The Adult Neurology Training Program
Objectives

General Objectives:

The Neurology Residency Training Program aims to train and develop competent, compassionate, well-rounded and ethical neurologists who will be responsive to the health needs of the Filipinos.

Specific Objectives:

The Neurology Residency Training Program shall accomplish the general objective by:

1. Providing a comprehensive training program founded on a solid background of knowledge in Neuroscience and excellence in bedside clinical skills

2. Appointing qualified consultant staff, board-certified by the Philippine Neurological Association, to facilitate and supervise the training of the residents

3. Affiliating with departments, institutions and laboratories within and outside of UERMMCI to facilitate further training and to fulfill the requirements of the Neurology Residency Training Program

4. Inculcating in the minds of the trainee, the importance of research as a means of discovering new knowledge, particularly knowledge of neurological diseases that afflict Filipinos and therefore relevant to the health needs of Filipino people
Objectives

5. Stressing the role of the UERMMMCI Neurology graduates, as a teacher with an equally important task of sharing his knowledge with colleagues in the medical and allied medical profession as well as with students in the undergraduate level.

6. Emphasizing to the trainee the value of preventive medicine, especially in a Third World country where resources for medical care are not easily available.

7. Molding a neurologist who, despite his training in a specialized field, will approach and care for a patient in a holistic manner, keeping in mind that every patient is an individual human person with body, mind and spirit.
Criteria for Admission

1. Only physicians who are duly licensed to practice in the Philippines shall be considered.

2. The applicant must have an excellent academic record.

3. The applicant may be accepted through:
   a. The 4-year Neurology Program, for applicants who have no previous training in Internal Medicine or for those who have not completed at least a one year training in Internal Medicine.
   b. The 3-year Neurology Program, for those who have completed a residency program in Internal Medicine or at least one year residency in Internal Medicine.

4. Applicants with any of the following qualifications, may be given a certain degree of preference:
   a. Recommended by the DOH and who is assured of a position in a regional or provincial hospital.
   b. Desire to practice in his/her place of origin.
HOW TO APPLY

1. Application to the Neurology Residency Program is accepted between the months of June and September of each year.

2. The following are the requirements that must be submitted:
   a. Curriculum vitae
   b. Letter of intent address to Section Chief, Neurology, Department of Clinical Neurosciences
   c. Two (2) recommendation letter
   d. Transcript of Records
   e. Diploma
   f. Senior Internship certificate
   g. Class Ranking
   h. Board rating
   i. PRC Card
   j. NBI and Police clearance if not UERM graduate
   k. Certificate of Residency in Internal Medicine (if any)

3. The completed requirements are to be submitted to the secretary of the Department of Clinical Neurosciences who in turn will schedule the applicant’s personal interviews.
Process of Selection

1. The fully accomplished application form together with the other requirements should have been submitted between June and September of the year and the applicant has been given the date of interview.

2. The applicant is interviewed by each member of the Residency Selection Committee of both UERMMCI and Cardinal Santos Medical Center and may also be interviewed by some of the Neurology Consultant Staff.

3. The committee deliberates by taking into consideration the following criteria:
   a. The applicant’s undergraduate record
   b. The medical school where he/she graduated from
   c. Post-graduate Internship Training
   d. Interview
   e. Previous residency training, if any
   f. Intended place of practice or desire for Neurology subspecialty

4. The Residency Selection Committee of the Section of Neurology will make the final approval of successful applicants based on qualifications set by the UERMMMCII Department of Clinical Neurosciences.
Training Program Curriculum

The UERMMMCI Neurology Residency Training Program consists of a 3-year core neurology program.

Successful applicants, fresh from passing the Philippine Medical Licensure Exam and without at least one year training in Internal Medicine, are accepted into the 4-year Neurology Program. During their first year of training, the resident is required to undergo a full rotation in Internal Medicine and serve as a First Year Resident under the supervision of the UERMMMCI Department of Medicine and Cardinal Santos Medical Center (CSMC). For this one year, the resident is not required to attend any of the neurology conferences and activities. After satisfactorily completing the requirements and evaluation of the Department of Medicine, the resident enters the Neurology Training Program as a First Year Resident.

A successful applicant, who has previously completed at least one year of Internal Medicine or has completed residency in Internal Medicine, is accepted into the 3-year Neurology Program and enters the Neurology Residency Training Program as a First Year Resident.

During the 3 years of training, the Neurology Resident completes his/her clinical rotation in the Pay hospital of both UERMMMCI and Cardinal
Santos Medical Center and Service ward of UERMMCI and pursues subspecialty rotations in UERMMMCI and affiliated institutions. When on rotation at the UERM Hospital, the resident shall be under the administrative supervision of the Section of Neurology, Department of Clinical Neurosciences, UERM Hospital. When on rotation at the CSMC, the resident shall be under the administrative supervision of the Section of Neurology, Department of Medicine, CSMC. He or she shall only see patients under the care of neurology consultants, whether as primary or as referral, together with medical residents. Bedside teaching of residents shall be the responsibility of the neurology consultants of each hospital.

The current Neurology resident’s plantilla allows a maximum of eight (8) residents. This is not specifically divided into two residents per year level. Because there is a four year pathway, there may be one or two residents per year of the core program.

After completing the program, the resident is expected to be a competent, well-rounded and compassionate clinical neurologist, with interest in research and a willingness to teach and share his knowledge with peers and students.
Instructional Objectives

Internal Medicine Rotation

The Clinical Rotation will be conducted in both UERM hospital and Cardinal Santos Medical Center.

COMPETENCIES

At the end of the one year rotation in Internal Medicine, the resident is expected to possess and demonstrate knowledge in the theoretical and clinical aspects of Internal Medicine with focus on the following areas:

A. Cardiovascular diseases
B. Respiratory diseases
C. Renal diseases
D. Gastrointestinal diseases
E. Hematologic diseases
F. Metabolic diseases
G. Endocrine diseases
H. Diseases of the bone and bone mineral metabolism
I. Infectious diseases
J. Rheumatologic diseases
K. Oncologic diseases
The Resident who has undergone the one year in Internal Medicine should be able to:

1. Elicit a complete history and perform thorough physical examination on all of his/her patients

2. Formulate an initial impression and differential diagnoses with emphasis on the pathophysiology of the disease process

3. Formulate a management plan for each patient; utilize diagnostic examinations and modalities systematically and judiciously with emphasis on the analysis of the clinical aspect of the disease to arrive at a definite diagnosis; formulate a therapeutic plan under the supervision of the consultant/s-in-charge.

4. Know the indications of the different diagnostic procedures being requested and be able to interpret and analyze the results of the tests.

5. Evaluate, interpret and correlate the evolution, temporal profile, resolution or progression of medical diseases as manifested by the clinical findings and status of his/her patients.

6. Perform Advanced Cardiac Life Support and other emergency resuscitative measures.

7. Practice Evidence-based Medicine and be able to perform critical appraisal of journals
DUTIES AND RESPONSIBILITIES

The 1st Year Resident in Internal Medicine shall:

1. Evaluate and manage patients admitted, referred or seen at the emergency room, medical ward and out-patient department under the supervision of the Consultant/s-in-charge and Senior Residents of the Department of Internal Medicine.

2. Rotate for 8 months in UERM Hospital (Pay and Service ward) and 4 months in Cardinal Santos Medical Center.

3. Be assigned to hold an Out Patient Clinic under the Department of Medicine on a scheduled clinic day for the duration of the rotation.

4. Go on twenty-four hour duty in accordance with the schedule given by the Department of Medicine.

5. Conduct daily bedside and teaching rounds with and assist with the clinical evaluation of the junior and senior interns.

6. Record his/her admissions, referrals and procedures in a logbook, which shall be inspected periodically.

7. Perform the duties, fulfill the requirements and pass the evaluation according to the competencies and requirements of a 1st year resident of the UERMMMC Department of Medicine and Cardinal Santos Medical Center.
First Year Resident – Neurology

The Clinical Rotation will be conducted in both UERM hospital and Cardinal Santos Medical Center.

COMPETENCIES

At the end of the 1st year of training, the Neurology resident is expected to be able to:

1. Acquire knowledge and thorough understanding of general neurology and basic neuroscience subjects such as neuroanatomy, neurophysiology, neuroembryology and genetics, neuropathology, neurochemistry, neuropharmacology and neuroradiology.

2. Elicit a complete history and perform a thorough physical and neurological examination on all his/her patients.

3. Localize lesions at the appropriate neuraxis.

4. Formulate an initial impression and give differential diagnosis, based on the history, neurologic examination and anatomic localization.

5. Formulate a plan of management for each patient; utilize diagnostic examinations and modalities systematically and judiciously, with emphasis on the analysis of the clinical aspect of the disease to arrive at a definite diagnosis; formulate a therapeutic plan under the supervision of the Consultant/s-in-charge.
6. Know the indications of the different diagnostic procedures being requested and be able to interpret and analyze the results of the tests.

7. Evaluate, interpret and correlate the evolution, temporal profile, resolution or progression of neurological diseases as manifested by the clinical findings and status of his/her patients.

8. Assess the neurological status of the patient, identify the different manifestations of changes in neurological status, identify the signs and symptoms of deterioration in a patient’s neurological status and initiate the appropriate management.

9. Be cognizant of the different clinical guidelines and clinical pathways that have been formulated for specific neurological disease entities.

10. Perform Advanced Cardiac Life Support and other emergency resuscitative measures.

11. Practice Evidence-based Medicine and be able to perform critical appraisal of journals.

12. Give an initial interpretation of CT scan, MRI and radiographs.

13. Perform bedside neurological tests such as lumbar puncture, tensilon test, ice-caloric testing and be able to interpret the results of all of these tests.
14. Pass the periodic evaluation given by the Residency Training Committee.

The 1\textsuperscript{st} Year Resident will rotate through 1 month of Neuroradiology to gain exposure and learning on how to interpret findings seen on computed tomography, magnetic resonance imaging, radiography and angiography.

**DUTIES AND RESPONSIBILITIES**

The 1\textsuperscript{st} Year Resident shall:

1. Evaluate and manage patients admitted, referred or seen at the emergency room, Service wards and out-patient department under the supervision of the Consultant/s-in-charge.

2. Rotate and be assigned as the Resident-in-charge in the Neurological Ward and in the Pay Hospital of UERM and Cardinal Santos Medical Center.

3. Be assigned to hold an Out Patient Clinic under the Department of Clinical Neurosciences (UERM) and Department of Internal Medicine, Section of Neurology (Cardinal Santos Medical Center) on a scheduled clinic day from 9:00 AM – 4:00 pm for the duration of the training program.

4. Go on twenty-four hour duty every other day together with a Senior Resident for the first three months. Thereafter, the 1\textsuperscript{st} year
Resident may go on single duty under the supervision of the Senior Resident and Consultant/s-in-charge.

5. For residents rotating in UERM, he or she will assume duty as an Emergency Room physician from 6:00 p.m. – 6:00 a.m. on selected days of the month. Hospital policy states that residents-in-training shall rotate in the Emergency Room, with the frequency of rotation dependent on the number of residents.

6. Conduct daily bedside and teaching rounds with and assist with the clinical evaluation of the junior and senior interns.

7. Record his/her admissions, referrals and procedures in a logbook, which shall be inspected periodically.

8. Submit at least one (1) case report

9. Present a protocol on at least (1) prospective research paper and at least (1) retrospective research paper.
Second Year Resident – Neurology

The Clinical Rotation will be conducted in both UERM hospital and Cardinal Santos Medical Center.

COMPETENCIES

In addition to the competencies required for the 1st Year Resident, the 2nd Year Neurology Resident is expected to:

1. Continue the acquisition of knowledge and clinical experience.
2. Directly supervise the 1st Year Residents.
3. Assume the position of Resident Monitor for the Junior Interns.

At the second year level, the trainee will be introduced to the different neurology subspecialties during which time he/she is expected to develop further knowledge and skills. The 2nd Year Resident will be rotating through the following sections with the following competencies:

1. Neurophysiology
   a. Electroencephalography
      ▪ Duration of rotation: 3 months
      ▪ At the end of the rotation, the resident is expected to understand the basic principles of electroencephalography
      ▪ During the rotation, the resident is required to attend the daily EEG reading sessions (Monday to Friday) with the electroencephalographer.
The resident is expected to be able to read, analyze and interpret EEG recordings and be able to write his/her own technical summary, impression and conclusion.

At the end of the residency training he/she must read a total of 500 EEGs and write out the reports. He/she is also expected to do one (1) epilepsy monitoring unit recording starting from application of leads, operating the machine, facilitating the flow of the recording, interpreting the data and writing the report.

2. Pediatric Neurology

- Duration of rotation: 3 months
- The resident is expected to broaden and acquire more knowledge and updates regarding the neurological diseases afflicting the pediatric age group.
- The resident is expected to know the normal stages of psychomotor development in infancy and childhood and be able to recognize the signs of impaired development in the infant and child.
- The resident is expected to become skilled in taking a systematic pediatric neurological history and performing the neurologic examination of infants and children.
- The resident is expected to be able to identify, describe and differentiate common congenital and developmental anomalies, know the approach to diagnosis and management of these diseases.
- The resident is expected to acquire skill in performing subdural and/or cisternal tap and lumbar puncture in pediatric patients and the indications for performing such procedures.

3. Psychiatry

- Duration of rotation: 2 months
- During the rotation, the resident is expected to acquire knowledge on psychiatric diseases and their different manifestations; to be able to review the different neurological diseases that may present with signs and symptoms attributable to psychiatric diseases.
- The resident is expected to gain further insight and greater sensitivity into the psychological effect of disease on patients, resulting in a more holistic and compassionate approach to the management of patients.
DUTIES AND RESPONSIBILITIES

The 2nd Year Resident shall:

1. Evaluate and manage patients admitted, referred seen at the emergency room, service wards and out-patient department under the supervision of the Consultant/s-in-charge.

2. Rotate and be assigned as the Resident-in-charge in the Neurological Ward and in the Pay Hospital of UERM and Cardinal Santos Medical Center.

3. Be assigned to hold an Out Patient Clinic under the Department of Clinical Neurosciences (UERM) and Department of Internal Medicine, Section of Neurology (Cardinal Santos Medical Center) on a scheduled clinic day from 9:00 AM – 4:00 pm for the duration of the training program.

4. Go on twenty-four hour duty every other day together with a Senior Resident for the first three months. Thereafter, the 1st year Resident may go on single duty under the supervision of the Senior Resident and Consultant/s-in-charge.

5. For residents rotating in UERM, he of she will assume duty as an Emergency Room physician from 6:00 p.m. – 6:00 a.m. on selected days of the month. Hospital policy states that residents-in-training shall rotate in the Emergency Room, with the frequency of rotation dependent on the number of residents.
6. Conduct daily bedside and teaching rounds with and assist with the clinical evaluation of the junior and senior interns.

7. Record his/her admissions, referrals and procedures in a logbook, which shall be inspected periodically.

8. Submit either a retrospective or a prospective research paper.

**Third Year Resident – Neurology**

The Clinical Rotation will be conducted in both UERM hospital and Cardinal Santos Medical Center.

**COMPETENCIES**

In addition to the competencies, duties and responsibilities of the 2nd Year Resident, the 3rd year resident in his last year of training is expected to

1. Continue the acquisition of knowledge and clinical experience, gaining confidence in his clinical skills and cultivating interest in research and continued medical education.

2. Show greater participation in the teaching and supervision of medical students, junior interns, senior interns and junior residents.

3. Complete all his subspecialty clinical rotations.
DUTIES AND RESPONSIBILITIES

The 3rd Year Resident shall:

1. Evaluate and manage patients admitted, referred seen at the emergency room, service wards and out-patient department under the supervision of the Consultant/s-in-charge.

2. Rotate and be assigned as the Resident-in-charge in the Neurological Ward and in the Pay Hospital of UERM and Cardinal Santos Medical Center.

3. Be assigned to hold an Out Patient Clinic under the Department of Clinical Neurosciences (UERM) and Department of Internal Medicine, Section of Neurology (Cardinal Santos Medical Center) on a scheduled clinic day from 9:00 AM – 4:00 pm for the duration of the training program.

4. Go on twenty-four hour duty every other day together with a Senior Resident for the first three months. Thereafter, the 1st year Resident may go on single duty under the supervision of the Senior Resident and Consultant/s-in-charge.

5. For residents rotating in UERM, he or she will assume duty as an Emergency Room physician from 6:00 p.m. – 6:00 a.m. on selected days of the month. Hospital policy states that residents-in-training shall rotate in the Emergency Room, with the frequency of rotation dependent on the number of residents.
6. Conduct daily bedside and teaching rounds with and assist with the clinical evaluation of the junior and senior interns.

7. Record his/her admissions, referrals and procedures in a logbook, which shall be inspected periodically.

8. Submit either a meta analysis or an analytical research paper.

The Chief Resident of the Section of Neurology is chosen by the Residency Training Committee and the Consultant Staff from the 3rd Year Residents. In addition to the duties and responsibilities of the 3rd Year Resident, the Chief Resident assumes other administrative functions and ensures the smooth flow of the daily operations of the department. The Chief Resident also moderates teaching rounds for the Junior and Senior Interns rotating in the department. The Chief Resident also assumes the position of the Senior House Officer on certain scheduled days of the month as mandated by UERM Hospital policy.

The 3rd Year Resident will be rotating through the following sections with the following competencies:

1. Neuropathology
   - Duration of rotation: 1 month
   - The resident is expected to attend all autopsies, learn and be able to harvest the brain and/or spinal cord.
- The resident is expected to attend brain cutting sessions and, if possible perform the brain cutting procedure himself under the direct supervision of the pathologist or neuropathologist.
- The resident is also required to study the gross morphology, histology and pathology of the brain and spinal cord and be able to correlate the pathology and pathophysiology of the disease with the clinical findings.

2. Neuroradiology (CT, MRI, Angiography)

- Duration of rotation: 2 months

a. The Department of the Radiology at UERM Memorial Hospital -

- During the rotation, the resident is:
  - Expected to learn the principles of computed tomography and radiography.
  - Expected to learn how to read and interpret cranial and spinal CT scan, skull, paranasal and spine radiographs.
  - Required to attend all the reading sessions and neuroradiology conferences.
  - Expected to do preliminary readings of skull, paranasal sinuses, and spine radiographs.
  - Expected be able to discuss his/her interpretations with the neuroradiologist/radiologist.
b. MRI center, Cardinal Santos Medical Center (CSMC) -- During the rotation, the resident is:

- Expected to learn the principles of magnetic resonance imaging and the other magnetic imaging modalities, know the indications for these procedures and learn how to interpret the images.
- Required to take a history and perform neurological evaluation on patients who will undergo cranial and spinal MRI.
- Expected to formulate an initial clinical impression and, thereafter, correlate it with the radiological findings.
- Allowed to observe gamma knife surgeries.

c. Department of Invasive Radiology, Philippine General Hospital -- The resident is:

- Expected to learn the principles of cerebral angiography, the indications for these procedures and learn how to interpret the radiographic findings.
- Expected to observe and/or assist in four-vessel cerebral angiograms and other specialized neuro-radiological procedures performed by an interventional radiology specialist.
- Expected to give an initial interpretation of the findings.
3. Neurophysiology

b. Electromyography/Nerve Conduction Velocity and Evoked Potentials

- Duration of rotation: 2 months
- The resident is required to acquire knowledge regarding the principles of electromyography, nerve conduction studies and evoked potentials
- The resident is expected to know the indications of these procedures and learn the basic techniques of how to perform these tests.
- The resident should be able perform the procedure under supervision.
- He/she is expected to know how to interpret and analyze the test results and how to prepare a written report on the procedure.

4. Neurosurgery

- Duration of rotation: 1 month
- The resident is expected to acquire knowledge and understanding of neurological diseases requiring surgical intervention, the management of neurosurgical patients pre-operatively and post-operatively and the common post-
operative complications and conditions requiring emergent management.

- The resident is expected to acquire knowledge regarding neurological diseases requiring neurosurgical intervention in the pediatric age group during his rotation in the National Children’s Hospital and Rizal Medical Center together with the Neurosurgical Residents.

- The resident is expected to acquire knowledge and have greater exposure to CNS trauma during his rotation in UERM, Rizal Medical Center and National Children’s Hospital together with the Neurosurgical Residents.