PAAO Recommended Program Requirements for
Graduate Medical Education in Ophthalmology

Training for a specialist in ophthalmology must be provided at an Institution accredited in the country, and should be based on a complete curriculum (cognitive and technical skills) of a minimum length of three (3) years. The resident must work full-time for the training institution.

The candidates will be medical doctors – surgeons with a degree. A public selection process is recommended.

As residents gain experience and demonstrate growth in their ability to care for patients, they assume roles that permit them to exercise those skills with greater independence. The concept of graded and progressive responsibility is crucial in graduate medical education. Furthermore, residency training should be Competency Based. The International Council of Ophthalmology endorses the Accreditation Council for Graduate Medical Education (ACGME) competencies. Other competency-based models (e.g. CanMeds, available at http://rcpsc.medical.org/canmeds/bestpractices/framework_e.pdf) are available and may be used.

ACGME Competencies

Patient Care

Residents must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.

Residents:

- should participate in a minimum of 3,000 outpatient visits in which the resident performs a substantial portion of the examination.
- must perform and assist at a sufficient number of surgeries to become skilled as comprehensive ophthalmic surgeons.
- must have gradual technical and patient care responsibilities in the surgery (including laser surgery) of cataract, strabismus, cornea, glaucoma, retina/vitreous, oculoplastics, and trauma to provide an adequate base for a comprehensive ophthalmic practice.
Medical Knowledge

Residents must demonstrate knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences, as well as the application of this knowledge to patient care.

Residents:

- should have a minimum of 36 hours of experience in gross and microscopic examination of pathological specimens; and,
- should have documented experiences in practice management, ethics, advocacy, visual rehabilitation, and socio-economics.

Practice-based Learning and Improvement

Residents must demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and life-long learning.

Residents are expected to develop skills and habits to be able to meet the following goals:

- identify strengths, deficiencies, and limits in one’s knowledge and expertise;
- set learning and improvement goals; identify and perform appropriate learning activities;
- systematically analyze practice using quality improvement methods, and implement changes with the goal of practice improvement;
- locate, appraise, and assimilate evidence from scientific studies related to their patients’ health problems;
- use information technology to optimize learning; and,
- participate in the education of patients, families, students, residents and other health professionals.

Interpersonal and Communication Skills

Residents must demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals.

Residents are expected to:

- communicate effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds;
- communicate effectively with physicians, other health professionals, and health related agencies;
- work effectively as a member or leader of a health care team or other professional group;
• act in a consultative role to other physicians and health professionals; and,
• maintain comprehensive, timely, and legible medical records, if applicable.

Professionalism
Residents must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles. Residents are expected to demonstrate:

• compassion, integrity, and respect for others;
• responsiveness to patient needs that supersedes self-interest;
• respect for patient privacy and autonomy;
• accountability to patients, society and the profession; and,
• sensitivity and responsiveness to a diverse patient population, including but not limited to diversity in gender, age, culture, race, religion, disabilities, and sexual orientation.

Systems-based Practice
Residents must demonstrate 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.

Residents are expected to:

• work effectively in various health care delivery settings and systems relevant to their clinical specialty;
• coordinate patient care within the health care system relevant to their clinical specialty;
• incorporate considerations of cost awareness and risk-benefit analysis in patient and/or population-based care as appropriate;
• advocate for quality patient care and optimal patient care systems;
• work in inter-professional teams to enhance patient safety and improve patient care quality; and,
• participate in identifying system errors and implementing potential systems solutions.

Training Sites
The training institution must be accredited under the regulations of the country (by the university authority and/or ophthalmology society). Ideally, it should rely on the academic support of a university. There must be a teaching team of experienced ophthalmologists renowned as experts by the
ophthalmology society. Ideally, there should be a specialist in each basic subspeciality field (anterior segment and glaucoma, vitreoretina, plastics, pediatric ophthalmology).

**Program Personnel**

**Program Director** (Director of Education). The role of the Residency Program Director is to oversee and ensure the quality of didactic and clinical education, resident selection and evaluation and patient management.

Specific aspects of the program director's role are listed below.

**Reporting Relationships**

- The Program Director works independently and reports to his/her Department Director.
- The Program Director should continue in his or her position for a length of time adequate to maintain continuity of leadership and program stability.

**Qualifications**

The following are recommended qualifications:

- Appropriate clinical, educational, and administrative experience beyond residency training. It is anticipated that program directors will have a minimum of 3 years post-residency experience.
- Demonstration of professional standards of ethical behavior that allow the Program Director to serve as a role model.

**Principal Duties and Responsibilities**

Duties and responsibilities include, but are not limited to:

- Oversight and organization of the activities of the educational program.
- Monitoring appropriate resident supervision.
- Development and implementation of explicit written descriptions of supervisory lines of responsibility for the care of patients.
- Preparation of a written statement outlining the goals and objectives of the program with respect to knowledge, skills, and other attributes of residents at each level of training and for each major rotation or other program assignment.
• Assuring that, at least annually, the educational effectiveness of the entire program is evaluated by residents and faculty in a systematic manner.
• Participation in selection of residents for appointment to the program in accordance with institutional and departmental policies and procedures
• Ensuring that each resident is formally evaluated at least on a semi-annual basis.
• Development of residency assignments and schedules to meet the educational goals of the program.
• Evaluation of program faculty and approval of the continued participation of program faculty based on evaluation.
• Ensure that any national policies governing resident education are enforced (e.g. duty hours).
• Ensure that all residents have equivalent educational experiences.

Faculty

There must be a sufficient number of faculty with documented qualifications to instruct and supervise all residents.

The faculty must have subspecialty expertise across a broad range of ophthalmic disciplines.

The faculty must establish and maintain an environment of inquiry and scholarship with an active research component.

The faculty must regularly participate in organized clinical discussions, rounds, journal clubs, and conferences.

Some members of the faculty should also demonstrate scholarship by one or more of the following:

• publication of original research or review articles (ideally in peer-reviewed journals), or chapters in textbooks;
• publication or presentation of case reports or clinical series at local, regional, or national professional and scientific society meetings; or,
• participation in national committees or educational organizations.

Faculty should encourage and support residents in scholarly activities.

Other Program Personnel

The institution and the program must jointly ensure the availability of all necessary professional, technical, and clerical personnel for the effective administration of the program.
Resources

The institution and the program must jointly ensure the availability of adequate resources for resident education.

Clinic

The outpatient area of each participating site must have a minimum of one fully-equipped examining lane for each resident in the clinic (e.g. trial lens set, optotype chart or projector, retinoscope, trial frames, indirect and direct ophthalmoscope, 90-diopter magnifying lens, slit-lamp biomicroscopes, 3-mirror Goldmann lens, 20-dipoter magnifying lens, prisms box). There must be access to current diagnostic equipment. This should encompass equipment designed for ophthalmic photography (including fluorescein angiography), perimetry, ultrasonography, and keratometry, as well as other appropriate equipment. (Ideally there would be access to retinal electrophysiology).

Operating Room Facilities

The surgical facilities for ophthalmology resident training at each participating site must include at least one operating room fully-equipped for ophthalmic surgery, including an operating microscope (with XY displacement, co-observation oculars for the assistant and video recording).

Residents must have access to a surgical skills development facility (e.g., a wet lab, materials or simulators) and instruction within the program.

The volume and variety of clinical ophthalmological problems in children and adults must be sufficient to afford each resident a graduated and supervised experience with the entire spectrum of ophthalmic diseases, so that the resident may develop diagnostic, therapeutic, and manual skills and judgment as to their appropriate use (Appendix A).

The institution should have an argon laser (or diode or green laser) and YAG laser equipment.

All training centers must have a Library. At least the library should include the collection of Basic Ophthalmology manuals published in the country and/or the Basic Course of the American Academy of Ophthalmology, besides the traditional textbooks.
Educational Program

The Institution must offer a complete curriculum (see Appendix B). If there are several training programs in the same city, it is recommended to unify the theoretical training. Another option is an Internet-based course approved or sponsored by the national society, with periodic assessments.

The curriculum must contain the following educational components:

- Overall educational goals for the program, which the program must distribute to residents and faculty annually.
- Regularly scheduled didactic sessions.
- Delineation of resident responsibilities for patient care, progressive responsibility for patient management, and supervision of residents over the continuum of the program.

Residents’ Scholarly Activities

The curriculum must advance residents’ knowledge of the basic principles of research, including how research is conducted, evaluated, explained to patients, and applied to patient care. Residents should participate in scholarly activity.

Evaluation: Resident Evaluation

Formative Evaluation

The faculty must evaluate resident performance in a timely manner during each rotation or similar educational assignment, and document this evaluation at completion of the assignment. The evaluation should assess the residents’ knowledge, skills and overall performance.

The program must:

- provide objective assessments of competence in patient care, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice; (ideally use multiple evaluators (e.g., faculty, peers, patients, self, and other professional staff));
• provide each resident with documented semiannual evaluation of performance with feedback; and,
• assessment will include the care of the surgical patient.

Summative Evaluation

The program must provide a summative evaluation for each resident upon completion of the program. This evaluation must:

• verify that the resident has demonstrated sufficient competence to enter practice without direct supervision; and,
• be as objective as possible. For instance, the ICO-OSCAR: phaco assessment tool (available at: http://www.paaoo.org/index.php?component=com_articles&id_art=22) provides a valid and reliable method of assessing surgical skill. By the end of the residents’ training they should be consistently scoring in the 90-100 point range (e.g. 90% of their last 20 cases).

Faculty Evaluation

At least annually, the program must evaluate faculty performance as it relates to the educational program.

These evaluations should include a review of the faculty’s clinical teaching abilities, commitment to the educational program, clinical knowledge, professionalism, and scholarly activities.

This evaluation must include at least annual written confidential evaluations by the residents.

Program Evaluation and Improvement

The program must document formal, systematic evaluation of the curriculum at least annually. The program must monitor and track each of the following areas:

• Residents and faculty must have the opportunity to evaluate the program confidentially and in writing at least annually, and
• The program must use the results of residents’ assessments of the program together with other program evaluation results to improve the program.
• If deficiencies are found, the program should prepare a written plan of action to document initiatives to improve. The action plan should be reviewed and approved by the teaching faculty and documented in meeting minutes.
Appendix A

Adequate surgical volume as defined below should be achieved by each resident as first surgeon:

- Cataracts: 5 extracapsular surgeries – 60 phacoemulsification surgeries
- Glaucoma: 10 filtering surgeries. Peripheral iridotomies argon – YAG: 5
- Strabismus: 10 resection/recession procedures of rectus muscles.
- Laser for diabetic retinopathy, tears, other pathologies: 30
- Conventional retinal detachment: 5
- Dacryocystorhinostomy: 4
- Eyelid (ectropion – entropion - wounds): 4
- Enucleation: 2
- Chalazion, minor palpebral surgery: 15
- Repair of corneal penetrating wounds (corneoscleral): 2

As Assistant Surgeon:

- Keratoplasties: 2
- Orbit Surgery: 2
- Vitrectomy: Only as Assistant
Appendix B

The ICO Residency Curriculum


Spanish 2006 version:

Portuguese 2006 version