



Establishing Advanced Competencies in Cornea, Contact Lens, and Refractive Technologies

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Methods

The development of advanced competencies defining the subspecialty of Cornea, Contact Lenses, and Refractive Technologies (CCLRT).

Members of AOCLE, IACLE, SLS, and CCLRT were polled, with responses received from 109 diverse individuals

A consensus was reached on the competencies, with an overwhelming majority approving.

A working group comprised of five CCLRT specialists and an undergraduate research fellow created associated learning objectives for each competency

Competency 1. Evaluating the strength of evidence from current research and emerging treatments for management of patients with corneal abnormalities, including treatments and use of specialty contact lenses.

Objective 1.01 Apply research findings in patient management when indicated.

Objective 1.02 Counsel patients on how to distinguish the strength of the evidence supporting proposed treatments.

Competency 2. Utilization of screening tools to identify physiological factors impacting the cornea, ocular surface, and contact lens wear

Objective 2.01 Formulate case history questions concerning contact lens wear.

Objective 2.02 Formulate case history questions and/or administer surveys to identify the impacts of dry eye on daily living

Objective 2.03 Define the impact of dry eye on quality of life and vision as evaluated with various evidence-based screening tools.

Objective 2.04 Identify and administer evidence-based tests to determine severity of dry eye disease.

Objective 2.05 Describe testing options for systemic etiologies of ocular surface disease including stating specific areas of concern and referring or comanaging patients as appropriate

Competency 3. Interpreting the results of dry eye testing and corneal imaging in order to establish treatment strategies.

Objective 3.01 Accurately analyze corneal mapping (topography/tomography) to determine shape, severity, and progression of corneal conditions.

Objective 3.02 Accurately analyze dry eye test results to determine factors impacting corneal condition.

Objective 3.03 Accurately analyze corneal imaging (photography, OCT, ultrasound) to determine corneal condition, status, and any deterioration or progression of corneal condition.

Objective 3.04 Describe a broad range of treatment strategies for a diagnosed corneal or ocular surface condition including topical, systemic, and contact lens modalities.

Competency 4. Identifying corneal and anterior segment conditions that might require referral or additional intervention

Objective 4.01 Describe the inheritance patterns and genetic characteristics of hereditary conditions that cause corneal abnormalities.

Objective 4.02 Identify the ocular and systemic characteristics of common syndromes that can result in corneal or ocular surface conditions.

Objective 4.03 State the current medical treatments for conditions that cause corneal health concerns.

Objective 4.04 Formulate an individualized plan including prognosis, treatments, possible procedures, and lens alternatives.

Objective 4.05 Communicate condition and management plan appropriately with patients, their family members and/or care providers including discussing risks and benefits of various treatments and contact lens options

Objective 4.06 Recommend appropriate specialty contact lens options for the improvement of vision and/or ocular surface rehabilitation.

Competency 5. Identifying and coordinating care of patients with corneal disorders who are likely to experience improved visual function from contact lens designs.

Objective 5.01 Discuss the contact lens options including risks and benefits that are available for patients with irregular or compromised cornea to enhance patient performance.

Objective 5.02 Demonstrates knowledge of available contact lens designs including soft lens material designs, gas permeable lens material designs, hybrid material designs, and piggybacking of multiple lens materials.

Objective 5.03 Demonstrates knowledge of appropriate lens selection, fitting, troubleshooting, and prescribing of all available lens modalities for irregular or compromised corneas.

Competency 6. Designing contact lenses for ametropia incorporating lens parameters that are consistent with patient needs.

Objective 6.01 Demonstrate knowledge of available lens materials, designs, fitting process, and troubleshooting for high-powered refractive corrections such as degenerative myopia and aphakia.

Objective 6.02 Demonstrate knowledge of multifocal design, multifocal lens selection, multifocal lens troubleshooting, and prescribing in all available lens modalities.

Objective 6.03 Demonstrate knowledge of available lens materials, designs, fitting process, and troubleshooting for highly astigmatic corrections

Competency 7. Applying optical principles to the evaluation and fitting of gas permeable, scleral, hybrid and specialty soft lenses.

Objective 7.01 Demonstrate the ability to select the appropriate corneal and scleral gas permeable, piggyback, hybrid and specialty soft contact lenses.

Objective 7.02 Evaluate lens fitting relationships (ie, BC, sag, OAD, toricity) and how changes to these may impact contact lens power and/or visual quality

Objective 7.03 Problem solve fitting relationships to improve fit and visual function

Competency 8. Incorporating patient-specific physiological considerations into the evaluation, design, prescription, and fitting of gas permeable, corneal, scleral, hybrid and specialty soft contact lenses.

Objective 8.01 Identify corneal and ocular surface disorders that impact the design, prescription and fitting of complex contact lenses.

Objective 8.02 Demonstrate ability to analyze patient goals and utilize a combination of materials and parameters to successfully design and fit corneal and scleral gas permeable, piggyback, hybrid and specialty soft contact lenses.

Objective 8.03 Adjust lens designs and fitting relationships to maintain or improve corneal and ocular surface physiology

Competency 9. Adapting contact lens evaluation and management strategies for the unique visual needs of patients of all ages and abilities.

Objective 9.01 Adapts testing and evaluation for anterior segment disease and abnormal corneal conditions to the needs of the patient

Objective 9.02 Select, evaluate, and prescribe appropriate treatments, contact lens options and possible refractive surgeries based on patients' goals and needs

Objective 9.03 Educate the patient and caregivers about the patient's visual and corneal health status.

Objective 9.04 Educate the patient and caregivers about appropriate strategies for contact lens application & removal and proper lens care management.

Competency 10. Understanding and implementing appropriate presurgical testing in order to determine whether or not a patient is a good candidate for refractive surgery.

Objective 10.01 Describe and perform the tests required to determine a patient's status as a surgical candidate.

Objective 10.02 Properly educate patients on the options, risks, and benefits of refractive surgeries.

Competency 11. Understanding and implementing appropriate post-surgical testing in order to determine the health and success of refractive surgery.

Objective 11.01 Describe the tests required to determine the outcome status of a patient who has undergone refractive surgery.

Objective 11.02 Perform necessary tests and evaluate the results in order to determine if the patient is at risk for or has developed complications

Objective 11.03 Properly educate patients and initiate an appropriate treatment and follow up plan for the post-surgical patient with or without complications.

Objective 11.04 Recommend appropriate specialty lenses options as needed for those patients with irregular corneas or residual refractive error secondary to refractive surgery.

Objective 11.05 Provide counseling and education to patients who experience complications due to refractive surgeries.

Competency 12. Describing a plan for developing and maintaining a specialty cornea/contact lens practice.

Objective 12.01 Describe the role and training of auxiliary staff in a specialty cornea/contact lens practice.

Objective 12.02 Demonstrate knowledge of proper examination documentation, coding requirements for reimbursement of specialty contact lens services, coding and billing for corneal disease, specialty contact lens services and materials.

Objective 12.03 Acquire and maintain technology necessary to identify and treat specialty cornea/contact lens patients.

Competency 13. Coordinating patient management with other professionals.

Objective 13.01 Establish partnerships with appropriate professionals to manage or co-manage patients requiring surgical intervention or other specialized care

Objective 13.02 Demonstrates appropriate and professional verbal and written communication with other professionals

Competency 14. Utilizing appropriate evidence-based options for the management of myopia.

Objective 14.01 Apply evidence-based findings to offer treatment modalities for the management of myopia

Objective 14.02 Identify appropriate candidates for the various treatment options for myopia management

Objective 14.03 Demonstrate knowledge of the utilization of various modalities for myopia management

Objective 14.04 Establish an appropriate treatment and testing protocol to evaluate the effectiveness of myopia management

Discussion

The finalized project is composed of 14 defined advanced competencies each with multiple associated objectives. The competencies and their associated learning objectives have been peer-reviewed and will be distributed to the member associations for application in the areas of Cornea, Contact Lens and Refractive Technologies.

References

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These competencies are the foundation for the diplomate award process of the
AAO Section on Cornea, Contact Lenses and Refractive Technologies.

