

Chapter 1: Foundations for Making Clinical Decisions in Neuromuscular Rehabilitation

Dennis W. Fell, PT, MD

Multiple Choice

1. Regarding the clinical decisions to be made regarding the interventions the therapist will provide:

- A. Intervention decisions throughout the plan of care are based on data from the initial examination.
- B. Decisions regarding intervention are made at the time the plan of care is established.
- C. The therapist should always consider how to adjust the intervention exercises/activities to optimally challenge the patient.
- D. The primary and ultimate focus is on interventions for underlying impairments.

ANS: C

Rationale: Decisions about intervention are made continually throughout the rehabilitation, and not just at the time the plan of care is established, including ongoing adaptations and adjustments to the therapeutic plan to work the patient optimally and enhance neuroplasticity. These decisions are based on the data gathered in the initial examination, but also on therapist's observation and measurements throughout the rehabilitation process. Although it may be important to provide interventions for impairments that are known to contribute to specific functional limitations, the ultimate and most important focus of clinical decision-making is interventions to improve function and activity.

2. Which one best represents the ultimate goal of PT and OT intervention?

- A. Optimal recovery of function and participation
- B. Remediation of underlying impairments
- C. Correction of the underlying disease process
- D. Teach the patient to compensate for any underlying deficits

ANS: A

Rationale: Although the therapist will try to remediate underlying impairments, the ultimate goal is to improve functional activity so the individual can engage with family and community participation. Therapists generally do not address the underlying disease process. Compensation is not taught as an ultimate strategy in individuals for whom their disorder indicates that recovery is expected.

3. Based on the examination, the Physical Therapist must determine a Physical Therapy Diagnosis, to include:

- A. The ICD-9 or ICD-10 code

B. A label that clearly specifies the movement-related problem(s) for which the therapist will provide intervention

C. A label that clearly specifies the patient's underlying medical diagnosis

D. A descriptive label determined at the completion of the episode of care

ANS: B

Rationale: According to the *Guide to Physical Therapist Practice 3.0*, the physical therapy diagnosis is a label determined by the physical therapist to describe the specific movement-related problems for which the therapist will provide intervention. The physical therapy diagnosis does not include the medical diagnosis made by a physician and categorized using ICD-9 or ICD-10, though these medical diagnoses are often associated with specific functional problems. The physical therapy diagnosis is determined early in the rehabilitation process after the initial examination, and not at the completion of the episode of care.

4. Which set of actions could a new graduate intentionally incorporate to move more quickly toward expert practice?

A. Listens intently to patient and pays attention to clues; forms tentative hypothesis after reexamination; patient-centered approach.

B. Infrequent clinical reasoning; intentionally revising the plan of care; more aware of own mistakes and uses reflection.

C. Listens intently to patient and pays attention to clues; collaboration with the patient; central focus on underlying impairments.

D. Patient-centered approach; intentionally revising the plan of care; performs skill with greater efficiency

ANS: D

Rationale: Characteristics of the expert clinician include: Exhibits a higher frequency of instances of clinical reasoning (Unsworth, 2001); recognizes and “intuitively grasps” cues that are important during the examination/evaluation process (Benner, 1982); uses a patient-centered approach to care (Resnik, 2003); listens more intently to the patient and is more responsive to the patient (Jensen, 1990); better at revising the plan of care according to ongoing changes (Mattingly, 1993; Unsworth, 2001); more aware of their own mistakes (self-assessment) (Chi, 1988; Embrey, 1996) and use of reflection (Resnik, 2003); performs skills with greater efficiency and proficiency (Riolo, 1996); forms tentative hypothesis early in the examination (Elstein, 1978); better able to predict achievement of discharge goal location (Blackman-Weinberg, 2005); characterized by four identified dimensions: “(1) a dynamic, multidimensional knowledge base that is patient-centered and evolves through therapist reflection; (2) a clinical reasoning process embedded in a collaborative, problem-solving venture with the patient; (3) a central focus on movement assessment linked to patient function; and (4) consistent virtues seen in caring and commitment to patients” (Jensen, 2000, p. 28). So “less frequent” clinical reasoning (Unsworth, 2001), forming hypotheses after reexamination (Elstein, 1978), and a central focus on underlying impairments (Jensen, 2000) make those responses incorrect.

5. Which statement has ICF dimensions correctly matched?

- A. Spasticity is a body system impairment of the motor system that can result from a cerebrovascular accident.
- B. Short step-length in gait is a body system impairment of the motor system that can occur following cerebrovascular accident.
- C. Slow-velocity ambulation that requires moderate assistance is a participation limitation.
- D. Lack of isolated motor control in right elbow flexion is a functional activity limitation.

ANS: A

Rationale: Spasticity, weakness, hypotonia, and lack of isolated motor control (abnormal synergies) are each an impairment of the neuromotor system. Gait with short step-length, slow velocity, requiring assistance, or decreased efficiency are examples of an activity limitation or functional limitation as would be any problem with transfers, sit-to-stand, stair-climbing, or stepping up a curb. Participation focuses on the individual's ability to fulfill roles and engage in community and social events.

6. Which of the following is an example of a primary impairment related to a neurological disorder?

- A. Decubitus ulcer at the heel following complete paralysis from SCI
- B. Spasticity in L plantar flexors following R CVA with L hemiplegia
- C. Decreased cardiorespiratory endurance following a CVA with hemiplegia
- D. R plantar flexor contracture following L CVA with R hemiplegia

ANS: B

Rationale: Primary impairments, such as spasticity, paralysis, lack of selective control, sensory deficits, and cognitive impairment occur as a direct result of the disease or disorder. Secondary or indirect impairments occur as a secondary complication from the primary impairments. For example, pressure wounds or decubitus ulcers develop as a result of prolonged pressure from immobility and inability to reposition ones self. Debility, deconditioning, or decreased cardiorespiratory endurance occur as a result of decreased physical activity that accompanies many neuromotor disorders. Adaptive shortening or contractures occur as a result of the primary weakness, paralysis, or lack of movement at a joint.

7. Which is the best example of use of appropriate people-first language?

- A. "Mr. Jones is a stroke."
- B. "Your 3:00 Spinal Cord Injury is here now for the examination."
- C. "Johnny was diagnosed with CP 2 months ago."
- D. "The stroke patient will be here at 1:15."

ANS: C

Rationale: In people-first language, we should "put people first, not their disability" and never refer to the individual as their diagnosis. Instead of "the stroke patient", we should say "the patient with stroke".

8. Regarding neuroplasticity, which statement is most accurate?

A. Use-dependent changes in the nervous system can result in long-term improvement of function in conditions such as Parkinson Disease.

B. In patients with stroke, brain injury, or the nonprogressive form of multiple sclerosis, the therapist expects some degree of CNS reorganization, especially with a challenging intensity and repetition of practice.

C. Neuroplasticity is most optimal with usual intensity of practice to avoid overuse.

D. The therapist should expect greater degrees of neural plasticity in the more mature brain.

ANS: B

Rationale: In most nonprogressive neurological disorders, neuroplastic changes are expected following focused, challenging repetitions of task-specific practice. "Use-dependent" is a term frequently used to describe neuroplastic changes because they clearly result from sufficient repetitions of optimal task practice, and not from a usual intensity of practice. But neuroplasticity does not have long-term improvement in progressive disorders. The therapist should expect greater degrees of neuroplasticity in the younger brain.

9. Which characteristic is most valued when writing a functional goal, considering measurement of outcomes?

A. Prognosis of the individual

B. Environmental context

C. Age of the patient

D. Objective measures

ANS: D

Rationale: Prognosis, age and environmental context can all influence the degree of recovery and functional outcome, but selecting an objective measure is a valuable part of writing a functional goal.

10. What is a reason that the home exercise/activity program could be as important as the direct therapeutic intervention?

A. Within a day, the patient has time and opportunities for more repetitions of movement at home than during the typical intervention session.

B. Detailed instructions for a home activity allow for the therapist to direct the specifics of the activity.

C. Feedback from the therapist assures proper performance of the activity.

D. The patient may require supervision or motivation from the therapist.

ANS: A

Rationale: The patient has many more hours in a day (including incorporating in their usual routine and activities) for practicing specific tasks at home than during the therapeutic intervention session. Detailed instructions for home activities may be helpful, but the therapist will not be able to provide specific feedback about the performance of the activity. If the patient is not motivated to perform the activity, or does not understand the activity, specific supervision

or motivation may be required from the therapist, not possible during a home exercise/activity program.