

Under Pressure! Nutrition Solutions for Pressure Ulcers

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Note: The NPUAP and EPUAP will release the final version of International Guidelines for Pressure Ulcer Prevention and Treatment in May 2009. Please refer to the NPUAP website for more information (www.npuap.org). The information presented today is as up to date as possible based on the research and information available.

Objectives:

1. Discuss the 2009 NPUAP-EPUAP Pressure Ulcer Classification System and Nutrition Guidelines for Pressure Ulcer Prevention and Treatment
2. Apply the nutrition screening and assessment process to determine nutrition risk and apply appropriate interventions for the prevention and treatment of pressure ulcers
3. Provide some practical solutions for application of nutrition and hydration for the prevention and treatment of pressure ulcers

Description:

Nutrition plays a key role in the prevention and treatment of pressure ulcers. Early identification and correction of nutritional deficits for individuals at risk for pressure ulcer development is essential. Conditions leading to undernutrition may impact wound healing. This session will focus on methods for incorporating nutrition into the overall plan of care for the prevention and treatment of pressure ulcers.

Overview:

"Nutritional requirements usually increase to support pressure ulcer healing. Providing and consuming adequate kilocalories to promote anabolism and correct nutritional deficits treats undernutrition. Undernutrition may impact pressure ulcer healing. Conditions that may lead to undernutrition include: increased dependence on others for eating; chewing and swallowing problems; decreased oral intake of food, and fluid and advanced age. Nutritional interventions should be included in every pressure ulcer treatment plan." NPUAP 2009

Liability, Incidence and Costs

Skin Characteristics, Functions, Risk Factors for Pressure Ulcers

NPUAP-EPUAP International Classification System

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Pressure Ulcer Stages Revised by NPUAP

February 2007 - The National Pressure Ulcer Advisory Panel has redefined the definition of a pressure ulcer and the stages of pressure ulcers, including the original 4 stages and adding 2 stages on deep tissue injury and unstageable pressure ulcers. This work is the culmination of over 5 years of work beginning with the identification of deep tissue injury in 2001.

Pressure Ulcer Definition

A pressure ulcer is localized injury to the skin and/or underlying tissue usually over a bony prominence, as a result of pressure, or pressure in combination with shear and/or friction. A number of contributing or confounding factors are also associated with pressure ulcers; the significance of these factors is yet to be elucidated.

Pressure Ulcer Stages

Suspected Deep Tissue Injury:

Purple or maroon localized area of discolored intact skin or blood-filled blister due to damage of underlying soft tissue from pressure and/or shear. The area may be preceded by tissue that is painful, firm, mushy, boggy, warmer or cooler as compared to adjacent tissue.

Further description:

Deep tissue injury may be difficult to detect in individuals with dark skin tones. Evolution may include a thin blister over a dark wound bed. The wound may further evolve and become covered by thin eschar. Evolution may be rapid exposing additional layers of tissue even with optimal treatment.

Stage I:

Intact skin with non-blanchable redness of a localized area usually over a bony prominence. Darkly pigmented skin may not have visible blanching; its color may differ from the surrounding area.

Further description:

The area may be painful, firm, soft, warmer or cooler as compared to adjacent tissue. Stage I may be difficult to detect in individuals with dark skin tones. May indicate "at risk" persons (a heralding sign of risk)

Stage II:

Partial thickness loss of dermis presenting as a shallow open ulcer with a red pink wound bed, without slough. May also present as an intact or open/ruptured serum-filled blister.

Further description:

Presents as a shiny or dry shallow ulcer without slough or bruising.* This stage should not be used to describe skin tears, tape burns, perineal dermatitis, maceration or excoriation.

*Bruising indicates suspected deep tissue injury

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Stage III:

Full thickness tissue loss. Subcutaneous fat may be visible but bone, tendon or muscle are not exposed. Slough may be present but does not obscure the depth of tissue loss. May include undermining and tunneling.

Further description:

The depth of a stage III pressure ulcer varies by anatomical location. The bridge of the nose, ear, occiput and malleolus do not have subcutaneous tissue and stage III ulcers can be shallow. In contrast, areas of significant adiposity can develop extremely deep stage III pressure ulcers. Bone/tendon is not visible or directly palpable.

Stage IV:

Full thickness tissue loss with exposed bone, tendon or muscle. Slough or eschar may be present on some parts of the wound bed. Often include undermining and tunneling.

Further description:

The depth of a stage IV pressure ulcer varies by anatomical location. The bridge of the nose, ear, occiput and malleolus do not have subcutaneous tissue and these ulcers can be shallow. Stage IV ulcers can extend into muscle and/or supporting structures (e.g., fascia, tendon or joint capsule) making osteomyelitis possible. Exposed bone/tendon is visible or directly palpable.

Unstageable:

Full thickness tissue loss in which the base of the ulcer is covered by slough (yellow, tan, gray, green or brown) and/or eschar (tan, brown or black) in the wound bed.

Further description:

Until enough slough and/or eschar is removed to expose the base of the wound, the true depth, and therefore stage, cannot be determined. Stable (dry, adherent, intact without erythema or fluctuance) eschar on the heels serves as "the body's natural (biological) cover" and should not be removed.

The staging system was defined by Shea in 1975 and provides a name to the amount of anatomical tissue loss. The original definitions were confusing to many clinicians and lead to inaccurate staging of ulcers associated or due to perineal dermatitis and those due to deep tissue injury.

The proposed definitions were refined by the NPUAP with input from an on-line evaluation of their face validity, accuracy clarity, succinctness, utility, and discrimination. This process was completed online and provided input to the Panel for continued work. The proposed final definitions were reviewed by a consensus conference and their comments were used to create the final definitions. "NPUAP is pleased to have completed this important task and look forward to the inclusion of these definitions into practice, education and research", said Joyce Black, NPUAP President and Chairperson of the Staging Task Force.

For more information, contact npuap.org or 202-521-6789

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Development of the NPUAP-EPUAP International Guidelines

Medical Nutrition Therapy for Pressure Ulcers

NPUAP-EPUAP Nutrition Prevention Guidelines not yet finalized

NPUAP Prevention Points

Pressure Ulcer Prevention Points: http://www.npuap.org/PU_Prev_Points.pdf

Most Important! Assess for any nutrition deficit and make a plan to correct it

Nutrition Treatment Recommendation

1.0. Screen and Assess nutritional status for each individual with a pressure ulcer at admission and with each condition change and/or when progress toward pressure ulcer closure is not observed. (Strength of Evidence = C)

- Early nutritional screening & assessment is essential to identify risk of undernutrition, PEM & UWL which may precipitate PU development
- Evaluate procedures to ensure early referral to RD upon identification of risk or current PU, and define role of RD/DTR on the wound care team
- Screening Tools:
 - Braden or Norton Scale: to determine risk for pressure ulcer development
 - Internal pressure ulcer report
 - Roster/matrix report if in NF (PrU, UWL, poor food intake, enteral feeding, dehydration)

Comprehensive Nutritional Assessment

ADA Nutrition Care Process:

1. Nutrition Assessment
 2. Nutrition Diagnosis
 3. Nutrition Intervention
 4. Nutrition Monitoring & Evaluation
- Identify risk factors for undernutrition, PEM and hydration deficits that increase the potential for pressure ulcers or delay healing
 - ABCs of Nutritional Assessment
 - Anthropometrics: UWL (Assess weight status)
 - Biochemical: Albumin and Prealbumin
Protein levels are affected by inflammation, renal function, hydration & other factors

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- Clinical
 - Monitor for significant changes

 - Acceptance of interventions and Healing rates

 - Physical S&S

 - Cognitive status, functional ability, ADL status
- Dietary Intake
 - Ability to eat independently
 - Food intake/acceptance
- Nutritional needs calculations

Nutrition Treatment Recommendation

2.0. Provide sufficient Kcalories. (Strength of Evidence = B).

- Sufficient to prevent undernutrition, PEM, UWL
- Assessment of energy needs

- Modify dietary restrictions when they result in decreased food and fluid intake
- Consider enhanced foods, oral supplementation
- Enteral feedings

Nutrition Treatment Recommendation

3.0 Provide adequate protein for positive nitrogen balance for an individual with a pressure ulcer. (Strength of Evidence = B).

- Protein intake must be sufficient to prevent PEM, promote healing & a positive nitrogen balance
- Recommendations for protein requirements

Amino Acids

- Recommendations for arginine and glutamine

Nutrition Treatment Recommendation

4.0. Provide and encourage adequate daily fluid intake for hydration. (Strength of Evidence = C).

- Hydration requirements

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- Methods of assessing fluid needs

Nutrition Treatment Recommendation

5.0. Provide adequate vitamins and minerals. (Strength of Evidence = B).

- Healthy diet
- Vitamin C
- Zinc and copper
- Recommendations

Obese Individuals

Suggested Nutrition Interventions to Achieve Nutritional Goals

Nutrition Interventions

- Food first! Liberalize diets, nutritional supplements, enhanced foods, and food fortifiers can be used to combat UWL, undernutrition and PEM.
- Appetite stimulants
- Nutrition support (enteral or parenteral nutrition)

Monitoring & Evaluation

1. Review weekly skin reports
2. Evaluate food/fluid intake
3. Determine acceptance of supplements
4. Evaluate current laboratory values
5. Document progress or condition change
6. Notify physician, as appropriate, of condition changes
7. Monitor resident and/or family's response to plan
8. Document refusal of nutritional interventions
9. Revise intervention consistent with resident's needs and update care plan
10. Implement palliative care when appropriate

Ethical & Clinical Implications for Practice

- Early nutrition interventions can help to prevent &/or delay undernutrition, PEM & hydration deficits & their impact on risk of pressure ulcer development
- Clinicians should refer to the RD as soon as risk is identified or upon identification of a pressure ulcer
- Aggressive nutrition interventions should be implemented to prevent or correct nutrition deficits. For individuals at end of life, however, nutrition interventions must be weighed against the burdens versus benefits

Follow written standards of care:

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- International (NPUAP/EPUAP) Guidelines available May 2009 from NPUAP
- Update your facility policies and protocols at least yearly to reflect changes in research or practice guidelines

Most Important Things You Can Do

- Focus individual care plan on improving overall nutritional status through accepted nutrition interventions and positive outcomes
- Assure that nutritional deficits are corrected
- Implement RD Referral Systems

Bottom Line: Intervene Early & Often

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