

Virginia Western Community College

PTH 225

Rehabilitation Procedures

Prerequisites

PTH 251 and PTA program placement

VCCS Course Description

Focuses on treatment techniques typical of long-term rehabilitation, e.g., the rehabilitation of congenital, neurological and disfigurement associated with chronic injury and disease.

VWCC Discipline Specific Course Description

Same as above.

Semester Credits: 4

Lecture Hours: 2

Lab Hours: 4

Required Materials

Textbook

- *Umphred's Neurorehabilitation for the Physical Therapist Assistant, 3rd edition* by Rolando Lazaro. ISBN: 978-1630915650
- *Pediatrics for the Physical Therapist Assistant, 2nd edition* by Roberta O'Shea. ISBN: 978-0323881425
- Clinical Pattern Recognition Subscription is recommended

Note to Instructors

- This course should follow all PTA program policies.

VWCC AND DISCIPLINE SPECIFIC OUTCOMES

At the completion of this course, students will be able to correctly:

1. Identify clinical anatomy and physiology of the nervous system during normal functioning and changes which occur due to development and nervous system pathologies across the lifespan.
2. Compare the different theories of treatment related to upper and lower motor neuron lesions.
3. Identify normal and abnormal sensation, muscle tone, and muscle mass in patients

- with neurological and developmental conditions across the lifespan.
4. Detect normal and abnormal reflex demonstration in patients with neurological and/or developmental conditions across the lifespan.
 5. Differentiate normal and abnormal balance, equilibrium, and righting reactions in pediatric and adult patients with neurological conditions.
 6. Assess normal and abnormal gross and fine motor milestones in patients with neurological or developmental conditions across the lifespan.
 7. Select appropriate pain assessment techniques for pediatric patients or patients with neurological conditions.
 8. Differentiate common balance, gait, and functional assessment techniques and tools used for patients with neurological and developmental conditions across the lifespan.
 9. Compare the validity and reliability of common outcome measures utilized for adult and pediatric patients with neurological diagnoses.
 10. Identify changes in a patient's arousal, attention, mentation, and cognition.
 11. Differentiate the principles of motor control, motor learning, and neuroplasticity.
 12. Outline the steps in motor learning as it applies to application of interventions with patients with neurological diagnosis across the lifespan.
 13. Apply the principle of motor learning to patients with neurological disorders.
 14. Differentiate the role of healthcare providers in the interprofessional team when working with patients across the age range with neurological diagnoses.
 15. Describe the impairments, activity and participation limitations for patients with neurological and developmental diagnoses across the lifespan using the International Classification of Functioning, Disability and Health (ICF).
 16. Identify common pharmaceutical interventions, and their impact on physical therapy, for patients with neurological conditions.
 17. Recognize multisystem pathological processes or impacts common to pediatric and adult patients with neurological and developmental conditions.
 18. Compare physical therapy intervention theories and approaches as they relate to pediatric and adult patients with neurological conditions.
 19. Select physical therapy interventions to address abnormal gait patterns commonly seen in adult and pediatric patients with neurological conditions.
 20. Recognize the common use of orthotic, adaptive, and assistive devices for pediatric and adult patients with neurological conditions.
 21. Identify the use of biophysical, electrotherapeutic, and taping modalities in the treatment of patients with neurological disorders.
 22. Outline considerations and assessment for seating and positioning related to wheelchair mobility for adult or pediatric patients with neurological conditions.
 23. Describe assessment of a patient's or caregiver's ability to care for and safely utilize complex seating systems utilized with patients with neurological diagnoses across the lifespan.
 24. Recognize common physical therapy and medical management strategies for patients with the following neurological conditions across the lifespan in various treatment settings:

- a. Cerebrovascular Accident (CVA)
 - b. Neurodegenerative conditions
 - c. Pediatric neurological and developmental pathologies
 - d. Spinal Cord Injury (SCI)
 - e. Traumatic Brain Injury (TBI)
 - f. Vestibular disorders
25. Correlate the eight levels of physical and cognitive recovery following traumatic brain injury (TBI) as identified in the Ranchos Los Amigos Cognitive Rating Scale with their impact on physical therapy treatment.
 26. Compare the physical, sensory, and cognitive symptoms exhibited by patients following a CVA in different regions of the brain.
 27. Recognize the impact of segment level of SCI and ASIA level on functional abilities.
 28. Differentiate the presentation and progression of neurodegenerative diseases including amyotrophic lateral sclerosis, multiple sclerosis, and Parkinson's disease.
 29. Recognize activities, positioning, postures, assistive devices, and adaptive devices that can produce associated skin trauma and pain in patients with neurological conditions.
 30. Recognize changes in sensation and temperature, soft tissue mobility, and joint mobility that can occur in patients with a neurological diagnosis.
 31. Discuss the impact of neurological diagnoses on the psychosocial aspects of health and disability.
 32. Compare normal and abnormal physical, cognitive, social, and emotional developmental processes which affect an individual throughout the life span.
 33. Describe the impact of cognitive, communication, and neurological disorders across the lifespan on the recognition and reporting of suspected cases of abuse or neglect.
 34. Integrate appropriate evidence-based resources into the design of a treatment session and treatment progression from within the physical therapist's plan of care for a pediatric patient.
 35. Design an evidence-based physical therapy treatment session and treatment progression, selecting interventions, including appropriate therapeutic agents, from within the physical therapist's plan of care for a patient with neurological diagnosis.
 36. Demonstrate competence in performing a treatment session using appropriate treatments outlined in the physical therapist's plan of care for a pediatric patient.
 37. Demonstrate competence in performing a treatment session using appropriate treatments outlined in the physical therapist's plan of care for an adult patient with a neurological diagnosis.
 38. Demonstrate the ability to communicate an understanding of the plan of care with the supervising physical therapist.
 39. Demonstrate competence in planning and implementing a treatment session for a patient with a neurological condition, including appropriate interventions and progression strategies as outlined in the physical therapist's plan of care.
 40. Demonstrate the ability to modify treatment from within the physical therapist's

plan of care due to changes in patient status and accurately document these changes for a patient with a neurological diagnosis.

41. Demonstrate appropriate testing for sensation and motor response in pediatric and adult patients with neurological conditions.
42. Demonstrate competence in the assessment of standard vital signs (blood pressure, respiration, heart rate and oximetry readings) as they relate to patients with neurological conditions.
43. Demonstrate the ability to competently assess arousal, orientation, cognition, attention, memory, and quality of life in patients with neurological diagnoses.
44. Demonstrate the ability to apply electrotherapeutic modalities for patients with neurological conditions.
45. Demonstrate the ability to educate a patient in basic wheelchair skills and mobility including propulsion over curbs and ramps.
46. Demonstrate the ability to assess proper wheelchair fit and function for patients with neurological diagnoses.
47. Demonstrate competence providing education regarding respiratory management for patients with spinal cord injury.
48. Demonstrate the ability to respond appropriately to changes in the physiological state of the patient with a neurological condition through appropriate patient positioning and communication with the physical therapist.
49. Demonstrate the ability to perform an appropriate interview with a simulated patient with a neurological condition and/or their caregiver adjusting for communication and cognition deficits, prior to treatment to assess level of function, current health status, and current level of pain.
50. Demonstrate appropriate education techniques for a patient with a neurological disorder while addressing safety and functional issues.
51. Compose a clear and concise SOAP format note documenting various physical therapy interventions for a patient with a neurological diagnosis from within the physical therapist's plan of care.

VWCC AND DISCIPLINE SPECIFIC TOPICAL DESCRIPTIONS

- Normal and abnormal neurological system anatomy.
- Normal movement and development across the lifespan
- Motor control, motor learning, and Neuroplasticity
- Intervention procedures for patients across the lifespan
- Patient assessment and observation across the lifespan
- Medical and physical therapy management of various nervous system and developmental disorders including, but not limited to:
 - Pediatric neurological, musculoskeletal, and congenital disorders
 - Vestibular system disorders
 - Spinal cord injury
 - Traumatic brain injury

- Cerebrovascular accident
- Parkinson's disease
- Amyotrophic Lateral Sclerosis
- Multiple sclerosis
- Guillain-Barre syndrome
- Post-polio syndrome
- Impacts of nervous system disorders on other systems of the body
- Technologies in neurorehabilitation
- Seating and mobility in neurorehabilitation

[TITLE IX STATEMENT](#)

[ADA STATEMENT](#)