Integrating Safe Patient Handling into Your Rehabilitation Goals

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Best Practices: Safety
Non-Medical Domain

Implementation of the WHO SSC was associated with robust reduction in morbidity and length of in-hospital stay and some reduction in mortality.
Can safety best practices in other domains be a useful guide for development of patient mobility implementation strategies?

**Current Clinical Knowledge: SPH&M**

  - Lower levels of depression, improved urinary continence, higher engagement in activities, lower fall risk, and higher levels of alertness during the day.
  - Rehabilitation: Pts who underwent rehab with a SPH program showed improvements in FIM scores vs. no SPH program.
  - Therapists IDed SPH equipment particularly helpful during interventions with: bariatric, dependent or debilitated patients.

**APTA Position Statement: Role of PT in Safe Patient Handling**

- PTs and PTAs should be involved and should be leaders throughout development, implementation, refinement and maintenance of SPH programs.
- PTs and PTAs shall lead by example, appropriately supporting and employing the concepts of SPH during pt. care.
- PTs and PTAs should be leaders in multidisciplinary SPH training programming.
- PTs shall have the clinical autonomy to apply SPH concepts when most appropriate, based on pt. presentation.
- PTAs shall have the ability to apply problem solving during pt. care to incorporate SPH concepts.
ANA Standards

- 1: Establish a culture of safety
- 2: Implement and sustain a SPHM program
- 3: Incorporate ergonomic design principles to provide a safe care environment
- 4: Select, install and maintain SPHM technology
- 5: Establish a system for education, training and maintaining competence.
- 6: Integrate patient-centered SPHM assessment, plan of care and use of SPHM technology***
- 7: Include SPHM in reasonable accommodation and post-injury return to work
- 8: Establish a comprehensive evaluation system

Clinical Implications of Current Knowledge

- Knowledge translation to bedside practice.
- How do we apply this to daily, real-life patient interactions?

High Reliability Principles: Build Systems expecting Human Error

- Patient falls
- Patient develops deep tissue injury and Stage 4 Pressure Ulcer
- Caregiver develops a back injury.
- Insufficient Training
- Lack of Policies
- Equipment not available
- Low par levels: lost slings
- Inadequate patient assessments
- Patient does not get mobilized
- Patient falls
Current Clinical Challenges

- Differences in practitioner mobility training: RN, LPN, CNA, Radiology Personnel, Rehabilitation Therapies.
- Lack of uniform communication re: patient mobility among different clinicians/practitioners.
- Organizational culture:
  - whose job is it to mobilizes the patient? Role confusion
  - benefit of SPH equipment use to promote patient participation in mobility tasks. Dated notion that SPH equipment = “passive” for patient.
  - access to appropriate/multiple types SPH equipment

Current Clinical Challenges

- Decreased proficiency and training re-patient mobility assessments
- Clinical time constraints: including documentation and EMR interface.
- Lack of uniform process and procedures for patient mobility interactions

Confused…Lost???

- GO BACK TO BASICS
- RETURN TO WHERE YOU LAST KNEW YOUR AZIMUTH
Patient Mobility Assessment: Discuss

- WHO?
- WHAT?
- WHY?
- WHEN?
- HOW?

What makes a good mobility assessment?

Patient Assessment: Points of Consideration

- Patient specific factors:
  - What SHOULD the patient be able to do? PLOF
  - What CAN the patient do?
  - How does your assessment drive your decision making and plan of care?
How-Assessment tools for patient mobility

- Functional tools for patient strength and performance
- Functional Independence Measure
- Am-PAC 6 clicks
- TUG
- Assessment tools for patient fall risk
- Hendrich II
- Morse
- Tread, Berg
- Assessment for equipment use
- VA Algorithms
- Vendor assessment flow sheets for equipment
- Bedside Mobility Assessment Tool

FIM (Functional Independence Measure)

18 categories (13 motor and 5 cognitive)
Can be scored by PT/OT/Nursing

Am-PAC 6 clicks

6-Clicks - On evaluation and every follow-up visit each discipline completes a functional measure assessment.

**PT evaluates the patient’s abilities in:**
1. Turning over in bed
2. Sit up
3. Bed to chair
4. Stair climb
5. Walk or cane
6. 3-5 steps with a rail

**OT evaluates the patient’s abilities in:**
1. Feeding
2. DIP hygiene
3. Dressing/Undress
4. Shaving
5. Toilet/shower activity
6. Bathing (bath/shower)

Scores:
- 0 = Unable (Total Assist)
- 1 = A lot of (Minimal Assist)
- 2 = A little ( Mild Assist/Independent)
- 3 = More (Independent)
Patient Mobility Assessments

1. VHA Safe Patient Handling and Mobility Algorithms (2014 revision).
2. Vendor mobility assessments and flow charts.
3. Bedside mobility assessment tool (BMAT)

Vendor Mobility Tools

- Diligent Mobility Assessment
BMAT (Bedside Mobility Assessment Tool)

- This tool is a combination of the Dione Egress test, and the quick 3 test, which are nursing tests of patient mobility
- The tool is designed to match patient mobility level with appropriate safe patient handling equipment
- Designed to be used by nurses across all environments of care


BMAT (Bedside Mobility Assessment Tool)

Level 1: Sit and Shake. Can patient sit over edge of bed, cross midline and shake your hand?
Level 2: Point and stretch. Can patient stretch each leg out and point their toes?
Level 3: Stand. Can patient clear their buttocks from the surface and hold 5 seconds
Level 4: Walk. Can patient advance one leg then the other without losing balance.

Equipment is matched to mobility level with goal of progressing mobility to the next level towards independent mobility

Mobility Assessment Level 1

Determine baseline assistive equipment used at home.

Sit and Shake
- From a semi-reclined position, ask your patient to sit upright and rotate to a seated position at the side of the bed.
- Ask patient to reach across midline to shake your hand.
Mobility Assessment Level 2

**Stretch and Flex**

- Ask patient to extend leg forward until it is straight at the knee.
- Ask the patient to point and flex the foot/toes.
- Repeat with other leg if appropriate.

*Your patient should be able to perform these tasks independently as shown here with verbal cues only.*

**Do not attempt to raise the knee if your patient is status post hip replacement, and be sure to follow all hip precautions during this part of the assessment.**

***If the patient has unilateral restrictions or weakness for example from orthopedic restrictions or weakness after CVA, it is appropriate to measure only one leg.***

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Mobility Assessment Level 3

If needed, obtain assistive equipment (walker, cane, mechanical lift such as the Stedy or Sara).

**Stand**

- Ask your patient to elevate off the bed or chair using an assistive device if needed.
- The patient should be able to raise buttocks off bed and hold for a count of five.
- If your patient is unable to maintain 5 seconds of weight bearing, guide them back to a safe sitting position on the bed or chair.

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Mobility Assessment Level 4

**Walk**

- Ask your patient to march in place at bedside.
- Then ask patient to advance step and return each foot.
- **Note on Stepping Backwards**: There are orthopedic and neurologic conditions that may render a patient unable to step backwards. Use your best clinical judgment as to whether or not you ask your patient to perform this task.

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Key Points in assessments

- Is patient cooperative?
- What is weight bearing status of patient?
- What is upper and lower body strength of the patient?
- Is the patient able to have good trunk stability and can grasp with one hand?
- What is the weight of the patient?
- Any special precautions or contraindication?

Definition of Mobility: "Mobility" is a person's ability to move in their environment.
Functional Level Matters!

- Functional level at discharge more predictive of readmissions than co-morbidities (Shih et al, 2015)
- Higher function at discharge, less chance of readmission. Strongest correlation in Med/Surg population (Hoyer et al, 2016)
- Higher functional level achieved at DC had higher QOL after DC
- FIM scores strongly associated with discharge disposition in in-patient facilities and acute care (Black et al, 1999, Jette et al, 2014)

Decision-Manual vs. Equipment?

- Think about 35 lbs limit, patient mobility level/other factors (skin, precautions etc), available resources, wt. capacity of patient vs lift, sling sizes, rehab goals
- If equipment used:
  - Type (min assist, sit to stand, ambulation lift, ceiling lift, max assist)
  - Technique
  - Goal: Maximize patient participation while optimizing safety of provider and patient.
- Answer is NOT simple. It will be an interaction of the above.

Gait Belt controversy

- When is it appropriate to use a gait belt?
- Many references state gait belts are for partially weight bearing, cooperative patients who need minimal support (Guidelines to Nursing Homes: Technology Resource Guide, VAMC)
- 2 person transfer with a gait belt have a 80% probability of having low back disorder from use (Rockefeller & Proctor, 2011)
- Gait belts used as a point of control and NOT a handle to pull or lift a patient
- Contraindications/precautions
- Facility Policy
SPHM and Fall Risk
How do they connect?

Connection Between Fall Risk and SPHM

- Often in separate silos but growing movement to link.
- Competing priorities: Can we diminish fall risk while promoting patient mobility, function and independence? If so... how?
- Fall Risk Assessment:
  - Different tools: Fall Risk v. bedside mobility assessment
  - Fall Risk Assessment: Often setting and population specific
  - Mobility level strong component of most Fall Risk Assessments... more to come
  - Results of mobility assessment can guide scoring on fall risk tool

Connection Between Fall Risk and SPHM

- Both programs require an interdisciplinary team approach.
- Team members often overlap due to shared program goals.
- Consider linking fall risk assessment to SPH assessment and interventions
- Interventions: customized for specific presenting patient factors.
Risk Factors for Falls

Table 1: Risk Factors for Falls identified in 8 studies that examined multiple risk factors: Summary of meta-analysis

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Risk Ratio*</th>
<th>Mean ARR</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobility impairment</td>
<td>1.19</td>
<td>1.06</td>
<td>1.01–1.20</td>
</tr>
<tr>
<td>History of falls</td>
<td>1.21</td>
<td>1.07</td>
<td>1.01–1.32</td>
</tr>
<tr>
<td>Gait disorder</td>
<td>1.20</td>
<td>1.05</td>
<td>1.01–1.32</td>
</tr>
<tr>
<td>Reduce blood pressure</td>
<td>1.14</td>
<td>1.02</td>
<td>1.01–1.22</td>
</tr>
<tr>
<td>Use of analgesics</td>
<td>1.08</td>
<td>1.05</td>
<td>1.01–1.20</td>
</tr>
<tr>
<td>Visual deficit</td>
<td>1.01</td>
<td>1.01</td>
<td>1.01–1.13</td>
</tr>
<tr>
<td>Impaired ADL</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00–1.11</td>
</tr>
<tr>
<td>Depression</td>
<td>1.13</td>
<td>1.09</td>
<td>1.04–1.25</td>
</tr>
<tr>
<td>Cognitive impairment</td>
<td>1.17</td>
<td>1.08</td>
<td>1.04–1.25</td>
</tr>
<tr>
<td>Age &gt; 80 years</td>
<td>1.20</td>
<td>1.12</td>
<td>1.03–1.29</td>
</tr>
</tbody>
</table>

* Number of studies with significant odds ratio or relative risk ratio in meta-analysis and number of studies that included each factor

Gait and balance impairments and history of falls = approx. 3-fold increased risk of falling.

Conclusion: Assessing pt’s mobility status is crucial in evaluating and managing fall risk in a customized fashion.

Standardized Fall Risk Assessment Tools

- Numerous exist
- Generally setting specific
- Majority: Identify and evaluate presence of fall risk factors which allow clinicians to develop customized fall interventions.
- Majority involve some component of mobility (transfer, balance, gait) ability assessment.
- SPHM assessment can and should guide this assessment and help drive customized fall risk interventions.
- Assessing pt’s mobility status is crucial in evaluating and managing fall risk in a customized fashion.

Mobility and falls
Timed Up and Go (TUG)

Summary slide

- Fall prevention strategies and use of SPH equipment have many challenges but many benefits.
- Current clinical challenges include insufficient and varied training amongst rehab and nursing staff, unavailable equipment and inadequate patient assessments.
- Benefits of patient mobility assessments include standardized communication tool, uniform process amongst nursing, wound care, rehab etc., and decrease in likelihood of human error for patient transfers.
- Clinical outcomes gained include decrease in patient falls, decrease in injuries (caregiver and patient) and decrease in risk of pressure ulcers since mobility increases.
Case 1
- 72-yo female (5’6”; 170lbs), admitted to SNF from acute care presenting for rehab. Dx Right CVA with Left sided weakness 6 days ago. She fell trying to get up to the bathroom 2 days ago.
- PMHx: HTN with several past TIAs
- Prior Functional Level: Lives alone in a mobile home, independent with all ADL/IADL
- Current functional level:
  - General appearance – head oriented to right, significant left neglect.
  - Cognition – Alert, oriented to person only. Follows 2-step commands. Speaks minimally.
  - Motor function – No active motion left arm. Left leg weak (2/5 hip and knee, 1/5 ankle). Right arm and leg strong.
  - Bed Mobility – max assist for rolling to left and right. Mod assist supine to sit
  - Sitting balance – able to sit with mod assist edge of bed. Leans to left.
  - Transfers – max assist to stand, then can stand with mod assist but cannot shift weight onto left leg. Poor knee control.

Case 2
- 66-yo male (5’10”, 275lbs) in acute care s/p TKA. Extensive history of L knee osteoarthritis.
- PMHx - HTN, CAD with Hx of CABG x 3. Diabetes, obesity.
- Prior functional level – Lives in a single story home with wife. 3 steps to get in. Ambulated household and limited community distances with a cane. Increasing difficulty past 4 months. Independent with ADLs. Previously enjoyed gardening and sailing.
- PMHx – L TKA 7am this morning. Femoral nerve block.
- ROM very limited Lt knee. Pain 8/10 . Strength 2/5 quads, hamstrings, 2/5 hip flex.
- Ankle ROM WNL, hip ROM 90 degrees flexion.
- GOAL: Orders to get patient OOB and ambulate WBAT on left.

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