Part B:
Educational Workshop for Unregulated Care Providers: Assessment and Management of Pressure Ulcers

Based on the Registered Nurses’ Association of Ontario Best Practice Guideline:
Assessment and Management of Stage I to IV Pressure Ulcers
Anatomy and Physiology of the Skin

The Skin
- Defines us
- Largest organ in the body
- Weighs 3kg
(Molony et al., 1999)
Anatomy and Physiology of the Skin

Two Layers of the Skin

Epidermis

- Outermost layer of the skin
- Stratified epithelium, contains no blood vessels, receives nourishment and oxygen by diffusion from the capillaries in the dermis
- Consists of 5 layers: horny layer, clear layer, granular layer, spiny layer, basal layer

Dermis

- Located below the epidermis
- Connective tissue of the dermis is composed of an interlocking meshwork of fibrous proteins and nonfibrous ground substance
Anatomy and Physiology of the Skin

Subcutaneous Tissue

Composed of:

- Loose connective tissue
- Adipose tissue
- Elements of peripheral vasculature
Anatomy and Physiology of the Skin

Six Functions of the Skin

- Supports underlying body structures
- Maintains thermoregulation
- Source of sensation
- Eliminates waste
- Protects
- Synthesizes vitamin D

(Molony et al., 1999)
Anatomy and Physiology of the Skin

Factors that Affect Skin Condition

- Dryness
- Age
- Nutrition
- Hydration
- Environment
Assessing Risk Factors for Developing Pressure Ulcers

Pressure Ulcer

Definition

- Any lesion caused by unrelieved pressure that results in damage to underlying tissue
- Usually occurs over a bony prominence
- Staged to classify the degree of tissue damage observed
Assessing Risk Factors for Developing Pressure Ulcers

Common Pressure Ulcer Sites

Supine Position
- heels, sacrum, elbows, scapulae, back of head

Lateral Position
- malleous, medial and lateral condyles, greater trochanter, ribs, acromion process, ear

Prone Position
- toes, knees, genitalia (men), breasts (women), acromion process, cheek and ear

Sitting Position
- elbow, sacrum, ischium

Illustrated by Nancy A. Bauer, BA, Bus Admin, RN, ET
Assessing Risk Factors for Developing Pressure Ulcers

Risk Factors

- Immobility
  - Weakness/drowsiness
  - Decreased muscle control/paralysis
  - Contractures
  - Restraints
- Decreased Sensation
  - Diseases ie. Stroke, Diabetes
- Medical Conditions
  - ie. Heart Disease, Diabetes
- Changes in Normal Skin Integrity
  - Decreased body fat
  - Decreased skin elasticity
  - Diminished circulation
Assessing Risk Factors for Developing Pressure Ulcers

Risk Factors, *cont’d*

- Psychological Factors
  - ie. Depression and cognitive impairment
- Poor Nutrition
  - Reduced intake of calories, vitamins, proteins and fluids
  - Increases risk for developing pressure ulcers and slows healing
- Excessive Moisture
  - Decreases tissue strength
  - Increases skin’s susceptibility to infection
    - eg. Perspiration (heat/fever) and incontinence
Assessing Risk Factors for Developing Pressure Ulcers

Risk factors, \textit{cont’d}

\begin{itemize}
  \item Lack of Knowledge
    \begin{itemize}
      \item Risk factors, eg. role of nutrition
      \item Strategies for prevention/management
        \begin{itemize}
          \item eg. turning, using pressure reducing/relieving surfaces
        \end{itemize}
    \end{itemize}
\end{itemize}
Assessing Risk Factors for Developing Pressure Ulcers

Contributing Factors

Pressure

▶ Force per unit area that acts perpendicularly between the body and the support surface

▶ Affected by the stiffness of the support surface, the composition of the body tissue and the geometry of the body being supported

Friction

▶ Mechanical force exerted when the skin is dragged across a coarse surface such as bed linens

▶ eg. Clothing, sheets and poor fitting splints
Assessing Risk Factors for Developing Pressure Ulcers

Contributing Factors, *cont’d*

**Shear**

- Mechanical force that acts on a unit area of skin in a direction parallel to the body surface
- Affected by the amount of pressure exerted, the coefficient of friction between the material contacting each other and the extent to which the body makes contact with the support surface
- Sliding, eg. bed/chair
- Improper lifting technique, eg. lifting with one person, dragging

**Temperature**

- Hot temperatures
- Inappropriate clothing and mattresses
Pressure Ulcer Prevention and Management

Prevention and Management

Assess Skin Integrity

- Changes in colour and quality, eg. non-blanchable redness
- Breaks in skin, eg. skin tears or cuts
- Moisture and dryness
- Notify nurse in charge of changes

Moisture

- Hygiene (bathe with mild soap, rinse and dry thoroughly)
- Keep skin clean and dry, ie. body wastes, perspiration and wound drainage
- Keep linen dry and wrinkle free
Pressure Ulcer Prevention and Management

Prevention and Management, cont’d

Dryness

- Moisturize skin (lotion)
- Avoid massaging bony prominences

Pressure

- Turn Q2H
- Use positioning devices
- Avoid using donuts, eggcrate mattresses and sheepskin
- Ask for assistance lifting/transferring
- If redness present turn more frequently
Pressure Ulcer Prevention and Management

Prevention and Management, *cont’d*

**Friction**
- Decrease HOB, = 30° (reduce sliding)
- Limit time HOB @ 90°

**Shear**
- Decrease HOB (reduce sliding)
- Lift residents during transfers (avoid sliding or dragging)
- Use assistive devices (ie. Trapeze)
- Ask for assistance lifting/transferring
Pressure Ulcer Prevention and Management

Prevention and Management, cont’d

Nutrition

- Observe for poor/changes in appetite and fluid intake
- Observe for decreased intake, ie. less than 2/3 of meal tray
- Monitor weight
- Notify nurse in charge of changes
Pressure Ulcer Prevention and Management

Prevention and Management, *cont’d*

**Immobility**
- Positioning (avoid pressure points)
- Positioning devices, i.e., pillow and wedges
- Turning schedules (turn Q2H)
- ROM, mobility, and ambulation

**Decreased Sensory Perception**
- High density foam mattress
- Avoid hot water
Pressure Ulcer Prevention and Management

Special Considerations

Physical

- Heels – prevent patient heels from resting/rubbing against the bed
  - Proper transferring
  - Pillows

Quality of Life

- How do pressure ulcers affect the patient’s quality of life?
- Ask patient to describe his/her current health status
- Ask patient how the pressure ulcer impacts on his/her day to day living
A Multidisciplinary Approach to Pressure Ulcer Care

Role of Interdisciplinary Team

**Dietitian**

*Consultation*

- Evaluation intake/output
- Make nutritional recommendations

**Occupational Therapy/Physiotherapy**

*Consultation*

- Support surfaces for seating
- Positioning devices
- Promoting mobility

**Social Work**

*Consultation*

- Apply for high intensity needs
- Quality of life
A Multidisciplinary Approach to Pressure Ulcer Care

Role of the Nurse

- Ongoing assessment, care planning and evaluation
- Provide clinical support to the staff at the unit level
- Reinforce best practices amongst staff
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Involvement of Physicians and Surgeons

- General Practitioners
- Geriatricians
- Dermatologists
- Plastic Surgeons
- Vascular Surgeons
A Multidisciplinary Approach to Pressure Ulcer Care

Your Role

- Assessing skin integrity
- Monitoring for risk factors
- Identifying contributing factors
- Implementing strategies for pressure ulcer management
- Communication with the team when changes occur
Assessment and Management of Pressure Ulcers

References