Update on Pressure Ulcers: Utilizing an Interdisciplinary Approach to Pressure Ulcer Prevention

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Scope of the Issue

Cost
• $9 billion to $11 billion
• $20,000-$150,000 per ulcer

Incidence
• Home care – 17 percent
• Acute care – 38 percent
• Long Term Care–24 percent

Why Team Approach?

• Institute of Medicine
  – Need for high functioning teams to address today’s complex healthcare needs

• World Health Organization
  – Bringing together the skills of different individuals will strengthen the health care system and lead to improved outcomes
Why Team Approach?

- **National Pressure Ulcer Advisory Panel**
  - Nutrition, mobilization, medical devices
- **American Medical Directors Association**
  - An interdisciplinary team may help to ensure implementation of a consistent and appropriate process for pressure ulcer prevention

Making Teams Work

- Link to facility leadership
- Members with necessary expertise
- Clearly defined roles and responsibilities
- Access to resources needed to perform role

Making Teams Work

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Making Teams Work

• Familiarity with services of other team members
• Communication structures to facilitate interdisciplinary communication
• Clearly established referral mechanism
• **Communication is paramount!**

Team Referral and Communication

• **Who? When?**
  • Braden score 18? 12?
  • Braden sub-scores?
    – Nutrition, mobility, activity scores
  • PO intake? Lab values?
  • Compromised skin integrity?

Clinical Team Roles

• Physician, NP, PA
• Nursing Staff
• Rehabilitation Therapists
• Nutritional Services
• Pharmacy
Physician, Nurse Practitioner, Physician Assistant

- Ordering of pressure redistribution surfaces?
- Modify, stabilize, or eliminate risk factors
  - Pain
  - Edema
  - Dysphagia
  - Spasticity
  - Incontinence
  - Poor perfusion and oxygenation

Physician, Nurse Practitioner, Physician Assistant

- National Pressure Ulcer Advisory Panel
  - “Use a high specification reactive foam mattress rather than a non high specification reactive foam mattress for all individuals assessed as being at risk for pressure ulcer development.” (Strength of Evidence = A)
  - “Use an active support surface (overlay or mattress) for individuals at higher risk of pressure ulcer development when frequent manual repositioning is not possible.” (Strength of Evidence = B)
  - “Ensure pressure ulcers are correctly differentiated from other skin injuries, particularly incontinence associated dermatitis or skin tears.” (Strength of Evidence = C)

Nursing

- Identifies those at risk and their risk level
- Performs skin assessments and skin inspections
- Initiates a plan of care for prevention
- Evaluates the effectiveness of the interventions
- Modifies interventions and plan of care as needed
Risk Assessment

• Conduct risk assessment ASAP but within 8 hours after admission (Strength of Evidence = C)
• Repeat risk assessment as often as required by the individual’s acuity (Strength of Evidence = C)
• Conduct reassessment if there is any significant change in individual’s condition (Strength of Evidence = C)

Risk Factors

• Activity and Mobility
• Nutrition
• Skin Moisture
• Sensory Perception
• Current ulcer or previous ulcer
• Perfusion and oxygenation
• Increased body temperature
• Hematological measures
  – Albumin
  – Hemoglobin
  – C-reactive protein

Skin Assessment

• Educate staff on how to conduct skin assessments/inspections (Strength of Evidence = B)
  – Blanchable vs. nonblanchable
  – Localized heat
  – Edema
  – Induration
  – Localized pain
Skin Assessment

• Darkly pigmented skin
  – Skin temperature
  – Edema
  – Change in tissue consistency

Preventive Skin Care

• Use a pH balanced skin cleanser
• Protect skin from exposure to excessive moisture with a barrier product
• Use a skin moisturizer to hydrate dry skin to reduce skin damage

Interventions for Prevention

• Repositioning
  – Support surface
  – Tissue tolerance / Skin condition
  – Mobility / Activity level
  – Treatment goals / Comfort
• Positioning Devices
  – No “donuts”
  – Natural sheepskin – yes; synthetic - no
• Seated Individuals
Heel Pressure Ulcers

- Pressure redistribution mattresses DO NOT prevent heel pressure ulcers
- Heel pressure ulcers CAN be prevented

Preventing Heel Pressure Ulcers

- Inspect heels every day, every shift
- Skin prep at bedtime to protect from friction
- If they cannot raise their leg off the bed, you need to protect the heels from pressure
- Float heels with pillow or wedge under the calves so that the heels float in the air
- Heel boots for those that cannot keep their legs on the pillow or wedge
- Avoid tight socks or shoes
Rehabilitation Therapists

- Promote mobility
- Recommend protective and positioning devices
- Assists with seating and positioning
- Ordering durable medical equipment to improve person's functional status

Rehabilitation Therapists

- National Pressure Ulcer Advisory Panel
  - Provide adequate seat tilt to prevent sliding forward in the wheelchair or chair, and adjust footrests and armrests to maintain proper posture and pressure redistribution. (Strength of Evidence = C)
  - Avoid use of elevating leg rests if individual has inadequate hamstring length (if inadequate length and elevated leg rests used, pelvis is pulled into sacral sitting posture causing increased pressure on coccyx or sacrum) (Strength of Evidence = C)
  - “Consider the use of electrical stimulation for anatomical locations at risk of pressure ulcer development in spinal cord injury patients.” (Strength of Evidence = C)

Dietitian

- Performs nutritional assessments
- Develops nutritional plan of care
- Monitors and evaluates nutritional goals
Dietitian

- **American Medical Directors Association**
  - Research supports an association between malnutrition and pressure ulcer development
  - Evidence is weak that specific nutritional interventions beyond meeting basic calorie and protein requirements will prevent ulcers

- **National Pressure Ulcer Advisory Panel**
  - Follow EB guidelines on nutrition and hydration for individuals at nutritional risk, at risk of pressure ulcers, or have an existing pressure ulcer (Strength of Evidence = C)
  - Although a large amount of research has occurred in the area of nutrition and pressure ulcers, most of the existing evidence base is inconsistent and of low quality due to small sample size and either an unclear or high risk of bias

- **Posthauer ME, et al.** The role of nutrition for pressure ulcer management: National pressure ulcer advisory panel, European pressure ulcer advisory panel, and pan pacific pressure injury alliance white paper. Advances in Skin & Wound Care 2015;28(4):175-188.

Dietitian

- **National Pressure Ulcer Advisory Panel**
  - Revise, modify, liberalize dietary restrictions when limitations result in decreased food and fluid intake (Strength of Evidence = C)
  - Offer high calorie, high protein nutritional supplements in addition to usual diet to those at pressure ulcer risk, if nutritional requirements cannot be met by dietary intake (Strength of Evidence = A)
  - Encourage an individual at risk of a pressure ulcer to take vitamin and mineral supplements when diet intake is poor or deficiencies are confirmed or suspected (Strength of Evidence = C)

- **Posthauer ME, et al.** The role of nutrition for pressure ulcer management: National pressure ulcer advisory panel, European pressure ulcer advisory panel, and pan pacific pressure injury alliance white paper. Advances in Skin & Wound Care 2015;28(4):175-188.
Pharmacist

• Analyzes medication profile
• Alert clinical staff to possible interactions that might adversely affect the patient
• Medication availability
• Formulary alternatives

Pharmacist

• Collaborates with medical team
• Assist with modifying or stabilization of risk factors
  – Pain control
  – Edema
  – Spasticity
  – Incontinence
• Vitamin and mineral supplements
System Level Roles

- Education
- Informatics
- Quality Management
- Materials Management

Education

- Etiology and risk factors
- Risk assessment; skin assessment
- Staging; differential diagnosis
- Documentation
- Nutrition
- Use of equipment
- Importance of interdisciplinary team
- Patient and caregiver education

Informatics

- Accurate and effective communication
- Assist with set up of systems to promote communication among the team
- Prevention intervention template
Quality Management

- Monitor and evaluate pressure ulcer rates
- Data analysis
- Identify patterns and trends
- Initiate performance improvement projects

Materials Management

- Promotes safe quality cost effective products
- Provides availability of products and devices
- Prevent Medical Device Related (MDR) ulcers
- Prevent Medical Adhesive Related Skin Injury (MARSI)

Medical Device Related Pressure Ulcers

- Tracheostomy securement devices, CPAP mask, oximeter probes, O2 tubing/nasal cannulas
- Cervical collars, helmets, external fixators, immobilizers (splints/braces), plaster casts
- Foley catheters, fecal containment devices
- Surgical drains, CVC, dialysis catheters
- Graduated compression stockings
- Restraints

Resources:
- www.npuap.org
- Educational and Clinical Resources: Best Practice for Prevention of Medical Device Related Pressure Ulcers in Long Term Care
Assessment and Prevention of Medical Device Related Pressure Ulcers

• Inspect skin under & around device 2x daily
• Keep skin clean & dry under devices
• Do not position directly on device if possible
• Rotate or reposition devices when possible
• Consider using a prophylactic dressing
• MDR pressure ulcers are staged using NPUAP Classification System - except for mucosal pressure ulcers

Emerging Therapies for Prevention of Pressure Ulcers

• Microclimate control
• Fabrics and textiles
• Prophylactic dressings

Prophylactic Dressings

• Bony prominences subjected to friction/shear
• Manage skin microclimate
• Ease of application & removal
• Ability to regularly assess skin
• Correct size
• Continue all other preventive measures
• Assess skin daily
Systems Analysis

• How can an interdisciplinary team impact a system issue such as high pressure ulcer rates?

A New Paradigm

• Pressure Ulcer Prevention is Everyone’s Job!
References