



Framework for Developing Optometric Curriculum Guidelines and Educational Standards for Ophthalmic Surgery

Statement of Purpose

Patients benefit from increased choice, access, and competition for services provided by qualified health care professionals. Fragmentation of standards in optometry, scope of practice, and expectations across the United States create uncertainty and confusion for the public, profession, regulators, students, and educators.

As the result of an iterative process that began with a project team appointed by the American Optometric Association, and with input from the Association of Schools and Colleges of Optometry (ASCO), a preliminary list of core competencies and objectives are provided as a framework for a clear, concise plan for stakeholders to encourage discussion and action for increasing patient access to ophthalmic surgery. These proposed competencies are a need-based addition to the entry-level student learning outcomes endorsed by ASCO, which are defined in the *2011 Attributes of Students Graduating from the Schools and Colleges of Optometry*.

Similar to the standards developed for dental laser education in 1999, this document describing competencies in ophthalmic surgery is “intended to provide guidance to Doctors of Optometry and educators, and to assure the public on the issues of education, competency, and quality of care.”¹ The responsibility of demonstrating competency in ophthalmic surgery is profession-wide and achieved through entry-level education in the schools and colleges of optometry and may be supplemented with post-graduate education in residency. For existing Doctors of Optometry without entry-level preparation in ophthalmic surgery, post-graduate continuing education workshops utilizing blended learning technologies would be appropriate.⁹

Several states currently have optometric practice acts which include in their scope the ability to perform ophthalmic surgery such as but not limited to: injections of diagnostic and therapeutic pharmaceutical agents; drainage of eyelid chalazia, cysts, abscesses, bullae and seroma; excision and biopsy of cutaneous lesions; repair of eyelid lacerations, removal of foreign bodies of the cornea and conjunctiva; probing/irrigation of the lacrimal drainage structures; the use of ultraviolet, visible, and infrared radiation for treatment of specific ocular conditions; and the use of radiofrequency and thermal cautery.

The term “ophthalmic surgery” is recommended as a description of skills Doctors of Optometry should possess in order to meet the needs of the patient population adequately. These procedures may be routinely performed in the typical office of a Doctor of Optometry, as surgical procedures and the management of their possible complications, fall well within the established optometric curriculum, assessment tools, and documentation of the ASCO institutions.¹⁰

These curriculum guidelines support the major tenets of health care reform by broadening access to care, providing clarity of the standards for practicing at the highest level of licensure, potential cost savings by reducing duplicate testing inherent in a referral-only based system, and the opportunity to increase patient satisfaction.

Process

The framework draws substantially from the Accreditation Council for Graduate Medical Education (ACGME) core competencies, the previously mentioned ASCO 2011 “Attributes” Report, the ASCO Functional Standards for Optometric Education referenced during the admissions process at all schools and colleges of optometry, Accreditation Council on Optometric Education (ACOE) standards for the professional optometric degree, Northeastern State University Oklahoma College of Optometry (NSUOCO) Surgical Anatomy and Introduction to Office-based Surgery (OPT 7042) Course, and coursework of Southern College of Optometry, and the Illinois College of Optometry.

The framework does not specify an exact number of credit hours, contact hours, observations or performed procedures. Educational research over the past two decades has advanced our knowledge of learning and techniques best suited to facilitate learning. The strategies and methods recommended today are not limited to the strategies of the past. Thanks to the emergence of new technology-based educational tools, we can now offer today’s learner a more valuable experience based on interaction and experimentation.⁹ Studies have demonstrated that authentic learning activities support the acquisition of knowledge that cultivates the kinds of skills that are lasting and more portable.¹³

Per the 2011 Attributes of Students Graduating from the Schools and Colleges of Optometry Report:

“Health care education programs and their accreditors must focus on the student’s (provider’s) demonstration of competency for which attitudes, knowledge and skills are pre-requisite.”

The important and valuable task of managing and/or evaluating the achievement of educational outcomes certifying that graduates of Schools and Colleges of Optometry possess appropriate attributes to allow them to serve the needs of the public is an ongoing and significant task.”⁴

The three pillars for the core competencies for entry-level ophthalmic surgery include: **1) Professional Values and Ethics; 2) Knowledge; and 3) Skill**. Each core competency is accompanied by a list of suggested objectives which provide examples of activities to measure knowledge, skill, and outcomes. **The framework is a starting point and is not meant as a prescriptive list of activities to restrict, limit, or regulate.** In fact, the project team looks forward to broad engagement and discussion with stakeholders to facilitate implementation. The “skills” competencies expand upon the entry-level student learning outcomes in the 2011 ASCO Attributes Report, which include: “...the ability to prescribe or use ophthalmic materials, contact lenses, vision therapy, low vision devices, pharmaceuticals, and certain surgical

procedures, to treat and otherwise manage common vision disorders and disease,⁴ “and specific procedures utilizing injections, biopsy, excision, curettage, irrigation, ultraviolet radiation, radiofrequency and thermal cautery, to treat and manage vision disorders and disease.

Educational Structure

The process we used to develop the framework for core competencies and objectives was modeled after the work of the ASCO Low Vision Educator Special Interest Group (SIG). An iterative process using the Delphi Survey Technique and Nominal Group Technique led to consensus and has been used in other health outcomes research.

While the project team sponsor has been the American Optometric Association (AOA), with further input from ASCO, the intent is to have broad stakeholder engagement from other professional associations (e.g., AOA, AAO, ASCO); state associations; regulatory boards (e.g., ARBO and individual states); assessment/testing organizations, (NBEO, ABO, ACOE); and interested optometrists.

This initial draft report is submitted in fulfillment of the charge from the 2017 AOA House of Delegates to investigate a process to bring together stakeholders across the profession, accreditation, and regulatory agencies to develop a way forward for increasing patient access to ophthalmic surgery.

Project Team Members

The project team consists of five optometrists with varied volunteer and practice experience spanning multiple optometric organizations. The team includes Christopher Wolfe, OD, FAAO;; Richard Castillo, OD, DO,; Gregory Moore, OD,; Stanley Woo, OD, MS, MBA, FAAO,; Chris Wroten, OD,; and AOA staff member Catherine Hendricks.

The Government Affairs Committee of the Association of Schools and Colleges of Optometry (ASCO) has facilitated feedback from the schools and colleges of optometry through review by the ASCO Academic Affairs Committee, ASCO Clinical Affairs Committee, ASCO Chief Academic Officers, and the ASCO Board of Directors.

A. Professional Values and Ethics^{3,4}

- A.1. Expected to provide patient care that is compassionate, appropriate, and effective for the promotion of health and the treatment of health problems.
 - A.1.1 Be respectful and responsive to individual patients’ preferences and needs, and ensure their values guide all clinical decisions¹
 - A.1.2 Be mindful and apply varying dimensions of compassion including attentiveness, active listening, helping, and understanding²
- A.2. Expected to demonstrate the ability to investigate and critically evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on perpetual self-evaluation and life-long learning.^{3,4}
 - A.2.1 Identify strengths, deficiencies, and limits in one’s knowledge and expertise
 - A.2.2 Systematically analyze practice using quality improvement methods and implement changes with the goal of practice improvement

- A.2.3 Incorporate formative evaluation feedback into daily practice
- A.2.4 Employ evidence-based practice and participate in learning and research activities to the extent possible⁷
- A.2.5 Working knowledge of applicable Clinical Practice Guidelines (AOA) and Preferred Practice Patterns (AAOphthalmology)
- A.2.6 Set learning and improvement goals

- A.3. Demonstrate a commitment to fulfilling professional responsibilities and an adherence to ethical principles.
 - A.3.1 Responsiveness to patients needs that supersede self-interest
 - A.3.2 Compassion, integrity, and respect for others
 - A.3.3 Demonstrate commitment to continuity of surgical care
 - A.3.4 Accountability to patients, society and the optometric profession
 - A.3.5 Refer to and make visible the Optometric Oath as a resource guiding clinical practice philosophy
 - A.3.6 Adherence to patient privacy and protection policies

- A.4. Participate in identifying system errors and implementing potential systems solutions, including participation in disease and clinical registries and government reporting programs as appropriate.
 - A.4.1 Apply quality improvement to identify hazards in patient care with the objective to improve outcomes⁷
 - A.4.2 Participate in a qualified clinical data registry, like AOA MORE
 - A.4.3 Participate in prescription monitoring programs (PMP)
 - A.4.4 Awareness of reporting options and requirements to state, regional, or national authorities
 - A.4.5 Maintenance of procedure logs in various practice settings
 - A.4.6 Report adverse outcomes in ophthalmic surgery as part of quality assurance

- B. Knowledge^{3,4}**
 - B.1. Expected to demonstrate knowledge and application of established and evolving biomedical, clinical, epidemiological, and social-behavioral sciences to patient care.
 - B.1.1 Must demonstrate competence in their knowledge of basic and clinical sciences specific to optometry and ophthalmic surgery
 - B.1.2 Evidence-based medicine
 - B.1.3 Outcomes-based registries

 - B.2. Able to implement appropriate infection control, cleaning, and sterilization protocols, as well as biohazardous waste disposal procedures.
 - B.2.1 Aseptic technique
 - B.2.2 Awareness, implementation, and documentation of applicable OSHA requirements
 - B.2.3 Personal protective equipment/barriers for patient and provider

 - B.3. Expected to demonstrate an understanding of Applied Basic Sciences.
 - B.3.1 Integration and clinical application of anatomy, physiology, hemostasis, histopathology,

- and pathophysiology. Describe actions, mechanisms, and applications of relevant pharmacological and anesthetic effects on organ systems and adverse reactions
- B.3.2 Familiarity with the principles of energy-tissue interactions including laser, visible ultraviolet and infrared light, electrocautery and radiofrequency sources

 - B.4. Demonstrate knowledge of intra and postoperative complications and how to manage them.
 - B.4.1 Hemorrhaging
 - B.4.2 Infection
 - B.4.3 Intraocular hypertension
 - B.4.4 Inflammation
 - B.4.5 Anesthesia and anesthesia-related adverse events
 - B.4.6 Adverse pharmaceutical reactions including anaphylaxis
 - B.4.7 Wound healing complications
 - B.4.8 Other potential complications, relevant to the procedure

 - B.5. Expected to understand ophthalmic surgical instrumentation, including its purpose, design, intended use, and related equipment and supplies.
 - B.5.1 Equipment for injection
 - B.5.2 Wound closure
 - B.5.3 Surgical instrumentation
 - B.5.4 Ophthalmic lasers
 - B.5.5 Radiosurgical technology
 - B.5.6 Personal protective equipment for providers and patients
 - B.5.7 Sterilization of surgical equipment
 - B.5.8 Asepsis and sterile field creation
 - B.5.9 Ancillary equipment and supplies

 - B.6. Working knowledge of the laws and regulations relating to ophthalmic surgery.
 - B.6.1 Occupational Safety and Health Administration (OSHA)
 - B.6.2 State scopes of practice
 - B.6.3 Centers for Medicare and Medicaid Services (CMS)
 - B.6.4 Appropriate coding and billing practices
 - B.6.5 Accreditation and credentialing – e.g., Accreditation Council on Optometric Education (ACOE), American Board of Optometry (ABO), [Joint Commission](#) (surgery centers, and hospitals)
 - B.6.6 Stark and anti-kickback statutes

 - B.7. Demonstrates an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care.¹⁴
 - B.7.1 Work effectively in various health care delivery settings and systems relevant to their clinical discipline
 - B.7.2 Coordinate patient care within the health care system relevant to their clinical discipline
 - B.7.3 Advocate for quality patient care and optimal patient care outcomes
 - B.7.4 Incorporate considerations of cost awareness and risk-benefit analysis inpatient and/or

population-based care as appropriate

B.7.5 Work in inter-professional teams to enhance patient safety, care and improve quality

B.7.6 Participate in identifying system errors and implementing potential systems solutions

C. Skills^{3,4,8}

C.1. Ability to obtain an appropriate case history and proper informed consent

C.2. Be able to properly document an optometric surgical procedure report following the standards set by the JCAHO and AAAHC for sufficient information to:

C.2.1 Identify the patient

C.2.2 Support the diagnosis

C.2.3 Justify the treatment

C.2.4 Document the postoperative course and results

C.2.5 Promote continuity of care

C.3. Appropriately evaluate and assess the ophthalmic and general medical indications and contraindications for ophthalmic surgery in order to obtain a valid informed consent, including alternatives, risks, benefits, and limitations or contraindications.

C.4. Provide acute and long-term post-procedure care for ophthalmic surgery.

C.4.1 Management and/or treatment of adverse events

C.4.2 Maximizing procedural outcomes and systematic assessment for quality improvement

C.4.3 Sequelae of procedure complications

C.4.4 Wound healing

C.4.5 Medications

C.4.6 Necessity for further or ongoing intervention or consultation

C.5. Manage acute and chronic complications which may be associated with ophthalmic surgery and anesthesia.

C.5.1 Supportive training (e.g., CPR, Basic Life Support)

C.5.2 Ability to manage early and late stage wound complications

C.5.3 Ability to identify and respond to intra and postoperative systemic complications.

C.5.4 Ability to utilize resuscitative equipment

C.6. Expected to demonstrate the psychomotor skills and ASCO Functional Standards necessary to safely and effectively perform procedures.

C.6.1 Coordination and control of activity in free space and/or through magnification and illumination (e.g., manual dexterity, eye-hand coordination, and kinesthetic sense)

C.7. Expected to demonstrate appropriate use, indication, and action of ophthalmic ultraviolet, visible, and infrared radiation LASER procedures

C.7.1 Trabeculoplasty

C.7.2 Post-cataract capsulotomy

C.7.3 Peripheral iridotomy

C.7.4 C.6.4 Refractive corneal modification for purposes of refractive changes

- C.8. Expected to demonstrate appropriate use, indication, and action of ophthalmic radiofrequency and thermal cautery procedures
 - C.8.1 Procedural hemostasis
 - C.8.2 Lesion removal

- C.9. Expected to demonstrate the psychomotor and cognitive skills necessary to perform nasolacrimal procedures
 - C.9.1 Punctal dilation and irrigation
 - C.9.2 Lacrimal probing
 - C.9.3 Punctal occlusion
 - C.9.4 Punctoplasty

- C.10. Expected to demonstrate the psychomotor and cognitive skills necessary to perform corneal procedures
 - C.10.1 Foreign body (FB) removal
 - C.10.2 Epithelial debridement
 - C.10.3 Emergent paracentesis
 - C.10.4 Cornea/Photorefractive Keratectomy
 - C.10.5 Cornea/Collagen cross-linking
 - C.10.6 Microstromal puncture

- C.11. Expected to demonstrate the psychomotor and cognitive skills necessary to perform conjunctival procedures
 - C.11.1 FB removal
 - C.11.2 Lymphatic cyst removal
 - C.11.3 Granuloma removal
 - C.11.4 Biopsy

- C.12. Expected to demonstrate the psychomotor and cognitive skills necessary to administer local and topical anesthesia effectively
 - C.12.1 Local anesthesia toxicity and management
 - C.12.2 Allergic reaction and anaphylaxis
 - C.12.3 Infiltrative local anesthesia
 - C.12.4 Regional anesthesia

- C.13. Expected to demonstrate the psychomotor and cognitive skills necessary to perform injection techniques effectively
 - C.13.1 Intradermal
 - C.13.2 Subcutaneous
 - C.13.3 Subconjunctival
 - C.13.4 Intralesional
 - C.13.5 Intramuscular
 - C.13.6 Venipuncture
 - C.13.7 Intraocular

- C.14. Expected to demonstrate the psychomotor and cognitive skills necessary to perform procedures on the lids and adnexa effectively
 - C.14.1 Suture techniques, including suture removal
 - C.14.2 Lesion excision, scalpel, scissors, dermablade, curette
 - C.14.3 Lesion incision and curettage
 - C.14.4 Cutaneous lesion biopsy
 - C.14.5 Intralesional injection
 - C.14.6 Lesion radiosurgical destruction
 - C.14.7 Laceration repair
 - C.14.8 Everting lid sutures for involutional entropion

- C.15. Expected to demonstrate effective, culturally competent, interpersonal communication skills, oral and written, that result in a clear understanding of health information by patients, their families, and health professionals which result in meaningful outcomes for the patient
 - C.15.1 Communicate effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds
 - C.15.2 Communicate effectively with physicians, other health professionals, and health related agencies
 - C.15.3 Maintain comprehensive, timely, and legible electronic, or paper, health records, where applicable
 - C.15.4 Act in a consultative role to other physicians and health professionals
 - C.15.5 Work effectively as a member or leader of a health care team or other professional groups

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