

Safe Patient Handling & Mobility (SPHM) and Patient Outcomes Current Evidence and Research Gaps

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Manual Patient Handling – The Patient Experience



Manual Patient Handling – The Patient Experience



- ▶ Increase risk of:
 - Skin and joint damage
 - Falls
 - Pain
 - Combative behaviors
 - Loss of dignity



(Nelson, 2006)

SPHM and Patient Safety

▶ What do we know?

- Missed nursing care
- Early mobilization and rehabilitation
- Fall prevention
- Pressure injury prevention
- Patient safety and SPHM– other evidence base outcomes

SPHM and Patient Safety

What Do We Know?

Spoiler Alert

Overall there is very little published research on the link between SPHM and Patient outcomes

Data collection and study design challenges:

- ▶ **Resources (staff, time, financial etc.)**
- ▶ **Multiple interventions are implemented at one time**

- **Improvements in patient handling for worker and patient safety. McMillan, J., Moo, A., Newnam, S., & de Silva, A. (2018) &**
- **Linking worker health and safety with patient outcomes. Gibson, K., Costa, B., & Sampson, A. (2017). *WorkSafe Victoria (WSV)*. The Institute of Safety, Compensation and Recovery Research (ISCRR)**
- **Outcomes of Safe Patient Handling and Mobilization Programs: A Meta-Analysis. Teeple et. al (2017). *Work*, 58(2), 173-184**
- **Safe Patient Handling and Patient Safety: Identifying the current evidence base and gaps in research. Enos. L. *American Journal of Safe Patient Handling and Movement*, 3, (3): 94-102**

Missed Nursing Care

Definition: Any aspect of required patient care that is omitted (either in part or in whole) or delayed by nursing staff.

What's being missed? (Kalisch et. Al 2012; Wegmanm, 2011, AHRQ, 2015)

- **Ambulation**
- **Turning**
- Patient surveillance
- Delayed or missed feedings
- Patient education
- Discharge planning
- Emotional support
- Hygiene
- Input and output documentation
- Surveillance

Missed care or rationing of care associated with higher likelihood of patient death

This is a world wide phenomenon in nursing

Missed Nursing Care

Why does it occur?

- ▶ **Labor resources** available to provide patient care
- ▶ **Time to complete task**
- ▶ **Material resources** accessible to assist in patient care activities
- ▶ **Communication** and various relationship factors that have an impact on nurses' ability to provide care.

(Kalisch et. al. 2009)

Consider extra resources needed to care for bariatric, combative, complex/special needs patients

Can SPHM assist to reduce the rate of Missed Nursing Care?
No research published to date

Early Mobilization of Patients

▶ **Early mobility definition:**

Planned movement in a sequential manner beginning at a patient's current mobility status and returning them to baseline (Vollman, 2010)

▶ **Importance of Early Mobility**

- Decreased time on ventilator
- Decreased length of stay in the ICU and the hospital
- Mitigates the short-term complications of critical illness: delirium and muscular weakness
- Mitigates the long-term disabilities of critical illness: physical, cognitive, and psychological
- Decreased mortality

(Hoyer et. al, 2016; Arnold, 2017)

Opportunities to Promote Early Mobilization Using SPHM

Data

- ▶ Little published research
- ▶ Lack of overhead lifts is a barrier to early mobilization
(Bassett et al, 2012)
- ▶ Safe patient handling programs and policies and procedures around use of mechanical lifting devices can improve patient mobility outcomes by up to 12%.
(Gibson et al, 2017)

Opportunities to Promote Early and Safe Mobilization Using SPHM



Opportunities to Promote Early and Safe Mobilization Using SPHM

Support from rehabilitation staff is critical

- ▶ Evidence base to support use of SPHM equipment by therapists:
 - Functional independence measure (FIM) ratings remained the same or improved when using SPH equipment.

(Arnold et. al., 2011; Mcilvane et. al., 2011; Campo M, et. al., 2013)

- SPH equipment has therapeutic applications in rehabilitation, especially for medically complex or bariatric patients.

(Darragh, et. al 2013; Rockefeller, K., 2008)

Patient Falls

- ▶ 700,000 to 1,000,000 people fall in the hospital in US/year with 30-35% sustaining an injury
- ▶ Cost:
 - For the Patient
 - Injury/death; Increased length of stay
 - Higher rates of discharge to nursing homes, and loss of independence
 - For the Health Care Organization
 - Cost for a serious fall with injury averaging \$14,056 per patient
 - CMS 'Never Event'



(Fridman, 2019)



Patient Falls

Patient Falls -When do they occur?

- ▶ A majority (80%) of falls are unassisted and occur in the patient room during evening/over night
- ▶ 40% of falls related to toileting
- ▶ About 20% during ambulation

(Eileen B Hitcho, 2004)



- ▶ Little data about falls during pivot transfers

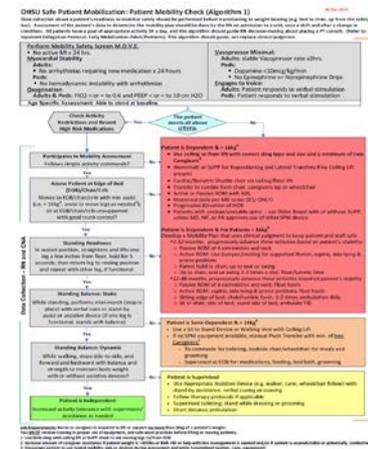
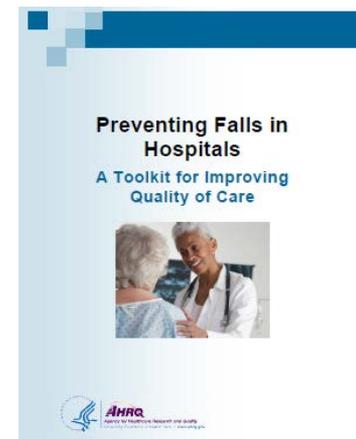
Fall Prevention Programs

Challenges:

- ▶ **Incomplete or incorrect use of the Risk Assessment Tool**
- ▶ **Lack of quick mobility assessment/check every time a patient is to stand-up/bear weight**
- ▶ **Inconsistent hand-off communication between shifts and units on fall events**
- ▶ **Lower/inadequate staffing levels are associated with higher rate of patient falls**
 - **Missed nursing care mediates the relationship between staffing levels and patient falls.** (Kalisch et. al., 2012)

Opportunities to Prevent Falls Using SPHM

- ▶ In the 2013 Agency for Health Care Research and Quality's (AHRQ) *Preventing Falls in Hospitals Toolkit*,
 - Safe patient handling is considered “a critical element of universal falls precaution and especially important for patients who require assistance with transfers”.
 - Recommend use of clinical pathways that is, the VA SPHM algorithms.
- ▶ Use of ‘user friendly’, standardized, and well-communicated, SPHM assessment/mobility check tools to determine correct choice of equipment for safe mobilization of patients



Is patient able to:

1. Follow simple activity commands **and**
2. Move to edge of bed/ /chair/crib/exam/procedure table with minimal assist¹ **and**
3. Sit unsupported with good trunk control **and**
4. In seated position **is able to** straighten & lift *at least* one leg a few inches from the floor & hold for the count of '5'



Patient is Dependent & > 16kg²

- Use ceiling or floor lift with correct sling type and size and a minimum of 2 Caregivers
- Hovermatt or SLIPP for Repositioning and Lateral Transfers if no Ceiling Lift present
- Patients with unclear/unstable spine - use Slider Board with or without SLIPP, unless MD, NP, or PA approves use of other SPM device



Ergolet Luna ceiling lift with repositioning/turning sling & with seated sling



EVA 600 floor lift & seated sling



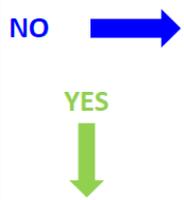
SLIPP



Hovermatt

For Patients < 16 kg – Refer to SPM Patient Mobility Check

5. **Stand** (with min. assistance) and perform mini-march (step in place) with verbal cues or stand by assist or assistive device (e.g. walker, cane) *without* loss of balance. If one leg is functional is able stand with balance.



Patient is Semi-Dependent & > 16kg¹

- Use a Sit to Stand Device (if available) or Ceiling Lift with seated sling used as a walking harness or Walking Vest with Ceiling Lift (PT only)
- If no SPM equipment available, manual Pivot Transfer with min. a minimum of 2 Caregivers



Ergolet Luna ceiling lift with seated sling as harness



Mini Lift sit to stand with wipeable belt

6. **Step** forward-and-back and side-to-side with balance and strength to maintain body weight *with or without* assistive devices.



Patient is Supervised

- Use appropriate assistive device e.g., walker, cane, wheelchair follow with stand-by assistance, verbal cueing or coaxing (1 staff assist)

Patient is Independent - Increased activity tolerance with supervision/assistance as needed

1. Use limb sling with ceiling lift or SLIPP sheet to aid moving legs to/from EOB;
 2. Increase amount of caregiver assistance if patient weight is >300lbs or BMI >50 or help with line management is needed and/or if patient is unpredictable or potentially combative;
 3. Encourage patient to use typical mobility aids or devices during assessment and while hospitalized (walker, cane, equipment)

Opportunities to Prevent Falls Using SPHM

Data:

- ▶ Intermountain Healthcare Salt Lake City, UT
 - After one year of SPH program implementation (2008–2009)
 - Patient falls related to transfer were reduced by 45%.
 - By year-end 2010:
 - 49% reduction in patient falls related to lift and transfer activities. (Joint Commission, 2012)

- ▶ Acute care teaching hospital in rural SC
 - Falls reduced during first year after SPHM program implementation (Kennedy et al, 2015)

Pressure Injuries/Ulcers

- ▶ 2.5 million patients in U.S. acute-care facilities suffer from pressure ulcer/injuries
- ▶ Cost:
 - **For the Patient**
 - 60,000 deaths from facility-acquired pressure ulcer complications per year
 - Pain and reduced quality of life
 - Increased length of stay
 - Higher re-admittance rate (within 30 days of discharge)
 - **For the Health Care Organization**
 - Average cost of facility-acquired stage III or IV pressure ulcers: \$43,1803
 - \$11 billion per year in preventable costs
 - Stage III and IV Pressure Ulcers - CMS 'Never Event'

(Rondinelli, 2018)

Prevention of Pressure Injuries

- ▶ **Multifaceted and variable by facility**
- ▶ **Prevention/Management/Treatment - Common themes**
 - **Assessment**
 - **Support surfaces that redistribute or alternate pressure**
 - **Limit linens**
 - **Turning patients at least every 2 hours**
 - **Utilizing turn-assist features of the bed**
 - **Reduce friction and shear**
 - **Promote early mobility**

(HRET, 2017)



Opportunities to Prevent and Manage Pressure Injuries Using SPHM

The National Pressure Ulcer Advisory Panel (NPAUP), European PUAP, AHRQ, and Pan Pacific Clinical Practice Guidelines for Prevention and Management of Pressure Injuries state:

‘Use lift sheets or lift equipment to reposition or transfer patients and to avoid pulling or dragging, which can cause friction injuries’



Opportunities to Prevent and Manage Pressure Injuries Using SPHM

- ▶ Using equipment to access skin for assessment, wound care and hygiene etc.
- ▶ Use of ceiling lift can promote repositioning of patient - if sling can stay under patient and often less staff are needed
 - No evidence leaving a sling under a patient will cause skin damage (NPUAP 2015)
 - Depends:
 - Patient condition
 - Fabric, design of the sling and fit on patient
 - Input from Wound Care staff



Ceiling lift use to reduce the need to boost patients in a supine position



Opportunities to Prevent and Manage Pressure Injuries Using SPHM

Data:

- ▶ **Patient positioning devices and policies and procedures around use of mechanical lifting devices can reduce the risk of health-facility acquired pressure injury by up to 17%. (Gibson, K., et. al 2017)**
- ▶ **43% decrease in hospital acquired pressure ulcers among patients following the implementation of SPHM (Walden et al, 2013)**
- ▶ **50% decrease in stage III and IV hospital-acquired pressure ulcers during the first year after SPHM program implementation. (Kennedy, 2015)**

Patient Safety and SPHM – Other Evidence Based Outcomes

- ▶ **Decrease in combativeness with use of lifting equipment**
(Collins et. al, 2006; Pihl-Thingvad, et al, 2018)
- ▶ **Patients report feeling more comfortable and secure**
(Wicker, P., 2000)
- ▶ **Increase in physical functioning and activity level, lower levels of depression, improved urinary continence, lower fall risk, and higher levels of alertness during the day.**
(Nelson et al 2008)
- ▶ **Mechanical lifting devices, a suite of ergonomic lift assist devices and patient positioning devices improve patient comfort and safety**
(Gibson et al, 2017)

Patient Safety and SPHM – Other Evidence Based Outcomes



▶ Positive impact on patient satisfaction

Patient satisfaction surveys at Good Shepherd HCS, Hermiston, OR, USA.

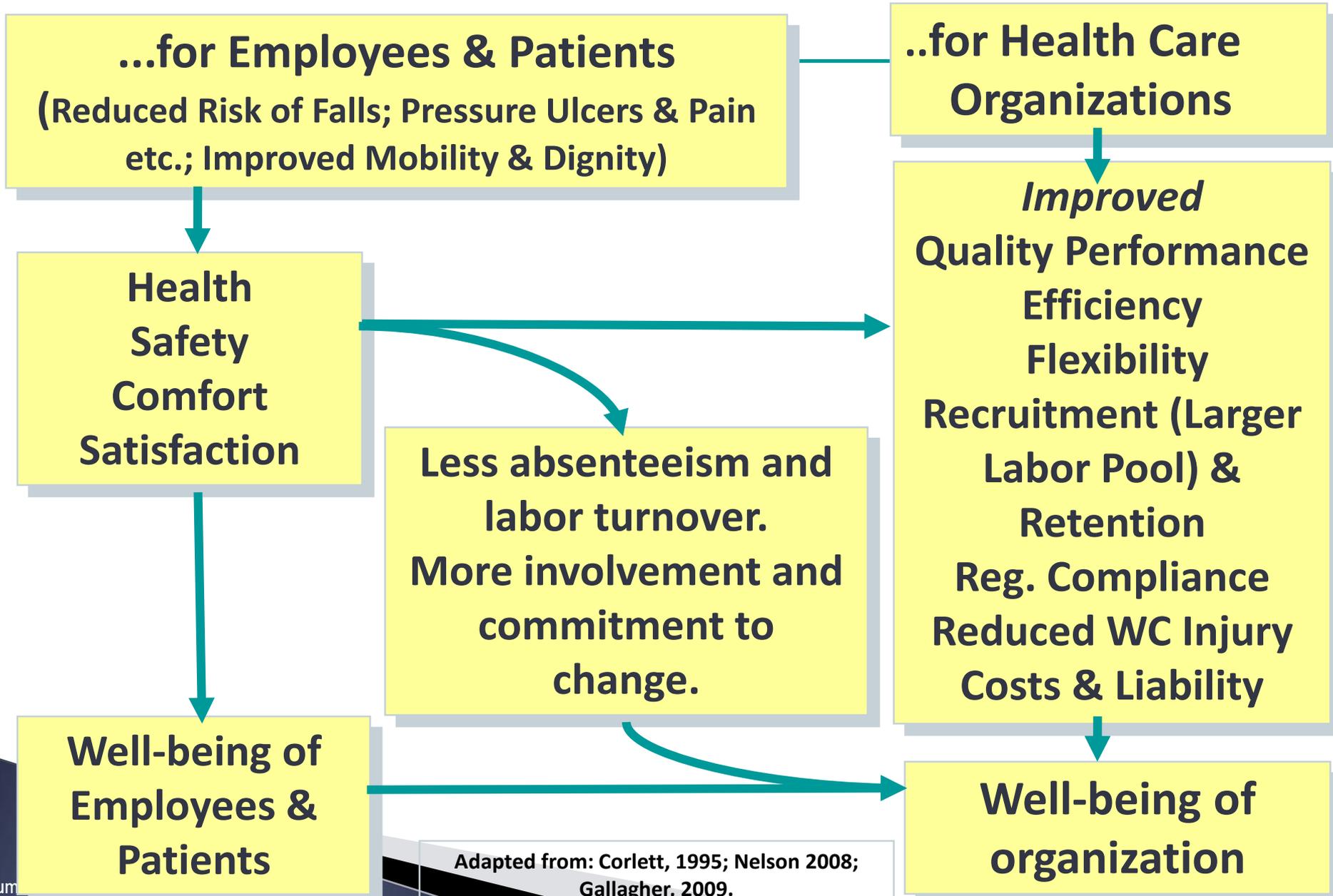
Conducted Jan 08-Jan 09 inclusive at discharge (SPHM program implementation Aug 1, 08)

1. Were you lifted/moved with equipment?
2. Did you feel safe
3. Did you feel comfortable?

98% of patients who were lifted/moved with equipment reported it felt safe and comfortable.

(Enos, 2011)

Benefits of a SPHM Program (Operational Gains)



Adapted from: Corlett, 1995; Nelson 2008; Gallagher, 2009.

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