

The Neuroscience Team

The Neuroscience physical therapists participate in a multidisciplinary team approach to primarily neurosurgery, neurology and epilepsy patients. Other patient populations, such as Ear, Nose and Throat surgical patients are also seen on this Service Center. The Neurosurgery population includes a variety of neurologically-involved conditions, such as: pre- and post-operative brain hemorrhages, brain tumors, laminectomies, spinal cord injuries (SCI), traumatic brain injuries, subdural and hematomas and normal pressure and obstructive hydrocephalus (NPH). The Neurology population includes diagnoses, such as: stroke, guillian barre, myasthenia gravis, conversion disorder, seizure monitoring, encephalopathy, and other neuropathies.

Student Objectives

- Become familiar with disease entities and diagnoses of neurosurgical/neurological patients
- Become familiar with contraindications of treating this patient population, for example, in cases of high intra-cranial pressures or post-arteriogram
- Become comfortable with treating this patient population in the Intensive Care Unit (ICU)
- Become familiar with ICU monitors and ventilators and the normal values associated with these
- Become familiar with treating the terminally ill patient, i.e., modification of PT goals, emotional support to patient and family
- Progress patient's PT program while in the hospital. Establish appropriate patient and family goals
- Evaluate any changes in the cardiorespiratory and neurological status of patients, i.e., arrhythmias, breathing patterns, mental status, muscle tone, and movement. Become familiar with tools such as the Rancho Los Amigos Scale of Cognitive Levels and the Glasgow Coma Scale
- Understand principles underlying various treatment techniques, such as muscle re-education, facilitatory or inhibitory techniques, the effects of various positions, and the responses to positional changes
- Be able to identify neurological level for SCI evaluation, using American Spinal Injury Association guidelines
- Understand principles of NPH and process for evaluating patients pre- and post-High Volume Lumbar Puncture

- Understand precautions and PT needs for patients after radical neck dissection and skin grafts
- Understand principles of suctioning and demonstrate
- Become involved in discharge planning and provide recommendations for follow-up PT (if appropriate) in one of the following: outpatient PT, home health PT, rehabilitation, sub-acute rehabilitation, skilled nursing facility or nursing home. This will involve daily communication with the team through multi-disciplinary rounds or informal discussions.
- Become familiar with the roles of the different professionals who work on the Neuroscience Center (i.e., RN, PCA, Nurse Practitioner, SW, SLP, OT, RT, PM &R, P & O, palliative care, chaplain, etc), and begin to assist in making appropriate referrals as indicated
- Develop and implement a home program for a patient as appropriate