

Improving Physical Activity on an Inpatient Rehabilitation Unit

Katherine Sweet, PT, DPT, NCS

University of Washington Medical Center

Department of Rehabilitation – Physical Therapy



Objectives

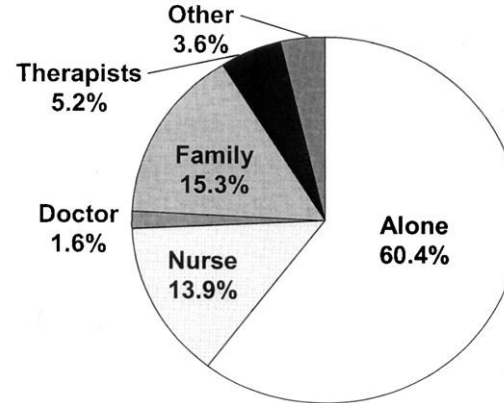
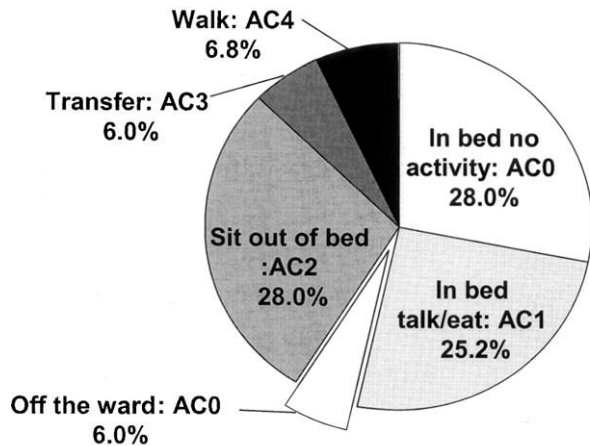
- Describe the goals of a progressive, interdisciplinary mobility program.
- Describe the challenges to maintaining activity in patients with brain injury on an inpatient rehabilitation unit.
- Understand the implementation of a mobility program.

We had a problem...

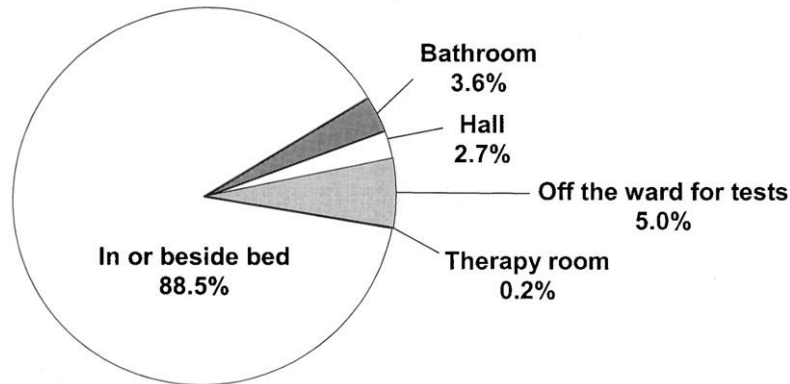
History of Inactivity Post ABI

A. Physical activity

B. People present during activity

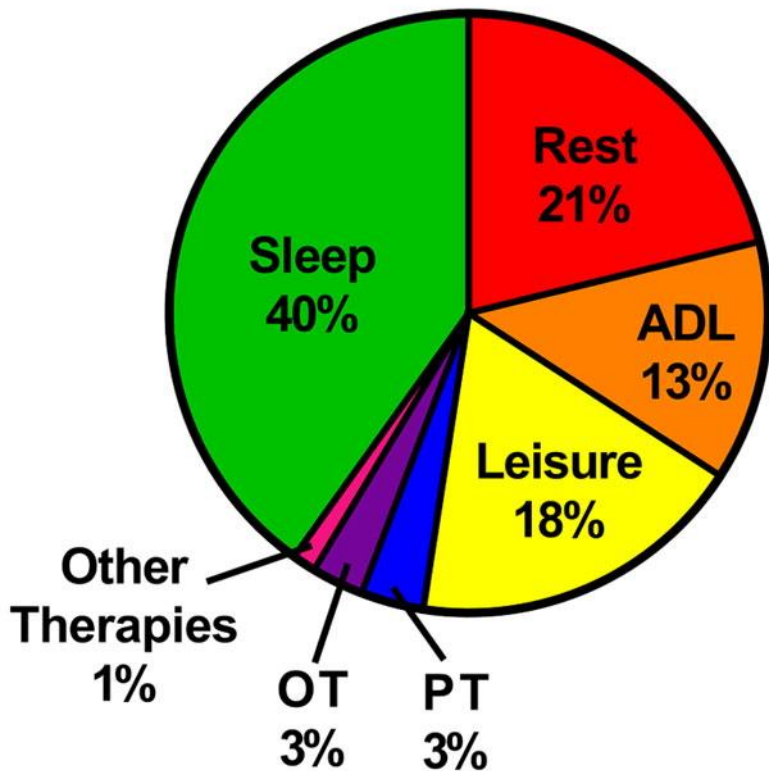


C. Location of activity

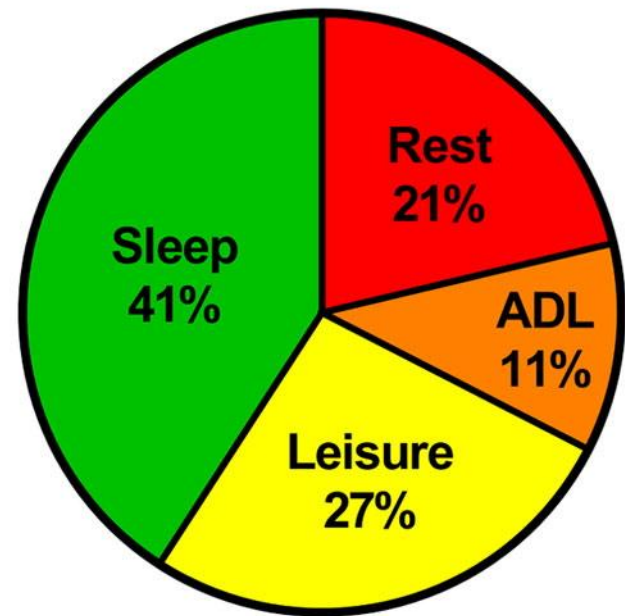


It Continues to be a Problem

(A) Weekday



(B) Weekend



Low Activity Regardless of Diagnosis

54.9+/-24.7 min/day

or

3.8% of their day in light activity

| Category of Day | Activity Counts Per Minute (Mean +/- SD) |
|--------------------|--|
| PT | 242.7+/- 105.2 (52.5-599.1) |
| OT | 244+/- 105 (76-538.8) |
| Non-active Therapy | 142.2+/-74.1 (45.9-331.5) |
| Recreation | 112.8+/-14.8 (20.9-328.9) |
| Sleep | 26.7+/-14.8 (7.7-81.3) |

CMS

- (D)(i) For discharges occurring on or after October 1, 2008, the diagnosis-related group to be assigned under this paragraph for a discharge described in clause (ii) shall be a diagnosis-related group that does not result in higher payment based on the presence of a secondary diagnosis code described in clause (iv).
 - (iv) By not later than October 1, 2007, the Secretary shall select diagnosis codes associated with at least two conditions, each of which codes meets all of the following requirements (as determined by the Secretary):
 - ` (I) Cases described by such code have a high cost or high volume, or both, under this title.
 - ` (II) The code results in the assignment of a case to a diagnosis-related group that has a higher payment when the code is present as a secondary diagnosis.
 - ` (III) The code describes such conditions that could reasonably have been prevented through the application of evidence-based guidelines.

CMS and Falls

“In response to public and professional attention to medical errors, federal policy and, in turn, hospital culture have strongly prioritized preventing falls, with potential unintended consequences for patient mobility, functional ability, and well-being.” Inoyue, et al. 2009

Improve Mobility to Maintain Function

- Mobility program compared to usual care (bed/chair with alarms) in geriatric medical patients
- Mobility program included:
 - 2 x 15–20 mins of walking with tech per day
 - behavior modification program based on social cognitive theory
- Prevented loss of community mobility up to one month post discharge

Extra Practice is Feasible

- Participation:
 - 68% were 'very willing' 29% of them were 'willing'
 - PTs: 35% were 'very willing' and 41% as 'willing'
- Barriers:
 - Pts: 'Not having enough confidence', 'not having been shown', 'not having the time', 'too difficult' and 'safety concerns'
 - PTs: 'poor motivation', 'fatigue', 'pain' and 'cognitive impairments'
- Confidence:
 - Pts: 51% 'highly confident' and 39% were 'confident'

Neuroplasticity Principles

(Kleim and Jones, 2008)

1. Use it or lose it
2. Use and Improve it
3. Specificity
- 4. Repetition Matters**
5. Intensity Matters
6. Salience Matters
7. Time Matters
8. Age Matters
9. Transference
10. Interference



<http://depressiontreatments.net/wp-content/uploads/2012/01/Brain-Power.jpg>



<http://depressiontreatments.net/wp-content/uploads/2011/09/Neuro-Plasticity-For-Healing-Mental-Health.jpg>

According to the Research....

- Animal studies show:
 - 2,500 hand movement repetitions over 5 days (Boyd et al. 2003; 2004; 2008; 2009; 2010)
 - >2,000 steps **each training session** may be needed
- Comparison of practice occurring in our clinics: (Kimberley TJ, et al 2010)
 - Functional UE movement in 50% of sessions addressing upper limb rehab; avg. # of reps = 32.
 - Gait practice in 84% of sessions addressing lower limb rehab; avg.# of steps = 357.

Barriers to Mobility

- RNs unsure of level of assist needed for ambulation or wheelchair mobility.
- Fear of falls from patients, RNs/PCTs, family members, leadership
- Unsure of patient's endurance with mobility.
- Time constraints on RNs/PCTs to assist with mobility

Mobilizing into Action

- Improve communication between disciplines:
 - Patients will have specific mobility goals for time outside of OT/PT.
 - Family training check list in every room to promote mobility with caregivers.

Weekend Mobility Goals

- Specific mobility goals for each patient.
 - In the gym
 - for mobility aid and work study students
 - At the RN station
 - On each patient's weekend schedule
 - On whiteboards in patient's room
 - for daily mobility

Weekend Prep Checklist

| Team | Patient | Needs minutes? | Priority rating (1-3) | Interpreter (y/n) | 8AM? (Y/N) | Family training? | Missed minutes? (y/n?) | Patient weekend activity goals (simple) | Requires 2nd person in gym (Y/N) | Comments |
|--------|----------|----------------|-----------------------|-------------------|------------|------------------|------------------------|---|----------------------------------|-----------------------|
| | NAME | | | | | | | | | outing, Sat, 11-12:30 |
| Purple | | | | | | | | | | |
| Purple | | | | Y | | | | | | |
| Gold | | Y | | | | | | | | |
| Gold | | | | | | | | | | |
| Green | | Y | | | | | | | | |
| Green | | Y | | | | | | | | |
| Blue | | | | | | | | | | |
| Blue | | | | | | | | | | |
| | | Y | | | | | | | | |
| | Med Surg | | | | | | | | | |
| | Med Surg | | | | | | | | | |

Weekend Activity Goals

3/16 and 3/17

Pt 1 – Up for all meals, walk 10 laps around unit

Pt 2 – Out of bed for meals, 2–3 laps around unit in wheelchair

Pt 3 – Stretches every day, push wheelchair 10 laps around unit everyday

Pt 4 – Up for all meals, 5 laps around the unit in wheelchair

Pt 5 – Therapeutic arm exercises, up in chair for meals, push wheelchair around unit x1 with family for exercise

Pt 6 – Up in chair 8 hours/day, walk for 30 minutes around 8N

Pt 7 – Up in chair 10 hours/day, arm exercises

Pt 8 – Up for all meals, arm exercises within precautions, 3 laps in wheelchair

Pt 9 – Push wheelchair in hall x1 lap with family

Pt 10 – Up in wheelchair for meals

Mobilizing into Action

- Mobility at a safe level for every patient.
 - No greater than minimal assist for wheelchair or ambulation.
 - When unable to get out of bed, recommended exercises, ADLs.

Outcomes

- RN/PCTs love the specific goals
- Increased activity on the unit
- Changed therapy notes for clarity in communication

Next Steps

- Include mobility in nurses notes
- Add SLP goals for activity
- Compare fall rates prior to and after implementation of the mobility program
- Compare patient complaint/comments on mobility prior to and after implementation of the mobility program