INTERNATIONAL COUNCIL *of* OPHTHALMOLOGY

ICO International Guidelines for Accreditation of Ophthalmology Training Programs

The International Council of Ophthalmology (ICO) strongly believes that accreditation of eye care training programs, at all levels for the eye care team, is essential to ensure the quality of training and, ultimately, the delivery of the best eye care.

The ICO Accreditation and Certification Committee has developed recommended guidelines for ophthalmology training programs. These guidelines can be used as written or adapted for local needs by program directors and departments as benchmarks to strive for, or by accreditation bodies to guide their accreditation process.

Learn more: icoph.org/ICOAccreditationGuidelines.html

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ICO International Guidelines for Accreditation of Ophthalmology Training Programs

Program accreditation is a process that requires standards of structure, process and achievement, self-assessment, and review by outside experts. The International Council of Ophthalmology (ICO) strongly believes that accreditation of eye care training programs, at all levels for the eye care team that includes residents, ophthalmic nurses, and ophthalmic allied health personnel, is essential to ensure the quality of training and ultimately delivery of the best eye care.[1]

The process of program accreditation typically comprises a three-step cycle. First, the program performs a written self-assessment of their educational process, resources, strengths and weaknesses as described in this document. Second, an external group reviews the self-assessment and conducts an in-person visit to verify the program's report. Third, an accrediting organization reviews the program's self-assessment and the site visit report to assure accreditation standards are met. This accreditation cycle is then repeated at regular intervals.

The hope is that accreditation of programs will become a routine, ubiquitous process, thus assuring some level of quality to students and ultimately better patient care. To facilitate the process of accreditation, the ICO created an international panel to create recommended guidelines for ophthalmology training programs. These guidelines can be used by programs as benchmarks to strive for, or by accreditation bodies to guide their accreditation process.

This document follows the organization suggested by the World Federation for Medical Education (WFME).[2] They recommend nine primary areas each with sub-areas. Areas were defined as "broad components in the structure, process and outcome of postgraduate medical education and training" including:

1. Mission and Outcomes
2. Educational Outcomes
3. Assessment of Trainees
4. Trainees
5. Trainers
6. Educational Resources
7. Program Evaluation
8. Governance and Administration
9. Continuous Renewal.

Sub-areas were defined as "specific aspects or dimensions of an area, corresponding to performance indicators."

The WFME recommended guidelines have two levels of attainment: "Basic" (must have or do) and "Quality Development" (should strive to reach –similar to an "Advanced Standard"). The ICO has adapted these guidelines specifically for ophthalmology training programs by reviewing existing guidelines.[3-8]

The goal of these guidelines is to promote uniformity and minimum standards of ophthalmology training within each country. These standards should be based on societal needs and thus may need to be modified for each country's use.

1. MISSION and OUTCOMES

1.1 MISSION

Basic Standard:
Globally, variation exists as to what is expected from the graduating trainee. Individual countries must decide what their mission and outcome objectives are for the ophthalmologist based on societal needs. The program must have a Mission Statement based on society health needs and needs of the health care system.

Quality Development:
The mission should encourage appropriate innovation in the training process and strive to improve patient care. The training should encourage trainees to become scholars within their chosen field of medicine and should prepare them for lifelong, self-directed learning and readiness for continuing medical education and professional development.

1.2 PROFESSIONALISM & PROFESSIONAL AUTONOMY

Basic Standard:
The program must include professionalism in the education of doctors and foster professional autonomy to enable doctors to act in the best interests of the patient and community.

Quality Development:
The program must ensure a collaborative relationship with the government and stakeholders but maintain appropriate independence.

1.3 EDUCATIONAL OUTCOMES

Basic Standard:
Ophthalmology training should be competency based. Detailed competency based models have been published.[3, 8] A brief synopsis of these models is given in Appendix A. These models don't have to be specifically adopted but the general principles should be followed. The program must define intended educational outcomes with respect to knowledge, skills and attitudes.

Quality Development:
The program must ensure interaction between basic and postgraduate education.

1.4 PARTICIPATION IN FORMULATION OF MISSION AND OUTCOMES

Basic Standard:
The program must state the mission and define the intended educational outcomes of the program in collaboration with principal stakeholders.

Quality Development:
The program should base the formulation of mission and intended educational outcomes of the programs on input from other stakeholders.

2. EDUCATIONAL PROGRAM

2.1 FRAMEWORK OF THE PROGRAM

Basic Standard:
Ophthalmic training must follow a systematic training program (curriculum with standardized clinical rotations). The training must be practice-based involving the personal participation of the trainee in the services and responsibilities of patient care activities in the training institutions. The training program must encompass integrated practical, theoretical, and ethical instruction. Training should include experience working in an eye care team (see section 6.4). The educational structure should be transparent.

Quality Development:
Ophthalmic training should interface with medical student and continuing medical education/professional development. The training should be directed and the trainee guided through supervision and regular appraisal and feedback. The training process should ensure an increasing degree of independent responsibility as skills, knowledge and experience grow. Every trainee should have access to educational counseling (designated tutors or mentors).

2.2 SCIENTIFIC METHOD

Basic Standard:
The trainee must achieve knowledge of the scientific basis and methods of ophthalmology and become familiar with evidence-based medicine and critical clinical decision-making.

Quality Development:
The trainee should have formal teaching about critical appraisal of literature, scientific data and evidence-based medicine, and be exposed to research. Program content must adjust to scientific developments.

2.3 PROGRAM CONTENT

Basic Standard:
The training process must include the practical clinical work and relevant theory to assure competence is met as described in 1.1 above. Topics must include: cataract, contact lenses, cornea and external disease, eyelid and lacrimal abnormalities, glaucoma, neuro-ophthalmology, ocular trauma, optics and general refraction, orbital disease and oculoplastics, pathology, pediatric ophthalmology and strabismus, systemic disease consults, uveitis, low vision and refractive surgery, and retinal/vitreous diseases. The program should also include instruction in communication skills, medical ethics, public health and patient safety.

Quality Development:
The training process should adjust the content to changing needs of the health care system.

2.4 PROGRAM STRUCTURE, COMPOSITION AND DURATION

Basic Standard:
The overall composition, structure (clinical rotations) and duration of training must be described with clear definition of goals and objectives. Components which are compulsory and optional must be clearly stated. Duration of training time should be a minimum 3 years although longer training times occur in many countries. The program should assure an

equivalent training process for each trainee.

Quality Development:
National or International standards should be followed. The International Council of Ophthalmology has developed suggested curricular standards (cognitive and technical abilities) available at icoph.org/curricula.html. This document can be reviewed and adapted to assure relevance to the countries' societal needs. If the program requires surgery, hands-on surgical training should be designed to assure competence in commonly performed ophthalmic surgeries. This should include a minimum number of specified diagnostic/investigative procedures and surgeries performed and some method to measure competence. A list of procedures and recommended minimum numbers appears in Appendix B.

2.5 ORGANIZATION OF EDUCATION

Basic Standard:
The Program must define responsibility and authority for organizing, coordinating, managing and evaluating the educational setting and process.

Quality Development:
A Program Director or Director of Education should be identified and paid to oversee and coordinate training. (The ICO has defined a role description for the program director icoph.org/resources/319/ICO-Residency-Director-Role-Description.html.) The program must coordinate multisite education to gain adequate exposure to the different aspects of ophthalmology.

2.6 THE RELATIONSHIP BETWEEN TRAINING AND SERVICE

Basic Standard:
Integration between training and service (non-educational aspects of patient care) must allow appropriate training emphasis to achieve training goals. There should be a balance between these service activities and education that promotes the educational intentions of the program.

Quality Development:
The capacity of the health care system should be effectively utilized for service based training purposes. The training provided should be complementary and not subordinated to service demands.

3. ASSESSMENT OF TRAINEES

3.1 ASSESSMENT METHODS

Basic Standard:
There must be a process of assessment, and the relevant authorities must define and state the methods used for assessment of trainees, including the criteria for passing examinations or other types of assessment.

A complementary set of assessment methods should be applied. Assessment methods should include at least tests of medical knowledge, 360 evaluation, and observed patient and procedural rubrics. The reliability and validity of assessment methods should be documented and evaluated. For example, the International Council of Ophthalmology has developed

examinations testing ophthalmic knowledge (information available at: www.icoexams.org).

Quality Development:
The program should encourage the use of new assessment methods when available. The program should record the different types of and stages of training in a log-book.

3.2 RELATION BETWEEN ASSESSMENT AND LEARNING

Basic Standard:
Assessment principles, methods and practices must be clearly compatible with training objectives and must promote learning. Assessment must document competency in the desired areas. The program must ensure timely, specific, constructive and fair feedback to trainees on the basis of assessment results.

Quality Development:
The methods used should encourage a constructive interaction between clinical practice and assessment, and facilitate inter-professional education.

4. TRAINEES

4.1 ADMISSION POLICY AND SELECTION

Basic Standard:
Relevant authorities and the medical professional organizations must agree upon a policy on the criteria and process for selection of trainees and must publish and implement the criteria and process.

Quality Development:
The selection policy should define criteria, which considers specific capabilities of potential trainees in order to enhance the result of the training process in the chosen field of medicine. The selection procedure should be transparent and admission open to all qualified graduates from basic medical education.

4.2 NUMBER OF TRAINEES

Basic Standard:
The number of trainees must be proportionate to the clinical/practical training opportunities, supervisory capacity and other resources available in order to ensure training and teaching of adequate quality.

Quality Development:
The number of trainees should be reviewed through consultation with relevant stakeholders (those responsible for planning and development of human resources in the local and national health sector). Training quality must not be compromised by attempting to train too many individuals for the given resources available.

4.3 TRAINEE COUNSELLING AND SUPPORT

Basic Standard:
The relevant authorities must, in collaboration with the profession, ensure that a system for support (social, financial, personal needs), counseling and career guidance of trainees is available.

Quality Development:
Counseling should be provided based on monitoring training progress and incidents reported and instances of personal crisis.

4.4 TRAINEE REPRESENTATION

Basic Standard:
The program must formulate and implement a policy on trainee representation and appropriate participation in the design of the program, program evaluation and management.

Quality Development:
The program should encourage trainees' organizations to be involved in decisions about education processes, conditions and regulations.

4.5 WORKING CONDITIONS

Basic Standard:
The service conditions and responsibilities of trainees must be defined and made known to all parties.

Quality Development:
Postgraduate training is carried out in appropriately remunerated positions. The service components of trainees' positions should not be excessive and the structuring of duty hours and on-call schedules should consider the needs and best interests of the patients, continuity of care and the educational needs of the trainee.

5. TRAINERS

5.1 RECRUITMENT AND SELECTION POLICY

Basic Standard:
The policy on appointment of trainers, supervisors and teachers must specify the expertise required and their responsibilities and duties. The policy must specify the duties of the training staff and criteria for merit.

Quality Development:
Participation in postgraduate training should be remunerated. The staff policy should ensure that trainers generally are current in the relevant field to its full extent and knowledgeable about adult learning principles and modern practices. Subspecialty fields in ophthalmology should be taught by trained subspecialists. Continuing professional development (CPD) requirements should be mandatory and quantified.

5.2 TRAINER OBLIGATIONS AND TRAINER DEVELOPMENT

Basic Standard:
The program must ensure the trainers have time for teaching, supervision and learning. Faculty development (improvement in teaching abilities) must be provided and trainers must be evaluated.

Quality Development:
Staff policy should appraise and recognize meritorious academic activities, including

functions as trainers, supervisors and teachers. Opportunity for improving educational effectiveness can be found at the ICO Center for Ophthalmic Educators (educators.icoph.org). The ratio between the number of recognized trainers and the number of trainees should ensure close personal interaction and monitoring of the trainee.

6. EDUCATIONAL RESOURCES

6.1 PHYSICAL FACILITIES

Basic Standard:
The trainees must have space and opportunities for practical and theoretical study and have access to adequate professional literature as well as equipment for training of practical techniques. Some form of wet lab experience should be available.

Quality Development:
Structured wet lab with curriculum is available (if program is surgical). The physical facilities and equipment for training should be evaluated regularly for their appropriateness and quality regarding postgraduate training.

6.2 LEARNING SETTINGS

Basic Standard:
The training locations must be selected and recognized by the relevant authorities and must have sufficient clinical/practical facilities to support the delivery of training. Training locations must have a sufficient number of patients and an appropriate case-mix to meet training objectives. The training must expose the trainee to a broad range of experience in ophthalmology. There should be adequate supervision by staff at each location.

Quality Development:
The number of patients and the case-mix should allow for clinical experience in all aspects of ophthalmology, including training in promotion of health and prevention of disease. Training should be carried out in academic teaching hospitals and, when appropriate, part of the training should take place in other relevant hospitals/institutions and community based settings/facilities including participation in outreach activities when available. The quality of training settings should be regularly monitored.

6.3 INFORMATION TECHNOLOGY

Basic standard:
The program must ensure access to web-based or other electronic media and use information and communication technology in an effective and ethical way as an integrated part of the program.

Quality Development:
The program should enable trainers and trainees to use existing and new information and communication technology for self-directed learning and accessing relevant patient data and health care information systems.

6.4 CLINICAL TEAMS

Basic Standard:
The clinical training must include experience in working as a team with colleagues and other

eye care professionals.

Quality Development:
The training process should allow learning in a multi-disciplinary team resulting in the ability to work effectively with colleagues and other health professions as a member or leader of the health care team and should develop competencies in guiding and teaching other cadres of eye health professionals (e.g. ophthalmic technicians, nurses, etc.).

6.5 MEDICAL RESEARCH AND SCHOLARSHIP

Basic Standard:
There must be a policy that fosters the integration of practice and basic and/or clinical research in training settings.

Quality Development:
Opportunities for combining clinical training and basic and/or clinical research should be made available. Trainees should be encouraged to engage in health quality development and research.

6.6 EDUCATIONAL EXPERTISE

Basic Standard:
The program must formulate and implement a policy on the use of educational expertise relevant in program planning, implementation and evaluation.

Quality Development:
The program should pay attention to the development of expertise in educational evaluation and in research in the discipline of medical education and allow staff to pursue educational research interests.

6.7 LEARNING IN ALTERNATIVE SETTINGS

Basic Standard:
There must be a policy on accessibility of individualized training opportunities at other sites within or outside the country fulfilling the requirements for the completion of training and for the transfer of training credits.

Quality Development:
Regional and international exchange of academic staff and trainees should be facilitated by the provision of appropriate resources.

7. PROGRAM EVALUATION

7.1 MECHANISM FOR PROGRAM EVALUATION

Basic Standard:
There must be a mechanism for evaluation of the training program that monitors the training process, facilities and progress of the trainees, and ensures that concerns are identified and addressed.

Quality Development:
The program should show that evaluation results lead to program improvement.

7.2 TRAINER AND TRAINEE FEEDBACK

Basic Standard:
Feedback about program quality from both trainers, trainees, and employers (of graduated trainees) must be systematically sought, analyzed and acted upon. Additionally, anonymous feedback from trainees regarding faculty effectiveness must be obtained and acted upon.

Quality Development:
Trainers and trainees should be actively involved in planning program evaluation and in using its results for program improvement.

7.3 PERFORMANCE OF QUALIFIED DOCTORS

Basic Standard:
The performance of trainees must be evaluated in relationship to the training program and the mission of postgraduate medical education.

Quality Development:
The performance of trainees should be analyzed in relation to background and entrance qualifications, and should be used to provide feedback to the committees responsible for selection of trainees.

7.4 INVOLVEMENT OF STAKEHOLDERS

Basic Standard:
The processes and outcome of evaluation must involve the managers and administration of training settings, the trainers and trainees and be transparent to all stakeholders.

Quality Development:
The processes and outcome of evaluation should be shared with the stakeholders and their opinions regarding the process sought.

Note: Stakeholders would include the medical professional organizations, other health professions, health authorities and authorities involved in training of trainees and allied health personnel, hospital owners and providers of primary care, patients and patient organizations. Principal stakeholders include trainers, trainees, and health authorities.

7.5 APPROVAL OF EDUCATIONAL PROGRAMS

Basic Standard:
A relevant authority must authorize training sites.

Quality Development:
The program should formulate a system to monitor training settings and other educational facilities via site visits or other relevant means and have the ability to withdraw authorization.

8. GOVERNANCE AND ADMINISTRATION

8.1 GOVERNANCE

Basic Standard:
Completion of training must be documented by degrees, diplomas, certificates or other evidence of formal qualifications conferred as the basis for formal recognition as a competent ophthalmologist.

Quality Development:
Procedures should be developed that can verify the documented completion of training for use by both national and international authorities.

8.2 ACADEMIC LEADERSHIP

Basic Standard:
The responsibilities of the professional leadership of the program must be clearly stated.

Quality Development:
The professional leadership should be evaluated at defined intervals with respect to achievement of the mission and outcomes of the program.

8.3 EUCATIONAL BUDGET AND RESOURCE ALLOCATION

Basic Standard:
There must be a clear line of responsibility and authority for budgeting of training resources.

Quality Development:
The budget should be defined and managed in a way that supports the mission, outcome objectives, service obligations, and innovations of the training program.

8.4 ADMINISTRATION AND MANAGEMENT

Basic Standard:
The administrative staff must be appropriate to support the implementation of the program and to ensure good management and deployment of its resources.

Quality Development:
The management should include a program of quality assurance and the management should submit itself to regular review to achieve quality improvement.

9. CONTINUOUS RENEWAL

Basic Standard:
In realizing the dynamics of ophthalmic training the relevant authorities must initiate procedures for regular review and updating of the structure, function and quality of the training program and must rectify identified deficiencies.

Quality Development:
The process of renewal should be based on prospective studies and analyses and should lead to the revisions of the policies and practices of the training program in accordance with past experience, present activities and future perspectives.

In so doing it should address the following issues:

- Adaptation of the mission and outcome objectives of training to the scientific, socio-economic and cultural development of the society.

- Modification of the competencies required in ophthalmology in accordance with the needs of the environment the newly trained doctor will enter.

- Adaptation of the learning approaches and training methods to ensure that these are appropriate and relevant.

- Adjustment of the structure, content and duration of the training program in keeping with the developments in the basic biomedical sciences, the clinical sciences, the behavioral and social sciences, and changes in the demographic profile and health/disease pattern of the population, and in socio-economic and cultural conditions.

- Development of assessment principles and methods according to changes in training objectives and methods.

- Adaptation of recruitment policy and methods of selection of trainees to changing expectations and circumstances, human resource needs, changes in basic medical education and the requirements of the training program.

- Adaptation of recruitment and policy of appointment of trainers, supervisors and teachers according to changing needs in training.

- Updating of training settings and other educational resources to changing needs in training, i.e. the number of trainees, number and profile of trainers, the training program and contemporary training principles.

- Refinement of the process of program monitoring and evaluation.

- Development of the organizational structure and management principles in order to cope with changing circumstances and needs in training and, over time, accommodating to the interests of the different groups of stakeholders.

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All links accessed 20 July 2017.

APPENDIX A

Accreditation Council for Graduate Medical Education (ACGME - USA) Competencies[3]

1. 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.

2. 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.

3. 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.

4. 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.

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

6. 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.

CanMEDS (Canadian Scheme)[8]

1. Medical Expert
   Possess the knowledge and skills required to provide up-to-date, ethical, and resource efficient clinical care. This is the central role of physicians and requires all of the roles listed below.

2. Communicator
   Able to effectively manage the doctor-patient relationship.

3. Collaborator
   Able to work effectively in the health care team to provide optimal patient care.

4. Manager
   Able to organize practices, allocate resources appropriately, and contribute to the effectiveness of the healthcare system.

5. Health Advocate
   Able to advance the health and well being of patients, communities and populations.

6. Scholar
   Able to demonstrate life-long learning principles to enhance professional activities, create and apply new medical information and educate students, patients and peers.

7. Professional
   Practice ethically and have high standards of personal behavior.

APPENDIX B

Suggested minimum number of procedures completed by each trainee acting as the primary surgeon. Primary surgeon is defined as completing the majority of every essential step in a surgical procedure.

Procedure	**ICO Recommended Minimum**
Cataract	50
Glaucoma	10
Strabismus	10
Oculoplastic	20
Laser – Yag Capsulotomy	5
Laser Trabeculoplasty	5
Laser iridotomy	5
Laser PRP	10
Laser DR	5
Intravitreal injection	20
Other (please specify type)	