and active candidates should attend this meeting. Members of the Diplomate Award Committee will further acquaint you with the goals of the Section and with your requirements and procedures for achieving the Refractive Technology Diplomate. A member of the Refractive Technology subcommittee will be in attendance to answer any questions you may have. It is important that the Diplomate Award Chair knows your hotel location, so he/she can contact you during the annual meeting. Prospective candidates are invited to attend this meeting and to have a brief personal interview following it so that the Committee can advise them of a course of study, training, and practice that will lead to successful completion.

J. Scheduling Exams

If you are taking the examinations for the first time or are repeating any portion, you should notify the Diplomate Award Chair of your intent prior to the Annual Meeting and schedule yourself accordingly.

You will be notified of the time and location of the examinations prior to the annual meeting so that you can plan your time accordingly. You are encouraged to take any of the examinations for which you are eligible. Candidates must have at least one case report approved to begin the testing process. If the entire process is not completed in the initial year, candidates must show progress with case reports to proceed with taking additional examinations.

K. The Written Examination

The Written Examination is designed to evaluate your knowledge of all aspects of the refractive procedures field. This includes scientific, theoretical, technical, surgical, and clinical information. The examination format typically is multiple choice, but some "fill in the blanks" may be included. The Written Examination will be given on Thursday or Friday of the annual meeting. It is typically conducted at the hotel where the meeting is being held. The exact room location will be announced at the orientation meeting. The examination is typically two hours long.

The following areas may be included in the Written Examination:

1. Basic understanding of laser technology.

2. The development of the laser as it is related to refractive correction.
3. The various forms of lasers and laser technologies that are utilized in the field.
4. All updates and technical progress within the field.
5. Familiarity with the literature as it related to risks, benefits, and outcomes of various refractive procedures.
6. Patient selection criteria for the various refractive procedures.
7. Common post-procedure problems seen within the field, and how to manage them .
8. Clinical diagnosis and treatment of post-procedure problems.
9. Post-procedure contact lens fitting for a variety of problems that occur clinically.

10. Corneal factors that can preclude refractive procedures, or add potential risks.
11. Pertinent anatomy and physiology of the cornea.
12. Understanding of the alteration of corneal anatomy and physiology induced by various refractive surgical procedures.
13. Understanding of the pharmacology of topical medications of pre-procedure and post-procedure.
14. Understanding of all of the principles and technology involved in corneal measuring instruments (topography, wavefront, pachymetry etc.).
15. Understanding impact of contact lens wear of the evaluation of the refractive surgical patient
16. Understanding of basic contact lens design including but not limited to soft lenses, rigid lenses and advanced design lenses

L. The Clinical (Slide) Examination

The Clinical (Slide) Examination evaluates the candidate's knowledge and skill in the area of refractive technology. It also tests the candidate's understanding of basic corneal physiology and pathology. Questions referring to projected slides related to pathological conditions, corneal abnormalities, corneal irregularities, etc., may be covered. Slides depicting corneal topography printouts and the use of diagnostic dyes will also be included. In addition, the candidate will be tested using slides that encompass the topic of contact lenses as they relate to corneal refractive procedures including but not limited to lens design, interpretation of fluorescein patterns and the influence of contact lens wear on the potential refractive surgical patient. Some familiarity with the historical aspects of the refractive surgical field will be included. The Slide Examination will be held on the Thursday or Friday of the annual meeting, and two hours are allotted.

M. The Practical Examination

The Practical Examination is designed to evaluate the knowledge of the candidate in a clinical setting. Patients will be presented at various stations with proctors grading the responses of each candidate as they pass through that station. Candidates are expected to evaluate and describe the presentation and status of the patient examined and will be questioned relative to these observations. The practical will cover both pre-operative evaluation of the potential refractive surgical patient as well as identification and management of post-op complications. In general, the Practical Examination is given on Thursday of the Academy Meeting. It is typically conducted at a clinical site somewhere in the geographic area of the hotel at which the meeting is being held.

The exact location and information about transportation to and from the site will be provided at the orientation meeting. Lunch will be provided. One must allow at least 4 – 5 hours for this examination, as some travel time must be included.

N. The Oral Examination

After successful completion of the first four parts of the Diplomate process, candidates are eligible to take Part 5, the Oral Examination. The Oral Examination is a defense of your case reports and an exploration of your knowledge in the area of corneal anatomy, physiology and refractive technology. It is also a review of your performance in the various segments of the examination. The Oral Examination is usually conducted by three Diplomates. The Oral Examination is usually scheduled on Saturday morning.

O. Repeat Examinations

Failure of any one part of the examination by the candidate necessitates a repeat of that part of the examination at a subsequent meeting of the Academy. Those parts of the examination completed successfully need not be repeated unless your application period has expired. Unless the case reports requirement is completed, you must make additional progress on case reports before you will be allowed to retake Parts 2-4 the following year.

P. Interview at Annual Meeting

All candidates active in the examination process will have an interview scheduled during the Annual Meeting. The candidate should contact the Diplomate Award Chair in order to schedule this interview. The interview will discuss any concerns candidates have and any areas for improvement to assure success with the Diplomate process.

Upon completion of the requirements, you will be nominated to the Board of Directors of the American Academy of Optometry by the Section on Cornea and Contact Lenses for diplomacy. It is requested that all candidates attend the Section on Cornea and Contact Lenses reception to honor Diplomates and the Annual banquet where new diplomates are introduced.

Q. Application Period

All requirements have to be completed within a five-year period of time from the date of acceptance of a candidate's application. Failure to satisfy the requirements during that period of time will necessitate a resubmission of your application, including a non-refundable fee and retaking all five parts of the examination. Candidates are encouraged to take any and all eligible parts of the examination whenever possible in order to advance toward Diplomate status.

R. Final Advice

Everyone involved in the Diplomate process of the American Academy of Optometry has previously completed the process themselves. It is a rewarding professional goal that sets you apart from your colleagues. It is a designation that is held in high esteem within our profession. It is not intended to be simple or easy, but is intended to test a candidate's knowledge.

Every Diplomate in any of the Academy's Sections will tell you that it was a great learning experience for him or her. It makes you review your clinical techniques, solidifies your thinking in many clinical areas, and forces the candidate to review the textbook and technical information that is the foundation of the clinical work that we do every day. We wish you good luck in the process and are here to help and guide any candidate who wishes to move forward in the process. In addition to the official representative (Section Chair, Case Reports Chair, referees, exam proctors, etc.) any Section Diplomate would be more than happy to offer you their time to assist you in the process. Please do not hesitate to use that resource at any time throughout the process.

To begin the Refractive Diplomate process, please complete the application on the following page and mail it to:

Diplomate Award Program
Section on Cornea & Contact Lenses
American Academy of Optometry
6110 Executive Blvd, Suite 506
Rockville MD 20852 USA

