

## **NATIONAL PRESSURE ULCER ADVISORY PANEL**

**Title:** Pressure Ulcer Prevention: A Competency-based Curriculum

### **Purpose:**

To prepare registered nurses with the minimum competencies for pressure ulcer prevention.

### **Competencies:**

1. Identify etiologic factors contributing to pressure ulcer occurrence.
2. Identify risk factors for pressure ulcer development
3. Recognize the presence of factors affecting tissue tolerance.
4. Conduct risk assessment using a valid and reliable tool.
5. Conduct a thorough skin assessment taking into account the individual's uniqueness.
6. Develop and implement an individualized program of skin care
7. Demonstrate proper positioning to decrease pressure ulcer occurrence
8. Select and use support surfaces as indicated by risk status.
9. Use nutritional interventions as appropriate to prevent incident pressure ulcers.
10. Accurately document results of risk assessment, skin assessment, and prevention strategies
11. Apply critical thinking skills to clinical decision making regarding the impact of changes in the individual's condition on pressure ulcer risk.
12. Make referrals to other health care professionals based on client assessment.

### **Content Outline:**

#### **Identify etiologic factors contributing to pressure ulcer occurrence.**

1. Etiologic factors contributing to pressure ulcer occurrence
  - a. Pressure
  - b. Shear
  - c. Friction

#### **Identify risk factors for pressure ulcer development**

2. Risk factors for pressure ulcer development
  - a. Inability to perceive pressure
  - b. Incontinence/moisture
  - c. Decreased activity level
  - d. Inability to reposition
  - e. Poor nutritional intake
  - f. Friction and shear

**Recognize the presence of factors affecting tissue tolerance.**

3. Tissue tolerance factors affecting pressure ulcer development
  - a. Age
  - b. Vascular competency
  - c. Glycemic control in diabetes mellitus
  - d. Body weight/malnutrition

**Conduct risk assessment using a valid and reliable tool.**

4. Risk assessment for pressure ulcers
  - a. Select a risk assessment method or tool appropriate to the population (e.g. Braden Scale & Norton Scale)
  - b. Calculate an individual's risk assessment score using the Braden Scale
  - c. Interpret the significance of the score
  - d. Reassess as significant changes occur in a patient

**Conduct a thorough skin assessment taking into account the individual's uniqueness.**

5. Skin Assessment
  - a. Assess on admission and routinely
  - b. Document findings and incorporate into plan of care
  - c. Assess bony prominences and other areas of exposure to etiologic factors
  - d. Observable indications of tissue ischemia (defined by stages)
    1. Stage I
    2. Stage II
    3. Stage III
    4. Stage IV
  - e. Stages define level of tissue injury and NOT progression of ulcer development or healing

**Develop and implement an individualized program of skin care**

6. Implementation of an individualized program of skin care specific to the individual patient
  - a. Individualized schedule of skin cleansing
  - b. Measures to prevent skin dryness
  - c. Incontinence skin cleansing
    1. Frequency and methods of cleaning
    2. Skin protection (barriers, products)
    3. Evaluation of need to refer for incontinence management

**Demonstrate proper positioning to decrease pressure ulcer occurrence**

7. Proper positioning
  - a. Proper positioning to off set load (e.g. sitting, lying, height of bed)
  - b. Transferring from one position to another (e.g. bed to chair, supine to lateral)
  - c. Frequency of repositioning
  - d. Avoid using donuts
  - e. Avoid vigorous massage
  - f. Small shifts in position while sitting

**Select and use support surfaces as indicated by risk status.**

8. Selection and use of support surfaces
  - a. Evidence underlying use of support surfaces for pressure ulcer prevention
  - b. Indications for use of various types of support surfaces
  - c. Classifying support surfaces (static, dynamic, low air loss, air fluidized)
  - d. Safe application and maintenance of support surfaces

**Use nutritional interventions as appropriate to prevent incident pressure ulcers.**

9. Nutritional Interventions
  - a. Identification of clinical signs of malnutrition (e.g., unintentional weight loss & lab data, physical signs)
  - b. Factors to consider when developing a nutritional plan (e.g., goals of therapy)
  - c. Supplementation (vitamins, minerals, calories, protein, fluids) and feeding strategies
  - d. Assess for appropriate referral

**Accurately document results of risk assessment, skin assessment, and prevention strategies**

10. Documents risk assessment skin assessment, prevention strategies
  - a. Etiology, risk, and tissue tolerance factors to be documented
  - b. Risk assessment results
  - c. Interventions implemented and patient's response
  - d. Frequency of documentation including initial and periodic reevaluation

**Apply critical thinking skills to clinical decision making regarding the impact of changes in the person's condition on pressure ulcer risk.**

11. Demonstrates clinical critical thinking by accurately interpreting changes in patient status and the influence on plan of care to prevent pressure ulcers
  - a. Case studies to demonstrate mastery of content
  - b. Identification of patient triggers that require changes in plan of care

## CASE STUDY- Pressure Ulcer Prevention

Mrs. Katie Wilson is a 78-year-old white widow who has been admitted to your acute care hospital unit with a diagnosis of right lower lobe pneumonia. Prior to admission, she was living alone in a two-bedroom apartment. She has had osteoarthritis for the past 20 years, which has limited her mobility to ambulating only in her apartment. She is dependent on her neighbor for her grocery shopping. She does her own personal activities of daily living (bathing, dressing, etc.). She has been taking nonsteroidal antiinflammatory agents for pain associated with her osteoarthritis. She has a son who lives on the opposite coast and is not available for daily care needs.

### ADMISSION DATA

Temp = 39.2 C, R = 30 & shallow, P=112 apical and regular, BP= 96/56. Wt = 95 lbs., Ht = 5' 4''

### PHYSICAL ASSESSMENT AND PERTINENT ADMISSION HISTORY

#### Neuro/musculoskeletal

Responds to verbal questioning, but is lethargic and does not communicate her needs.

Over the past 4 days has been increasingly fatigued spending most of her time in bed. Is very weak and unable to change her position independently.

#### Abdominal

Intake has been limited to half bowl of cereal twice a day and piece of toast and tea for lunch for the past 4 days.

Last bowel movement was 3 days ago; + bowel sounds

#### Cardiovascular

NSR, No S<sub>3</sub>; S<sub>4</sub> at apex, +1 pedal edema, faintly palpable pedal pulses, capillary refill 3 seconds

#### Respiratory

Crackles over right lower lobe, coughing periodically, productive of yellow mucous

#### Renal

Episodes of urinary incontinence for the past 4 days prior to admission (PTA)

Now is voiding concentrated urine, wets herself occasionally

#### Integumentary

Skin is warm, dry, translucent, tenting noted

### LAB DATA

Hg 10, HCT 28, RBC = 3.2, WBC 21,000 shift to the left

Albumin 3.0 gm/dl, K= 3.1, BUN= 32 mg/100ml

**MEDICAL ORDERS**

D5/1/2 NS with 10 meq KCL at 100cc/hr  
 Cephalosporin 1 gm IV q 8 hrs  
 Colace 100 mg po TID  
 Metamucil 1 package OD  
 Multivitamin 1 tablet OD  
 Tylenol 650 mg po for temp > 38 C  
 Regular diet as tolerated

Bronchodilator inhaler 2 puffs q4hrs prn  
 2 L oxygen via nasal cannula continuously  
 pulse oximetry monitoring continuously  
 Bedrest  
 Respiratory toileting q shift  
 Daily weights

**QUESTIONS**

1. On admission, what risk factors for pressure ulcers does Mrs. Wilson have?
2. Using the Braden Scale, what is Mrs. Wilson's score? How would you use this score to plan her care?
3. Based on your nutritional assessment, what, if any, nutritional interventions would be appropriate for Mrs. Wilson at this time?
4. How should Mrs. Wilson be positioned? Given her level of mobility what preventive interventions are indicated to protect her from the effects on unrelieved pressure?
5. What protective measures are indicated given Mrs. Wilson's incontinence?
6. What clinical manifestations would alert you that more vigorous interventions are indicated?
7. Give a sample of a nursing narrative note and how you would document your assessments and interventions for Mrs. Wilson.

**ANSWERS**

1. Fever, moist skin from perspiration and urinary incontinence contribute to increased moisture on her skin, a risk factor for pressure ulcer development.  
 Reduced nutritional intake for the past 4 days, marginal albumin level and decreased hemoglobin and hematocrit levels suggest possible nutritional deficit, another risk factor for pressure ulcer development.  
 Dehydration, elevated BUN, weakness, and osteoarthritis contribute to her decreased mobility and activity level, which is a third risk factor for pressure ulcer development.
2. Sensory perceptions = slightly limited (3)  
 Moisture = moist (2)  
 Activity = bedfast (1)  
 Mobility = completely immobile (1)  
 Nutrition = very poor (1)  
 Friction and Shear = problem (1)  
 Total score = 9  
 At risk for pressure ulcer development, needs to have prevention strategies implemented
3. Albumin is low and quality and quantity of intake is poor. Request nutritional assessment by Registered Dietitian to determine need for supplementation.

4. Position in 30 degree lateral position. Head of bed not greater than 30 degrees, not having respiratory distress at this time. Begin using a q2hour turning schedule. Dynamic support surface over her bed needed at this time. Put pillows or padding between her knees and ankles. Consider a protective dressing on her elbows to prevent injury. Keep her heels elevated off the bed surface.
5. Clean perineal area after each soiling with gentle soap/cleanser. Apply a protective barrier cream.
6. Observe for a stage I pressure ulcer by looking for non-blanchable erythema over her bony prominences. Assess these areas also for changes in skin temperature such as warmth, hardness or softness, swelling. The appearance of blisters would indicate a stage II pressure ulcer.
7. Remains weak and lethargic, turned and positioned q 2 hrs, remains on dynamic support surface. Skin is warm, dry and tents. Urinary incontinence X 2; perineal area washed, dried and barrier cream applied. Skin remains intact with no signs of irritation or denuding of the epidermis. Skin over bony prominences pale pink in color, with no evidence of a Stage I pressure ulcer. Ingesting all oral nutritional supplements with assistance.

## **References:**

- AHCPR. (1992, May). Panel for the Prediction and Prevention of Pressure Ulcers in Adults. Pressure Ulcers in Adults: Prediction and Prevention. Clinical Practice Guideline, Number 3. AHCPR Publication No. 92-0047. Rockville, MD: Agency for Health Care Policy and Research, Public Health Service, U.S. Department of Health and Human Services.
- Ayello, E.A., Braden, B. (November 2001). Why is pressure ulcer risk assessment so important? Nursing 2001.
- Bennett, M.A. (1995). Report of the task force on the implications for darkly pigmented intact skin in the prediction and prevention of pressure ulcers. Advances in Wound Care. 8(6), 34-5.
- Bryant R. A. (Ed.). (2000). Acute and chronic wounds: Nursing management 2<sup>nd</sup> edition, St. Louis, MO: Mosby .
- Henderson, C.T., Ayello, E.A., Sussman, C., Leiby, D.M., Bennett, M.A., Dungog, E.F., Sprigle, S., Woodruff, L. (1997). Draft definition of stage I pressure ulcers: Inclusion of persons with darkly pigmented skin. Advances in Wound Care. 10(5), 16-19.
- Krasner, D.L. Rodeheaver, G.T., Sibbald, R.G. (Eds). (2001). Chronic wound care: A clinical source book for healthcare professionals 3<sup>rd</sup> edition. Wayne, PA: Health Management Communications.
- Maklebust, J., Sieggreen M. (2001). Pressure ulcers: guidelines for prevention and nursing management, 3<sup>rd</sup> edition. Springhouse, PA: Springhouse Corporation.
- Morison, M.J. (Ed.). (2001). The prevention and treatment of pressure ulcers. St. Louis: Mosby.
- National Pressure Ulcer Advisory Panel Website. [www.npuap.org](http://www.npuap.org).
- National Pressure Ulcer Advisory Panel. Cuddigan, J., Ayello, E.A., Sussman, C. (Eds). (2001). Pressure ulcers in America: Prevalence, incidence, and implications for the future. Reston, VA:NPUAP.
- Smyth, K.A., Maguire, D.P. (Eds). (December, 1999). The Nursing Clinics of North America. Philadelphia, PA:W.B. Saunders Company.
- Sussman, C., Bates-Jensen, B.M. (1998). Wound care: A collaborative practice manual for physical therapists and nurses. Gaithersburg, MD: Aspen Publishers.

Sprigle, S., Linden, M., McKenna, D., Davis, K., Riordan, B. (2001). Clinical skin temperature measurement to predict incipient pressure ulcers. Advances in Skin and Wound Care. 14(3), 133-137.

Thomas, D.R., Allman, R.M. (Eds). (August, 1997). Clinics in Geriatric Medicine Pressure Ulcers. Philadelphia, PA:WB Saunders Company.