Facilitating Safe In-Bed and Out of Bed Mobility

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Can you find a picture of a patient in a bedside chair
Bed Rest: Potentially Harmful

Methodology

- Systematic review of the literature
- 39 trials of bed rest for 15 different conditions
- 5777 patients

Results

- 24 trials investigating bed rest following a medical procedure
  - No outcomes improve significantly/ 8 worsened
- 15 trials looking at bed rest as a primary treatment
  - No outcomes improved significantly/ 9 worsened

Driving Practice

• Safe Patient Handling
  • Early mobility of patients
  • Safety for the worker
  • Safety for the patient during mobilization
Non-ICU: Moving Closer to Home

- Deconditioning
- Fall risk
- Pressure/shear/friction and moisture risk
- Greater time spent in the chairs
- Less caregivers more patients

- Reduce pain
- Minimize fall & skin risk
- Length of stay reduction and prevention of readmission
Early Progressive Mobility

Progressive Mobility:
Planned movement in a sequential manner beginning at a patient's current mobility status and returning them to baseline & includes:

- Head elevation
- Manual turning..In-bed mobility
- Passive & Active ROM
- Continuous Lateral Rotation Therapy
- Movement against gravity
- Physiologic adaptation to an upright/leg down position (Tilt table, Bed Egress)
- Chair position
- Dangling
- Ambulation
The New Bundle: ICU

A. AWAKE
B. BREATHE
C. CHOICE OF SEDATION
D. DELIRIUM
E. EARLY MOBILITY

Outcomes of Early Mobility Program

- ↓ incidence of skin injury
- ↓ time on the ventilator
- ↓ incidence of VAP
- ↓ days of sedation
- ↓ delirium
- ↑ ambulatory distance
- Improved function
- ↓ LOS

Thomsen GE, et al. CCM 2008;36;1119-1124
Winkelman C et al, CCN,2010;30:36-60
In-Bed Mobility
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
  - Cushioning devices to maintain alignment /30 ° side-lying & prevent pressure on boney prominences
  - Use lifting device or other aids to reposition & make it easy to achieve the turn
  - Assess whether actual offloading has occurred

Current Practice: Specialty Bed

Turn & Reposition

Transfer Device

Disposable Slide Sheets

Draw Sheet/Pillows/Layers of Linen

Lift Device
Shear/Friction & Moisture Risk Factor

- With a Braden friction score of 1, the patient has 126 times the chance of developing a pressure ulcer.
- The strain at which the skin breaks is 4x greater with excess moisture.

EBP Recommendations to Reduce Shear & Friction

- Use lifting/transfer devices & other aids to reduce shear & friction.
  - Mechanical lifts
  - Transfer sheets
  - 2-4 person lifts
  - Turn & assist features on beds
- Loose covers & increased immersion in the support medium increase contact area

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REPOSITIONING THE PATIENT

CAREGIVER INJURY
Care Giver Injury

- 50% of nurses required to do repositioning suffered back pain
- High physical demand tasks
  - 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
- Number one injury causation activity: Repositioning patients in bed

Harber P, et al. J Occupational Medicine, 27;518-524
Fragala G. AAOHN, 2011;59:1-6
Number, Incidence Rate, & Median Days Away From Work for Occupational Injuries RN’s with Musculoskeletal Disorders in US, 2003 – 2011

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National Problem of Ergonomic Injury in Healthcare Services

COST FACTORS

- One low back injury: $40,000
- Indirect costs outweigh direct costs 5:1
- $20 billion per year is spent annually on workers compensation costs associated with musculoskeletal disorders (MSDs)
- $100 billion per year is spent on indirect costs
- Injured nurses constitute about 1/4 of all claims and 1/3 of total compensation costs.

Source: US Department of Labor, Occupational Safety and Health Administration
Achieving the Use of the Evidence For Mobility & Moisture

Factors Impacting the ability to Achieve Quality Nursing Outcomes at the Point of Care

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

Vollman KM. Australian Crit Care, 2009;22(4):152-154
In-Bed Technology: Prevalon Turn & Position System (TAP)

If you have a picture of it in use

Use of a slide/glide sheet and gravity assisted positioning reduced the workload for repositioning by 67%

(Fragala, G. AAOHN, 2011;59(2):1-6)
Comparative Study of Two Methods of Turning & Positioning

- Blocked design with convenience sample of 60 patients
- SOC: pillows/draw sheet
- TAP: breathable glide sheet/foam wedges/wick away pad

Results:
- Nurse satisfaction 87% versus 34%
- 30° turn achieved versus -0-15 in SOC
- SOC group required more resources

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<td>Pulled up in bed</td>
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<td>Number to turn</td>
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Powers J, Presented at 27th Annual Symposium of Advances in Skin and Wound Care, Las Vegas, NV; 10/20-23, 2012
Impacting Outcomes: Decreasing Patient & Staff Injury

• 3 Select Medical System Hospital
• Intervention period over the course of a year
• Patients with anticipated > 5 days LOS, Braden subscales of moisture < 1 and mobility <2 received the intervention
• Intervention: Turn & Position system
• Measured:
  • HAPU rates before & after
  • Staff injury before & after

Presented at ALTHA's 2012 National Clinical Conference, Dallas, TX, May 16-18, 2012
Out of Bed Mobility
Early Progressive Mobility

Progressive Mobility:
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Current Seating Positioning Challenges

Uncomfortable

Airway & Epiglottis compressed
Lack of Body Alignment
Shear/Friction
Sacral Pressure

Frequent repositioning & potential caregiver injury
Potential fall risk
Breathing & Alignment for Swallow
Pressure Factor

Amount vs. Duration

↑ Pressure
↓ Time

↓ Pressure
↑ Time
PATIENT COMFORT & REDUCE RISK = LONGER TIME IN THE CHAIR
Out of Bed Technology
PREVALON SEATED POSITION SYSTEM
The Only Way: Caregiver Benefits

↑ Comfort ↑ Compliance

Easy patient manipulation within the chair

Less caregiver injury r/t position shifting from the rear of the chair

Proper sitting with Seated Positioning System

Position shifting

Assist in prep for transfer
The Only Way: Patient Benefits

↑ Comfort ↑ Compliance

- Airway & Epiglottis in Alignment
- Less risk for falls
- Lock & Load
- Position shifting
- Pressure reduction cushion
- Shear/friction
- Shear/friction

Proper sitting with Seated Positioning System
Repositioning Patients in Chairs: An Improved Method (SPS)

- Study the exertion required for 3 methods of repositioning patients in chairs
- 31 care giver volunteers
- Each one trial of all 3 reposition methods
- Reported perceived exertion using the Borg tool, a validated scale.

Method 1: 2 care givers 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

Benefit/Outcomes for TAP & SPS

- Safe Patient Handling
  - Reduces Skin injury
  - Reduces Staff injury
  - Achieving Optimal In-Bed Mobility & Out of Bed Seated Position

Intended for the Patient/Design for the Caregiver