The 2014 NPUAP/EPUAP/PPPIA Guidelines for Nutrition in Prevention and Management of Pressure Ulcers

AHCA
Emerging Nutrition Issues Webinar Series – Part 1

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Objectives

1. Understand the impact of pressure ulcers on the quality of life for our aging population.

2. Identify the 2014 "evidence based international guidelines" for nutrition from NPUAP/EPUAP/PPPIA

3. Define practical nutrition strategies for preventing and healing pressure ulcers
Pressure Ulcers: Definition

A pressure ulcer is a 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. (def. NPUAP-EPUAP, 2009)

<table>
<thead>
<tr>
<th>Normal</th>
<th>Stage 1</th>
<th>Stage 2</th>
<th>Stage 3</th>
<th>Stage 4</th>
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</table>

Pathogenesis of Pressure Ulcers

- Cell (and tissue) death
- Oedema
- Fluid escapes into extravascular space
- Decrease in capillary flow
- Ischaemia, capillary thrombosis, and occlusion of lymphatic vessels
- Increased capillary permeability

Adapted from: "ABC of Wound Healing", Blackwell Publishing, 2006
The goal of this international collaboration was to develop evidence-based recommendations for the prevention and treatment of pressure ulcers that could be used by health professionals throughout the world. 

Produced by the Guideline Development Group (GDG).

Each section had a small work group (SWG) representatives from each organization.
Guideline Recommendations

- Formulated conclusions and developed recommendations.
- Reviewed 2009 guidelines and revised based on new evidence rating.
- Determined strength of body of evidence.
- Recommendations and evidence summaries reviewed by GDG and 986 invited international stakeholders.
- Final draft approved by Guideline Development Group (GDP)
- Final stage was determining strength of each recommendation statement.

General Guideline

- Recommendations are a general guide to be implemented by qualified health professionals subject to their:
  - clinical judgment of each individual case and
  - in consideration of the patient consumer’s personal preferences and available resources.
- The guideline should be implemented in a culturally aware and respectful manner in accordance with the principles of:
  - protection,
  - participation and partnership.
Criteria

Inclusions
- Study designs: Clinical controlled trials with a minimum of 10 subjects
- Systematic reviews with Cochrane methodology meta-analyses
- Qualitative studies as appropriate to the topic

Exclusions
- Animal studies (unless other not available)
- Studies of chronic wounds - unless subgroup of ≥10 subjects with Pressure Ulcers was analyzed separately

Level of Evidence Rating to Support Recommendations

A
Direct scientific evidence from properly designed and implemented controlled trials on PrU in humans (or humans at risk of PrUs), providing statistical results that consistently support the recommendation (level 1 studies/clear cut evidence)

B
Direct scientific evidence from properly designed and implemented clinical series on PrU in humans (or humans at risk of PrUs) providing statistical results that consistently support the recommendation

C
Indirect evidence (e.g., healthy humans, animal models and/or other types of chronic wounds and/or expert opinion)
### Strength of Recommendations (SOR)
Assists Health Professionals Prioritize Interventions

- **Strong positive recommendation:** definitely do it
- **Weak positive recommendation:** probably do it
- **No specific recommendation**
- **Weak negative recommendation:** probably don’t do it
- **Strong negative recommendation:** definitely don’t do it

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### Malnutrition

- Increases morbidity and mortality.
- Decreases function and quality of life.
- Increases frequency and length of hospital stay.
- Increases health care costs.

Diagnosing Adult Malnutrition

The following factors may make malnutrition diagnoses more difficult:

- Infection, stress
- Hydration status
- Multiple drug use
- Chronic disease
- Acute illness
- Changes in organ function

Inflammation and Malnutrition

- Inflammation (d/t infection, injury, surgery, etc.): an important underlying factor that increases risk for malnutrition.
- May contribute to suboptimal response to nutrition intervention and increased risk of mortality.

White J, *J Acad Nutr Diet* 2012;112:730-730
**Definitions: Adult Malnutrition**

- “Malnutrition is most simply defined as any nutritional imbalance.” (Dorland 2011)

- Undernutrition: lack of calories, protein or other nutrients needed for tissue maintenance and repair.

- Undernutrition and malnutrition used interchangeably.

  White J, *J Acad Nutr Diet* 2012;112:730-730

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**Diagnosing Malnutrition:**

Identification of ≥2 of the following characteristics:

1. Insufficient energy intake
2. Weight loss
3. Loss of muscle mass
4. Loss of subcutaneous fat
5. Localized or generalized fluid accumulation that may sometimes mask weight loss
6. Diminished functional status as measured by hand grip strength (strong research; cost effective)

  White J, *J Acad Nutr Diet* 2012;112:730-730
Definitions: Adult Malnutrition

- Adult undernutrition: continuum of inadequate intake and/or increased requirements, impaired absorption, altered transport, and altered nutrient utilization.
- Weight loss can occur at multiple points along this continuum.
- May also have inflammatory, hypermetabolic, and/or hypercatabolic conditions.

White J, J Acad Nutr Diet 2012:112:730-730

Malnutrition and Pressure Ulcers

- Pre-existing malnutrition/weight loss increased the odds of developing a PU 3.8 times. (2010)
- Australia, odds ration of having a pressure ulcer are higher with malnutrition in acute and LTC. (2010)
- Home care study in Japan: ≥ 65, rate of malnutrition 58.7% with pressure ulcers compared to 32.6% without them. (2010)
1. Screen nutritional status for each individual at risk of or with a pressure ulcer:
   - at admission to a health care setting;
   - with each significant change of clinical condition; and/or
   - when progress toward pressure ulcer closure is not observed.
   (Strength of Evidence = C, Strength of Recommendation -SOR = probably do it)
2. Use a valid and reliable nutrition screening tool to determine nutritional risk. (Strength of Evidence = C, SOR= Probably do it)

3. Refer individuals screened to be at risk of malnutrition and individuals with an existing pressure ulcer to a registered dietitian or an interprofessional nutrition team for a comprehensive nutrition assessment. (Strength of Evidence = C; SOR=probably do it.)

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**Validated Screening Tools**

**MNA**
- Mini Nutritional Assessment
  - Validated in individuals with PUs
  - Validated & easy to use in older adults
  - (Paudla 2012)
  - [www.mna-elderly.com/](http://www.mna-elderly.com/)

**MUST**
- Malnutrition Universal Screening Tool
  - To identify risk of undernutrition
  - (BAPEN, 2008)
  - [http://www.bapen.org.uk/must_tool.html](http://www.bapen.org.uk/must_tool.html)

**SNAQ**
- Short Nutrition Assessment Questionnaire
  - Wt. loss, appetite, supplements & tube feeding are parameters

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**Mini Nutritional Assessment®**

- MNA®
  - Validated and easy to use in geriatric patients
  - Acute care, hospital based ambulatory care, LTC
  - [http://www.mna-elderly.com](http://www.mna-elderly.com)
MUST
To identify risk of undernutrition (BAPEN, 2008)

- Acute disease (no intake >5 days)

BMI
Weight loss past 3-4 months

http://www.bapen.org.uk/must_tool.html
Braden Nutrition Sub-Score

Information must be accurate at the time completed!

- How often does a person admitted to acute or LTC eat every meal?
- Is the form completed prior to eating any meals?
- NPO & clear liquid diet?
- Can you verify amount of protein consumed?

Comprehensive Nutrition Assessment

Academy’s Nutrition Care Process

Nutrition:
1. Assessment
2. Diagnosis
3. Intervention
4. Monitoring and Evaluation
Early Nutritional Screening and Assessment

- Essential to identify risk of undernutrition, PEM and UWL which may precipitate pressure ulcer development.

Policies & Procedures

- Must be in place for adequate screening.
- Ensure early referral to RDN upon identification of risk or current PrU.

Define roles

- Of the RDN/DTR on the wound care team.

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Screening & Assessment

Nutrition Assessment

**Medical Hx, Physical Exam**
- Diagnosis/recent changes in condition (depression)
- Medications
- Risk or S/S of malnutrition, dehydration

**Diet History, Food Intake**
- Adequacy of food/fluid intake compared to needs
- Chewing, swallowing, self feeding, GI issues

**Body Composition**
- Height, weight, wt. history, UWL (≥5% in 30 days or ≥10% in 180 days), BMI ≤19
- Insidious weight loss
**Nutrition Assessment**

<table>
<thead>
<tr>
<th>Current Interventions</th>
<th>Interviews</th>
<th>Nutrition Focused Physical Examination</th>
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<tbody>
<tr>
<td>Food or dining related interventions</td>
<td>Resident, family and/or staff Acceptance to interventions Compare goals to outcomes</td>
<td>Overall appearance/ indicators of PEM Oral examination Skin examination</td>
</tr>
</tbody>
</table>

- **Food or dining related interventions**
- **Oral nutrition supplements**
- **Nutrition support**

- **Interviews**
  - Resident, family and/or staff
  - Acceptance to interventions
  - Compare goals to outcomes

- **Nutrition Focused Physical Examination**
  - Overall appearance/ indicators of PEM
  - Oral examination
  - Skin examination

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**Unintended Weight Loss**

- May be best indicator of undernutrition
- Reflects poor intake and/or inability of body to metabolize nutrients
- LTC: 50%-75% leave 25% uneaten

Focus of Nutritional Assessment

- **Evaluation of:**
  - Energy intake
  - Unintended weight change
    (insidious weight loss, obese individuals also at risk)
  - Effect of psychological stress or neuropsychological problems
  - Include a determination of the individual’s caloric, protein and fluid requirements.

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Every Pound Counts Counts

<table>
<thead>
<tr>
<th>Loss of Weight</th>
<th>Complications</th>
<th>Associated Mortality</th>
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<tbody>
<tr>
<td>10%</td>
<td>↓ immunity, ↑ infections</td>
<td>10%</td>
</tr>
<tr>
<td>20%</td>
<td>↓ healing, weakness, infection</td>
<td>30%</td>
</tr>
<tr>
<td>30%</td>
<td>too weak to sit, pressure ulcers, pneumonia, no healing</td>
<td>50%</td>
</tr>
<tr>
<td>40%</td>
<td><strong>DEATH,</strong> usually from pneumonia</td>
<td>100%</td>
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R. Demling
Dietary Intake

- Depression affects appetite of 30% of adult outpatients.
- Loss of appetite related to high risk of malnutrition.
- Increases risk of poor wound healing.
- Decreased ability to eat independently.

↓

Risk for undernutrition and delayed healing.

Horn 2004; Gilmore 1995

What about Labs?

No lab test can specifically determine an individual’s nutritional status.

- Serum protein levels may be affected by metabolic stress, inflammation, renal function, hydration and other factors.
What about Labs for Diagnosis of Malnutrition?

Not recommending any specific inflammatory markers for diagnosis at this time.

Inflammatory biomarkers, C-reactive protein and other positive acute phase reactants were excluded — **no conclusive relationship to nutritional status**

White J, J Acad Nutr Diet 2012;112:730-730

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**Inflammation and Stress**

**Release of Cytokines**

- Decreased nitrogen retention
- Decreased albumin synthesis
- Extravasation of albumin from intravascular spaces
- Decreased circulating levels of albumin and cholesterol

**Cytokines**
- Interleukin – 1
- Interleukin – 2
- Interleukin – 6
- Tumor necrosis factor a
- Ciliary neurotrophic factor

Source: Council for Nutrition Clinical Strategies in LTC
**Laboratory Parameters - Inflammation**

**Decreased**
- serum albumin
- serum transferrin
- serum prealbumin
- platelet count
- OR increased white blood cell count

**Increased**
- C-reactive protein (↓'d in liver failure)
- blood glucose
- percentage of neutrophils in the CBC
- Marked negative nitrogen balance

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**Nutrition Assessment**

1. **Assess weight status for each individual to determine weight history and significant weight loss from usual body weight (≥5% change in 30 days or ≥10% in 180 days).**
   - SOE = C; SOR = Probably do it

2. **Assess the individual’s ability to eat independently.**
   - SOE = C; SOR = Definitely do it

3. **Assess the adequacy of total nutrient intake** (food, fluid, oral supplements, enteral/parenteral feedings).
   - SOE = C; SOR = Definitely do it

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EPIAP
PSSA
Pressure
Ulcer
Prevention
and
Treatment
Guidelines
1. Develop an individualized nutrition care plan for individuals with or at risk of a pressure ulcer. (SOE = C, SOR= Probably do it)

1. Follow relevant and evidence-based guidelines on nutrition and hydration for individuals who exhibit nutritional risk and who are at risk of pressure ulcers or have an existing pressure ulcer. (SOE=C, SOR= Probably do it)

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Interprofessional Team

Allen 2013- quasi-experimental study on effects of comprehensive interprofessional nutrition protocol
Use your clinical judgment based on a thorough medical and nutritional assessment to make appropriate individualized recommendations.

Individualized care plan should focus on:
- improving and/or maintaining overall nutritional status
- acceptance of nutrition interventions
- clinical outcomes
Responsive increase in metabolic rate which increases caloric needs (triggered by PrU, infection, severe illness, trauma, etc.)

Energy is essential for pressure ulcer healing

Need to provide adequate calories to promote anabolism, nitrogen and collagen synthesis

Creda 2011, Yamamoto 2009

What Does the Evidence Suggest?

Energy Intake

1. Provide individualized energy intake based on underlying medical condition and level of activity. (SOE = B, Probably do it)

2. Provide 30 to 35 kcalories/kg body weight for adults at risk of a pressure ulcer who are assessed as being at risk of malnutrition. (SOE = C, SOR = Probably do it)

3. Provide 30 to 35 kcalories/kg body weight for adults with a pressure ulcer who are assessed as being at risk of malnutrition. (SOE = C, SOR = Definitely do it)
4. Adjust energy intake based on weight change or level of obesity. Adults who are underweight or who have had significant unintended weight loss may need additional energy intake. (SOE = C, SOR= Definitely do it)

5. Revise and modify/liberalize dietary restrictions when limitations result in decreased food and fluid intake. These adjustments should be made in consultation with a medical professional and managed by a registered dietitian whenever possible. (SOE = C, SOR= Probably do it)

6. Offer fortified foods and/or high calorie, high protein oral nutritional supplements between meals if nutritional requirements cannot be achieved by dietary intake. (SOE = B, SOR= Definitely do it)

7. Consider nutritional support (enteral or parenteral nutrition) when oral intake is inadequate. This must be consistent with the individual’s goals. (Strength of Evidence = C, SOR= Probably do it)
Nutrition Support

NPO >3-5 days

Hydration with IVs does not supply nutrients

Places individual at risk of undernutrition and pressure ulcer development

Enteral Feedings

Determine if patient **actually** receives TF as prescribed:

- Is TF given as ordered (product, mLs/hr)?
- Are flushes given as ordered (flushes, flushes with meds)?
- Is the strength correct?
- Is the individual tolerating the feeding?
- Round the clock or intermittent (turned off)?
All stages require adequate protein

Increased protein levels have been linked to improved healing rates (Lee 2006, Breslow 1993)

Protein intake must be sufficient to prevent PEM, promote healing and a positive nitrogen balance (AHCPR 1994, EPUAP 2004)
Ensure Adequate Protein Intake

15%-38% of older men eat less than the RDI for protein.

27%-41% of older women eat less than the RDI for protein.


What Does the Evidence Suggest for Optimal Protein Intake for Older Adults

- Positive association between protein ingestion and muscle mass (PORT-AGE study group JAMDA 2013)
- Protein spread equally between breakfast lunch and dinner (Paddon-Jones 2009)
- If needed, additional protein supplementation should given between meals (Wilson MM 2002)
Factors Influencing Protein Intake in Older Adults

- **Inadequate intake** = appetite loss or GI disturbances.
- **Reduced ability to utilize available protein** = insulin resistance, protein anabolic resistance, immobility.
- **Increased need for protein** = inflammatory disease, increased oxidative modification of protein, catabolic conditions associated with acute and chronic diseases.

All Lead to Loss of Functionality

1. Provide adequate protein for positive nitrogen balance for adults assessed to be at risk of a pressure ulcer. (SOE = C, SOR = Probably do it)

2. Offer 1.25 to 1.5 grams protein/kg body weight daily for an adult at risk of a pressure ulcer who is assessed to be at risk of malnutrition when compatible with goals of care, and reassess as condition changes. (Strength of Evidence = C), SOR = Probably do it

3. Provide adequate protein for positive nitrogen balance for an adult with a pressure ulcer. (Strength of Evidence = B, Probably do it)

4. Offer 1.25 to 1.5 grams protein/kg body weight daily for adults with an existing pressure ulcer who is assessed to be at risk of malnutrition when compatible with goals of care, and reassess as condition changes. (SOE = C, SOR = Probably do it)

5. Offer high calorie, high protein nutritional supplements in addition to the usual diet to adults with nutritional risk and pressure ulcer risk, if nutritional requirements cannot be achieved by dietary intake. (SOE = A, SOR = Probably do it)
6. Assess renal function to ensure that high levels of protein are appropriate for the individual. (SOE = C, SOR = Definitely do it)

   - Clinical judgment is required to determine the appropriate level of protein for each individual, based on the number of pressure ulcers present, overall nutritional status, co-morbidities, and tolerance to nutritional interventions.

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7. Supplement with high protein, arginine and micronutrients for individuals with a pressure ulcer Category/Stage III or IV or multiple pressure ulcers when nutritional requirements cannot be met with traditional high calorie and protein supplements. (SOE = B, SOR = Probably do it)

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Evidence on Amino Acids

Arginine
May become conditionally indispensible during acute stress.
Stimulates collagen synthesis.
May have some immune stimulating effects.

Additional research is needed to recommend arginine alone or combined with other nutrients.
Several recent studies demonstrate promising results such as the CUBE study.

CUBETrial
A multi-country, randomized, placebo-controlled trial to demonstrate the efficacy of a specific ‘arg+ONS-spec.’ on pressure ulcer healing in non-malnourished patients with stage III-IV ulcers.
Ready-to-drink, high-protein, arginine enriched nutritional supplement
Containing per 200-ml serving:
- 20 g protein
- 3 g L-arginine
- 250 kcal
Vitamins and micronutrients including:
- 250 mg vitamin C
- 38 mg vitamin E (α-TE)
- 9 mg zinc
- 1.5 mg carotenoids
Patient inclusion

**Patients**
- Between 18 yrs and 90 yrs
- Stage III or IV pressure ulcers (EPUAP & NPUAP grading)
- BMI ≥18.5 (18-70 yrs) or BMI ≥21 (>70 yrs)
- Nursing home or hospital based

**Set-up**

43 patients in intention-to-treat analysis (ITT)
- Intervention (‘arg+ONS-spec.’) group: 22 patients
- Control (placebo) group: 21 patients
- Product use: 3x200 ml/day; max. 8 weeks
- Standard diets and pressure ulcer care were maintained

<table>
<thead>
<tr>
<th>Total group (ITT)</th>
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<tbody>
<tr>
<td>Age*</td>
<td>74.9 ± 14.6 y</td>
</tr>
<tr>
<td>BMI*</td>
<td>24.4 ± 4.8 kg/m²</td>
</tr>
<tr>
<td>Ulcer stage III/IV</td>
<td>31/12 (72/28%)</td>
</tr>
<tr>
<td>Pressure ulcer size* (ellipse)</td>
<td>10.5 ± 11.5 cm²</td>
</tr>
<tr>
<td>PUSH tool score*</td>
<td>11.5 ± 3.1</td>
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No sign. differences between groups at baseline
* means ± SD

Specific oral nutritional support improved ulcer healing -indicated by area reduction- compared to the control group over the period of 8 weeks.
With specific oral nutritional support a significant reduction in ulcer size was reached 2 weeks earlier compared to the control group.

- First time-point with a significant reduction compared to baseline
- Arg+ONS-spec. = day 21, P=0.011
- Control group = day 35, P= 0.019

Means ± SEM; data adjusted for center

Conclusions CUBE trial

- Supplementation with additional protein, arginine, and micronutrients accelerated pressure ulcer healing in non-malnourished patients.

- The number of wound dressings, as well as the time needed for changing the dressings, was lower with specific nutritional support over the period of 8 weeks.

- Specific nutritional support can be cost-saving by reducing overall health care costs.

- With specific nutritional support more nursing time is available for other relevant patient care related activities.

- These results warrant further health economics investigations into the benefits of specific ONS.
Dehydration is a risk factor for pressure ulcer development. Hydration needs must be met to assure proper prevention and healing.

Amino Acids

Meet total calorie/protein needs first...

...before trying specialized interventions

Fluids: What Does the Evidence Suggest?

Dehydration is a risk factor for pressure ulcer development.

Hydration needs must be met to assure proper prevention and healing.
1. Provide and encourage adequate daily fluid intake for hydration for an individual assessed to be at risk of or with a pressure ulcer. This must be consistent with the individual's comorbid conditions and goals. (SOE = C, SOR = Definitely do it)

2. Monitor individuals for S/S dehydration: changes in weight, skin turgor, urine output, elevated serum sodium and/or calculated serum osmolality. (SOE = C, SOR = Probably do it)

3. Provide additional fluid for individuals with dehydration, elevated temp, vomiting, profuse sweating, diarrhea or heavily draining wounds. (SOE = C, SOR = Definitely do it)
Needs increase according to insensible water loss

Needs may decrease for CHF, renal failure

In generally healthy individuals that are adequately hydrated, food accounts for >20% of total fluid intake. (DRI 2004)

Total fluid needs include water content of food.
Most nutrient needs can be met through a healthy diet.

However, individuals with pressure ulcers may not be consuming an adequate diet to meet established nutritional reference standards.
1. Provide/encourage individuals assessed to be at risk of pressure ulcers to consume a balanced diet that includes good sources of vitamins and minerals. (SOE = C, SOR = Definitely do it)

2. Provide/encourage an individual assessed to be at risk of a pressure ulcer to take vitamin ad mineral supplements when dietary intake is poor or deficiencies are confirmed or suspected. (SOE = C, SOR = Probably do it)

3. Provide/encourage an individual with a pressure ulcers to consume a balanced diet that includes good sources of vitamins and minerals. (SOE = B, SOR = Definitely do it)

4. Provide/encourage an individual with a pressure ulcer to take vitamin and mineral supplements when dietary intake is poor or deficiencies are confirmed or suspected. (SOE = B, SOR = Probably do it)

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There is no evidence to support vitamin C above the RDI unless a deficiency is diagnosed or suspected.

**Zinc**

Zinc requirements can be met by 2 servings/day of animal protein.
- Meat
- Liver
- Milk
- Eggs

A multivitamin/mineral supplement daily (15 mg zinc) may be adequate.
(DRI 2004)
No research has demonstrated an effect of zinc supplementation on improved pressure ulcer healing.

When clinical signs of zinc deficiency are present, zinc should be supplemented at $\leq 40$ mg elemental zinc/day (UTL).

- Doses $>40$ mg/day can adversely affect copper status and possibly result in anemia.
- High serum zinc levels may inhibit healing.


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Obese Individuals

- There are no evidence based guidelines available related to the nutritional needs of the obese person with pressure ulcers
- Adequate calories, protein, fluids and nutrients are needed for healing
  - General consensus is that diets should be liberalized to promote healing
  - Once the PrU is completely healed, diet restrictions may be gradually implemented as needed
  - Monitor skin integrity and coordinate with RDN (ongoing)

Unavoidable Pressure Ulcer

- In 2010 NPUAP defined an unavoidable PU as one that may occur even though providers have evaluated the individual’s clinical condition and PU risk factors have been evaluated and defined and interventions have been implemented that are consistent with individual needs, goals, and recognized standards of practice.
- Occurs even though providers have monitored and evaluated the impact of preventive interventions and revised these approaches as appropriate.
Individuals with malnutrition in combination with multiple comorbidities are at increased risk for the development of unavoidable pressure ulcers. 91%

Individuals with cachexia are at increased risk for the development of unavoidable pressure ulcers. 100%

Cachexia is cytokine-associated wasting of protein reserves & energy stores due to the effect of diseases such as cancer, cardiac cachexia, ESRD, COPD, cystic fibrosis, & rheumatoid arthritis.

Cytokines directly cause feeding suppression & a lower intake of nutrients & is almost always accompanied by anorexia.

**Older Age**

Age-related skin changes:

- flattening of the dermal epidermal junction
- slower cell turnover, decreased elasticity
- thinning of subcutaneous layers,
- decrease in overall muscle mass,
- decreased intradermal vascular perfusion and oxygenation.
Older Age

- 70% of PU occur ≥ 70
- Critically ill at higher risk for PUs
- End-stage dementia is a terminal illness
- PUI risk increases as feeding problems increase /ESD

Palliative Care
When all other nutrition interventions have been tried and failed...

- The goals of palliative wound care are comfort for the individual and limiting the impact of the wound on quality of life, without the overt intent of healing

- Implement palliative care in accordance with the individual’s wishes, and with consideration to overall health status

Palliative Care

1. Strive to maintain adequate nutrition & hydration compatible with the individual’s condition & wishes (SOE=C, SOR= Definitely to it)

2. Offer nutritional supplements when ulcer healing is the goal. (SOE=C; SOR= Definitely do it)
individuals have the right to request or refuse nutrition and hydration as medical treatment”

- Generally takes precedence over the beliefs or wishes of health care providers.
- Each patient approaches death with different religious, philosophical, and personal attitudes and values


Where true hunger and thirst exist, quality of life may be enhanced

- Most actively dying patients do NOT experience hunger or thirst
- Dry mouth is a problem, but is NOT improved by tube feeding (or IV hydration).”

Hallenbeck J, Weissman D. Fast Fact and Concept #10: Tube Feed or Not Tube Feed?
Steps to Successful Nutrition Care

1. Screen and Assess Nutrition Status
   • Individualize interventions and develop POC

2. Provide diet based on estimated needs, consider fortified foods
   • Offer supplements between meals if intake is inadequate

3. Consider Oral Nutritional Supplement fortified with arginine, vitamin or minerals if needs not met with high calorie/protein supplement
   • Consider EN/PN based on resident's wishes, when needs cannot be met orally

New 2014 NPUAP-EPUAP and Pan Pacific Injury Alliance Guidelines


- **Clinical Practice Guideline**: comprehensive version of the guideline, a detailed analysis and discussion of available research, critical evaluations and description of the methodology used to develop guideline.

- [www.npuap.org](http://www.npuap.org) to order copies
Thank you to Becky Dorner, RDN, LD, FAND

Becky Dorner & Associates
www.beckydorner.com

References

References


Questions