Motor Recovery

Nathaniel Yomogida, SPT Chloë Kerstein, SPT

Table of contents

- Motor recovery: the reacquisition of movement skills lost through injury[1]
  - Highly variable and individualized[1]
  - Is often not possible[1]

1 Types of recovery

- Spontaneous recovery
-

1.1 Spontaneous recovery

[Read more about spontaneous recovery] - Motor recovery can occur through Spontaneous recovery[1]

1.2 Function-induced recovery

Function-induced recovery (use-dependent cortical reorganization): refers to the nervous system's ability to modify itself in response to changes in activity and the environment[1].

> **Note**
>
> Note: Stimulation early after injury is important to prevent learned nonuse

Interventions Patients 1+ year post-stroke respond positively to functional task-oriented training using CIMT. Locomotor training using partial body weight support, a treadmill, and early assisted limb movements has also been shown to promote function induced recovery (see Chapter 10: Interventions to Improve Locomotor Skills and Case Study 3) The elements essential for success with these interventions are that (1) practice is task specific and (2) practice is intense, with steady increases in duration and frequency. For example, in CIMT, the patient with stroke practices grasping and manipulating objects during daily tasks using the more affected UE 4 to 6 hours per day, every day. The less-affected UE may be constrained with a mitt, thereby preventing all attempts at compensatory movements.

1. O'Sullivan SB, Schmitz TJ, eds. *Improving Functional Outcomes in Physical Rehabilitation.* 2nd ed. F.A. Davis Company; 2016.