

# **Stroke Rehabilitation: A Dosing Dilemma**

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# Learning Objectives

- Assess the meaning of “dosing” in the context of stroke neurorehabilitation
- Rethink how/if this notion needs to be reconceptualized given factors impacting delivery of therapy and, by extension, its description within stroke rehab RCTs
- Engage in open discussion and advocacy

# Definitions

- Stroke Net annual meeting (circa 2014-2015); The “DOSER” Trial
  - [ Dose Optimization for Stroke Early Recovery]
- DOSER: dose yielding max improvement in UE function and influence of modifiers
- Interdisciplinary responses: the “OH, I get it, now”

# Definitions : Dictionary

- NIH: there is no universal measure to quantify therapy intensity

Goikoetxea-Sotelo and van Hedel: Front Rehab Sci, (8) 2023;4:1139251.doi10.3899/fresc.2023.1139

- >90% definitions = pharmacological

Lang CE et al: Observation of amounts of movement practice provided during stroke rehabilitation. Arch Phys Med Rehabil, 2009, ; 1692-98.  
doi:10.1016/j.aprm.2009.04.005

- 312 PT /OT sessions
- 51% = OT (avg reps per session = 32)
- 84% = PT gait (avg steps/session = 357)
- Outcomes not modified by time since stroke; side affected; FIM item scores, or years of therapist experience
- **Capacity vs Performance!**

# Definitions

- Context specific (e.g., pharmacological, clinical service)
- Clinical Service
  - Time dependent?
  - Contact time dependent?
  - Content time dependent? (physical, behavioral, both)
  - Time constraint dependent?
- CPT code driven?
- Corporate oversight/mandated?
- Insurance carrier constraints?

# Confounds and Dilemmas

- **“If it isn’t physical, it isn’t therapy”**
  - Dismissive of behavioral components
- **Accuracy in quantification.....use of wearables**
- **Inclusion of telerehabilitation.....oversight/instruction and interventions**
- **Documentation time.....digitalization**
- **Seeing is believing.....show me the data!**
- **Cognition and comprehension.....stroke interdisciplinary**
- **Severity, fatigue**
- **HIIT.....earlier and more intense**

# Confounds and Dilemmas

**Is there or should there be only 1 definition in light of these confounds or should dosage take on multiple categories or definitions?**