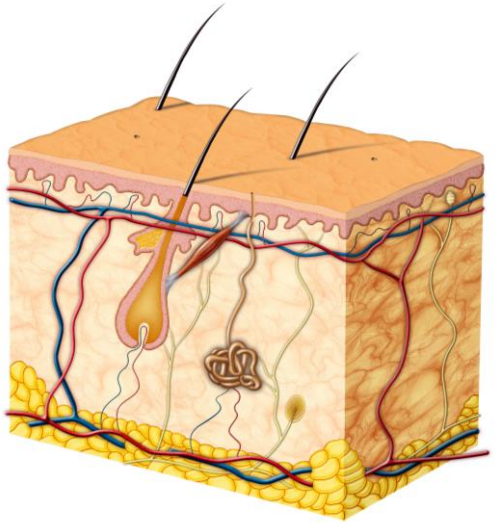


The Forgotten Organ: Evidence Based Strategies of Pressure Injury Prevention in Acutely Ill Patients

Kathleen Vollman
ADVANCING NURSING THROUGH KNOWLEDGE & INNOVATION

Kathleen M. Vollman MSN, RN, CCNS, FCCM, FCNS, FAAN
Clinical Nurse Specialist / Educator / Consultant
ADVANCING NURSING
kvollman@comcast.net
Northville, Michigan
www.vollman.com

26567B

Disclosures

- Consultant-Michigan Hospital Association Keystone Center
- Subject matter expert CAUTI, CLABSI, HAPI, Safety culture
- Consultant and speaker bureau
  - Stryker's Sage business
  - Baxter healthcare
  - Potrero Medical

Objectives

- Compare and contrast narrow and expanded views of nurse patient advocacy and identify key basics nursing care practices that prevent harm
- Outline evidence-based prevention strategies for incontinence-associated dermatitis, shear reduction, and addressing pressure injury risk factors
- Describe key care process changes that lead to a successful reduction of skin injury and address healthcare worker injury

Notes on Hospitals: 1859

"It may seem a strange principle to enunciate as the very first requirement in a hospital that it should do the sick no harm."

- Florence Nightingale

Advocacy = Safety

Protect The Patient From Bad Things Happening on Your Watch

Implement
Interventional Patient Hygiene

INTERVENTIONAL PATIENT HYGIENE

Hand Hygiene

- Hygiene…the science and practice of the establishment and maintenance of health
- Interventional Patient Hygiene….nursing action plan directly focused on fortifying the patients host defense through proactive use of evidence-based hygiene care strategies

Catheter Care

Bathing & Assessment

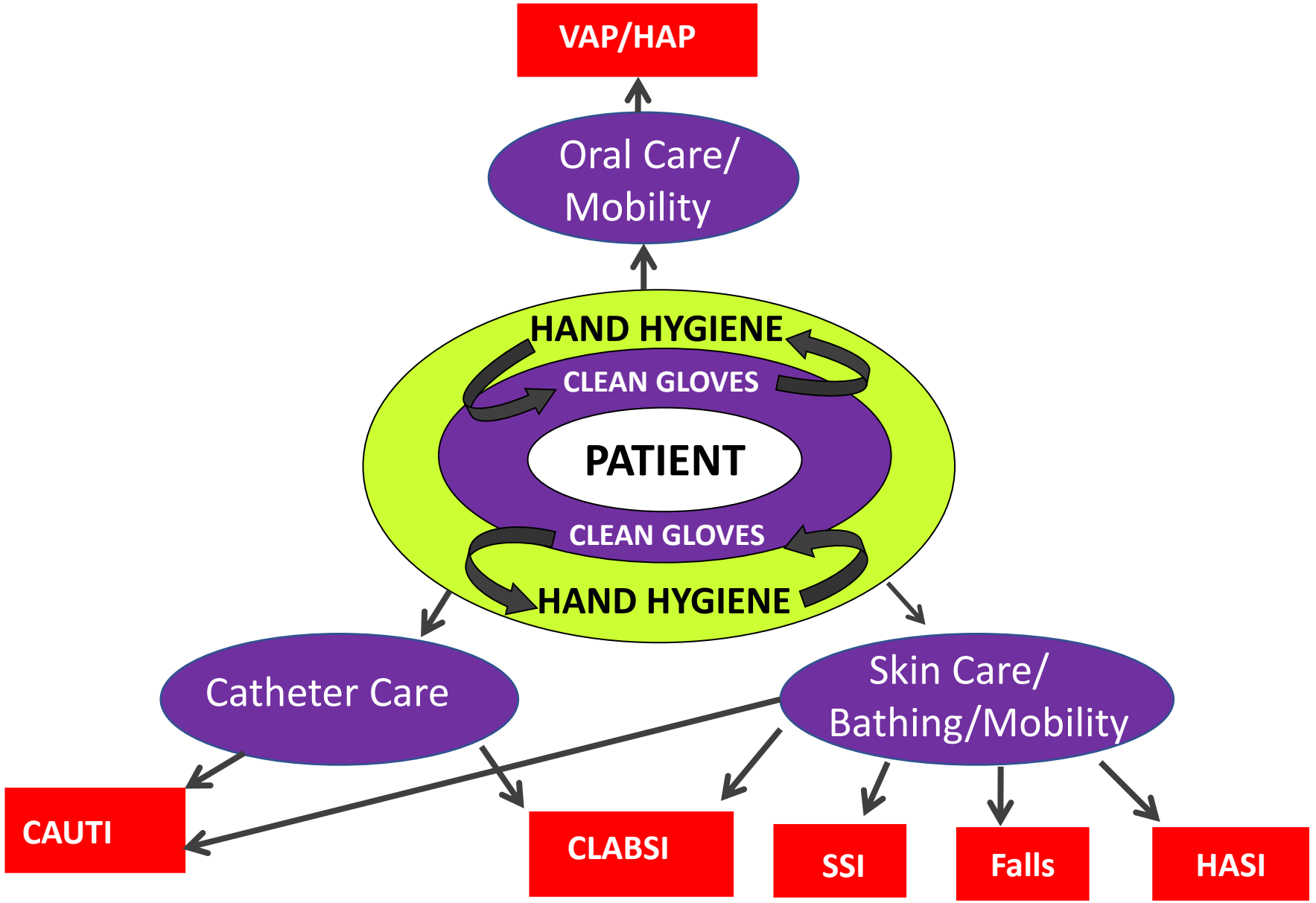
Comprehensive Oral Care Plan

Incontinence Associated Dermatitis Prevention Program

Pressure Ulcer Prevention

Vollman KM. Intensive Crit Care Nurs, 2013;22(4): 152-154

INTERVENTIONAL PATIENT HYGIENE(IPH)



Vollman KM. Intensive Crit Care Nurs, 2013;22(4): 152-154

Do the staff you work with see pressure injury harm the same way they view CAUTI/CLABSI harm?

Immediate Huddle Learn from a Defect

Learning from Defect: Pressure Injury Facility Acquired

Date:_____

Attendees:_____

sticker

Instructions:

When HAPI is identified, staff nurse to notify unit manager. Manager will notify team of super huddle time. Super huddle to include any staff nurses and PSTs available, wound care nurse, CNS, CL, and NEC if available, and respiratory if applicable. If this occurs on nights, huddle can be done at night with any staff available, and then info passed on to manager to follow up with wound care, CL, CNS, NEC.

Manager to complete the form AT the BEDSIDE with input from everyone present. Once Section I has been completed, clinical leader (or manager designee) will complete Section II. Return completed form to Quality Department. Manager to keep a copy and have available for review at Pressure Injury Task force.

*if manager is off, contact whomever is covering, i.e. other manager or clinical leader.

Section I:

Location of the Pressure Injury: Unit_____ Date of Pressure Injury:_____

What happened? (brief description from RN caring for patient)

1. Anatomical location of the HAPI:_____
2. LOS when discovered: _____
3. Stage when discovered: _____
4. Was the patient transferred prior to discovery? ☐ yes ☐ no
5. Was there an OR procedure within 72 hours of discovery? ☐ yes ☐ no
6. Time in ED from admit order to admission to floor > 8 hours? ☐ yes ☐ no

Why did it happen?

Wound Nurse Comments:

Risk:

7. What risks were identified? ☐ Immobility ☐ Shear ☐ Medical device ☐ HD patient ☐ Moisture/incontinence ☐ hemodynamic instability with turning ☐ nutrition risk

Skin Assessment:

8. Redness was recognized before the skin broke down. ☐ Yes ☐ no ☐ N/A

Pressure/Shear and Patient Movement: complete on how patient is currently positioned

9. If the patient is in bed, what position are they currently in? ☐ back ☐ Rt side lying ☐ Lt side lying ☐ prone ☐ N/A
10. Immobile patients are moved using lifting equipment to minimize sheer and caregiver injury? ☐ Yes ☐ no ☐ N/A -not immobile
11. Heels are floated with pillows if temporary (<8hrs)? ☐ Yes ☐ no ☐ N/A
12. Heel floated with a device if >8 hrs of immobility? ☐ Yes ☐ no ☐ N/A
13. Sacral foam dressing in place? ☐ Yes ☐ no
14. HOB greater than 30 degrees? ☐ Yes ☐ no

Incontinence/Moisture

Rev. 7.11.2019 LMC

15. Urine and fecal containment per policy if patient is incontinent? ☐ Yes ☐ no ☐ N/A
16. Was barrier cream in room if patient is incontinent? ☐ Yes ☐ no ☐ N/A

Support Surface:

17. At risk patient is on appropriate surface? ☐ Yes ☐ no ☐ N/A

Medical Devices (check all that apply) (If none check proceed to the questions in a box)

☐ Trach ☐ noninvasive mask ☐ oxygen N/C ☐ cervical collar ☐ arterial line
☐ Endotracheal tube ☐ Endo Tube Holder ☐ orthotics ☐ cooling blanket ☐ SCD/Stocking
☐ Immobilizer/splint/arm board

18. Were protective measures taken to prevent injury? (Foam padding, protective dressing, repositioning? ☐ Yes ☐ No ☐ N/A

What happened to cause the defect?	What prevented it from being worse?

What can we do to prevent this from happening to someone else?

Action Plan	Responsible person	Targeted date	Evaluation Plan: How will we know risk is reduced?

With whom shall we share our learning? (communication plan)

Who	When	How	Follow up

Section II:

Additional Data to be completed when able:

1. Was Braden risk identified? yes ☐ no ☐
2. 4 eyes head to toe assessment performed on admission? ☐ Yes ☐ no
3. 4 eyes head to toe assessment performed per shift (last 24hrs)? ☐ Yes ☐ no
4. 4 eyes assessment of skin underneath device done q 12 hrs by RT.? ☐ Yes ☐ no ☐ N/A
5. Patient pressures redistributed and documented q 2? ☐ Yes ☐ no
6. Was patient placed on a specialty surface in OR (>/4hrs ☐ Yes ☐ no ☐ N/A
7. Was patient placed on specialty surface in ER? (>/4hrs) ☐ Yes ☐ no ☐ N/A
8. Was a nutritional consult placed/completed in patients at high risk? ☐ Yes ☐ no ☐ N/A
9. Document significant co-morbidities: _____
10. Doctor notified of the pressure injury: ☐ yes ☐ No

Rev. 7.11.2019 LMC

Pressure Ulcer Prevention

Pressure Injury Impact

- HAPU are the 4th most common preventable medical error in the United States[1]
- 2.5 million patients are treated for HAPU annually in acute care[1]
- Acute care: 0-12%, critical care: 3.3% to 53.4% (International Guidelines)[2]
- Most severe pressure ulcer: sacrum (44.8%) or the heels (24.2%) [1,2]
- Cost Stage 1-2 $2,770.54, Stage 3-4 $71,000 to $127,000[3,4]
  - 17,000 lawsuits are related to pressure ulcers annually
  - Targeted pressure injury prevention to patients with low Braden scores < 15 vs standard care does save money and results in better quality per life year (QALYs)
- 60,000 persons die from pressure ulcer complications each year in US/Pain & Suffering[1]
- National healthcare cost $26.8 billion per year in US[3,4]

1. http://www.ahrq.gov/professionals/systems/hospital/pressureulcertoolkit/putool1.html#11
2. European Pressure Ulcer Advisory Panel/ National Pressure Injury Advisory Panel, and Pan Pacific Pressure Injury Alliance. Prevention & treatment of pressure ulcers/injuries Clinical Practice Guideline. Emily Haesler (Ed).EPUAP/NPIAP/PPPIA. 2019
3. Padula WV, et al. *Int Wound J*. 2019;16(3):634-640.
4. Padula WV. Et al BMJ Qual Safety, 2019;28:132-41

Incidence of Pressure Injuries in Critical Care

- 22 studies, 10 reported cumulative incidence of PI
- Incidence: 10-25.9%
- Prevalence: 16.9-23.8%
- Excluding Stage 1 Incidence: 0.0 to 23.8%
- Location: 5 studies (406 patients)
  - Sacrum: 26.9-48%
  - Buttock: 4.1-46%
  - Heel: 18.5-38.9%
  - Hips: 10.9-15.7%
  - Ears: 4.3-19.7%
  - Shoulders: 0.0-40.2%

1 out of every 4-5 patients in the ICU will develop a PI

Chaboyer WP, et al. Crit Care Med, 2018 Nov;46(11):e1074-e1081

Clarification of Definitions:

- Pressure Injury to replace Pressure Ulcer
- Accurately describes pressure injuries of both intact and ulcerated skin

Stage I and Deep Tissue Injury (DTI) describe intact skin

Stage II through IV describe open ulcers

PRESSURE INJURY

Top-Down vs Bottom-Up Tissue Damage

Top-Down

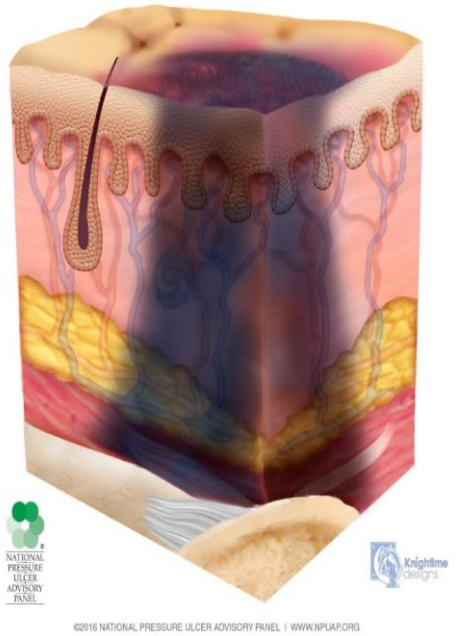
Stage 1, 2

Bottom-Up

- Stage 3, 4, Unstageable, DTI

Wound Ostomy and Continence Nurses Society. (2016) Bottom-Up (Pressure Shear) Injuries. In D. Doughty, and L. McNichol (Ed). *Core Curriculum Wound Management*. (pp. 313-332). Philadelphia, Wolters Kluwer.

Deep Tissue Pressure Injury



Persistent non-blanchable deep red, maroon or purple discoloration

Intact or non-intact skin with localized area of persistent non-blanchable deep red, maroon, purple discoloration or epidermal separation revealing a dark wound bed or blood filled blister

Moisture Injury: Incontinence-Associated Dermatitis

- Inflammatory response to the injury of the water-protein-lipid matrix of the skin[1]
  - Caused from prolonged exposure to urinary and fecal incontinence
  - Contributing factors of friction and secondary infection[2]
- Top-down injury[1,2]
- Physical signs on the perineum & buttocks[1]
  - Erythema, swelling, oozing, vesiculation, crusting, and scaling
- Skin breaks 4x more easily with excess moisture than dry skin[3]

1. Doughty D, et al. JWOCN. 2012;39(3):303-315
2. Beele H, et al. Drugs Aging 2018;35:1-10
3. Kottner J, et al. Clin Biomech, 2018;59:62-70

IAD: Multistate Epidemiology Study

- 5,342 patients in 189 acute care facilities in 36 states
- Prevalence study
  - To measure the prevalence of IAD, describe clinical characteristics of IAD, and analyze the relationship between IAD and prevalence of sacral/coccygeal pressure ulcers
- Results: 2,492 patients incontinent (46.6%)
  - 57% both FI and UI, 27% FI, 15% UI
  - 21.3% IAD rate overall/14% also had fungal rash
  - 45.7% in incontinent patients
    - 52.3% mild
    - 27.9% moderate
    - 9.2% severe
  - 73% was facility-acquired
  - ICU a 36% rate
  - IAD alone and in combination with immobility statistically associated with FAPI

Gray M. Giuliana K. JWOCN. 2018;45(1):63-67

GLOBIAD
The Ghent Global Categorization tool

Category 1: Persistent redness

1A - Persistent redness without clinical signs of infection

Critical criterion

- Persistent redness
  A variety of tones of redness may be present.
  Patients with darker skin tones, the skin may be paler or darker than normal, or purple in colour.

Additional criteria

- Marked areas or discolouration from a previous (healed) skin defect
- Shiny appearance of the skin
- Macerated skin
- Intact vesicles and/or bullae
- Skin may feel tense or swollen at palpation
- Burning, tingling, itching or pain

1A

1B - Persistent redness with clinical signs of infection

Critical criteria

- Persistent redness
  A variety of tones of redness may be present. Patients with darker skin tones, the skin may be paler or darker than normal, or purple in colour.
- Signs of infection
  Such as white scaling of the skin (suggesting a fungal infection) or satellite lesions (pustules surrounding the lesion, suggesting a Candida albicans fungal infection).

Additional criteria

- Marked areas or discolouration from a previous (healed) skin defect
- Shiny appearance of the skin
- Macerated skin
- Intact vesicles and/or bullae
- The skin may feel tense or swollen at palpation
- Burning, tingling, itching or pain

1B

Category 2: Skin loss

2A - Skin loss without clinical signs of infection

Critical criterion

- Skin loss
  Skin loss may present as skin erosion (may result from damaged/eroded vesicles or bullae), denudation or excoriation.
  The skin damage pattern may be diffuse.

Additional criteria

- Persistent redness
  A variety of tones of redness may be present. Patients with darker skin tones, the skin may be paler or darker than normal, or purple in colour
- Marked areas or discolouration from a previous (healed) skin defect
- Shiny appearance of the skin
- Macerated skin
- Intact vesicles and/or bullae
- Skin may feel tense or swollen at palpation
- Burning, tingling, itching or pain

2A

2B - Skin loss with clinical signs of infection

Critical criteria

- Skin loss
  Skin loss may present as skin erosion (may result from damaged/eroded vesicles or bullae), denudation or excoriation.
  The skin damage pattern may be diffuse.
- Signs of infection
  Such as white scaling of the skin (suggesting a fungal infection) or satellite lesions (pustules surrounding the lesion, suggesting a Candida albicans fungal infection), slough visible in the wound bed (yellow/brown/greyish), green appearance within the wound bed (suggesting a bacterial infection with Pseudomonas aeruginosa), excessive exudate levels, purulent exudate (pus) or a shiny appearance of the wound bed.

Additional criteria

- Persistent redness
  A variety of tones of redness may be present. Patients with darker skin tones, the skin may be paler or darker than normal, or purple in colour
- Marked areas or discolouration from a previous (healed) skin defect
- Shiny appearance of the skin
- Macerated skin
- Intact vesicles and/or bullae
- Skin may feel tense or swollen at palpation
- Burning, tingling, itching or pain

2B

Beeckman D. et al. The Ghent Global IAD Categorisation Tool (GLOBIAD). Skin Integrity Research Group - Ghent University 2017. Available to download from www.UCVVGent.be

Identify Patients at High Risk

Risk Assessment on Admission, Daily, Change in Patient Condition[1,2]

- Use standard EBP risk assessment tool
- Research has shown risk assessment tools are more accurate than RN assessment alone

Epidemiological study risk factors	Braden Scale[146]	Norton Scale[147]	Waterlow Score[148]	Cubbin-Jackson Scale[149] (critically ill individuals)	SCIPUS[150] (individuals with SCI)	Braden Q Scale[151] (children)
Activity and mobility limitations	• Mobility* • Activity* • Friction-shear*	• Mobility* • Activity*	Mobility	• Mobility • Hygiene	• Mobility • Level of activity • Complete SCI • Autonomic dysreflexia/ severe spasticity	• Mobility* • Activity* Friction-shear*
Skin status	**Not included**	**Not included**	Skin type *(in visual areas, partial measure of skin status)*	General skin condition	**Not included**	**Not included**
Diabetes	**Not included**	**Not included**	**Not included**	**Not included**	Blood glucose levels	**Not included**
Perfusion and oxygenation	**Not included**	**Not included**	Special Risk *(partial measure of perfusion)*	• Oxygen requirements • Respiration • Hemodynamics	• Tobacco use • Cardiac disease	• Tissue perfusion oxygenation
Poor nutritional status	Nutrition	• Food intake • Fluid intake (modified scale)	• Appetite • Build (weight for height)	• Weight/tissue viability • Nutrition	**Not included**	Nutrition
Increased skin moisture	Moisture*	Incontinence	Continence	Incontinence	Urine incontinence or constant moistness	Moisture*
Increased body temperature	**Not included**	**Not included**	**Not included**	**Not included**	**Not included**	**Not included**
Advanced age	**Not included**	**Not included**	Gender/Age	Age	Age	**Not included**
Sensory perception	Sensory perception*	**Not included**	Neurological Deficit	**Not included**	**Not included**	Sensory perception*
Abnormal laboratory blood results	**Not included**	Not included	Not included	Not included	• Albumin • Hematocrit	• **Not included**
General health status	Not included	• Physical condition • Mental condition*	• Major Surgery/Trauma • Medications	• Mental condition • Past medical condition	• Respiratory disease • Renal disease • Impaired cognitive function	• **Not included**

1. Garcia-Fernandez FP, et al. JWOCN, 2014:41(1):24-34
2. European Pressure Ulcer Advisory Panel, National Pressure Injury Advisory Panel, and Pan Pacific Pressure Injury Alliance. Prevention & treatment of pressure ulcers/injuries :Clinical Practice Guideline. Emily Haesler (Ed).EPUAP/NPIAP/PPPIA. 2019

Picking the Right Scale

Scales (cut-off)	Sensitivity Median (range)	Specificity Median (range)	Positive likelihood ratio	Negative likelihood ratio	AUROC Median (range)	Relative Risk (95% CI)
Braden (≤ 18)[118,135]	0.74[a] (0.33 to 1)	0.68[a] (0.34 to 0.86)	2.31[a]	0.38[a]	0.77[b] (0.55 to 0.88)	4.26[f] (3.27 to 5.55)
Norton (≤ 14)[118,135]	0.75[c] (0 to 0.89)	0.68[c] (0.59 to 0.95)	2.34[c]	0.37[c]	0.74[c] (0.56 to 0.75)	3.69[g] (2.64 to 5.16)
Waterlow (≥ 10)[118,135]	1.00, 0.88[d]	0.13, 0.29[d]	1.15, 1. 24[d]	0.0, 0.41[d]	0.61[e] (0.54 to 0.66)	2.66[h] (1.76 to 4.01)
Cubbin-Jackson (≤ 24)[135,145]	0.72[j]	0.68[j]	—	—	0.763[j]	8.63[k] (3.02 to 24.66)
SCIPUS (≥ 8)[130]	0.85[m]	0.38[m]	1.4[m]	—	0.64[m] (0.59 to 0.70)	—
Braden Q (≤ 13)[152]	0.86[p] (0.76 to 0.96)	0.59[p] (0.55 to 0.63)	2.09[p] (0.95 to4.58)	—	0.72[p] (0.76 to 0.78)	—

[a]16 studies, n=5,462 [b]7 studies, n=4,811 [c]5 studies, n=2,809
[d]2 studies, n=419 [e]4 studies, n=2,559 [f]31 studies, n=7,137
[g]15 studies, n=4,935 [h]12 studies, n=2,408 [j] 1 study, n=829
[k] 2 studies, n=151 [m] 1 study (n=759) [p] 1 study, n=625

European Pressure Ulcer Advisory Panel, National Pressure Injury Advisory Panel, and Pan Pacific Pressure Injury Alliance. Prevention & treatment of pressure ulcers/injuries :Clinical Practice Guideline. Emily Haesler (Ed).EPUAP/NPIAP/PPPIA. 2019

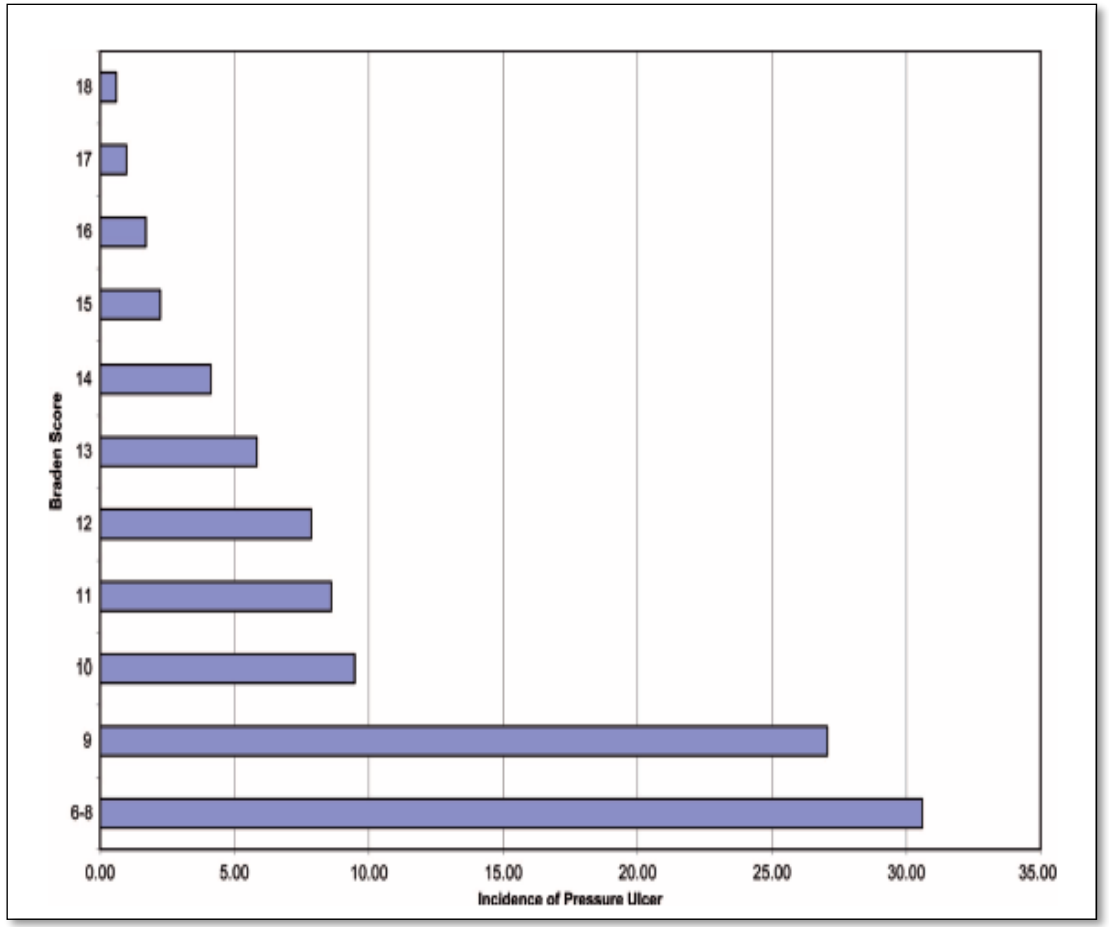
It's About the Sub-Scales

- Retrospective cohort analysis of 12,566 adult patients in progressive & ICU settings for yr. 2007
- Identifying patients with HAPU Stage 2-4
- Data extracted: Demographic, Braden score, Braden subscales on admission, LOS, ICU LOS, presence of Acute respiratory and renal failure
- Calculated time to event, # of HAPU's
- Results:
  - 3.3% developed a HAPU
  - Total Braden score predictive (C=.71)
  - Subscales predictive (C=.83)

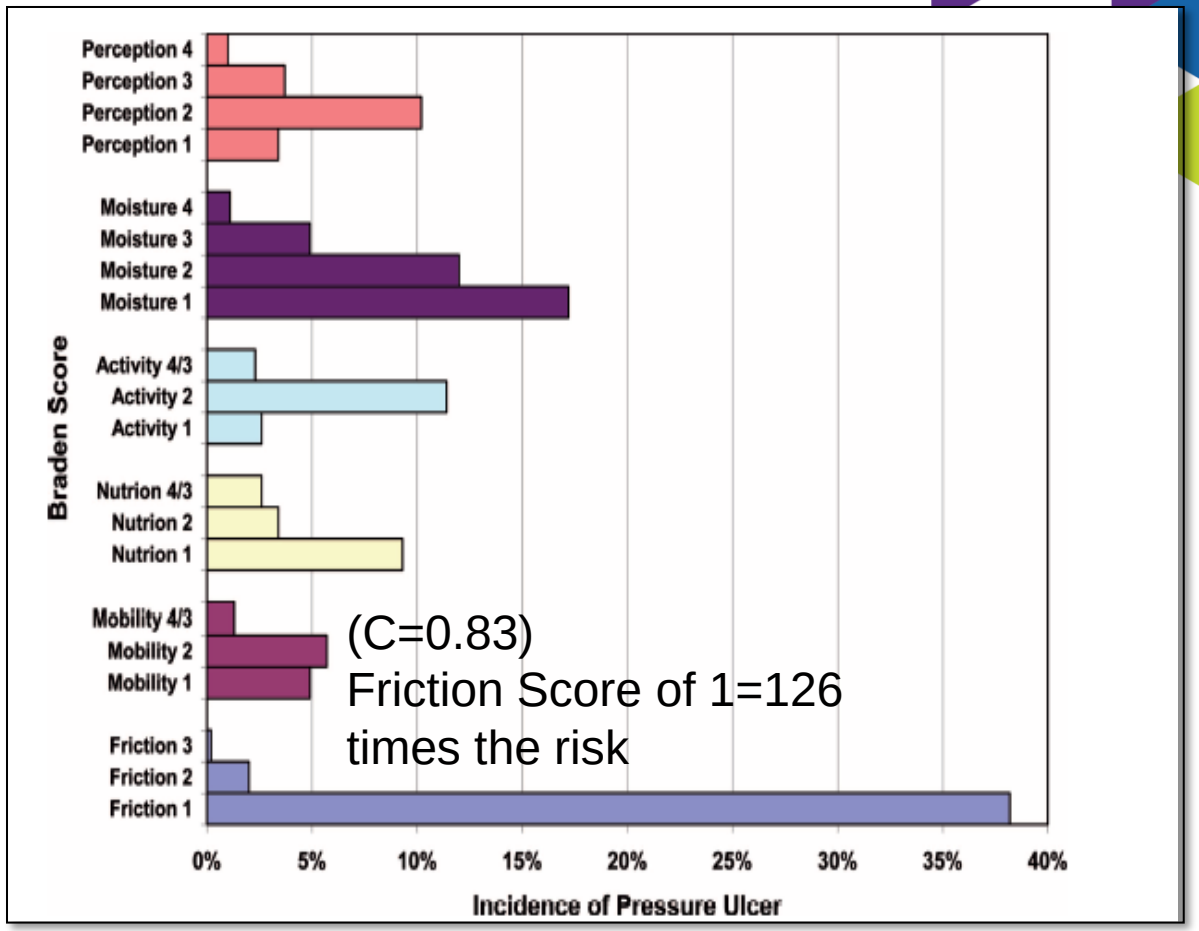
Tescher AN, et al. J WOCN. 2012;39(3):282-291

\

Braden Score



Braden Sub-Scales



Multivariate model included 5 Braden subscales, surgery and acute respiratory failure
C=0.91 (Mobility, Activity and sensory perception more predictive when combined with moisture or shear and friction)

Vasopressors/Pressure Injury

Cox J, et al Am J Crit Care, 2015;24(8):501-510

- Retrospective correlation design
- 306 medical surgical and CV ICU patients who receive vasopressors
- Examine the type, dose and duration of vasopressor agents and PU development

Results

- 13% PI rate
- MV > 72 hours 23x more likely to develop a PI
- Receiving 2 vasopressor (Norepi & vasopressin) significant

Significant Predictors of PI Development

Variable	B	SE	Wald	*P*	Exp (B)	95% CI
Cardiac arrest	1.359	0.605	3.831	.05	3.894	0.998-15.188
Mechanical ventilation>72 hours	3.161	0.664	22.686	<.001	23.604	6.427-86.668
Hours of MAP<60 mm Hg while receiving vasopressors	0.092	0.037	6.199	.01	1.096	1.020-1.178
Use of vasopressin	1.572	0.542	8.423	.004	4.816	1.666-13.925
Cardiac diagnosis at ICU admission	-3.360	1.577	4.539	.03	0.035	0.002-0.764

Abbreviations: ICU, intensive care unit; MAP, mean arterial pressure.
[a] Nagelkerke R^2 =0.571; Hosmer and Lemeshow test: χ^2=5. 3; *df*=8; *P*=.73.

Addition of a second agent

IAD Assessment Tool

Hospital Survey on Incontinence & Related Skin Injury

Unit / Work Area

Instructions:
This survey is limited to inpatient care areas and excludes the following:
Labor & Delivery, Obstetrics, Nursery, Emergency Department & Operating Room.
Note: Complete ONLY ONE form for each unit.

Date of Survey: _____/_____/_____ **Unit:** _____

Please check the unit specialty that best describes the care provided.

___ Burn
___ Cardiac Surgery
___ CCU - General
___ CCU - Interventional
___ ICU - Cardiovascular
___ ICU - General
___ ICU - Medical
___ ICU - Neuro
___ ICU - Neonatal
___ ICU - Pediatric
___ ICU - Surgical
___ LTAC
___ LTC
___ Medical
___ Med/Surg
___ Neurology
___ Oncology
___ Orthopedic
___ Other
___ PACU
___ Pediatrics
___ Psychiatric - General
___ Psychiatric - Geriatric
___ Rehabilitation
___ Renal/Urology
___ Respiratory/Pulmonary
___ SNF/Transitional Care
___ Skilled Care (LTC)
___ Stepdown/Transition
___ Surgical
___ Telemetry - General
___ Telemetry - Medicine
___ Telemetry - Surgical
___ Wound Care

Patient Census of Unit at Time of Survey: _____

Incontinence Collection Products:

Check all that apply to a specific unit/work area.

___Pad/Chux
___Reusable cloth
___Disposable plastic-backed
___Disposable air flow-backed
___Diaper/Brief
___Reusable cloth
___Disposable plastic-backed
___Disposable air flow-backed
___ Collection Device

Incontinence Cleanup & Skin Protection:

Check all product categories that are available in a specific unit/work area.

Cleansing:
___ Soap/Water/Basin
___ Peri-Wash (spray)
___ Cleansing Foam
___ Washcloth *(circle type)*
___ reusable / disposable
___ Premoistened Wipe
(thin, not washcloth)

Barrier Protection (Tubes, Bottles or Sprays):
Must contain one of the "Active Ingredients" listed below
___ Petroleum
___ Zinc Oxide
___ Dimethicone
___ Liquid Film Barrier
___ Other _____

Moisturizers:
___ Lotion
___ Cream
___ Ointment

All-in-one products:
Must combine cleansing, moisturizing & barrier protection
___ Barrier cloth with skin protectant

sage10141C

Patient Information

Patient Unit: _____ *(from Unit/Work Area data collection form)*

Section 1 - Complete for all patients surveyed

Demographic Information:

Patient Gender:
___ Male
___ Female

Patient Age Group:
___ 0 to 12 months
___ 1 to 3 yrs
___ 4 to 19 yrs
___ 20 to 29 yrs
___ 30 to 39 yrs
___ 40 to 49 yrs
___ 50 to 59 yrs
___ 60 to 69 yrs
___ 70 to 79 yrs
___ 80 + yrs

Continence Status:

Incontinence = inability to control the flow of urine and/or stool in the preceding 24 hours

Check all that apply

Urine:
___ Continent
Note: A patient with a Foley Catheter is deemed "incontinent."
___ Patient has Foley
___ Incontinent

Stool:
___ Continent
Note: A patient with an indwelling fecal collection device is deemed "incontinent."
___ Incontinent
___ Liquid or semi-liquid stools
___ Frequency _____
___ Patient has indwelling fecal collection device
___ Patient has external fecal collection device

Section 2 - Complete only for incontinent patients

Contributing Factors & Co-Morbidities

Check all that apply

___ Low albumin
___ Antibiotics _____
___ Clostridium difficile stool positive
___ Tube feeding
___ Braden Score
___ Mobility Score
___ Friction & Shear Score
___ Nutrition Score
___ Diabetic with recent hyperglycemia
___ Obesity with deep groin/low abdomen skin folds
___ Immunocompromised
___ Other _____

Incontinence Cleanup & Skin Protection:

Check products used on patient

Cleansing:
___ Soap/Water/Basin
___ Peri-Wash (spray)
___ Cleansing Foam
___ Washcloth *(circle type)*
___ reusable / disposable
___ Premoistened Wipe
(thin, not washcloth)

Barrier Protection: (Tubes, Bottles or Sprays)
Must contain one of the "Active Ingredients" listed below
___ Petroleum
___ Zinc Oxide
___ Dimethicone
___ Liquid Film Barrier
___ Other _____

Moisturizers:
___ Lotion
___ Cream
___ Ointment

All-in-one products:
Must combine cleansing, moisturizing & barrier protection
___ Barrier Cloth with skin protectant

Section 3
Complete only for incontinent patients with rash/redness of buttock or perineal skin

Perineal Skin Injury

Check all that apply

Condition:
___ Incontinence Associated Dermatitis
___ Red and dry
___ Red and weepy
___ Present on Admission
___ Pressure Ulcer *(sacral, coccyx or ischial)*
___ How many?
___ Stage(s) _____
___ Present on Admission
___ Fungal/yeast appearing rash
___ Other
___ Specify _____

Area Affected:
___ Buttocks
___ Coccyx
___ Rectal Area
___ Scrotum/Labia
___ Lower Abdomen
___ Upper Thighs
___ Gluteal cleft
___ Groins

Containment Products:
___ FlexiSeal Fecal Collection Device
___ Zassi Fecal Collection Device
___ Nasal Trumpet
___ Other _____

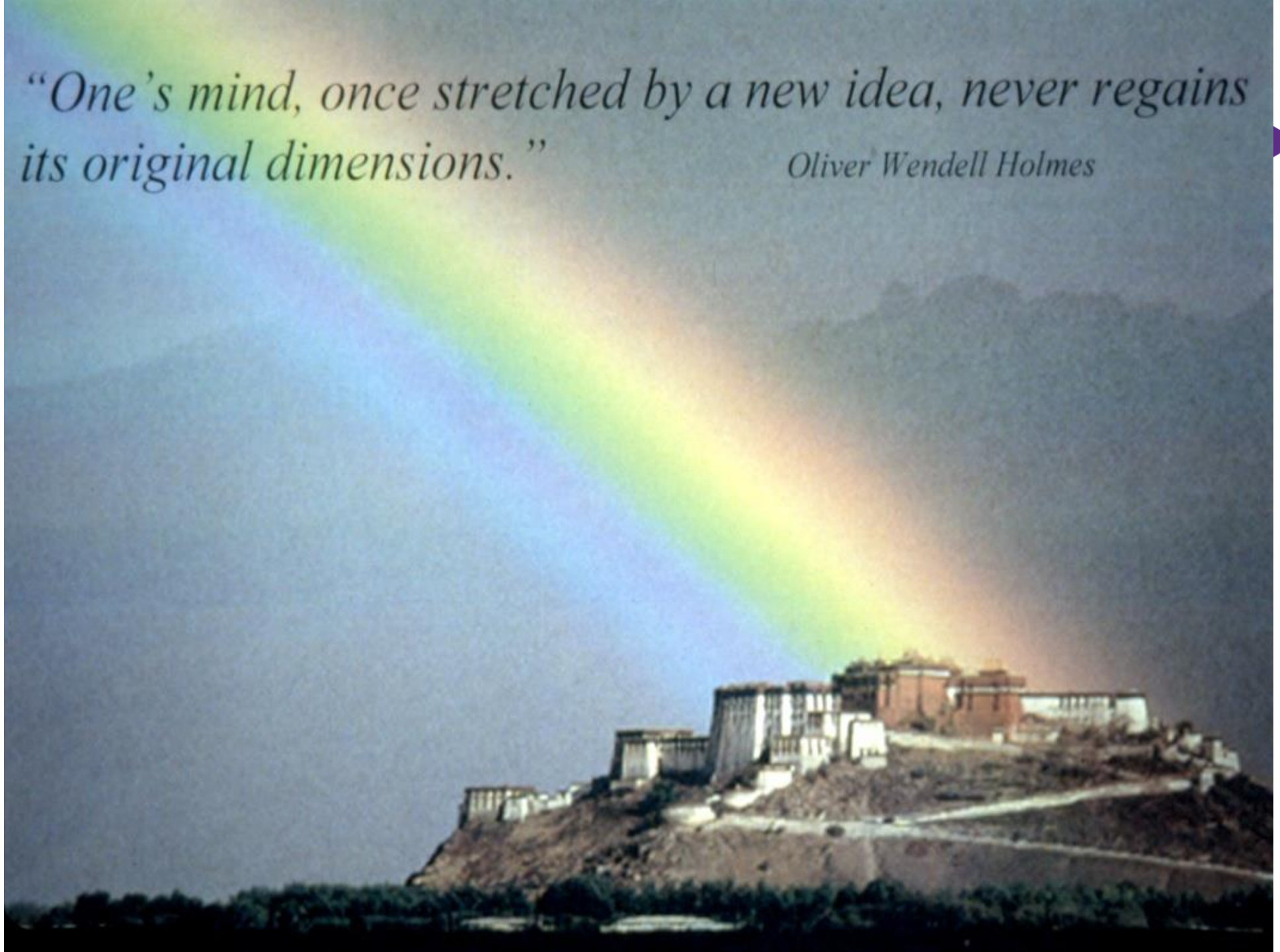
Y N Is there leakage around device at the anus?
Y N Was there an underpad present?

___ Reusable cloth
___ Disposable plastic-backed
___ Disposable air flow-backed

Y N Were incontinence briefs worn by patient?

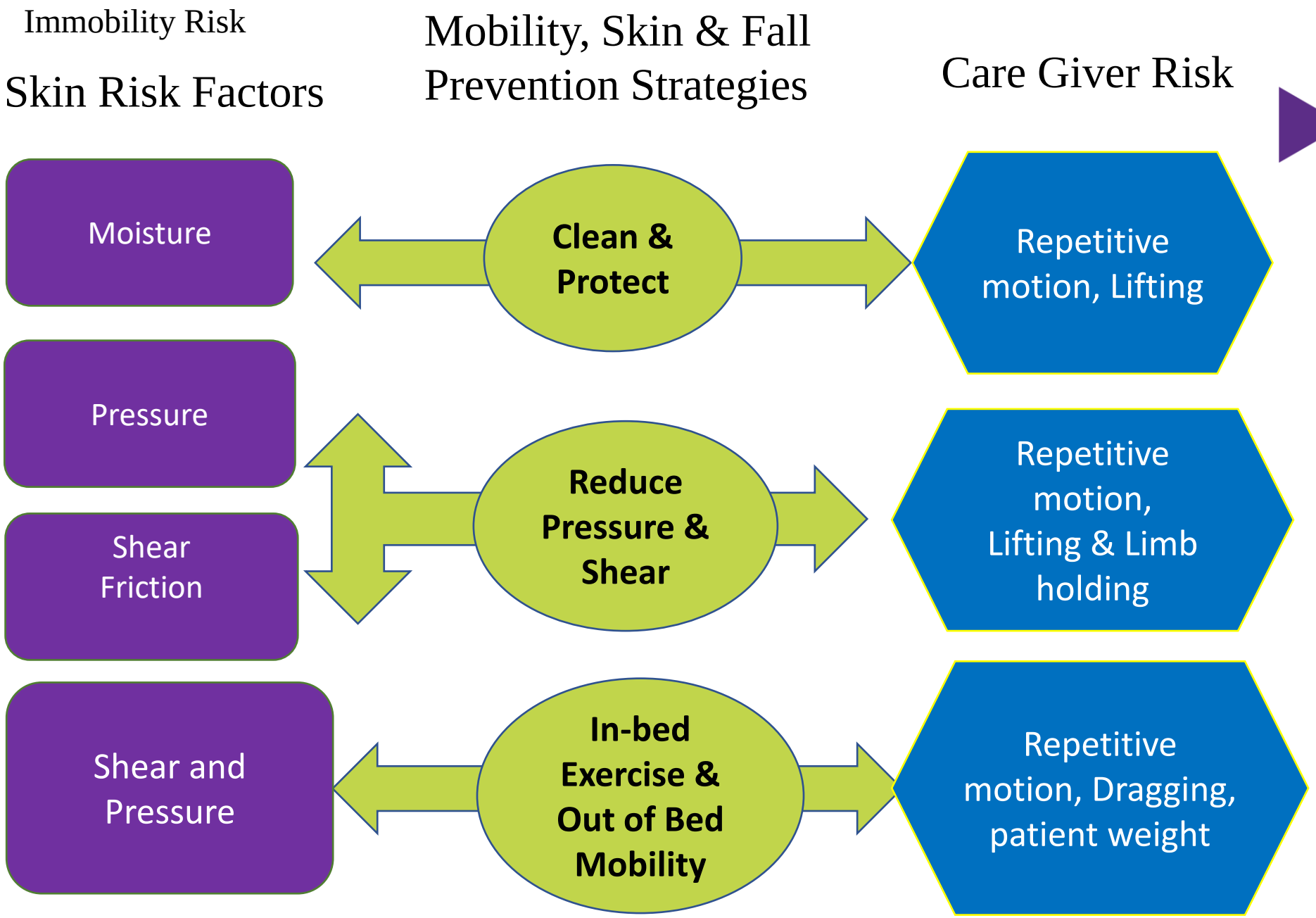
sage10141C

Junkin J, Selek JL. J WOCN 2007;34(3):260-269


"One's mind, once stretched by a new idea, never regains its original dimensions."
Oliver Wendell Holmes

The Goal: Patient & Caregiver Safety

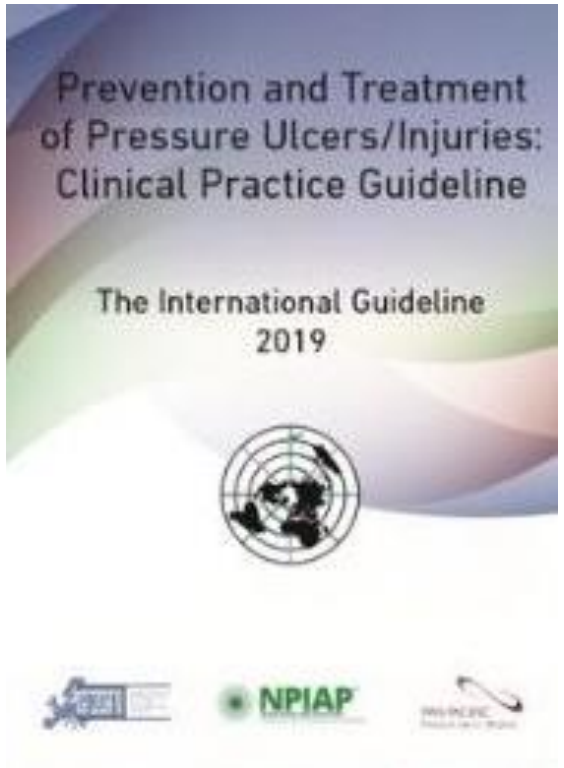
Immobility Risk



Pressure & Shear as a Risk Factor

EBP Recommendations to Achieve Offloading & Reduce Pressure

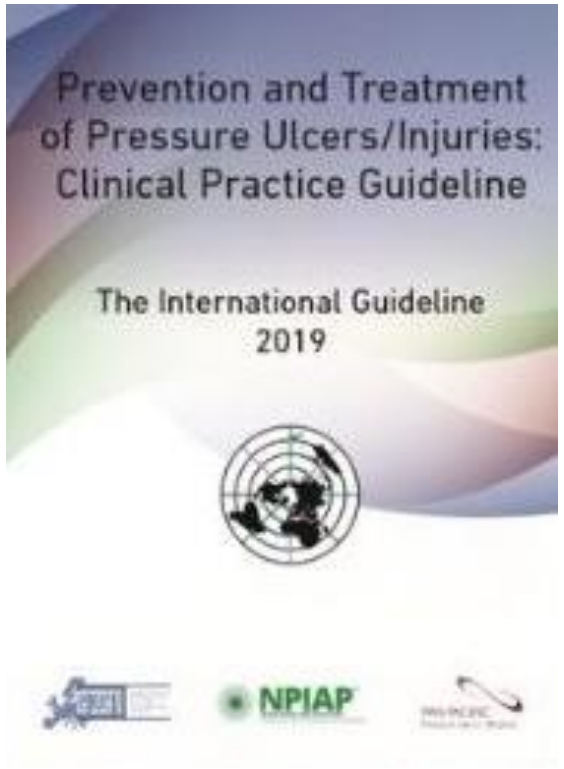
- Turn & reposition every (2) hours (avoid positioning patients on a pressure ulcer
  - Repositioning should be undertaken to reduce the duration & magnitude of pressure over vulnerable areas[4]
  - Consider right surface with right frequency[1,4]
  - Cushioning devices to maintain alignment /30° side-lying & prevent pressure on bony prominences[1,2]
    - Between pillows and wedges, the wedge system was more effective in reducing pressure in the sacral area (healthy subjects)
    - Between pillows and wedges, wedges maintain lateral position better
  - Assess whether actual offloading has occurred[4]
  - Use lifting device or other aids to reposition & make it easy to achieve the turn[4]



1. McNichol L, et al. J Wound Ostomy Continence Nurse, 2015;42(1):19-37.
2. Bush T, et al. WOCN, 2015;42(4):338-345
3. Kapp S, et al. Int Wound J. 2019;1-7
4. European Pressure Ulcer Advisory Panel, National Pressure Injury Advisory Panel, and Pan Pacific Pressure Injury Alliance. Prevention & treatment of pressure ulcers/injuries :Clinical Practice Guideline. Emily Haesler (Ed). EPUAP/NPIAP/PPPIA. 2019

EBP Recommendations to Reduce Shear & Friction

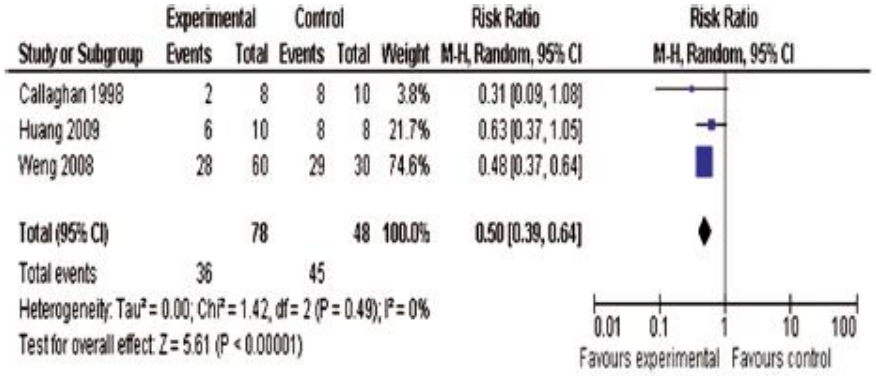
- Loose covers & increased immersion in the support medium increase contact area
- Prophylactic dressings: emerging science
- Reposition the individual to relieve or redistribute pressure using manual handling techniques and equipment that reduce shear & friction.
  - Mechanical lifts
  - Transfer sheets
  - 2-4 person lifts
  - Turn & assist features on beds
- Do not leave moving and handling equip underneath the patient, unless it is specifically designed for this purpose



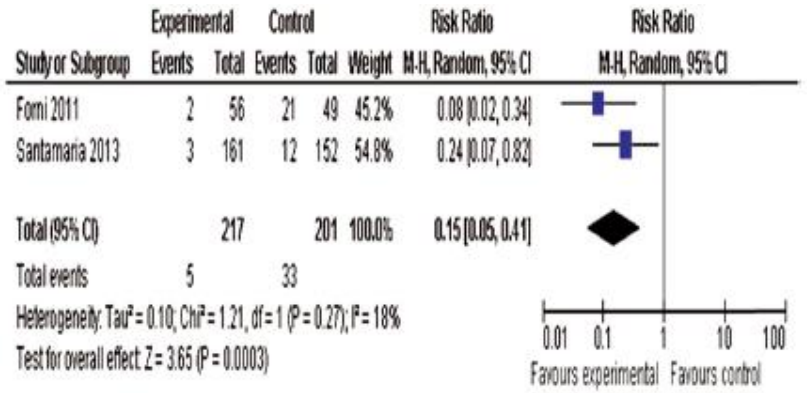
European Pressure Ulcer Advisory Panel/ National Pressure Injury Advisory Panel, and Pan Pacific Pressure Injury Alliance. Prevention & treatment of pressure ulcers/injuries :Clinical Practice Guideline. Emily Haesler (Ed).EPUAP/NPIAP/PPPIA. 2019

Systematic Review: Use of Prophylactic Dressing in Pressure Ulcer Prevention

- 21 studies met the criteria for review
- 2 RCTs, 9 had a comparator arm, 5 cohort studies, 1 within-subject design where prophylactic dressings were applied to one trochanter with the other trochanter dressing free



Evaluated nasal bridge device ulcer prevention

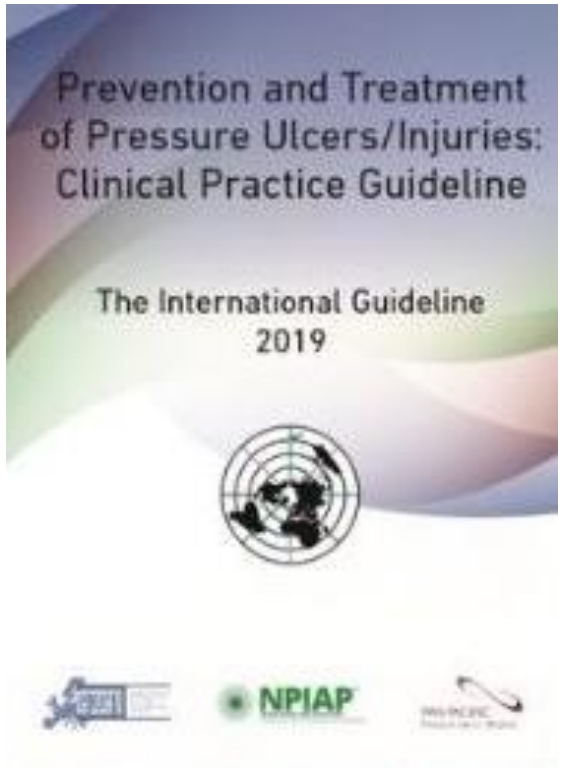


Evaluated sacral pressure ulcer prevention

Clark M, Black J, et al. Int Wound J 2014; 11:460–471

EBP Recommendations to Reduce Shear & Friction

- Loose covers & increased immersion in the support medium increase contact area
- Prophylactic dressings: emerging science
- Reposition the individual to relieve or redistribute pressure using manual handling techniques and equipment that reduce shear & friction.
  - Mechanical lifts
  - Transfer sheets
  - 2-4 person lifts
  - Turn & assist features on beds
- Do not leave moving and handling equip underneath the patient, unless it is specifically designed for this purpose



European Pressure Ulcer Advisory Panel/ National Pressure Injury Advisory Panel, and Pan Pacific Pressure Injury Alliance. Prevention & treatment of pressure ulcers/injuries :Clinical Practice Guideline. Emily Haesler (Ed).EPUAP/NPIAP/PPPIA. 2019

Specialty Bed

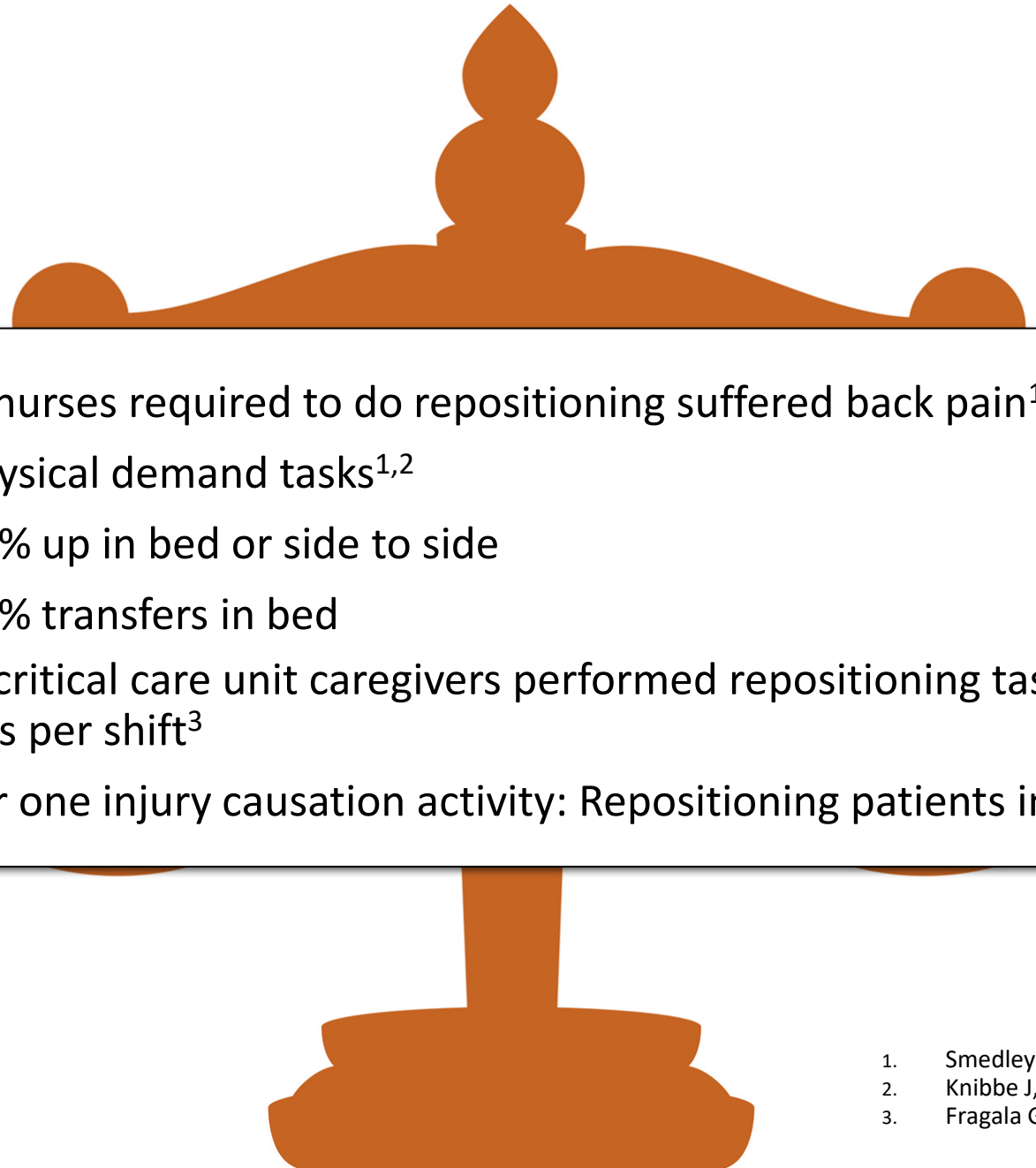
Disposable Glide /Slide Sheets

Breathable Shear Reduction Glide Sheet

Current Practice: Turn & Reposition

Draw Sheet/Pillows/Layers of Linen

Lift Device



- 50% of nurses required to do repositioning suffered back pain[1]
- High physical demand tasks[1,2]
  - 31.3% up in bed or side to side
  - 37.7% transfers in bed
- 40% of critical care unit caregivers performed repositioning tasks more than six times per shift[3]
- Number one injury causation activity: Repositioning patients in bed[3]

1. Smedley J, et al. J Occupation & Environmental Med,1995;51:160-163)
2. Knibbe J, et al. Ergonomics1996;39:186-198)
3. Fragala G. AAOHN, 2011;59:1-6

Oh, My Aching Back!

Back Pain Incidence in Nursing:

- 8 out of 10 nurses work despite experiencing musculoskeletal pain[1]
- 62% of nurses report concern regarding developing a disabling musculoskeletal injury[1]
- 56% of nurses report musculoskeletal pain is made worse by their job[1]
- Nursing assistants had the 2nd highest and RNs had the 6th highest number of musculoskeletal disorders in the U.S.[2]

1. American Nurses Association. (2013). ANA Health and Safety Survey. Retrieved from http://www.nursingworld.org/MainMenuCategories/WorkplaceSafety/Healthy-Work-Environment/Work-Environment/2011-HealthSafetySurvey.html 2. U.S. Department of Labor, Bureau of Labor Statistics. (2014). Table 16. Number, incidence rate, and median days away from work for nonfatal occupational injuries and illnesses involving days away from work and musculoskeletal disorders by selected worker occupation and ownership, 2014. Retrieved from http://www.bls.gov/news.release/osh2.t16.htm

Contributing Factors to Injury

- Healthcare is the only industry that considers 100 pounds to be a “light” weight
- Other professions use assistive equipment when moving heavy items
- On average, nurses and assistants lift 1.8 tons per shift (ANA, n.d.)

(Kelly, 2015)

American Nurses Association. (n.d.). Safe Patient Handling Movement. Retrieved from http://nursingworld.org/DocumentVault/GOVA/Federal/Federal-Issues/SPHM.html

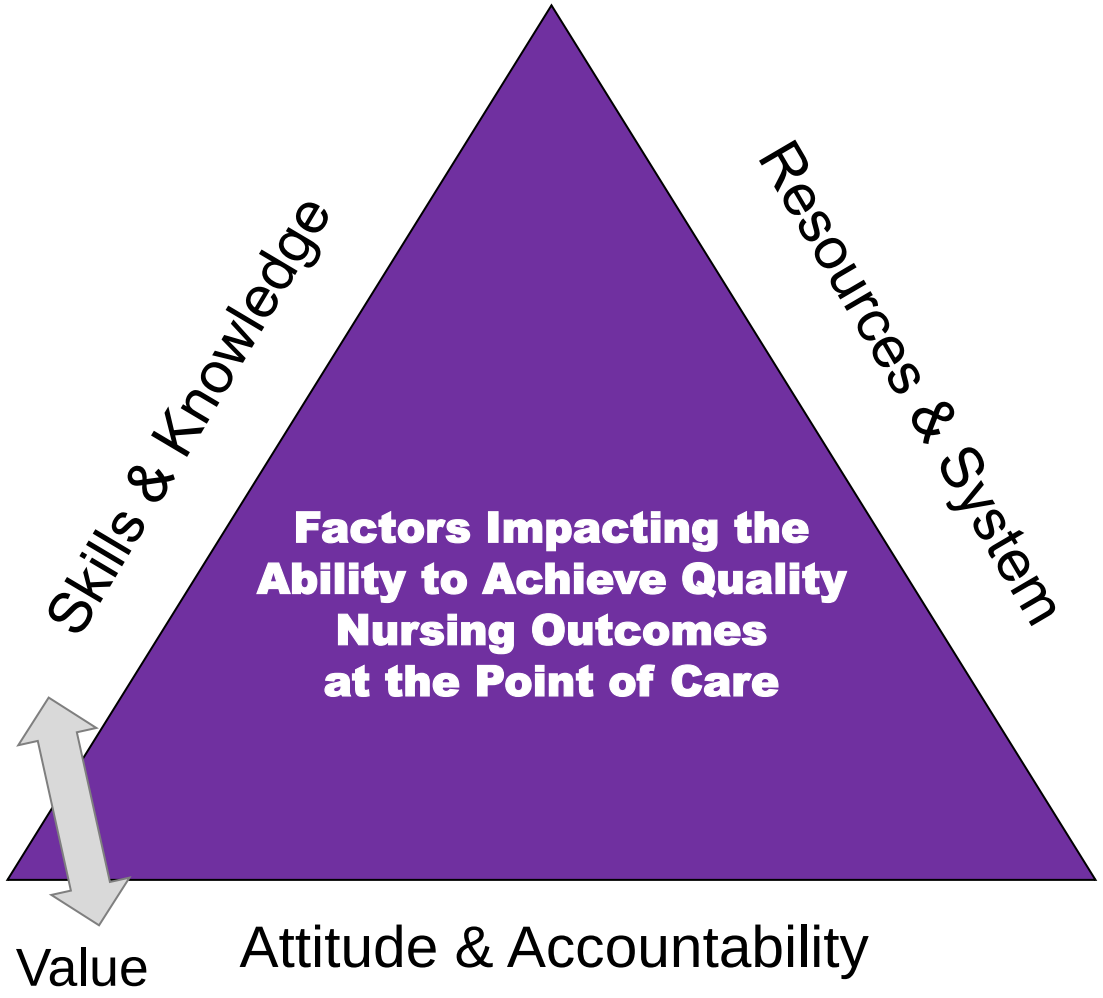
Number, Incidence Rate, & Median Days Away From Work for Occupational Injuries RN's with Musculoskeletal Disorders in US, 2003 – 2014

Year	Ownership	;Occupation	Total Cases	Incidence Rate*	Medial Days Away From Work
2009	private industry	RNs	8,760	51.6	8
2010	Private industry	RN	9,260	53.7	6
2011	Private industry	RN	10,210		8
2012	Private industry	RN	9,900	58.5	8
2013	Private Industry	RN	9,820	56.2	7
2014	Private Industry	RN	9,820	55.3	9
2014	Private Industry	NA	18,510		6

* Incidence rate per 10,000 FTE

Bureau of Labor Statistics, U.S. Department of Labor, February 14, 2011. Numbers for local and state government Unavailable prior to 2008/Nov 2011, Release 10:00 a.m. (EST) Thursday, November 8, 2012, 2013 data http://www.bls.gov/news.release/pdf/osh2.pdf. Accessed 01/07/2016 http://www.bls.gov/news.release/pdf/osh2.pdf

Achieving the Use of the Evidence for Pressure Injury Reduction



- Resource & System
  - Breathable glide sheet/stays
  - Foam wedges
  - Microclimate control
  - Reduce layers of linen
  - Wick away moisture body pad
  - Protects the caregiver

Vollman KM. Intensive Care Nurse.2013;29(5):250-5

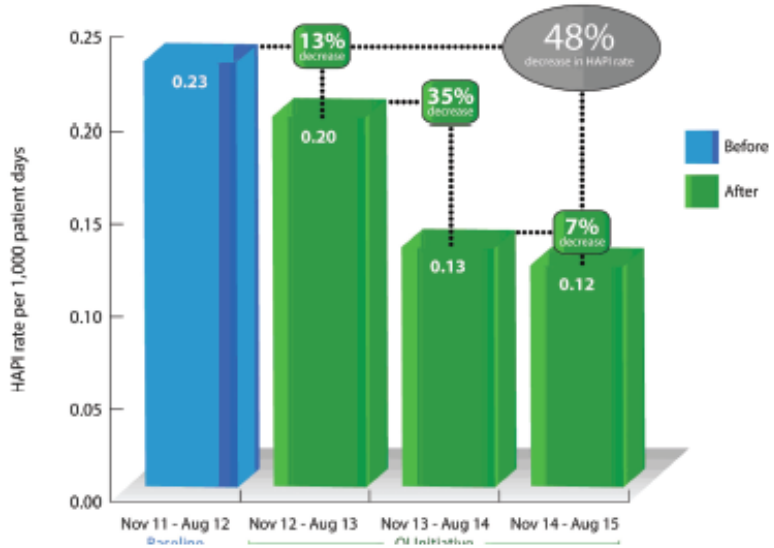
Impact of a Turn & Position Device on PI & Staff Time

- Prospective, QI study (1 SICU & 1 MICU)
- 2 phases
  - SOC: pillows, under pads, standard low air loss bed and additional staff if required
  - Interventional: turn and position system, a large wicking pad (part of the product)
- △ Inclusion criteria: newly admitted, non-ambulatory, required 2 or more to assist with turning/ repositioning
- △ Turning procedures were timed/admitting till ICU discharge
- **Results**
  - No difference in sociodemographic and clinical data between the groups
  - Phase 1: 14 patients (28%) Stage II sacral PI
  - Phase 2: zero sacral PI (p<.0001)
  - Timing:
    - Phase 1: 16.34 mins (range 4-60min) SD= 10.08
    - Phase 2: 3.58 mins (range 1.12-8.48) SD = 2.31 (p=0.0006)

Hall KD, et al. Ostomy Wound Management, Nov 2016:40-44

Reducing HAPI & Patient Handling Injuries

- Compared pre-implementation turning practice: pillows/draw sheet vs turn and position system (breathable glide sheet/foam wedges/wick away pad)
- Baseline: November 2011-August 2012
- Implementation period: November 2012 to August 2015
- 3660 patients
- Compared HAPU rates, patent handling injuries, and cost



PATIENT HANDLING INJURY AND COSTS — 74% reduction

	January 2012 to October 2012 (Before)	November 2012 to August 2013 (After)	November 2013 to August 2014 (After)	November 2014 to August 2015 (After)
Injuries/Cost	19/$427,500	8/$180,000	2/$45,000	5*/$112,500

Average cost calculated by estimating $22,500 per injury.[17]

*1 PCI in critical care, 4 PCIs in medical. We were unable to determine if the patients were eligible for the repositioning system.

Way H, Am JSPHM, 2016;6(4):160-165

Does Use of a Positioning Aid ↑ Compliance

- Multicenter, clustered, three arm RCT
- 270 at risk patients from 29 wards in 16 hospitals (39 ICU, 129 geriatrics, 59 rehab)
- Wards assigned to 2 experimental & 1 control
- Primary: Examine compliance to repositioning frequencies
- Secondary: Incidence of PI and IAD, nurses and patient comfort, acceptability of intervention and budget.

- Exp Group 1: PROTECT (positioning is tailored to individual risk) & turn and reposition system
- Exp Group 2: Usual positioning protocol & turn and reposition system
- Control Group: Usual care

De Meyer D, et al. J Adv Nurs. 2019 May;75(5):1085-1098

Results

- Body posture in bed
  - 30 degree & use of turn & position system
- Group 1=no PI
- Group 2= 1 suspected DTI
- Control= 3 sacral PI's
- Overall positive response on use of turn and position system by nurses and patients
- Cost higher in control because of median time to turn is longer

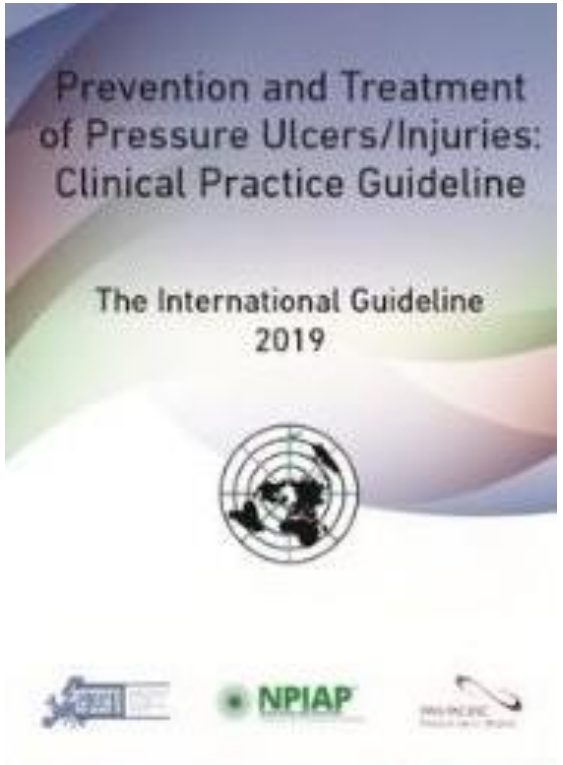
Turning Compliance

	% (*n*/*N*)		Adjusted odds ratio (OR) (95% CI)	Adjusted X^2 statistic	*p* value
	Visit 1	Visit 2			
Compliance bed					
Exp. group 1	65.1 (28/43)	94.6 (35/37)	25.97 (3.65–184.68)	10.59	0.001
Exp. group 2 and control group	63.2 (43/68)	69.0 (40/58)			
Exp. group 1 and 2	62.9 (39/62)	84.9 (45/53)	6.80 (1.41–32.75)	5.71	0.017
Control group	65.3 (32/49)	71.4 (30/42)			
Compliance chair					
Exp. group 1	68.4 (26/38)	58.1 (18/31)	0.04 (0.01-0.27)	10.59	0.001
Exp. group 2 and control group	65.3 (47/72)	83.9 (47/56)			
Exp. group 1 and 2	69.4 (50/72)	69.8 (37/53)	0.15 (0.03–0.71)	5.71	0.017
Control group	60.5 (23/38)	82.4 (28/34)			

De Meyer D, et al. J Adv Nurs. 2019 May;75(5):1085-1098

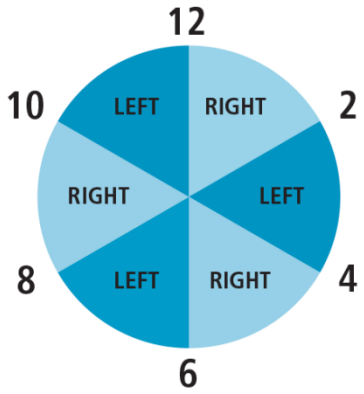
EBP Recommendations to Achieve Offloading & Reduce Pressure

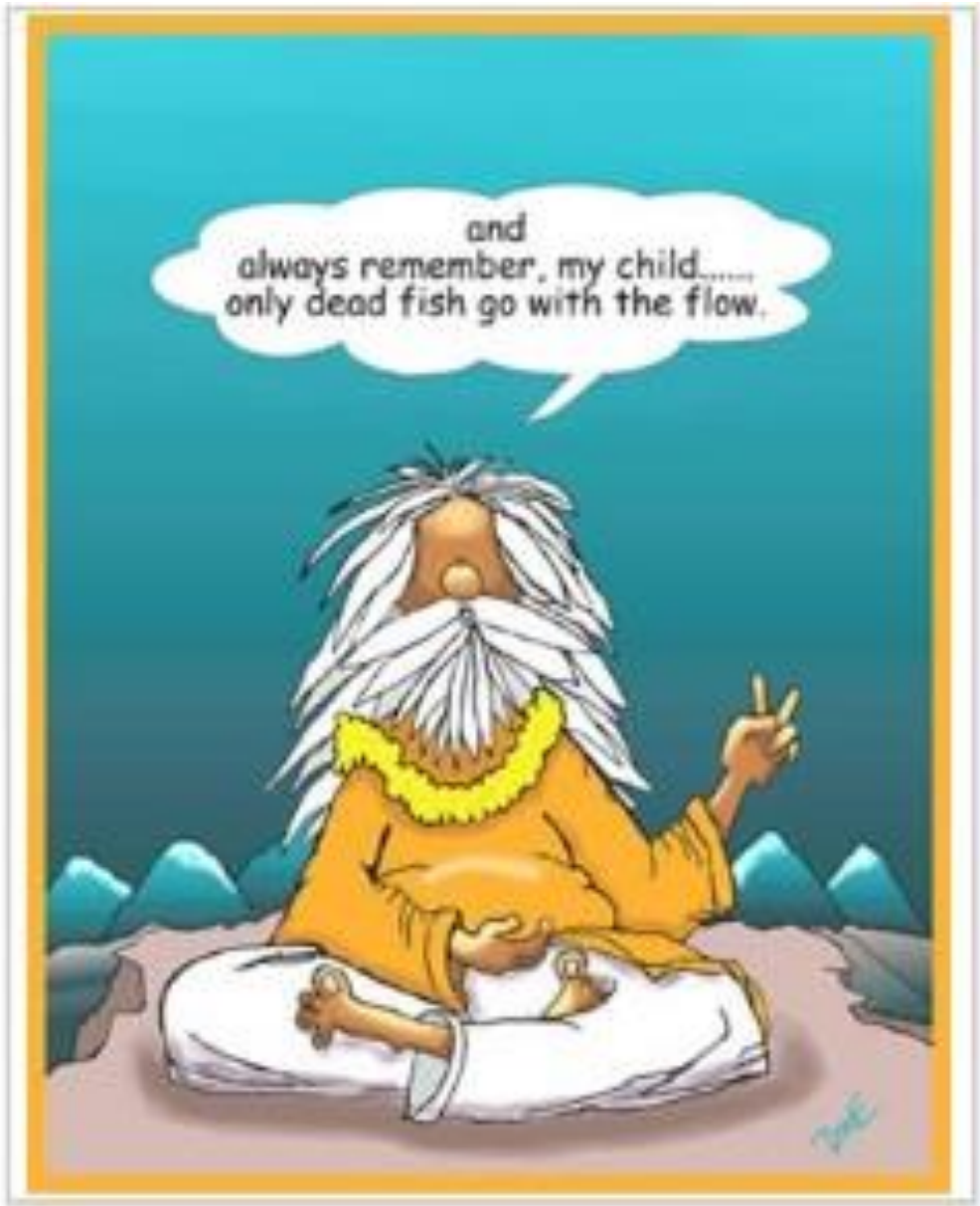
- Turn & reposition every 2 hours (avoid positioning patients on a pressure ulcer)
  - Use active support surfaces for patients at higher risk of development where frequent manual turning may be difficult[1,2]
  - Microclimate management[1]
  - Heel protection[2]
  - Early mobility programs[2]
  - Seated support surfaces for patients with limited mobility when sitting in a chair[2]



1. Reger SI et al, OWM, 2007;53(10):50-58
2. European Pressure Ulcer Advisory Panel/ National Pressure Injury Advisory Panel, and Pan Pacific Pressure Injury Alliance. Prevention & treatment of pressure ulcers/injuries :Clinical Practice Guideline. Emily Haesler (Ed).EPUAP/NPIAP/PPPIA. 2019

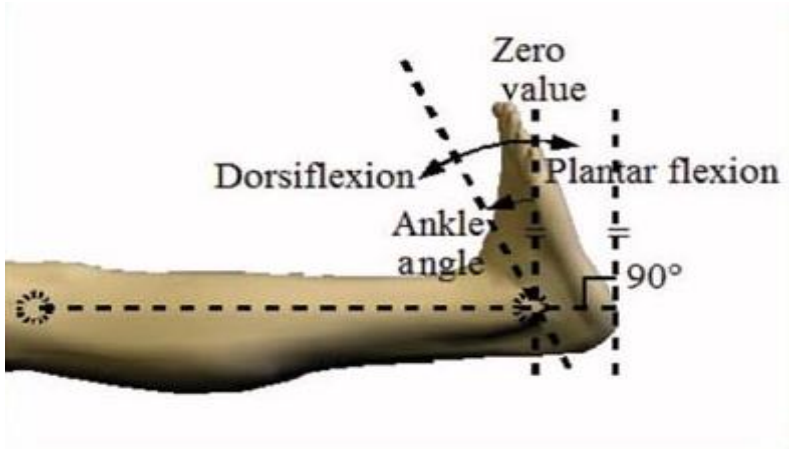
In-Bed Technology

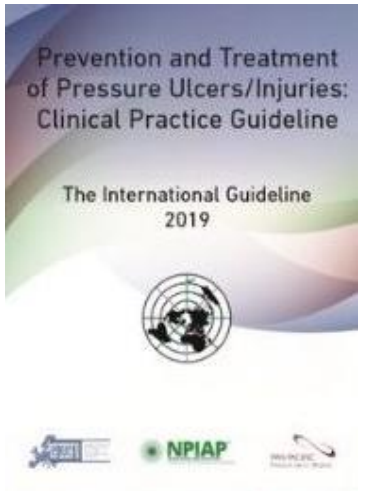



and
always remember, my child.....
only dead fish go with the flow.

EBP Recommendations to Achieve Offloading & Reduce Pressure

- Ensure the heels are free of the bed surface
  - Heel protection devices should elevate the heel completely (off-load) in such a way as to distribute weight along the calf
  - The knee should be in slight flexion
  - Remove device periodically to assess the skin





European Pressure Ulcer Advisory Panel/ National Pressure Injury Advisory Panel, and Pan Pacific Pressure Injury Alliance. Prevention & treatment of pressure ulcers/injuries :Clinical Practice Guideline. Emily Haesler (Ed).EPUAP/NPIAP/PPPIA. 2019

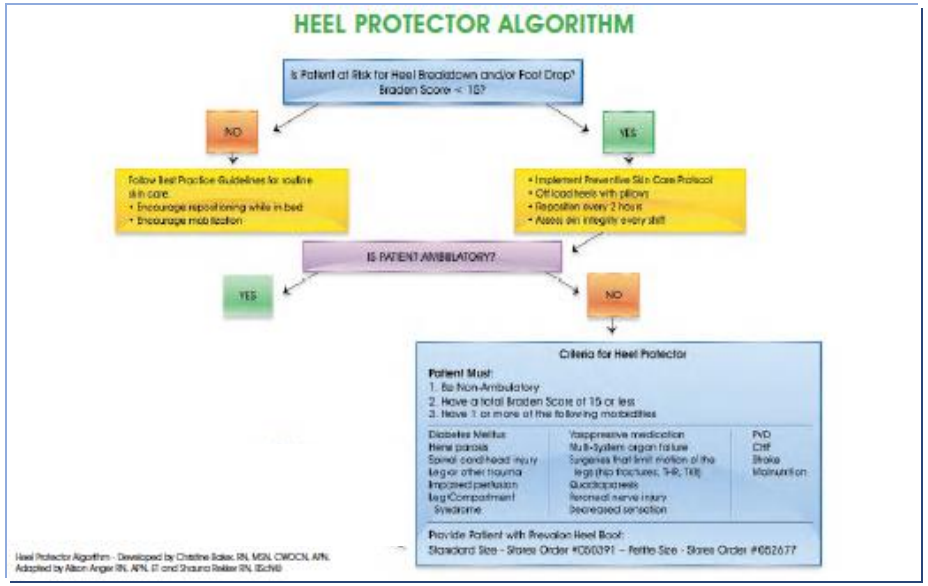
RCT: Prevention of Heel Injuries and Plantar Flexion Contractures

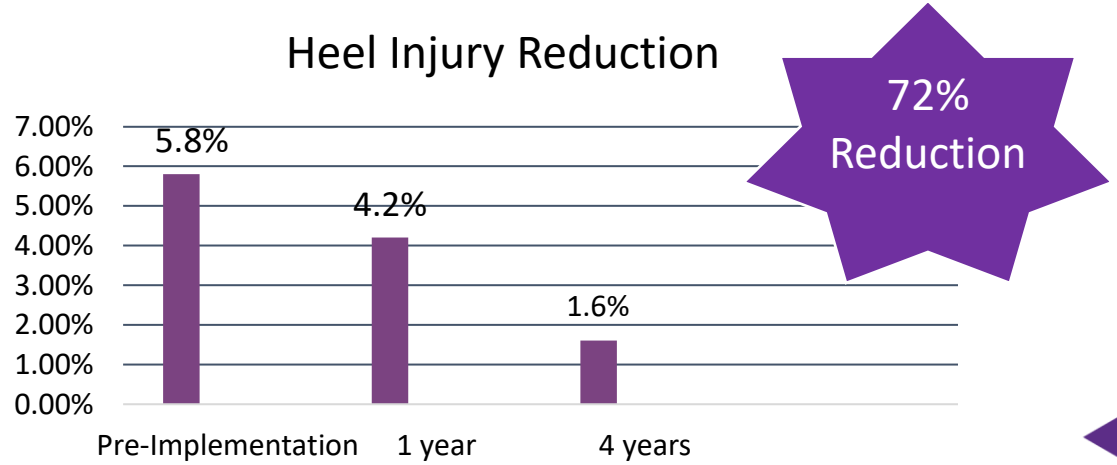
- Surgical intensive care unit, medical intensive care unit, and neurotrauma intensive care unit.
- Inclusion criteria; 5 days of sedation related to care for a critical illness, immobility for 6 to 8 hours before study initiation. Braden $\leq$ 18, mobility subscale $\leq$ 2 & pre-existing PI
- 54 subjects: 37 intervention 19 control
- Measured pressure injury and goniometric scores
- Intervention: Heel protector Control: Pillows
- Results:
  - PI: 0% versus 41% developed by day 2
  - Goniometric scores: Significant day 3 lower goniometric score as well as last study day.
    - 10 patients had improved PFC in intervention group
    - 1 patient had improved PFC in control group

Meyers T, WOCN, 2017;44(5):429-433

Sustainability of Heel Injury Reduction: QI Project

- 490 bed facility
- Evidence-based quality improvement initiative
- 4 tier process
  - Partnership
  - Comprehensive product review
  - Education & engagement
  - Support structures & processes

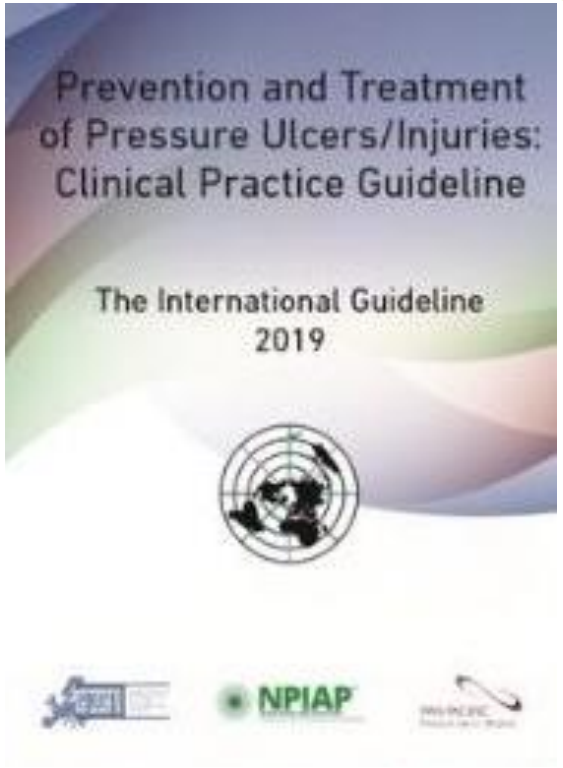




Hanna-Bull D. WOCN, 2016;43(2):129-132

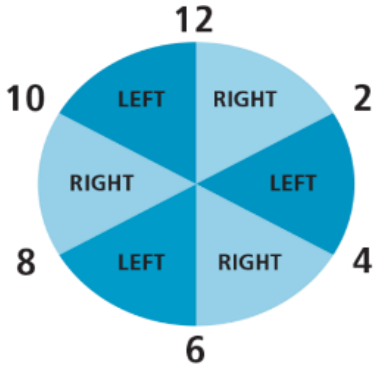
EBP Recommendations to Achieve Offloading & Reduce Pressure

- Turn & reposition every 2 hours (avoid positioning patients on a pressure ulcer)
  - Use active support surfaces for patients at higher risk of development where frequent manual turning may be difficult
  - Microclimate management
  - Heel protection
  - Early mobility programs
  - Seated support surfaces for patients with limited mobility when sitting in a chair



Reger SI et al, OWM, 2007;53(10):50-58, www.ihi.org
European Pressure Ulcer Advisory Panel/ National Pressure Injury Advisory Panel, and Pan Pacific Pressure Injury Alliance. Prevention & treatment of pressure ulcers/injuries :Clinical Practice Guideline. Emily Haesler (Ed).EPUAP/NPIAP/PPPIA. 2019

Transition: In-Bed to Out-of-Bed & Back



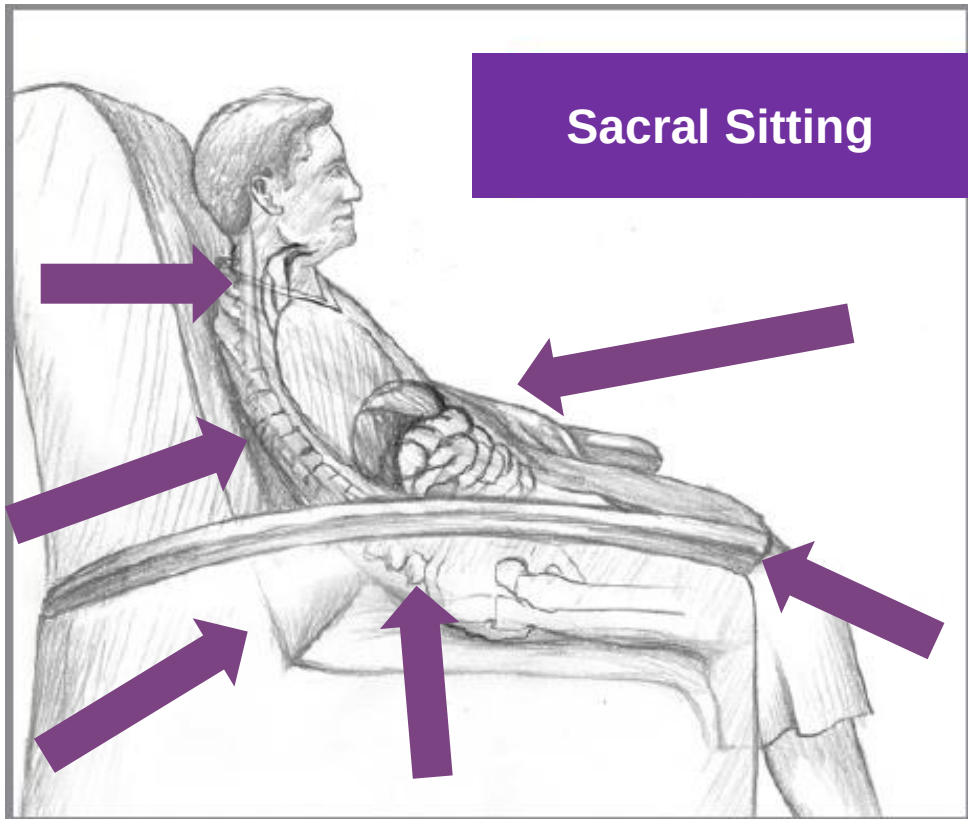
Out-of-Bed Technology

Current Seating Positioning Challenges

Airway & epiglottis compressed

Body alignment

Shear/Friction



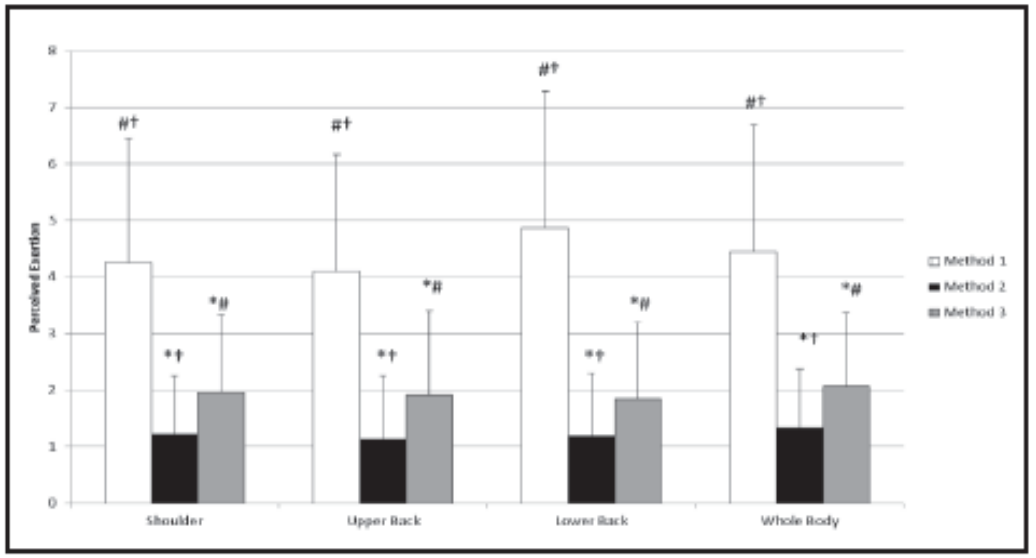
Frequent repositioning & potential caregiver injury

Potential risk of sliding from chair

Sacral pressure

Repositioning patients in chairs:
an improved method (SPS)

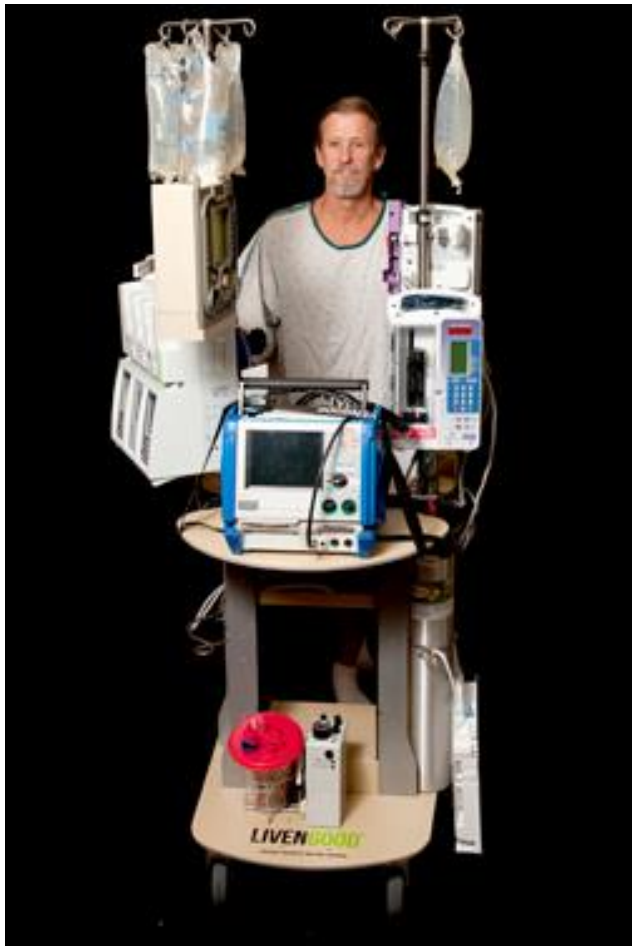
- Study the exertion required for 3 methods of repositioning patients in chairs
- 31 caregiver volunteers
- Each one trialed all 3 reposition methods
- Reported perceived exertion usin the Borg tool, a validated scale



Method 1: 2 caregivers using old method of repositioning
246% greater exertion than SPS
Method 2: 2 caregivers with SPS
Method 3: 1 caregiver with SPS
52% greater exertion than method 2

Fragala G, et al. Workplace Health & Safety;61:141-144

Ambulation Assist Devices



Prevention Strategies for IAD

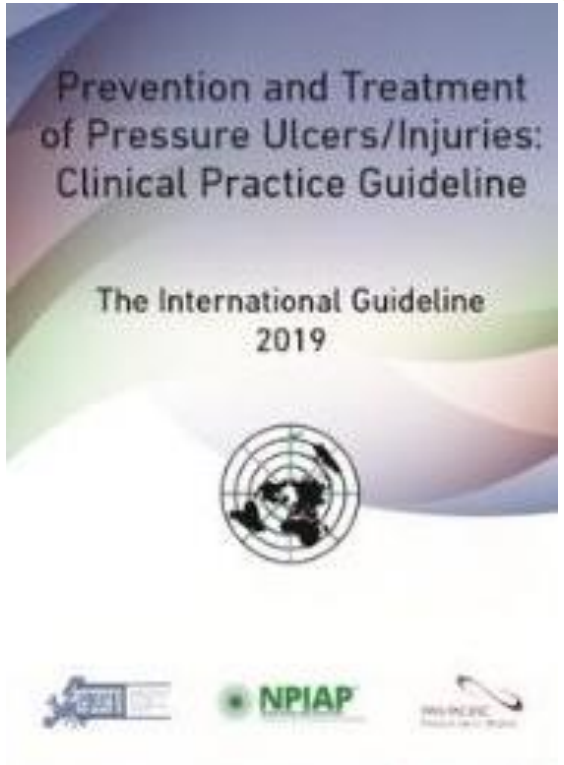
Evidence-Based Components of an IAD Prevention Program

- Skin care products used for prevention or treatment of IAD should be selected based on consideration of individual ingredients in addition to consideration of broad product categories such as cleanser, moisturizer, or skin protectant. (Grade C)
  - A skin protectant or disposable cloth that combines a pH balanced no rinse cleanser, emollient-based moisturizer, and skin protectant is recommended for prevention of IAD in persons with urinary or fecal incontinence and for treatment of IAD, especially when the skin is denuded. (Grade B)
  - Commercially available skin protectants vary in their ability to protect the skin from irritants, prevent maceration, and maintain skin health. More research is needed. (Grade B)

Doughty D, etal. J WOCN. 2012;39(3):303-315

EBP Recommendations to Reduce Injury From Incontinence & Other Forms of Moisture

- Clean the skin as soon as it becomes soiled[2,4]
- Use an incontinence pad and/or briefs that wick away moisture[1,2,4]
- Use a protective cream or ointment[1,2,4]
  - Disposable barrier cloth recommended by IHI & IAD consensus group
- Ensure an appropriate microclimate & breathability[4]
- < 4 layers of linen[3]
- Barrier & wick away material under adipose and breast tissue[2,4]
- Support or retraction of the adipose tissue (i.e. KanguruWeb)[4]
- Pouching device or a bowel management system[2,4]



1. www.ihi.org
2. Doughty D, et al. JWOCN. 2012;39(3):303-315
3. Williamson, R, et al (2008) Linen Usage Impact on Pressure and Microclimate Management. Hill-Rom
4. European Pressure Ulcer Advisory Panel/ National Pressure Injury Advisory Panel, and Pan Pacific Pressure Injury Alliance. Prevention & treatment of pressure ulcers/injuries :Clinical Practice Guideline. Emily Haesler (Ed).EPUAP/NPIAP

Current Practice: Moisture Management

Disposable incontinence pads

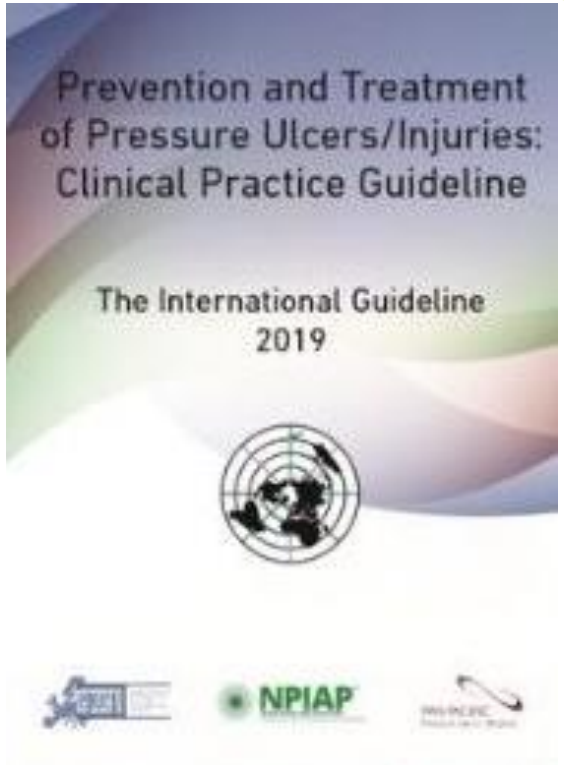
Airflow pads for specialty beds

Reusable incontinence pads

Adult diaper

EBP Recommendations to Reduce Injury From Incontinence & Other Forms of Moisture

- Clean the skin as soon as it becomes soiled[2,4]
- Use an incontinence pad and/or briefs that wick away moisture[1,2,4]
- Use a protective cream or ointment[1,2,4]
  - Disposable barrier cloth recommended by IHI & IAD consensus group
- Ensure an appropriate microclimate & breathability[4]
- < 4 layers of linen[3]
- Barrier & wick away material under adipose and breast tissue[2,4]
- Support or retraction of the adipose tissue (i.e. KanguruWeb)[4]
- Pouching device or a bowel management system[2,4]



1. www.ihi.org
2. Doughty D, et al. JWOCN. 2012;39(3):303-315
3. Williamson, R, et al (2008) Linen Usage Impact on Pressure and Microclimate Management. Hill-Rom
4. European Pressure Ulcer Advisory Panel/ National Pressure Injury Advisory Panel, and Pan Pacific Pressure Injury Alliance. Prevention & treatment of pressure ulcers/injuries :Clinical Practice Guideline. Emily Haesler (Ed).EPUAP/NPIAP

IAD/HAPU Reduction Study

- Prospective, descriptive study
- 2 Neuro units
- Phase 1: prevalence of incontinence & incidence of IAD & HAPU
- Phase 2: Intervention
  - Use of a 1 step cleanser/barrier product
  - Education on IAD/HAPU
- Results:
  - Phase 1: incontinent 42.5%, IAD 29.4%, HAPU 29.4%, LOS 7.3 (2-14 days), Braden 14.4
  - Phase 2: incontinent 54.3%, IAD & HAPU 0, LOS 7.4 (2-14), Braden 12.74

Hall K, et al. Ostomy Wound Management, 2015;61(7):26-30

IAD Prevention Practices: Implementation Science Approach

- Identified evidence gaps in previous study (4 hospitals-250 patients
- Using implementation science approach to introduce evidence based IAD practices
- IAD committee: education about correct pad sizing, washable and disposable pads and plastic sheets removed from the wards. All in one barrier cloth that cleans, protects and moisturizes was introduced
- Nurses from wards ask to participate in 1 of 6 focus groups post implementation

Barakat-Johnson M, et al. Ostomy Wound Management. 2018;64(12):16-28

IAD Prevention Practices: Results

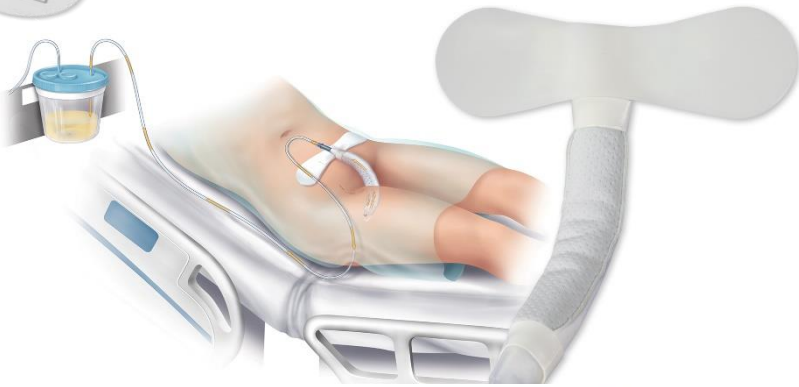
Variable	Pre-Implementation N=250	Post Implementation N=259	P value
IAD	23 (9.2%)	6 (2.3%)	.015
HAPI	9 (3.6%)	2 (0.8%)	.034
Bed protection use	154 (64.7%)	6 (2.3%)	<.01
Continent patients with incontinent products	73 (29.2%)	28 (10.8%)	<.01

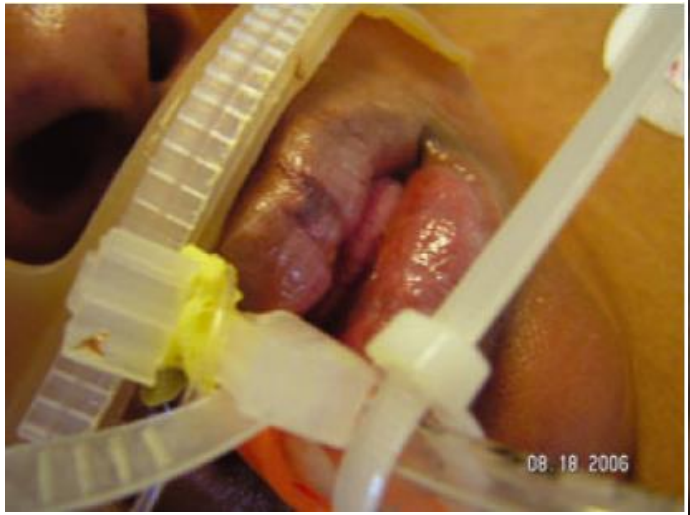
Nurse Focus Groups: 31 nurses, 4 themes

- Benefit to patient: improved skin condition, patient comfort
- Usability: fewer steps
- Problems encountered: not seeing barrier in place
- Related factors: confusion between IAD and pressure injury

Barakat-Johnson M, et al. Ostomy Wound Management. 2018;64(12):16-28

Urine and Fecal Containment Device





10% incidence in a recent metanalysis

- 26% nasal oxygen tubing
- 9% airway pressure masks
- 7.7% sequential compression devices
- 5.6% nasal oxygen prongs
- 5.5percent tracheostomy tubes under flange
- 5% nasogastric tube
- 2.4% cervical collar under the rim

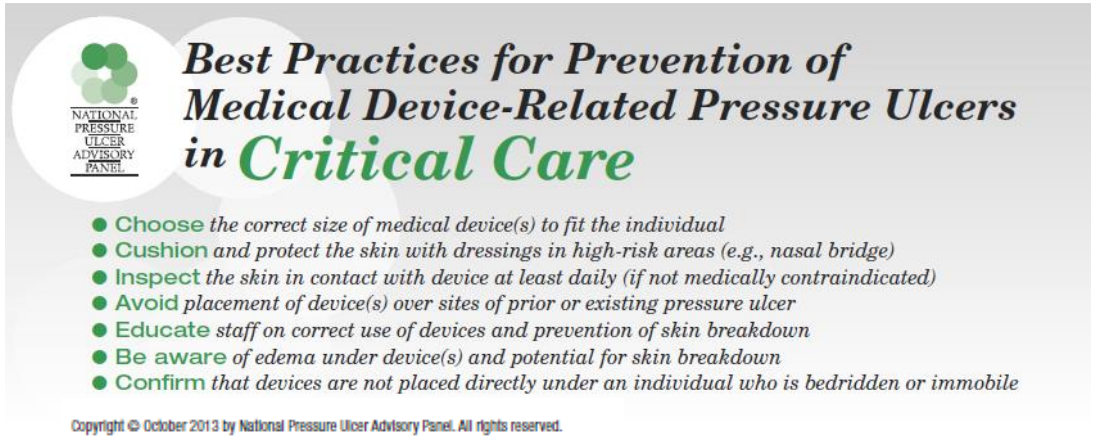
Jackson D, et al. International J of Nursing Studies. 2019;92:109-120

Having a medical device you are 2.4 x more likely to develop a HAPU of any kind (p=0.0008)

Black JM., et al. International Wound J, 2010;7(5)358-365

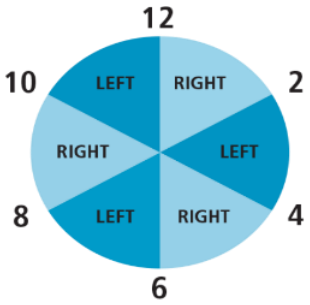
Prevention of MDR's-HAPI[1,2]

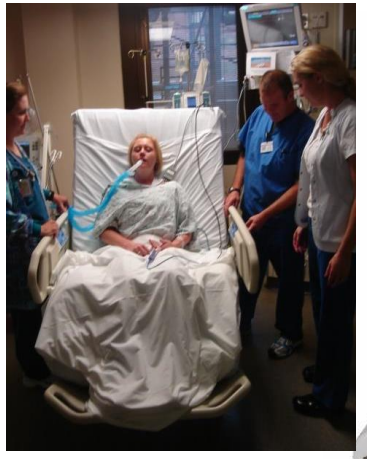
- Selected based on their ability to cause the least degree of damage from pressure or shear forces
  - use devices made of softer material
- Sized correctly to avoid excessive pressure
  - tension on securement device should be checked regularly and adjusted
- Securement devices that splint the tubes (for NG's) allowing them to float
- Remove as soon as clinical possible
- Skin under device assessed minimum q 12 (more freq if fluid shifts or localized edema seen)
- Devices lifted at frequent intervals or rotated
- Use dressings to cushion medical devices



1. Haugen V, Perspectives; 2016 http://www.perspectivesinnursing.org/current.html
2. Cooper KD, et al. Amer J of Crit Care. 2020;29(2):150-154

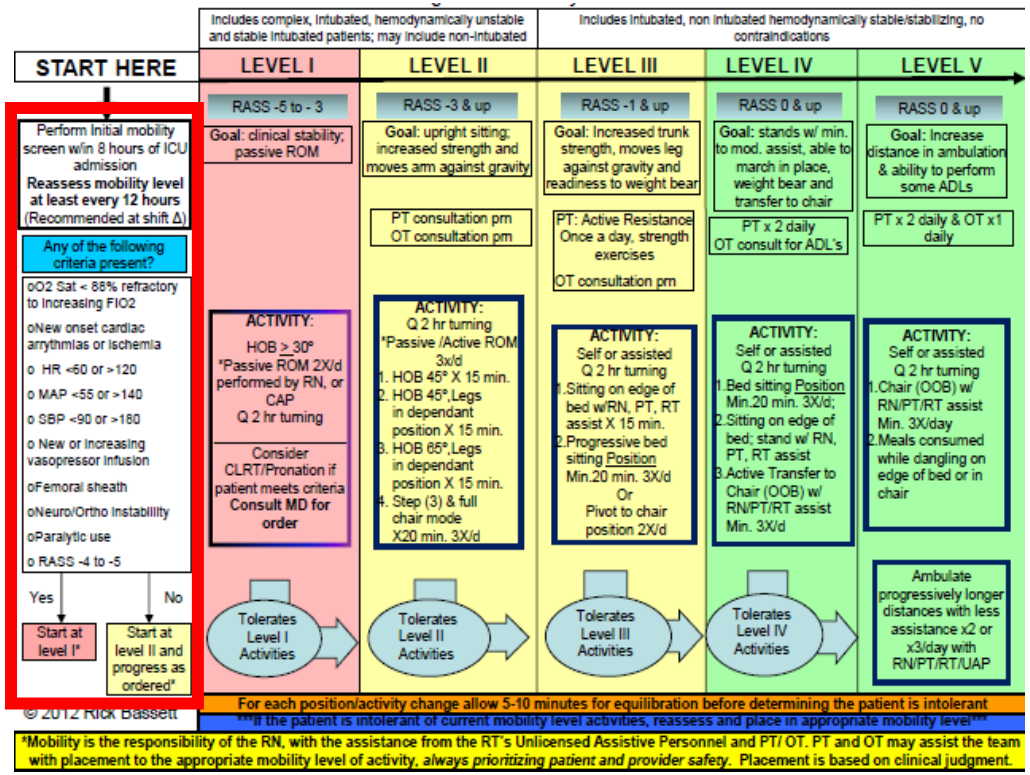
Progressive Mobility + Caregiver Safety + Skin Safety





Outcomes of Early Mobility Program

- ↓ time on the ventilator[2]
- ↓ incidence of VAP[1]
- ↓ days of sedation[3]
- ↓ delirium[4]
- ↑ ambulatory distance[4,5]
- Improved function[4,5]



Bassett R, et al. Intensive & Crit Care Nurs, 2012;28:88-97

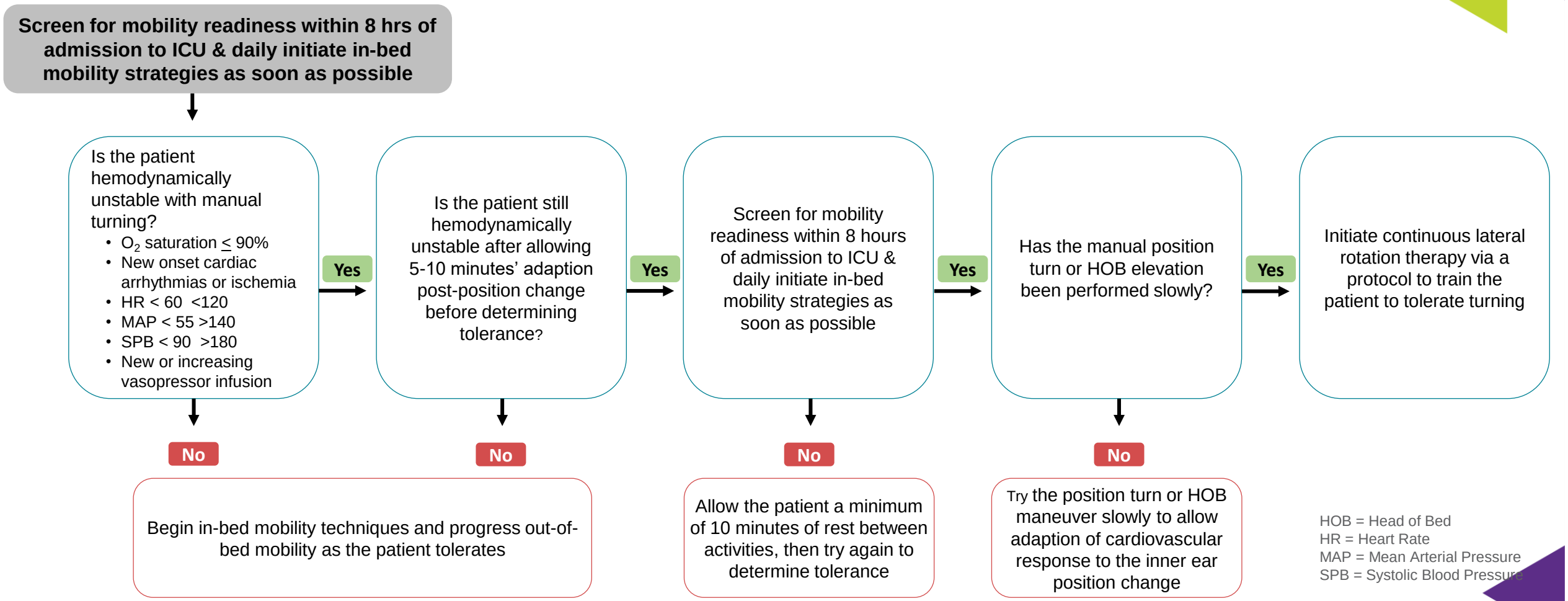
1. Staudinger t, et al. Crit Care Med, 2010;38.
2. Morris PE, et al. Crit Care Med, 2008;36:2238-2243
3. Titsworth WL. J Neurosurg, 2012 116:1379-1388
4. Schweickert WD, et al. Lancet, 373(9678):1874-82.
5. Thomsen GE, et al. CCM 2008;36;1119-1124

Challenges to Mobilizing Patients

- **Potentially Modifiable Barriers**
  - Patient – related barriers (50%)
    - Hemodynamic instability, ICU devices, physical & neuropsych
  - Structural (18%)
    - Human or technological Resources
  - ICU culture (18%)
    - Knowledge/ Priority/ Habits
  - Process related (14%)
    - Service delivery/ lack of coordination
    - Clinician function

Dubb R,et al. Ann Am Thorac Soc. 2016 May;13(5):724-30.

Decision-Making Tree for Patients Who Are Hemodynamically Unstable With Movement[1,2]



HOB = Head of Bed
HR = Heart Rate
MAP = Mean Arterial Pressure
SPB = Systolic Blood Pressure

1. Vollman KM. Crit Care Nurse. 2012;32:70-75.
2. Vollman KM. Crit Care Nurs Q. 2013;36:17-27.

VCU Hemodynamic Instability Guideline

Clinical Findings Which Prevent Patient Turning

1. Development of life threatening arrhythmia with symptomatic response (VFIB/VTACH/SVT) This does NOT include asymptomatic AFIB.

2. Active Fluid Resuscitation: (i.e. no volume going in= no systemic blood pressure).

3. Active Hemorrhaging:
   - Following Cardiac Surgery/Active Tamponade
   - Massive GI bleeding with use of Blakemore tube.
   - Active hemorrhage following Trauma.

4. Change in baseline hemodynamic parameters (BP, HR, Oxygen Saturation, RR, etc) that does not recover within 10 Minutes of position change and is not an expected result based on diagnosis.

Recommended Interventions for the Unstable Patient

IF PATIENT IS DEEMED TOO UNSTABLE TO TURN BY ABOVE PARAMETERS:

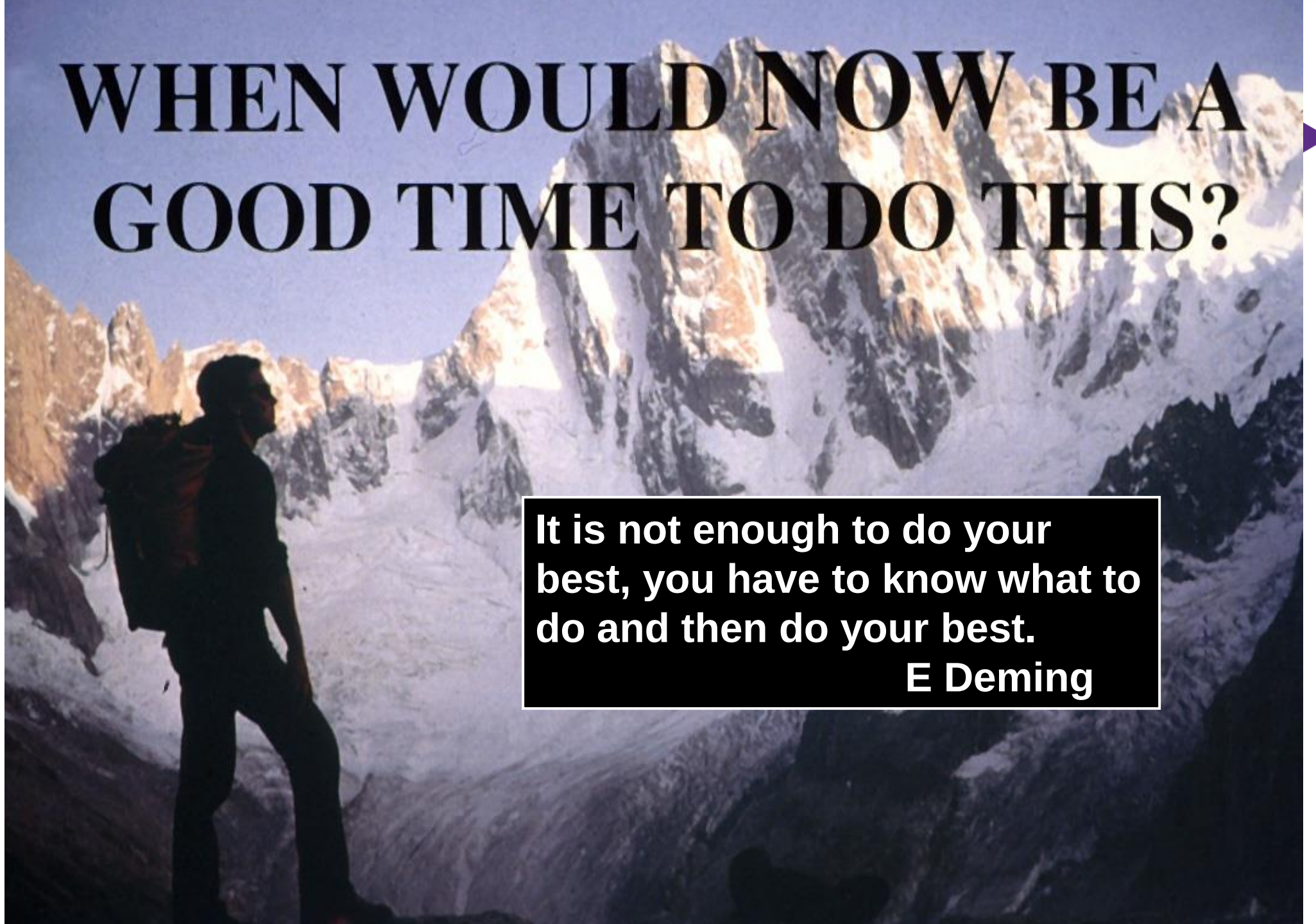
A TRIAL TURN SHOULD BE ATTEMPTED AT LEAST EVERY 8 HOURS TO DETERMINE ABILITY TO RESUME FREQUENT TURNING AT LEAST EVERY 2 HOURS

1. **Provide mini-turns**
2. **Weight shift patient at least every 30 minutes**
3. **Elevate heels from surface of bed**
4. **Reposition patient's head, arms and legs at least every hour, consider passive ROM**
5. **Consider use of Continuous Lateral Rotation Therapy to prevent development of "gravitational equilibrium". Begin: SLOW AND LOW angles of turning to gauge patient response.**
6. **When turning patient: GO SLOW! Provide serial small turns from supine to lateral position to achieve linen changes, hygiene checks, and reposition with wedges and pillows.**

UNSTABLE FRACTURES

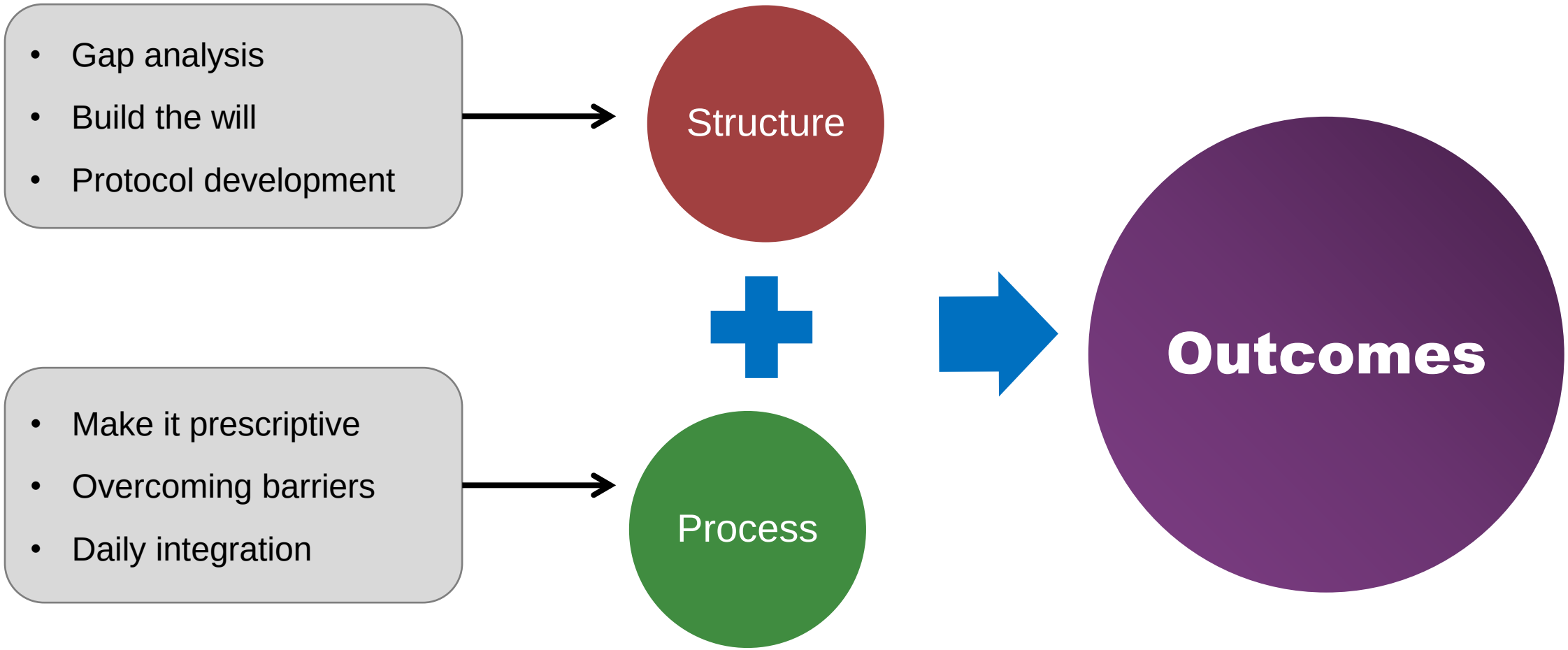
1. **Patient's with unstable pelvis injuries LOG ROLL PATIENT ONLY with approval of Attending MD. Consider wedges or pillows placed between the legs to maintain proper alignment.**
2. **DO NOT use continuous loateral rotation therapy (CLRT) with unstable spinal fractures: these patients should be positioned with multiple wedges to maintain proper alignment**
3. **Cervical Fractures / UNSTABLE: Patient must have appropriately fitted cervical collar in place. Ensure security and proper positioning of collar, then log roll patient, and wedge in proper alignment.**

Brindle TC, et al. WOCN, 2013;40(3):254-267


WHEN WOULD NOW BE A
GOOD TIME TO DO THIS?
It is not enough to do your best, you have to know what to do and then do your best.
E Deming

How do we make it happen?

Driving Change



Intact Skin Is In: Making it Happen

- Advocacy
- Subscales
- Skin rounds/time frequency
- Hand-off communication
- The right products and processes-pressure/shear/moisture/prevent skin tear and medical adhesive related injuries
- Quarterly prevalence/incidence of PU & IAD
- Skin liaison/champion nurses
- Creative strategies to reinforce protocol use
  - Visual cues in the room or medical record
  - Rewards for increased compliance
- Yearly competencies on beds or positioning aids to ensure correct and maximum utilization

The Goal:
Patient and Caregiver Safety

Repetitive motion injury
↓ Musculoskeletal injury
↓ Days away from work
↓ Staffing challenges
Retain experienced staff

↓ Skin Injury
↓ Costs
↓ Pain and suffering
↓ Hospital LOS
↓ ICU LOS

↓ Hospital LOS
↓ ICU LOS
↓ Skin Injury
↓ CAUTI
↓ Delirium
↓ Time on the vent

↓ Falls
↓ Falls with injury
↓ Hospital LOS

Earn 1 CE credit

To get started:

1. Register on **FocusRN.stryker.com**
   Please access on desktop, laptop, or tablet
2. Check your email the week following your event. You'll receive an evaluation to complete.
3. On your next visit to the website, you'll see a message prompting you to complete your evaluation. This will allow you to access your downloadable certificate of completion.

FocusRN®

accredited clinical education

FocusRN.stryker.com

Stryker is accredited as a provider of continuing education in nursing by the California Board of Registered Nursing (provider number CEP 15927).
CMR 27582

Kathleen Vollman
ADVANCING NURSING THROUGH KNOWLEDGE & INNOVATION

Kathleen M. Vollman MSN, RN, CCNS, FCCM, FCNS, FAAN
Clinical Nurse Specialist / Educator / Consultant
ADVANCING NURSING
kvollman@comcast.net
Northville, Michigan
www.vollman.com