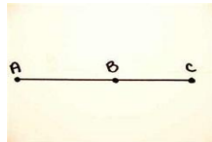


Update on Pressure Ulcers: Utilizing an Interdisciplinary Approach to Pressure Ulcer Prevention

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Scope of the Issue

- | Cost | Incidence |
|--|--|
| <ul style="list-style-type: none">• \$9 billion to \$11 billion• \$20,000-\$150,000 per ulcer | <ul style="list-style-type: none">• 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

RESPECT	TRUST	HONESTY	DISCIPLINE
CREATIVITY	HUMILITY	CURIOSITY	INTEGRITY
ETHICS			



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)

– National Pressure Ulcer Advisory Panel, European Pressure Ulcer Advisory Panel and Pan-Pacific Pressure Injury Alliance. Prevention and treatment of pressure ulcers: Clinical practice guideline. Emily Hester (Ed.), Cambridge/Medex, Perth, Australia, 2014.

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)

• National Pressure Ulcer Advisory Panel, European Pressure Ulcer Advisory Panel and Pan Pacific Pressure Injury Alliance. Prevention and treatment of pressure ulcers: Clinical practice guideline. Emily Haesler (Ed.). Cambridge Media: Perth, Australia; 2014.

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

Category	Score	Weight	Weighted Score
Age	65-74	1	1
Age	75+	2	2
Gender	Male	1	1
Gender	Female	2	2
Weight	60-70 kg	1	1
Weight	70-80 kg	2	2
Weight	80-90 kg	3	3
Weight	90-100 kg	4	4
Weight	100-110 kg	5	5
Weight	110-120 kg	6	6
Weight	120-130 kg	7	7
Weight	130-140 kg	8	8
Weight	140-150 kg	9	9
Weight	150-160 kg	10	10
Weight	160-170 kg	11	11
Weight	170-180 kg	12	12
Weight	180-190 kg	13	13
Weight	190-200 kg	14	14
Weight	200-210 kg	15	15
Weight	210-220 kg	16	16
Weight	220-230 kg	17	17
Weight	230-240 kg	18	18
Weight	240-250 kg	19	19
Weight	250-260 kg	20	20
Weight	260-270 kg	21	21
Weight	270-280 kg	22	22
Weight	280-290 kg	23	23
Weight	290-300 kg	24	24
Weight	300-310 kg	25	25
Weight	310-320 kg	26	26
Weight	320-330 kg	27	27
Weight	330-340 kg	28	28
Weight	340-350 kg	29	29
Weight	350-360 kg	30	30
Weight	360-370 kg	31	31
Weight	370-380 kg	32	32
Weight	380-390 kg	33	33
Weight	390-400 kg	34	34
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Weight	410-420 kg	36	36
Weight	420-430 kg	37	37
Weight	430-440 kg	38	38
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Weight	450-460 kg	40	40
Weight	460-470 kg	41	41
Weight	470-480 kg	42	42
Weight	480-490 kg	43	43
Weight	490-500 kg	44	44
Weight	500-510 kg	45	45
Weight	510-520 kg	46	46
Weight	520-530 kg	47	47
Weight	530-540 kg	48	48
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Weight	650-660 kg	60	60
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Weight	690-700 kg	64	64
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Weight	710-720 kg	66	66
Weight	720-730 kg	67	67
Weight	730-740 kg	68	68
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Weight	750-760 kg	70	70
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Weight	780-790 kg	73	73
Weight	790-800 kg	74	74
Weight	800-810 kg	75	75
Weight	810-820 kg	76	76
Weight	820-830 kg	77	77
Weight	830-840 kg	78	78
Weight	840-850 kg	79	79
Weight	850-860 kg	80	80
Weight	860-870 kg	81	81
Weight	870-880 kg	82	82
Weight	880-890 kg	83	83
Weight	890-900 kg	84	84
Weight	900-910 kg	85	85
Weight	910-920 kg	86	86
Weight	920-930 kg	87	87
Weight	930-940 kg	88	88
Weight	940-950 kg	89	89
Weight	950-960 kg	90	90
Weight	960-970 kg	91	91
Weight	970-980 kg	92	92
Weight	980-990 kg	93	93
Weight	990-1000 kg	94	94
Weight	1000-1010 kg	95	95
Weight	1010-1020 kg	96	96
Weight	1020-1030 kg	97	97
Weight	1030-1040 kg	98	98
Weight	1040-1050 kg	99	99
Weight	1050-1060 kg	100	100

Skin Assessment

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



– National Pressure Ulcer Advisory Panel, European Pressure Ulcer Advisory Panel and Pan Pacific Pressure Injury Alliance. Prevention and treatment of pressure ulcers: Clinical practice guideline. Emily Haesler (Ed.). Cambridge Media: Perth, Australia; 2014.

Skin Assessment

- Darkly pigmented skin
 - Skin temperature
 - Edema
 - Change in tissue consistency
- National Pressure Ulcer Advisory Panel, European Pressure Ulcer Advisory Panel and Pan Pacific Pressure Injury Alliance. Prevention and treatment of pressure ulcers: Clinical practice guideline. Emily Haesler (Ed.), Cambridge Media: Perth, Australia, 2014.



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
- National Pressure Ulcer Advisory Panel, European Pressure Ulcer Advisory Panel and Pan Pacific Pressure Injury Alliance. Prevention and treatment of pressure ulcers: Clinical practice guideline. Emily Haesler (Ed.), Cambridge Media: Perth, Australia, 2014.

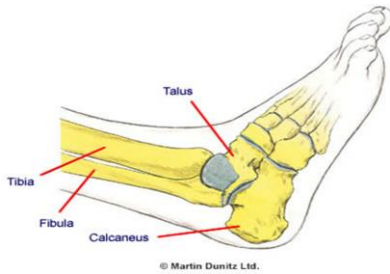


Interventions for Prevention

- Repositioning
 - Support surface
 - Tissue tolerance / Skin condition
 - Mobility / Activity level
 - Treatment goals / Comfort
 - Positioning Devices
 - No “donuts”
 - Natural sheepskin – yes; synthetic - no
 - Seated Individuals
- National Pressure Ulcer Advisory Panel, European Pressure Ulcer Advisory Panel and Pan Pacific Pressure Injury Alliance. Prevention and treatment of pressure ulcers: Clinical practice guideline. Emily Haesler (Ed.), Cambridge Media: Perth, Australia, 2014.



Heel Pressure Ulcers



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)

- National Pressure Ulcer Advisory Panel, European Pressure Ulcer Advisory Panel and Pan Pacific Pressure Injury Alliance. Prevention and treatment of pressure ulcers: Clinical practice guideline. Emily Haesler (Ed.). Cambridge Media: Perth, Australia, 2014.

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



Dietitian

- 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

– Poethbauer 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.

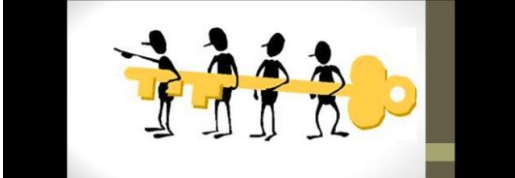
Dietitian

- 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)

– Poethbauer 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.

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



* National Pressure Ulcer Advisory Panel, European Pressure Ulcer Advisory Panel and Pan Pacific Pressure Injury Alliance. Prevention and treatment of pressure ulcers: Clinical practice guideline. Emily Heister (Ed.) Cambridge Media: Perth, Australia, 2014.

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 (MARS)



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
- www.npuap.org Resources>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

• National Pressure Ulcer Advisory Panel, European Pressure Ulcer Advisory Panel and Pan Pacific Pressure Injury Alliance. Prevention and treatment of pressure ulcers: Clinical practice guideline. Emily Maister (Ed.). Cambridge Media: Perth, Australia, 2014.

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

• National Pressure Ulcer Advisory Panel, European Pressure Ulcer Advisory Panel and Pan Pacific Pressure Injury Alliance. Prevention and treatment of pressure ulcers: Clinical practice guideline. Emily Maister (Ed.). Cambridge Media: Perth, Australia, 2014.

Systems Analysis

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



Systems Analysis

- Analyze each team members role in prevention
- Evaluate where a breakdown in the process occurred
 - Most barriers to quality care occur with processes, not individual people
 - Communication – protocol? referral?
 - Equipment, device, or product – available? effective?
- Corrective action plan to prevent further occurrence
 - Improvement will not occur without a change in process, system, or behavior

A New Paradigm

- **Pressure Ulcer Prevention is Everyone's Job!**



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