

## Optometric Residency in Neuro-Ophthalmic Disease

### **MISSION STATEMENT:**

The mission of the Residency Program in Neuro-Ophthalmic Disease at The Eye Institute of Salus University is to recruit qualified post-graduate optometrists; to train the optometrist in secondary patient care and gain exposure to tertiary specialty patient care through clinical management and co-management experiences in a broad range of Neuro-Ophthalmic Disease; to provide an orientation and an ongoing didactic program throughout the year; to promote advancement of skills as an educator and self-learner; and to provide a suitable environment in which the Resident can flourish. The mission statement can be found on the Salus University website and in the Program Curriculum.

The nature of the patient population at The Eye Institute provides the foundation for the Resident to perfect his/her skills to a level of expertise in the specialty area of Neuro-Ophthalmic Disease. The Resident will achieve the objectives of the program through an appropriate level of collaboration with highly-trained expert specialty clinical faculty. These faculty are comprised of optometrists and general and subspecialty physicians (both on-site and off-site), leading to the Resident's gradual increased clinical autonomy in the specialty of Neuro-Ophthalmic Disease.

### **PROGRAM GOALS AND OBJECTIVES:**

**Goal 1.** To recruit a qualified post-graduate optometrist to fill the position of Neuro-Ophthalmic Disease Resident.

#### Objectives:

- a. Provide funding of the position through Salus University's annual budgeting process such that Resident salary is commensurate with the current market each year and that an appropriate budget is in place to support the program.
- b. Publication of a Residency Program Description that includes the goals and objectives of the program, application procedures, and other information relevant to the Residency Program.
- c. Advertisement of the position through electronic brochures that are sent to all accredited optometry schools and Residency Programs. Brochures are provided, and a program representative as available, to meet candidates at the AOA and AAO meetings for recruitment purposes.

d. Interviewing of candidate by the Coordinator of the Neuro-Ophthalmic Disease Residency Program. All interviews will be completed by the end of February each cycle. Ranking of candidates will be completed by the end of February in accordance with the Optometry Residency Match (ORMatch) system.

e. Offering of the position(s) to candidates in rank order until the position(s) is filled in accordance with the ORMatch system.

**Outcome Assessment:**

-Achievement of this goal through the stated objectives is determined by filling the Residency Program position(s) with qualified applicants.

**Goal 2.** To enhance the entry-level skills in the examination, diagnosis, treatment, and management of Neuro-Ophthalmic Diseases, as well as in the diagnosis of related ocular and systemic conditions.

**Objectives:**

a. Expose the Resident to a variety of Neuro-Ophthalmic Disease conditions, by assigning the Resident to the Neuro-Ophthalmic Disease Service at The Eye Institute an average of 2-3 days per week. This is both as a direct provider (with co-coordinator supervision) and as a supervisor of optometry interns for patients presenting for specialty Neuro-Ophthalmic Disease examination and follow-up care. These visits consist of patients seen on a referral basis from the Primary Care service, the Emergency service, and from outside eye care providers and primary care physicians and specialists. These visits include, but are not limited to, the following conditions/diagnoses/evaluations:

- i. Anisocoria, Horner syndrome
- ii. Ptosis
- iii. Proptosis
- iv. Thyroid orbitopathy
- v. Optic neuropathy (glaucomatous vs non-glaucomatous)
- vi. Diplopia
- vii. Nystagmus
- viii. Cranial nerve III palsy
- ix. Cranial nerve IV palsy
- x. Cranial nerve VI palsy
- xi. Cranial nerve VII palsy
- xii. Stroke
- xiii. Papilledema
- xiv. Pseudo tumor cerebri (Idiopathic Intracranial Hypertension)
- xv. Optic neuritis
- xvi. Giant cell arteritis

- xvii. Ischemic optic neuropathy
- xviii. Multiple sclerosis
- xix. Myasthenia gravis
- xx. Pituitary tumors
- xxi. Craniopharyngiomas
- xxii. Meningiomas
- xxiii. Optic disc assessment
- xxiv. Visual field interpretation
- xxv. Pupil testing
- xxvi. Neurologic assessment
- xxvii. Interpretation of neuro-imaging

b. Development of acute clinical care skills by having the Neuro-Ophthalmic Disease Resident available to consult with the providers (primarily other residents) assigned to the Emergency Service as needed for urgently presenting cases involving Neuro-Ophthalmic Disease.

c. Expand the Neuro-Ophthalmic Disease Resident knowledge base by being assigned to several off-site hospital locations to gain further expertise in related areas such as:

- i. Neuro-radiology
- ii. Neurology
- iii. Neuro-ophthalmology
- iv. Neuro-surgery

#### Outcome Assessment:

-Achievement of this goal through the stated objectives is determined in part by regular discussions between the Resident and their service coordinator(s) / Director.

Additionally, there are discussions with the off-site specialists as the Resident continues on to their second year of the program. Much emphasis is placed on direct observation, chart review/audit and assessment of written correspondence.

-The Resident keeps a log of patient encounters with diagnoses, level of participation in care, and testing ordered/interpreted for each patient.

-A formal written evaluation is completed by the residency co-coordinators and reviewed with the Resident in October, February, and June of each year. This allows for them to understand their strengths and weaknesses, and evaluate how they progress as the program proceeds. This evaluation also includes a review of the Resident log of patient encounters. If by the February review the variety of neuro-ophthalmic conditions encountered is not as diverse or as robust as expected, independent learning topics are assigned.

**Goal 3.** To enhance skills necessary for the diagnosis and management of complex clinical Neuro-Ophthalmic Disease cases through the performance and/or interpretation of various procedures and tests.

Objectives:

a. Increase proficiency of clinical skills by having the Resident perform the following procedures on all patients for whom they are indicated:

- i. Thorough history
- ii. Visual acuity
- iii. Color vision testing
- iv. Pupil testing (afferent and efferent)
- v. Visual field testing (confrontation, Humphrey, Goldmann)
- vi. Exophthalmometry
- vii. Eyelid assessment
- viii. Ocular motility testing (ductions, versions, cover testing)
- ix. Neurologic testing
- x. Slit lamp exam
- xi. Applanation tensions
- xii. Blood pressure
- xiii. Pulse
- xiv. Dilated fundus examination
- xv. Optic disc assessment
- xvi. Ocular photography / imaging

b. Familiarize the Resident with the rationale for performing and ordering tests and assessing and interpreting findings in such procedures as:

- i. Automated visual fields
- ii. Goldmann bowl perimetry
- iii. OCT
- iv. Laboratory testing
- v. MRI / MRA / MRV
- vi. CT / CTA
- vii. Carotid ultrasound
- viii. Electrodiagnostic testing (ERG / VEP)
- ix. Electromyogram (EMG)
- x. Lumbar puncture
- xi. Angiography
- xii. Ocular ultrasound

Outcome Assessment:

-Achievement of this goal through the stated objectives is determined by regular discussions between the Resident and their service supervisors / Directors. Additionally,

there are discussions with the off-site specialists. Much emphasis is placed on direct observation, chart review, and assessment of written correspondence.

-The Resident keeps a log of patient encounters with diagnoses, level of participation in care, and testing ordered/interpreted for each patient. These logs are analyzed on a yearly basis by the program co-coordinators and adjustments made as needed to ensure exposure to all above diagnostic studies.

-A formal written evaluation is completed by the residency co-coordinators and reviewed with the Resident in October, February, and June. This allows for an open discussion of the Resident's strengths and weaknesses, and document progression of the Resident's understanding and skills as the program proceeds.

**Goal 4.** To enhance the Resident's ability to co-manage secondary and tertiary care Neuro-Ophthalmic Disease patients through inter-disciplinary consultation and referral.

Objectives:

a. Encourage the Resident to take on the responsibility of making appropriate referrals for patients to other necessary Specialty Services within The Eye Institute and/or to outside practitioners for consultation and/or management. For example, the Resident will be responsible for referrals to neurology, rheumatology, endocrinology, otolaryngology, neuro-surgery, hematology-oncology, internal medicine, and many other specialty areas.

b. Develop co-management skills by mentoring the Resident in preparation of detailed reports and correspondence for patients under their care.

Outcome Assessments:

-Achievement of this goal through the stated objectives is determined by the Resident supervisors through EHR documentation and report review, as well as by direct observation, supervision, and discussion.

-The Resident keeps a detailed and extensive log of patient encounters with diagnosis, level of participation in care, and testing ordered/interpreted for each patient.

-A formal written evaluation of Resident performance is completed by the residency co-coordinators and reviewed with the Resident in October, February, and June. This allows for them to understand their strengths and weaknesses, and see how they progress as the program proceeds.

**Goal 5.** To be able to differentiate Neuro-Ophthalmic Disease processes from other ocular disease processes.

Objectives:

- a. Development of differential diagnosis and management skills by assigning the Resident to Emergency Service one session a week for the first year of the program. During this assignment, the Resident will function both as a direct provider and as a supervisor of optometry interns. The Resident will triage and care for patients presenting with varying urgent eye care needs. The Resident is on-call 4-5 weeks during the first year to provide direct care to patients presenting with urgent eye care needs when The Eye Institute is closed.
- b. Expand the Resident patient care experience during the first year by participating, either in direct care or as a preceptor for students, not only in Neuro-Ophthalmic Disease but also in primary eye care and other specialty services. Examples of such services are: special populations, glaucoma, anterior segment, retina, traumatic brain injury and low vision rehabilitation.
- c. During the second year of the program, the Resident participates in patient care primarily in the Neuro-Ophthalmic Disease service. The Resident may also act as a consultant to first year residents in the emergency service when they are trying to differentiate Neuro-Ophthalmic Disease processes from other ocular disease processes.

Outcome Assessment:

-Achievement of this goal through the stated objectives is determined by review of EHR documents and logs by the Resident's supervisors, as well as by direct observation, supervision, and discussion.

-A formal written evaluation will be completed by the residency co-coordinators and reviewed with the Resident in October, February, and June. This allows for them to understand their strengths and weaknesses, and see how they progress as the program proceeds.

**Goal 6.** To provide a substantive orientation program that prepares the Resident to assume their patient care responsibilities in Neuro-Ophthalmic Disease at The Eye Institute and off-site rotations.

Objectives:

- a. Participation in an orientation program during the first 1-2 weeks of the Residency Program. The Resident attends presentations by key faculty and administrators and is provided with a Residency Handbook that includes comprehensive information on:
  - i. Organizational structure at PCO and Salus University
  - ii. Schedules and calendars for the residents and academic programs at the University
  - iii. Complete residency program descriptions, including mission, goals, objectives, and outcomes assessment, for their particular program
  - iv. A list of important program dates (start and end dates, dates of academic meetings, due dates for publishable papers, etc.)

- v. Sample resident evaluation forms
- vi. Attendance Policy for residents
- vii. Supervision Policy for residency programs
- viii. Grievance and Compliance Policy
- ix. Termination and Dismissal Policy
- x. Protocols for patient care services in The Eye Institute
- xi. A Policies and Procedures Manual for students in The Eye Institute
- xii. Sample Professional Practice course syllabi (the College's clinical education courses), including evaluation instruments

b. Participate in patient care alongside the faculty during orientation in order to familiarize the Resident with the personnel and systems in the services to which they will be assigned.

**Outcome Assessment:**

-Achievement of this goal through the stated objectives is evidenced by production of the Resident Handbook and the residency orientation schedule.

**Goal 7.** To provide a didactic program throughout the year that will increase the Resident's fund of knowledge regarding diagnosis and management of Neuro-Ophthalmic Disease as well as other areas of ocular disease and primary eye care.

**Objectives:**

a. Increase the Resident knowledge base and clinical aptitude in Neuro-Ophthalmic Disease and other related clinical specialties. The Resident attends multiple lectures / conferences related to the specialty area of Neuro-Ophthalmic Disease, as well as other specialty conferences in glaucoma, retina, and anterior segment. These conferences are taught by specialists in the respective fields. In addition, the Resident attends at least one major conference dedicated to their specialty area, such as the North American Neuro-Ophthalmology Society Meeting, and the opportunity to attend an additional academic conference, such as the American Academy of Optometry Meeting.

a. Attend on average one lecture conference per month in one of the following specialties during the first training year:

- i. Glaucoma
- ii. Emergency Eye Care
- iii. Retina
- iv. Anterior segment

b. Attend at least two Neuro-Ophthalmic Disease lectures with the other The Eye Institute residents during the first training year.

c. Participate in a personalized didactic program in Neuro-Ophthalmic Disease designed by the residency co-coordinators. With a low resident to faculty ratio, every patient

encounter creates a platform for discussion regarding the patient's presentation and disease process. This didactic program is augmented through:

- i. Reading assignments and independent study on specified topics as arises during clinical care activities.
- ii. The Resident discusses what he/she learned through their independent study with the program co-coordinator, other residents, and students.

d. Present at least two Neuro-Ophthalmic Disease lectures to all of TEI residents in the second training year.

**Outcome Assessment:**

-Achievement of this goal through the stated objectives is determined by a selection and review of the didactic topics in each specialty area by the program supervisors/Director, and any additional specialists involved with the educational process.

-A log is maintained by the office of Optometric Clinical Affairs of all lectures and/or conferences attended by the Resident.

-A separate activity log of clinical, didactic and scholarly activities including topics reviewed, discussed and/or presented is maintained by the Neuro-Ophthalmic Disease Resident as part of their personalized program.

**Goal 8.** To increase development of the Resident's skills as an educator and self-learner.

**Objectives:**

a. Develop skills as an educator through interaction with students both in the clinical setting and in the Neuro-Ophthalmic Disease laboratory. In the clinical setting, the Resident supervises patient care by optometry students during their first training year. During their second training year the Resident supervises optometry students and first year TEI residents. All supervision responsibilities performed clinically and didactically by the Resident are under the guidance of an attending doctor. The Resident is expected to teach didactic components of Neuro-Ophthalmic Disease to first year TEI residents, as indicated above, by presenting at least two Neuro-Ophthalmic Disease lectures during their second training year.

b. Develop public speaking skills through participation in at least one COPE-approved Grand Rounds presentation and at least one Resident's Day presentation during the Residency. Both presentations are prepared for faculty, residents, students, and local optometrists.

c. Participate in additional scholarly activities, including submitting peer-reviewed abstracts at organized meetings, submitting case reports and manuscripts for



publication, and/or original clinical or scientific research. To enhance the Resident's skills as a self-learner, he/she must submit at least one peer-reviewed abstract in the form of a poster each year as a requirement of their Residency program. Additionally, he/she must prepare a paper of publishable quality for the Program Director and co-coordinators prior to completion of their Residency Program.

**Outcome Assessment:**

-Achievement of this goal through the stated objectives is determined by supervisors/Director observing the Resident's teaching in clinical and didactic settings. Observed activities include the Resident's Grand Rounds lecture presentations, laboratory teaching skills, clinical education skills, as well as by reviewing abstracts and manuscripts prior to submission for publication.

-The Resident maintains a detailed and extensive log of any lectures, presentations, posters, and manuscripts in which he/she has contributed.

-A formal written evaluation is completed by the residency co-coordinators and reviewed with the Resident in October, February, and June. This allows the Resident to understand their strengths and weaknesses, and provide feedback on their skills as an educator and self-learner.

**Goal 9.** To enhance the Resident's professional behavior and interpersonal skills.

**Objectives:**

a. Demonstrate responsibility, respect, sensitivity, maturity, sound judgment, and ethical behavior in all interactions with faculty, co-residents, other medical professionals, students, staff and patients.

**Outcome Assessment:**

-Achievement of this goal through the stated objective is determined by supervisors/Director, and other personnel observing and interacting with the Resident.

-A formal written evaluation is completed by the residency co-coordinators and reviewed with the Resident three times a year (October, February, and June). This allows for the Resident to understand any areas that need improvement in their professional behavior or interpersonal skills.

**Goal 10:** To provide a suitable environment in which the Resident can flourish.

**Objectives:**

a. Supply an office with a workstation that includes a desk, a chair, a telephone, and storage space. The Resident has access to a computer, including internet access.

b. Provide sufficient financial and personnel resources to support the educational objectives of this program through the University and The Eye Institute.

c. Publicize and enforce non-discrimination policies, employee guidelines, and patient rights.

Outcome Assessment:

-Achievement of this goal through the stated objectives is evidenced by providing an appropriate work environment and sufficient funding.