ICO Subspecialty Curriculum for Training in Ophthalmic and Facial Plastic Surgery

The International Council of Ophthalmology (ICO) Ophthalmic Plastic and Reconstructive Surgery Subspecialty Curriculum Development Committee has endeavored to present an international consensus on what ophthalmologic subspecialists in training should be taught, with the intention that the curriculum be adapted and modified to meet local and regional needs.

Download the Curriculum from the ICO website: icoph.org/curricula.html.

INTERNATIONAL COUNCIL *of* OPHTHALMOLOGY

www.icoph.org

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The ICO Subspecialty Curricula provide aspects of modern curriculum design that complement the ICO Residency Curriculum, which is a stratified content outline of cognitive and technical skills. The comprehensive definition of a curriculum includes not only a content outline but also the resources required to adequately provide training (eg, faculty and facilities), suggested numbers of procedures, teaching methods, and trainee and program evaluations. We believe the incorporation of these crucial components produces a valuable resource. The ICO Subspecialty Curricula are intended to be modified, acknowledging differences across the globe due to available resources, prevalence of disease, and geographic or demographic differences.

As an additional resource, you may also want to refer to the Very Advanced Level Goals content outlines for Oculoplastic Surgery and Orbit in the ICO Residency Curriculum.

[M]: Must have/required
[S]: Should have
[A]: Additional training

I. INTRODUCTION

A. Definition and Scope of Ophthalmic and Facial Plastic Surgery

Ophthalmic and facial plastic surgery is a subspecialty of ophthalmology that treats conditions of the eyelids, lacrimal system, orbit, periocular areas, as well as mid and lower face. The scope of the clinical practice of ophthalmic and facial plastic surgery varies widely, in part, because it blends the services of ophthalmology, general plastic surgery, facial plastic surgery, and dermatology. Additionally, ophthalmic and facial plastic surgery incorporates selected knowledge from other disciplines, including otorhinolaryngology, neurosurgery, oral/maxillofacial surgery, radiology, general medicine, oncology, radiation oncology, endocrinology, and rheumatology.

Fellowship training in ophthalmic and facial plastic surgery requires more in-depth education about the pathophysiology, diagnosis, and management of conditions of the eyelids, lacrimal system, orbit, periocular areas, and the face that cannot usually be obtained in ophthalmology training programs. A fellowship in ophthalmic and facial plastic surgery includes a continuous period of intense and focused training in acquiring, developing, and maintaining knowledge, skills, scholarship, and professionalism.

There are two levels in fellowship training: basic fellowship training, which is a minimum of 12-months, and advanced fellowship training, which is a minimum of 24-months. While the basic fellowship includes (but is not limited to) pathophysiology, diagnosis, management, and surgery of conditions of the eyelids, lacrimal system, orbit, and periocular areas, the advanced fellowship incorporates more in-depth experience with orbit and periocular/facial plastic

surgery as well as essential elements of facial plastic surgery, dermatology, otorhinolaryngology, oral/maxillofacial surgery, and oncology.

B. Duration and Scope of Education

1. The fellow must have completed a residency program in ophthalmology and be able to fully comply with the clinical requirements of the program. **[M]**

2. A minimum of 12 months of clinical training is required for basic fellowship training and 24 months of clinical training is required for advanced fellowship training. **[M]**

3. A structured full-time program is strongly recommended. If local and regional contingencies permit only a part-time program, it is recommended to have a minimum of five weekly clinic/operating room sessions of at least four hours each. In such part-time training situations, total length of training should be extended to 24 months and 48 months respectively. **[S]**

4. Prior to entry in the program, the fellow is required to be notified of the required length of the program, policies for vacation, duties, stipends, and other forms of support. **[M]**

II. INSTITUTIONAL ORGANIZATION

A. Fellowship programs in ophthalmic and facial plastic surgery are preferably in institutions with a locally accredited residency program in ophthalmology. It is recommended that accredited residency programs or fellowship programs be present with otolaryngology, oral/maxillofacial surgery, general plastic surgery, neurosurgery, oncology, and dermatology in the same institute. Coordination of the fellowship and ophthalmology residency program is recommended, when possible, so that both programs benefit. **[S]**

B. The department chair of ophthalmology decides the number of fellowship positions available and sponsors the fellowship in accordance with institutional policies and procedures. The number of fellowship positions available would depend on the clinical volume, number of faculty, and other resources. As a general guideline, one full-time faculty or a group of faculty performing 300 ophthalmic plastic surgical patients a year on average could be considered a “unit” and one fellowship position could be attached to one such “unit.” The presence of non-clinical or observational fellows (including, but not limited to, fellows from other specialties, subspecialty fellows, PhD students, and nurse practitioners) should not detract from the education of ophthalmic and facial plastic surgery fellows. **[S]**

C. A change in the number of fellowship positions, or in the duration of the fellowship training period, is decided by the department chair, under advice of the fellowship director and in accordance with institutional procedures. **[M]**

D. Periodic assessment of the fellowship program by the department chair, fellowship director, and residency program director is necessary to assure that the presence of the ophthalmic and facial plastic surgery fellowship does not unduly draw cases, learning opportunities, or funding from the residency program, where a residency program co-exists. **[M]** Fellowship programs determined to have a substantial negative impact on residency training programs in the same institution should be modified. The fellowship program, as much as possible, should complement, support, and enhance the residency program. **[S]**

III. FACULTY QUALIFICATIONS AND RESPONSIBILITIES

A. Fellowship program director: a single fellowship program director responsible for the program is required. **[M]**

1. Qualifications of the fellowship program director:

a. Required to be certified in ophthalmology by a medical organization that grants license to practice a subspecialty or possess appropriate equivalent educational qualifications. **[M]**

b. Required to have completed at least one year (preferably two years) of fellowship training or the equivalent in ophthalmic and facial plastic surgery. **[M]**

c. Required to have at least the equivalent of five years of full-time clinical experience in ophthalmic and facial plastic surgery following his/her fellowship training. **[M]**

d. Required to be licensed to practice medicine in the city, region, or state where the institution that sponsors the program is located. **[M]**

e. Required to be engaged in ongoing research and/or scholarship in the area of ophthalmic and facial plastic surgery, as demonstrated by one to two publications in peer-reviewed journals and/or presentations of research and educational material at regional, national, and international meetings in the last five years. **[M]**

f. Required to be an active member in a recognized national or international organization providing continuing education in ophthalmology and ophthalmic and facial plastic surgery. **[M]**

g. Required to have a clinical practice in which 50% or more of patient consultations have conditions affecting the orbit, eyelids, and lacrimal system. **[M]**

h. Required to have an academic appointment on the faculty of the affiliated institution (or a teaching/consultant position in countries where health systems do not provide for an academic appointment). **[M]**

i. The fellowship program director's private office or group practice can run the fellowship program if fellowship program requirements (a–g) are satisfied.

2. Responsibilities of the fellowship program director:

a. Required to prepare a written statement outlining the educational goals of the program as well as a well-defined curriculum. **[M]**

b. Required to develop and maintain documentation of institutional or inter-institutional agreements, the fellow selection process, patient care statistics, evaluations of faculty and the program, and assessment of the fellow's performance. **[M]**

c. Required to direct graduated supervision by the fellowship director (or co-director); unsupervised experience at affiliated hospitals is unacceptable. **[M]**

d. Required to designate and supervise the faculty through explicit descriptions of supervisory lines of responsibility for the care of patients. **[M]**

e. Required to provide graded, hands-on experience in the clinical and surgical management of ophthalmic and plastic surgery patients. **[M]**

f. Required to ensure the implementation of fair procedures and due process as established by the sponsoring institution regarding academic discipline and fellow complaints or grievances. **[M]**

g. Required to monitor fellow stress, including mental or emotional conditions inhibiting performance or learning, and drug and alcohol-related dysfunction. Program directors and faculty should be sensitive to the need for timely provision of confidential counseling and psychological support services to fellows. Training situations that consistently produce undesirable stress on fellows must be evaluated and modified. **[M]**

h. Required to monitor fellow duty hours and adjust schedules as necessary to mitigate excessive service demands and/or fatigue. The

program director should ensure the provision of back up support systems when patient care responsibilities are unusually difficult or prolonged. **[M]**

B. Faculty in Ophthalmic Plastic and Reconstructive Surgery

There will be at least one faculty member who may be the program director for each approved fellowship position. **[M]**

In addition, faculty members are required to:

1. Be highly qualified and possess appropriate clinical, research, and/or teaching skills. The faculty must devote adequate time to the education of fellows. **[M]**

2. Demonstrate a strong interest in the education of fellows; have sound clinical, research, and/or teaching abilities; support the goals and objectives of the program; commit to their own continuing medical education; and participate in scholarly activities. **[S]**

3. Hold regularly scheduled, documented meetings to review the program's goals and objectives, as well as the program's effectiveness in achieving these goals and objectives. **[M]**

4. Periodically evaluate the utilization of resources available to the program, the contribution of each institution participating in the program, the program's financial and administrative support, the volume and variety of patients available for educational purposes, the performance of members of the faculty, and the quality of supervision of fellows. **[M]**

5. Be a member of the faculty of the sponsoring institution. **[M]**

6. Be fellowship trained in ophthalmic and facial plastic surgery. **[M]**

7. Have at least two years experience in the practice of ophthalmic and facial plastic surgery and/or a related subspecialty. **[M]**

8. Emphasize the principles of ethical and humane treatment of patients in accordance with the International Council of Ophthalmology Code of Ethics (http://www.icoph.org/downloads/icoethicalcode.pdf). Preceptors and faculty should communicate these principles to their trainees in both didactic and clinic aspects of the fellowship training. **[M]**

C. Other Program Personnel

Programs are required to provide the additional professional, technical, and clerical personnel needed to support the clinical, research, administrative, and educational activities of the program as appropriate, and said support should be ensured to fulfill the training needs. **[M]**

IV. FACILITIES AND RESOURCES

A. Affiliations

It is preferable (but not mandatory) that the fellowship is affiliated with an accredited residency program in ophthalmology. This affiliation provides vital exposure to ophthalmology practices, grand rounds, and teaching conferences. **[S]**

B. Clinic

The outpatient area of each participating institution is required to have at least one fully equipped examination lane for each fellow in the clinic. Access to current diagnostic equipment is required. **[M]**

C. Operating Rooms

The affiliated institution must have at least one fully equipped operating room in which both inpatient and outpatient ophthalmic and facial plastic surgery can be performed. **[M]**

D. Tumor Board

It is preferable to affiliate with an institution having an active head and neck tumor board through which ophthalmic and facial plastic surgery and oncology cases can be presented for opinion. **[S]**

E. Inpatient Facilities

Inpatient facilities are required at the sponsoring institute or an affiliated institute with access to consult patients having acute orbit, eyelid, lacrimal, or associated conditions. **[M]** In addition, there must be access to sufficient space and beds for inpatient care of ophthalmic and facial plastic surgery patients. **[M]** An eye examination room with a slit lamp should be easily accessible to the fellow(s). **[M]**

F. Emergency Department

The affiliated institution must have a referring emergency department (preferably Level 1 Trauma Center) through which patients who have sustained eyelid, orbital, periocular and facial trauma are referred. **[M]**

G. Library

Fellows must have access to a major medical library and facilities for electronic retrieval of information from medical databases. **[M]**

H. Academic

Fellows should have dedicated personal space and appropriate information technology resources for scholarly activities. **[S]**

V. EDUCATIONAL PROGRAM

The fellowship program director is responsible for the structure and content of the educational program and must provide a statement of objectives, methods of implementation, and procedures for assessment of the program by the faculty and the fellows.

The educational experience is required to be designed and supervised by the program director. **[M]**

A. Interpersonal and Communication Skills

Fellow must demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals. **[M]**

Fellows are expected to:

1. Communicate effectively with patients, families, and the public, across a broad range of socioeconomic and cultural backgrounds.

2. Communicate effectively with physicians, other health professionals, and health related agencies.

3. Work effectively as a member or leader of a health care team or other professional group.

4. Act in a consultative role to other physicians and health professionals.

5. Maintain comprehensive, timely, and legible medical records, if applicable.

B. Professionalism

Fellows must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles. **[M]**

Fellow are expected to demonstrate:

1. Compassion, integrity, and respect for others.

2. Responsiveness to patient needs that supersedes self-interest.

3. Respect for patient privacy and autonomy.

4. Accountability to patients, society, and the profession.

5. Sensitivity and responsiveness to a diverse patient population, including but not limited to, diversity in gender, age, culture, race, religion, disabilities, and sexual orientation.

C. Systems-Based Practice

Fellow needs to be aware of the broad extent of the health care system and utilize system resources to provide optimal health care. **[M]**

Fellows are expected to:

1. Work effectively in various health care delivery settings and systems relevant to their clinical specialty.

2. Coordinate patient care within the health care system relevant to their clinical specialty.

3. Incorporate considerations of cost awareness and risk-benefit analysis in patient and/or population-based care as appropriate.

4. Advocate for quality patient care and optimal patient care systems.

5. Work in interprofessional teams to enhance patient safety and improve the quality of patient care.

6. Participate in identifying system errors and implementing potential system solutions.

7. Participate in planned rotations to one or more of procedural dermatology, otolaryngology, neuro-ophthalmology, neurosurgery, maxillofacial surgery, plastic surgery, and ocularistry.

D. Clinical Components

1. Orbit, eyelid, and lacrimal examination skills

The fellowship is required to be organized to provide training that will equip the fellow to regularly perform evaluations, including history and examination, which involve the techniques of evaluating ophthalmic and facial plastic surgery patients. **[M]**

2. Technical clinical examinations

   The fellow should become proficient in the use of specialized diagnostic testing appropriate to the subspecialty of ophthalmic and facial plastic surgery, including but not limited to the following:

   a. Examination of upper and lower eyelid position with reference to, but not limited to, dermatochalasis, retraction, entropion, ectropion, ptosis, and eyelid tumors. **[M]**

   b. Examination of the lacrimal system and nasal exam with speculum and endoscope. **[M]**

   c. Examination of the eyebrow and face, including assessment of the eyebrow position for brow ptosis, paralysis, and its relation to upper eyelid dermatochalasis for facial paralysis and evaluation of the effects of midface cicatricial, paralytic, and involutional changes on lower eyelid position. Examination should also include assessment for harmonious aesthetic units and evaluation of the inter-relationships of each. **[M]**

   d. Examination and measurement of orbital structures and functions. **[M]**

   e. The principles of plain films, computerized tomography (CT), magnetic resonance imaging (MRI), and ultrasound imaging relating to the head and neck with particular emphasis on the orbit. **[M]**

   f. The indications for more advanced imaging studies (eg, CT, MRI, magnetic resonance angiogram [MRA], positron emission tomography [PET]-CT, bone scan, arteriography, ultrasound). **[M]**

   g. The use of information technology for study of reference materials, including electronic searching and retrieval of relevant articles, monographs, and abstracts. **[M]**

3. Therapeutics

   The fellow is required to be knowledgeable about the indications for, use of, and limitations of pharmacological, radiological, and surgical therapies that may be recommended for patients with orbit, eyelid, lacrimal, and associated disorders. **[M]**

4. Medical knowledge curriculum

   The fellow must have instruction in the following specific areas:

   a. Anatomy and physiology of the orbit, eyelids, lacrimal system, nose, sinuses, and head and neck as it relates to the orbits and adnexa. **[M]**

   b. Orbit **[M]**

      i. Common orbital problems of children, including congenital anomalies, cellulitis, benign and malignant tumors, orbital inflammations, and vascular malformations.

      ii. Common orbital disorders of adults, including orbital cellulitis, thyroid orbitopathy, pseudotumor, vasculitis, congenital tumors, vascular tumors, neural tumors, lacrimal gland rumors, fibro-osseous tumors, histiocytic diseases, lymphoid tumors, metastatic tumors, trauma, anophthalmic socket problems, and skull base disease.

   c. Eyelid, including congenital syndromes, inflammation, infections, trauma, ectropion, entropion, trichiasis, and blepharoptosis. **[M]**

   d. Eyelid retraction, dermatochalasis, blepharochalasis, eyelid tumors, blepharospasm, facial nerve palsy, eyebrow, midface and lower face function, and aesthetics. **[M]**

   e. Lacrimal system, including congenital tearing, acquired tearing, lacrimal pump dysfunction, infections, tumors, and trauma. **[M]**

   f. Ocular surface pathology, including cicatricial processes affecting the bulbar and palpebral conjunctiva, ocular surface malignancy, management of corneal and conjunctival exposure and relationship to the eyelids, midface, and brow to ocular exposure. **[M]**

   g. Regional anatomy, including graft sites frequently used, such as cranial bone, ear, nose, temporal area, mouth and neck, abdomen, buttocks, legs, supraclavicular area, and arm. **[M]**

   h. Fundamentals of ocular and orbital anatomy, chemistry, physiology, microbiology, immunology, and wound healing. **[M]**

   i. Histology and pathology to interpret ocular, cutaneous, and periocular pathology and dermatopathology. This should include ten hours of pathology slide review with clinical correlation. **[M]**

j. Fundamentals of cosmetic surgery and its complications with emphasis on brows and midface, as well as alloplastic inserts and chemical denervation with botulinum toxin A, tissue fillers, laser, and chemical resurfacing, etc. **[M]**

k. Team approach to orbital and periorbital trauma. **[S]**

l. Multidisciplinary approach when indicated for ocular and orbital tumors (eg, retinoblastoma, ocular adnexal lymphoma, and paranasal sinus carcinoma). **[S]**

m. Minimum Requirements **[M]**

i. One hundred lecture/discussion hours

ii. Experience with orbital dissection

iii. Ten hours of pathology slide review with clinical correlation

iv. Research project

5. Clinical experiences

The fellow should be exposed to a broad variety of conditions falling within the scope of ophthalmic plastic and reconstructive surgery. It is recommended that the fellow perform a sufficient number of procedures to achieve competence. Individual programs utilizing these guidelines should determine what the minimum number of procedures should be based on local needs and resources available. Patients seen/procedures performed must cover:

a. Subspecialty examinations

The fellow must directly evaluate and provide diagnosis and treatment plans for a minimum of 1,200 patient encounters per year during the course of education. These patients must have ophthalmic plastic and reconstructive surgery related problems. The fellow must be able to demonstrate that the history and examination were accurate and appropriate, the use of laboratory and imaging testing was directed by the history and physical examination, and that the differential diagnosis and management were appropriate. **[M]**

b. Subspecialty surgical procedures performed

The fellow must demonstrate proficiency in the following procedures:

Orbit

i. Enucleation **[M]**

ii. Evisceration **[M]**

iii. Orbital exploration and tumor biopsy or removal **[M]**

iv. Orbital decompression **[M]**

v. Optic nerve decompression and fenestration **[S]**

vi. Exenteration **[M]**

vii. Management of contracted anophthalmic socket **[M]**

viii. Skull base disease including orbito-cranio-facial-zygomatic approaches **[S]**

ix. Orbital fracture surgery **[M]**

x. Orbital reconstruction, including plating and bone grafting techniques **[S]**

xi. Lateral orbitotomy approaches to the orbital apex

Eyelid

i. Ectropion repair **[M]**

ii. Entropion repair **[M]**

iii. Full thickness eyelid defect or laceration, including canaliculus repair **[M]**

iv. Canthoplasty **[M]**

v. Tarsorrhaphy **[M]**

vi. Blepharoplasty **[M]**

vii. Lower lid retraction repair, including mid face approach to the sub-orbicularis oculi fat (SOOF) lift **[S]**

viii. Ptosis: frontalis suspension, levator advancement, levator resection, and posterior ptosis surgery **[M]**

ix. Eyelid reconstruction after tumor removal, including skin, posterior lamella substitute, and other grafting techniques **[M]**

x. Eyelid retraction surgery **[S]**

xi. Surgery for paralytic lagophthalmos and corneal exposure **[S]**

xii. Facial reanimation surgery **[A]**

xiii. Management of blepharospasm, including botulinum toxin **[M]** and surgical approaches **[S]**

Lacrimal System

i. Punctal dilation, irrigation **[M]**

ii. Punctoplasty/canaliculotomy **[M]**

iii. Punctal occlusion and plugs **[M]**

iv. Lacrimal probing **[M]**

v. Lacrimal intubation for congenital obstructions and trauma **[M]**

vi. External dacryocystorhinostomy (DCR) **[M]**

vii. Conjunctival DCR with Jones tube **[S]**

viii. Endoscopic DCR **[S]**

ix. Ethmoid and nasal surgery in association with DCR and other lacrimal procedures **[S]**

x. Lacrimal sac biopsy **[S]**

xi. Maxillectomy for lacrimal sac tumors **[S]**

Ocular Surface

i. Symblepharon release and socket reconstruction **[M]**

ii. Mobilization of conjunctival flaps and placement in donor site **[M]**

iii. Free conjunctival graft harvest and placement **[M]**

iv. Hard palate graft harvest and placement **[M]**

v. Mucus membrane graft harvest and placement **[M]**

vi. Use of alloplastic materials for mid and posterior lamella reconstruction **[M]**

vii. Use of amniotic membrane and similar materials **[M]**

Face and Neck

i. Use of botulinum toxin; dermal fillers **[M]**

ii. Appropriate use of laser for ophthalmic plastic surgical procedures, including carbon dioxide (CO2) laser, pulsed CO2, erbium, argon, potassium titanyl phosphate (KTP) laser, and related lasers **[S]**

iii. Temporal artery biopsy **[M]**

iv. Facial resurfacing, peel, dermabrasion **[A]**

v. Facelift/neck lift resuspension techniques **[A]**

vi. Mid-face techniques, including SOOF lift, pre-auricular, transtemporal lifts **[S]**

vii. Brow **[M]** and forehead lifting, endoscopic and open approaches **[S]**

viii. Facial implants, including temporal fossa, malar, paranasal, tear trough, chin **[A]**

Regional Grafting Techniques

i. Techniques of wound management, closure, hemostasis, and suturing **[M]**

ii. Harvest full or split thickness skin graft from multiple donor sites, including but not limited to, ear, eyelids, neck, supraclavicular area, arm, and leg **[M]**

iii. Closure of donor defects **[M]**

iv. Placement of full or spit thickness skin graft **[M]**

v. Free fat pearl grafting **[A]**

vi. Liposuction aspirate fat injection **[A]**

vii. Intumescent anesthesia **[S]**

viii. Dermis fat grafting **[M]**

ix. Cranial bone and/or rib grafting **[A]**

x. Temporalis fascia **[S]** and fascia lata **[M]** harvesting and grafting

xi. Mucous membrane, **[M]** nasal septal cartilage, **[S]** and hard palate **[S]** grafting

xii. Use of surgical fillers **[S]**

The fellow must keep an accurate and up-to-date surgical log. This documentation must include verification of the number of subspecialty procedures defined above where the fellow has either been the surgeon or the assistant surgeon. A minimum of 250 operative procedures in an operating room or equivalent facility plus 50 minor office-based procedures, such as biopsies and incision/curettage, must be performed per year of the fellowship. At least 50% of these procedures should be performed by the fellow, and the fellow should perform at least 50% of the case. The fellow must actively participate in the preoperative and postoperative management of surgical cases in which the fellow is part of the surgical team. **[M]**

E. Didactic Components

Fellows are required to participate in institutional or local clinical conferences, didactic lectures, and journal clubs in ophthalmic and facial plastic surgery, which include case presentations. **[M]** Fellows should contribute and participate in morbidity and mortality sessions, and ophthalmic pathology and/or radiology sessions relevant to ophthalmic and facial plastic surgery. Involvement should be as both a session leader/teacher and as a participant/learner. All such participation should be documented (eg, name or presentation, type, meeting, date, location). **[S]**

Fellows are encouraged to present (poster or oral communication) at one national or international conference during or within one year of completing their fellowship. **[S]**

Faculty members are required to emphasize the principles of ethical and humane treatment of patients in accordance with the Code of Ethics of the International Council of Ophthalmology (http://www.icoph.org/resources/145/An-Ethical-Code-For-Ophthalmologists-

Ethical-Principles-and-Professional-Standards.html). They should communicate these principles to fellows in both the didactic and clinical aspects of training. **[S]**

F. Supervision

The fellow is required to be appropriately supervised in all patient care services by qualified faculty. **[M]** The program director must ensure, direct, and document appropriate supervision of the fellow at all times. Attending physicians who supervise the fellow must have sufficient experience for the severity and complexity of the patient's condition and must be available at all times. **[M]** A fellow supervising residents in the treatment of ophthalmic and facial plastic surgery problems should have readily available faculty support. **[S]** Patient encounters of this nature may be reviewed with the fellow later for appropriateness of care. **[S]**

G. Duty Hours and Conditions of Work

Duty hours, as well as night and weekend call for the fellow, are required to reinforce responsibility for patients and to provide adequate patient care. The fellow must not be required to regularly perform excessively difficult or prolonged duties. **[M]**

H. Scholarly Activity

The fellowship must take place in a scholarly atmosphere where resources are available that allow the fellow to participate in scholarly activities, such as research. The fellow should participate in the development of new knowledge and evaluate research findings. The responsibility for establishing and maintaining an environment of inquiry and scholarship rests with the faculty. While not all members of the faculty must be investigators, the staff as a whole must demonstrate broad involvement in scholarly activity. **[M]**

Faculty members must:

1. Participate in clinical discussions, rounds, and conferences in a manner that promotes a spirit of inquiry and scholarship. Scholarship implies an in-depth understanding of basic mechanisms of normal and abnormal states and the application of current knowledge to practice.

2. Participate in journal clubs and research conferences.

3. Participate in regional or national professional and scientific societies, particularly through presentation of research at meetings and publication in peer-reviewed journals.

4. Participate in research, particularly in projects that are funded following peer review and/or result in publications or presentations at regional and national scientific meetings.

5. Offer guidance and technical support (eg, research design, statistical analysis) for fellows involved in research.

6. Provide support for fellow participation in scholarly activities.

7. Adhere to the Declaration of Helsinki on Rights and Research Human Subjects and to the Association for Research in Vision and Ophthalmology's Guidelines for Use of Research Animals.

I. Fellow Research Activities

The fellow should be exposed to opportunities to develop research skills by planning and executing at least one research project. A specific block of time may be set aside for clinical or laboratory research, which may require that the fellowship be extended beyond 24 months. **[M]**

VI. EVALUATION

A. Program and Faculty Evaluation

The educational effectiveness of a program is required to be evaluated in a systematic manner. In particular, the quality of the curriculum and the extent to which the educational goals have been met by the fellows must be assessed. Teaching faculty must be evaluated on a regular basis. Documentation of faculty evaluations must include teaching ability and commitment as well as clinical knowledge and surgical skills. There must be a formal mechanism by which fellows participate in this evaluation. **[M]** Program and faculty evaluations written by fellows, through mechanisms that promote candor and maintain confidentiality, should be utilized in the evaluation of both the program and faculty. **[S]**

B. Fellow Evaluation Must Include:

A regular evaluation of the fellow's knowledge, skills, and overall performance is required, including the development of professional attitudes consistent with being a physician. **[M]**

The program director, with the participation of members of the faculty, is required to:

1. Evaluate the knowledge, skills, and professional growth of the fellows at least semi-annually, using appropriate criteria and procedure.

2. Communicate each evaluation to the fellow in a timely manner.

3. Monitor the fellow's development of knowledge, skills, and professionalism and advance his/her clinical responsibilities appropriately.

4. Maintain a permanent record of evaluation for each fellow and have it accessible to the fellow and other authorized personnel.

5. The program director is required to provide a written, final evaluation for each fellow who completes the program. **[M]** The evaluation must include a review of the fellow's performance during the period of training and should verify that the fellow has demonstrated sufficient professional ability to practice competently and independently. As a recommended option, this final evaluation should be part of the fellow's permanent record maintained by the institution.

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