



## ASSOCIATION OF UNIVERSITY PROFESSORS OF OPHTHALMOLOGY FELLOWSHIP COMPLIANCE COMMITTEE

### Program Requirements for Fellowship Education in Neuro- Ophthalmology

[M] = Must have / required

[S] = Should have

#### I. Introduction

##### A. Definition and Scope of Neuro-ophthalmology

Neuro-ophthalmology is the subspecialty of ophthalmology and neurology that studies and treats disorders of the part(s) of the eye, orbit and nervous system. Neuro-ophthalmologists manage patients with complex and severe neuro-ophthalmological disorders. The scope of the clinical practice of neuro-ophthalmology varies widely, in part because it blends the skills and services of its two parent disciplines; neurology and ophthalmology. Fellowship training in neuro-ophthalmology requires more in-depth education about the pathophysiology and management of neuro-ophthalmological disorders than can usually be obtained in residency training in ophthalmology or neurology. Fellowships in neuro-ophthalmology include a continuous period of intense and focused training in developing and maintaining knowledge, skills, scholarship and professionalism.

##### B. Duration and Scope of Education

1. [M] Any fellow entering AUPO – FCC compliant program must be able to fully comply with the clinical requirements of the program and have completed an appropriate residency program for that sub-specialty fellowship.
2. [M] All applicants entering AUPO compliant neuro-ophthalmology fellowships must have satisfactorily completed an ACGME or AOA accredited ophthalmology, neurology, or neurosurgery residency program; or have completed equivalent ophthalmology, neurology, or neurosurgery training in their home country if coming from outside the United States; or be eligible to take the American Board of Ophthalmology, American Board of Psychiatry and Neurology, American Board of Neurological Surgery, American Osteopathic Board of Neurology and Psychiatry, or American Osteopathic Board of Ophthalmology, or American Osteopathic Board of Neurological Surgery certifying examinations; or already be certified by one of those Boards.
3. [M] A minimum of twelve months of clinical training is required, including appropriate short periods for vacation or special assignments.

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

## **II. Institutional Organization**

1. [M] Fellowship programs in neuro-ophthalmology are required to be in institutions that sponsor ACGME-accredited residency programs in ophthalmology and/or neurology. It's not required, but highly recommended, that accredited residency programs be present in ophthalmology, neurology and neurosurgery. As an option, but whenever possible, there should be coordination of the fellowship and residency programs, so that both benefit. While affiliation of the fellowship and residency programs is not required, it is recommended.
2. [M] The number of fellowship positions approved will depend on the adequacy of clinical volume, number of faculty, and other resources. The presence of observational fellows should not detract from the education of fellows in the approved positions.
3. [M] Fellowship programs will not be approved if they have substantial negative impact on residency training programs in ophthalmology or neurology in the same institution. The fellowship program, as much as possible should complement, support, and enhance the residency program. The department chair, fellowship program director and residency program director should work together and periodically meet to assure that the presence of the neuro-ophthalmology fellowship does not unduly draw cases, learning opportunities or funding from the residency program.

## **III. Faculty Qualifications and Responsibilities**

### **A. Fellowship Program Director:**

A single program director responsible for the program is required.

1. Qualifications of the fellowship program director:
  - a. [M] Required to be certified by the American Board of Ophthalmology or American Board of Psychiatry and Neurology or possess appropriate equivalent educational qualifications.
  - b. [M] Required to have completed at least one year of fellowship training or the equivalent in Neuro-ophthalmology.

- c. [M] Required, should have at least 3 years of clinical experience in neuro-ophthalmology following his/her fellowship training.
  - d. [M] Required to be engaged in ongoing research and/or scholarship in the area of neuro-ophthalmology, as demonstrated by publications in journals and/or presentations of research and educational material at regional and national meetings.
  - e. [M] Required to be an active member in a recognized national or international organization providing continuing education in ophthalmology and/or neurology and neuro-ophthalmologic diseases.
  - f. [M] Required to have a clinical practice so that at least fifty percent of patients have neuro-ophthalmological disorders.
  - g. [M] Required to have an academic appointment on the faculty of the affiliated ophthalmology or neurology residency program or affiliated institution.
  - h. [M] Required to be licensed to practice medicine in the state where the institution that sponsors the program is located.
2. Responsibilities of the fellowship program director:
- a. [M] Required to prepare a written statement outlining the educational goals of the program with respect to knowledge, skills and other attributes, and educational goals for each major rotation or other program assignment. This should include a well-defined curriculum.
  - b. [M] 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.
  - c. [M] Required to direct graduated supervision by the fellowship directors (or co-director); unsupervised experience at affiliated hospitals is unacceptable.
  - d. [M] Required to have prior approval for the following:
    - i. A change in the number of fellow positions in the training program.
    - ii. A change in the duration of the training period.
    - iii. Extension of individual period of training greater than three months.
  - e. [M] Required to select fellows in accordance with institutional and departmental policies and procedures.

- f. [M] Required to designate and supervise the faculty through explicit descriptions of supervisory lines of responsibility for the care of patients.
  - g. [M] Required to ensure the implementation of fair procedures and due process, as established by the sponsoring institution regarding academic discipline and fellow complaints or grievance.
  - h. [M] Required to monitor fellow stress, including mental or emotional conditions inhibiting performance or learning, and drug or 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.
  - i. [M] Required to prepare an accurate statistical and narrative description of the program.
3. [M] Any change in the Fellowship Director MUST be communicated to the AUPO FCC in writing within 90 days.

## **B. Faculty**

[S] Preferably, but not a requirement, there will be at least one faculty member, who may be the program director, for each approved fellowship position. In addition, faculty members are required to:

1. [M] Be highly qualified and possess appropriate clinical, research and/or teaching skills. The faculty must devote adequate time to the education of fellows.
2. [M] Demonstrate a strong interest in the education of fellows, sound clinical, research and/or teaching abilities, support of the goals and objectives of the program, commitment to their own continuing medical education, and participation in scholarly activities.
3. [M] Have regularly scheduled, documented meetings in order to review the program's goals and objectives, as well as the program's effectiveness in achieving them.
4. [M] 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.

5. [M] Be certified by the American Board of Ophthalmology or the American Board of Psychiatry and Neurology, be actively participating in the process of obtaining such certification or possess equivalent educational qualifications.
6. [M] Be a member of the faculty of the sponsoring institution.
7. [M] Have at least one year experience in the practice of neuro-ophthalmology or in research in neuro-ophthalmology.
8. Emphasize the principles of ethical and humane treatment of the American Academy of Ophthalmology and the American Academy of Neurology. Preceptors and faculty should communicate these principles to their trainees in both didactic and clinical aspects of the fellowship training. The program is required to meet or exceed RRC requirements for teaching of ethics in residency programs.

### **C. Other Program Personnel**

[M] Programs are required to provide the additional professional, technical and clerical personnel needed to support the administrative and educational activities of the program.

## **IV. Facilities and Resources**

### **A. Affiliations**

[M] The fellowship is required to be affiliated with accredited residency programs in ophthalmology and/or neurology and/or neurosurgery. Affiliation with such residency programs provides vital exposure to other neurology and ophthalmology sub-specialty practices, grand rounds, and teaching conferences. Since fellowship and residency programs must coexist, the residency program will be the primary educational focus of the parent organization.

### **B. Clinic**

[M] 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.

### **C. Inpatient Facilities**

[M] Inpatient facilities with access to sufficient space and beds for good patient care are required.

## **D. Library**

[S] Access to a major medical library and facilities for electronic retrieval of information from medical databases.

## **E. Neuroimaging**

[M] Frequent neuro-imaging consultation and conferences are a requirement for an understanding of the indications for and the techniques of MRI, CT, and endovascular therapeutic neuro-radiology as they apply to the practice of neuro-ophthalmology.

## **V. Educational Program**

[M] The 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.

### **A. Clinical Components**

#### 1. Neuro-ophthalmology examination skills

[M] The fellowship is required to be organized to provide training that will equip the fellows to regularly perform evaluations, including history and examination, which involve the techniques of both neurology and ophthalmology, including exposure to indirect ophthalmoscopy, use of the slit lamp and refraction.

#### 2. Technical clinical examinations

Fellows are required to understand the indications for and the evaluation of results of diagnostic technology in neurology and ophthalmology. This understanding includes, but is not limited to:

- a. [M] Tests of visual function - includes performance of manual perimetry, automated perimetry, contrast sensitivity, and color vision.
- b. [M] MRI, CT and OCT.
- c. [M] Ocular electrophysiology - includes visual evoked potentials, electroretinography, electro-oculography, and recordings of ocular movements.
- d. [S]Ultrasound - includes A-scan, B-scan, and duplex Doppler ultrasonography examinations as they may apply to neuro-ophthalmology.

### 3. Therapeutics

[M] Fellows are 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 neuro-ophthalmologic disorders.

### 4. Clinical Experiences

Fellows are required to be exposed to a broad variety of neuro-ophthalmologic disorders. The following minimum number of cases seen/procedures is required to be performed over a twelve-month period:

- a. [M] Neuro-ophthalmology cases over 12 months: 500 (inclusive of items d-f)
- b. [M] Complete neuro-ophthalmic examination: 250
- c. [M] Visual fields: The fellow must perform a minimum of one manual or automated visual field and have a minimum of one manual or automated visual field performed on them. (1)
- d. [M] Afferent visual pathway disorders: 100 (including NA-AION, A-AION, optic neuritis, optic atrophy, papilledema, compressive optic neuropathy, congenital disc anomalies, pseudotumor cerebri, optic chiasm lesions)
- e. [M] Efferent pathway disorders: 50 (including disorders of the pupil, lid, ocular motility, nystagmus)
- f. [M] Systemic disorders with neuro-ophthalmic implications: 40 (including multiple sclerosis, CPEO, thyroid, myasthenia gravis, cerebrovascular disease headache)
- g. Surgical experiences are optional but, if undertaken, should be sufficient to establish expertise and competency substantially equivalent to fellowships in the specific surgical subspecialties. Procedures may include:
  - i. Pediatric and/or adult strabismus surgery
  - ii. Oculoplastic and orbital surgery
  - iii. Other subspecialty experiences in ophthalmology pertinent to neuro-ophthalmologic disease

### **B. Didactic Components**

[M] Fellows are required to participate in clinical conferences, didactic lectures and journal clubs in neuro-ophthalmology and ophthalmology, which include case presentations. The topics of individual conferences, lectures and journal clubs are required to be documented.

[M] Faculty members are required to emphasize the principles of ethical and humane treatment of patients in accordance with the Code of Ethics of the American Academy of Ophthalmology and the American Academy of Neurology. They should communicate these principles to fellows in both the didactic and clinical aspects of training.

### **C. Supervision**

[M] Fellows are required to be appropriately supervised in all patient care services by qualified faculty. The program director must ensure, direct, and document appropriate supervision of fellows at all times. Attending physicians, who supervise fellows, must have sufficient experience for the severity and complexity of the patient's condition and must be available at all times.

### **D. Duty Hours and Conditions of Work**

[M] Duty hours and night and weekend call for fellows are required to reflect the concept of responsibility for patients and provide for adequate patient care. Fellows must not be required regularly to perform excessively difficult or prolonged duties.

### **E. Scholarly Activity**

[M] One of the historic functions and continuing obligations of neuro-ophthalmologists has been as medical educators. 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. Fellows 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.

Faculty members are required to:

1. [M] 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. [M] Participate in journal clubs and research conferences.
3. [M] Participate in regional or national professional and scientific societies, particularly through presentations at their meetings and publications in refereed journals.
4. [M] 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. [S] Offer guidance and technical support (e.g. research design, statistical analysis) for fellows involved in research.
6. [S] Provide support for fellow participation in scholarly activities.
7. [M] Adhere to the Declaration of Helsinki on Rights of Research Human Subjects and to the Association for Research in Vision and Ophthalmology's Guidelines for Use of Research Animals.

#### **F. Fellow's Research Activities**

[S] Fellow should have the option to develop research skills. A specific block of time may be set aside for clinical or laboratory research, which may require that the fellowship be extended beyond twelve months.

### **VI. EVALUATION**

#### **A. Program and Faculty Evaluation**

[M] 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 fellows must be assessed. Teaching faculty must be evaluated on a regular basis. Documentation of faculty evaluation must include teaching ability and commitment as well as clinical knowledge. There must be a formal mechanism by which fellows participate in this evaluation. Written evaluations by fellows, through mechanisms that promote candor and maintain confidentiality, as much as possible, should be utilized in the evaluation of both the program and faculty.

#### **B. Fellow Evaluation**

[M] 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.

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

1. [M] At least semi-annually evaluate the knowledge, skills and professional growth of the fellows, using appropriate criteria and procedures.
2. [M] Communicate each evaluation to the fellow in a timely manner.
3. [M] Monitor the fellow's development of knowledge, skills and professionalism and advance his/her clinical responsibilities appropriately.
4. [M] Maintain a permanent record of evaluation for each fellow and have it accessible to the fellow and other authorized personnel.

C.

[M] The program director is required to provide a written, final evaluation for each fellow who completes the program. The evaluation must include a review of the fellow's performance during the period of raining 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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