CHAPTER 1: INTRODUCTION TO NEUROREHABILITATION FOR THE PHYSICAL THERAPIST ASSISTANT
Introduction

- Neurorehabilitation: encompasses all the neurosciences, behavioral sciences, and social sciences; an understanding of development across the lifespan and the pathologies or diseases relating to the nervous system.
- PT and PTAs do not treat the diseases, but the impairments and functional limitations that develop from the pathology or disease of the nervous system.
- The focus of today will be on the scope of practice and role of the PT and PTA when a referral has been received for treatment of a patient with a CNS or PNS medical diagnosis.
International Classification of Impairments, Disabilities, and Handicaps (ICIDH): Disablement model, developed by World Health Organization. This model helps classify diseases so that doctors around the world have a common classification system. Identifies impairments and disabilities (by healthcare provider) and handicaps (identified by the patient).

*Don’t take into account the patient’s strengths that may help their recovery.
NAGI model: another disablement model. The APTA has embraced this model and incorporated it into the Guide to Physical Therapist Practice.

1. Disease or pathology - diagnosis
2. Impairments – body structure or body system level
3. Functional limitations - directly correlates with ADL’s that the patient can no longer perform.
4. Disability – limitations in performing societal roles
The Nagi Disablement Model

Pathology
- Traumatic Brain Injury

Impairments
- Balance, Cognition, Muscle Performance

Functional Limitations
- Ambulation, Transfers, ADLS

Disability
- Community Activities, Social Roles, Employment

Interventions by the Physical Therapist Assistant
- Appropriate Task Delegation by PT
- Prognosis
- Diagnosis
- Evaluation
- Examination
- Ongoing communication with supervising PT
- Mentoring, Shadowing, CEU to foster clinical expertise

The patient management model
Enablement Model (Fig 1-2, pg 5)

- International Classification of Functioning, Disability and Health (ICF): Enablement model, developed by WHO. No longer linear; the categories all affect each other.
  1. Health Condition
  2. Impairments
  3. Activity Limitations
  4. Participation Restrictions
  5. Environmental Factors
  6. Personal Factors
PT performs examinations to gather data and learn history. They perform a systems review and administer tests and measures.

Evaluation is the process in which the PT makes clinical judgments, and identifies the specific functional activity problems and determines the impairments of systems and subsystems that cause the patient to have functional loss.

PT diagnosis: identifies functional limitations and impairments that have caused those limitations.
The **prognosis**: identifies the predicted optimal improvement in function and the time parameters needed to change the existing limitations into functional activities the patient will be able to perform.

**POC**: established by PT which specifies patient management and incorporates goals, outcomes, and specific interventions to be used, including frequency and duration of each.

PTAs will be delegated interventions classified under both impairment training, such as strength training or ROM exercises, and functional limitation training, such as coming to stand, walking, sitting, or golfing.
PT will always be legally responsible for the physical therapy provided and PTA should not practice autonomously or without supervision of PT.
Appropriate delegation to PTA

- Five factors to consider: Box 1-1, page 11
  - **Predictability of consequences**: How uncertain is the situation?
  - **Stability of the situation**: How much and how quickly is change likely to occur in the factors upon which decisions are made?
  - **Observability of basic indicators**: How difficult is it to elicit the phenomena on which decisions are based? How easy are these phenomena to perceive or observe?
Appropriate delegation to PTA

- **Ambiguity of basic indicators**: How difficult are the key phenomena to interpret?
- **Criticality of results**: How serious are the consequences of poor choice of method?