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Fall 9-1-2001

### PT 567.02: Neurological Rehabilitation - Adult Neurological Rehabilitation

Charles Leonard

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**PT-567**  
**PRINCIPLES OF ADULT NEUROLOGICAL REHABILITATION**

I. PT- Principles of Adult Neurological Rehabilitation

II. Credit: 3 Credits

III. Instructors: Chuck Leonard, Ph.D., PT

IV. Clock Hours: 3 hours per week for 5 weeks  
Class meets M, W, F 10AM-Noon

V. Course Description: Various medical and societal aspects of adult-onset stroke are presented in addition to physical therapy and medical rehabilitation procedures. Pathophysiology, prognosis, spasticity (mechanisms and treatment), gait assessment, motor control issues, functional outcome measures, and various treatment approaches are discussed.

VI. Required Reading:  
Faculty Packet

Neurological Rehabilitation by Darcy Ann Umphred

VII. Schedule and Course Content

**Week 1**

Reading Assignment: Umphred pp. 622; 630; 637-639

Impact of Stroke on the Health Care System  
Stroke Risk Factors

Pathophysiology of CVA

Prognosis  
Time course of recovery from acute to chronic stages.  
Treatment implications.

Spasticity

Processes of Recovery  
Pediatric vs. Adult

Principles of the Neurological Examination

Chart Documentation

## **Week 2**

Reading Assignment: pp.630-637; 639-644

Gait Analysis of the Hemiplegic Patient

Shoulder/Hand Syndrome Following CVA  
Reflex Sympathetic Dystrophy

**Patient Presentation #1** (Students are expected to dress in a professional manner for these presentations)

## **Week 3**

Reading Assignment: pp. 644(tx)-654

Neurodevelopmental Treatment (NDT; Bobath)  
Theory/Rationale/Philosophy  
Treatment Techniques for Lower Extremity  
Upper Extremity

LAB- NDT (Spasticity Reduction, Balance, Coordination, Transfers, Trunk, UE, LE.

**Patient Presentation #2**

## **Week 4**

Reading Assignment: pp.773-775; 776; 779-783; 787

Rood Treatment Approaches  
Theory/Rationale/Treatment Techniques

Brunnstrom  
Theory/Rationale/Treatment Techniques

LAB- Brunnstrom

## **Week 5**

Reading Assignment: pp.654-659(Equip)

Motor Control/Learning Theory

Measurement of Functional Outcomes

Miscellaneous "Stuff"  
Biofeedback; Inhibitive Casting; Medications to decrease spasticity; PNF; Dorsal Root Rhizotomies; Weird Science/Continuing Educ. in Neuro Rehab.

Hospital Neurological Ward Rounds or

Patient Presentation or  
Physician (Neurologist or Psychiatrist) Lecture

Finals Week

Cumulative Written Final

VIII. Objectives: See attached

IX. Course Requirements and Methods of Evaluation:

Cumulative written final: 80%

Laboratory observation: 10%

Classroom participation: 10%