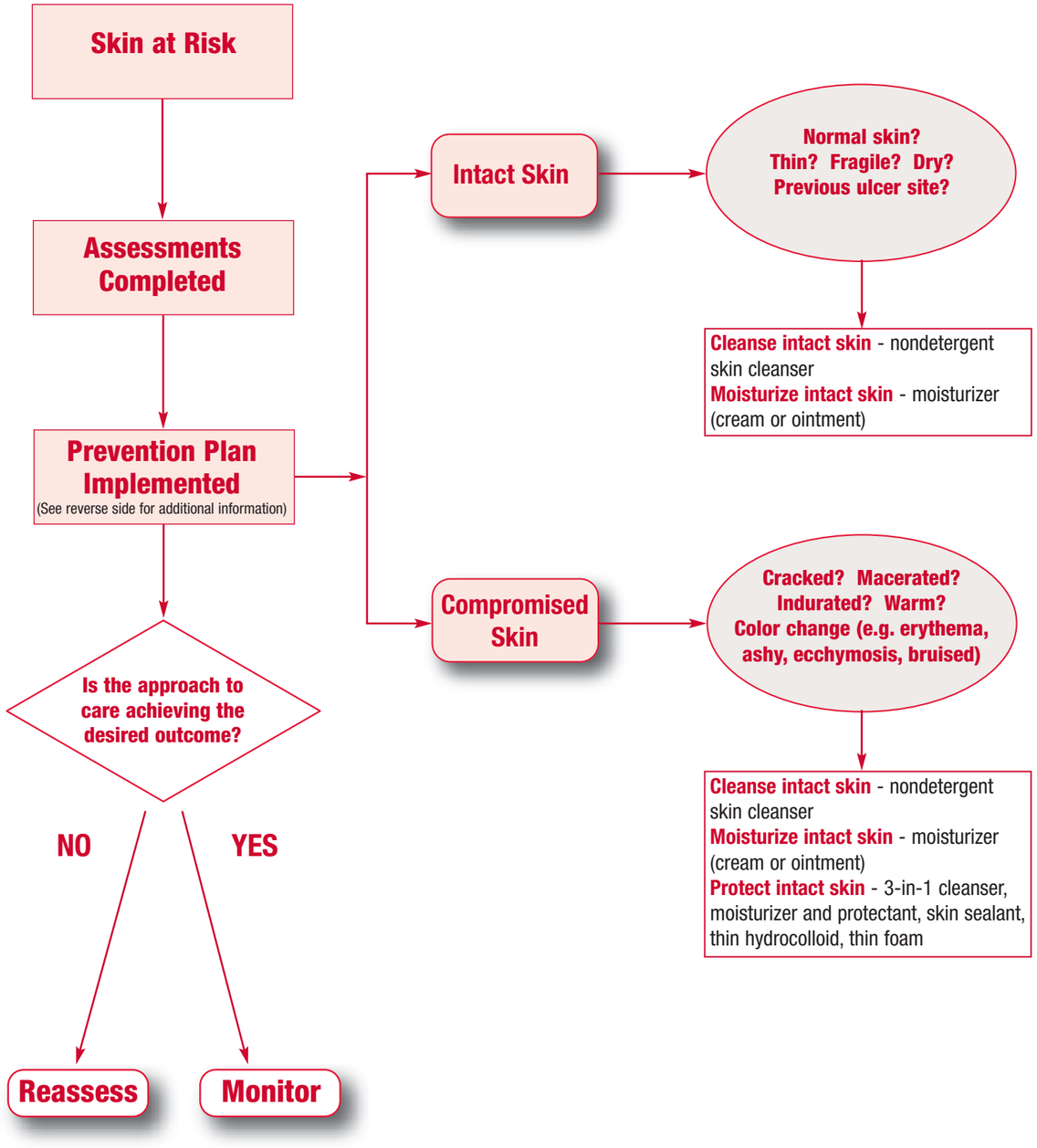
# SKIN AT RISK




SKIN AT RISK

## NURSING ASSESSMENTS:

The following provides a guideline for clinical assessment. Assessments must be done at regular intervals and are used to drive treatment decisions.

- **Assessment of risk or contributing factors** associated with skin breakdown should be determined from the patient's history. A summary of risk factors and types of impaired skin integrity follows: (see prevention plan for more information)

| Problem | Risk Factors | |
|---|---|---|
| | **Local** | **Systemic** |
| **Stripping/Shearing Injury** | Mechanical Trauma | Elderly |
| | Ischemia | Immobility |
| | Dry Tissue | Malnutrition |
| **Perineal Skin Compromise** | Incontinence | Recent antibiotic use |
| | Inadequate hygiene | Elderly |
| | Mechanical trauma | Malnutrition |
| **Arterial Ulcer** | Mechanical trauma | Peripheral vascular disease |
| | Pressure | Smoking |
| | | Elderly |
| **Neuropathic Ulcer** | Mechanical trauma | Diabetes |
| | Pressure | Spinal cord injury |
| **Pressure Ulcer** | Moisture | Malnutrition |
| | Friction | Immobility |
| | Pressure | Decreased activity |
| | Shearing | Sensory perception deficits |
| **Venous Ulcer** | Edema | History of deep vein thrombosis |
| | Cellulitis | Previous leg ulceration |
| | Mechanical trauma | Obesity |

- **General assessments:** include patient's current health status, disease processes, age, activity level, nutrition and medications.
- **Assessment of the skin:** color; temperature; sensation (e.g. pain, sensory perception, itching); hydration (e.g. dry, cracked, moist); tissue consistency (e.g. firm, boggy); thin skin; presence of edema; induration; changes in any of the above; and, presence of healed ulcer or incision.
- **Assessment of nutrition, hydration, current skin care, patient/caregiver level of understanding, compliance in care, and learning style.**

## GENERAL NURSING INTERVENTIONS

- **Provide systematic skin inspection** at least daily based upon characteristics listed above.
- **Implement prevention protocols** based on the potential for the following:

  *Stripping/Shearing Injury* - proper turning, and positioning techniques, careful selection and removal of adhesives, use of alternatives to tape.

  *Perineal Skin Compromise* - cleanse and protect tissue at frequent intervals, gently cleanse skin, frequent use of a moisturizer or barrier is recommended with incontinence, appropriate use of incontinence containment products (e.g. fecal collectors, external urinary collection pouches, external urinary catheters) is recommended.

  *Arterial Ulcer* - consult with physician regarding ischemia and planned treatment, protect extremity from trauma, cleanse, moisturize and protect intact skin, avoid foot soaks.

  *Neuropathic Ulcer* - consult with physician if ischemia exists, protect from injury with orthotics or other appropriate footwear, cleanse, moisturize and protect intact skin, avoid foot soaks.

  *Pressure Ulcer* - use of a validated pressure ulcer risk assessment tool, proper positioning, turning, patient support surface and/or wheelchair seat are essential, cleanse, moisturize and protect intact skin, avoid massage of bony prominences, orthotic devices.

  *Venous Ulcer* - compression therapy, leg elevation, exercise (e.g. walking), weight management as needed, cleanse, moisturize and protect intact skin.

- **Provide adequate nutritional intake and hydration.** Provide recommended amount and types of food each day. Consider dietician consult for suboptimal nutrition.
- **Provide education:** patient, family and caregiver. Use preventative strategies.
- **Document** assessments and interventions.
- **Reassess** at regular intervals per facility protocol.

# SKIN AT RISK

## BACKGROUND INFORMATION:

The **skin** is the largest organ of the body and, as such, comprises a surface area which is subjected to external injury from mechanical forces (e.g. pressure, friction, shear, stripping), chemical exposure (e.g. urine, stool, wound exudate, solutions for skin and wound care), radiation (e.g. ultraviolet, therapeutic) and potential pathogens (e.g. fungi, bacteria). Protection is one of the skin's primary functions. Additionally, it prevents loss of moisture through evaporative water loss, maintains thermoregulation, synthesizes vitamin D and provides sensory feedback.

Anatomically, the skin is composed of two layers: the epidermis and the dermis.

The **epidermis**, which is the outermost layer of the skin, is characterized as follows:

- avascular
- varies in thickness (depending on body location)
- a dry structure which sheds cells and replaces itself every 4-6 weeks
- approximately the thickness of a piece of plastic wrap

The **dermis** is located directly beneath the epidermis and is characterized as follows:

- provides strength and structural support through a vascular network of connective tissues
- contains blood vessels, nerves, hair, nails, sebaceous glands and sweat glands
- is thicker than the epidermis

Below the dermis, is the **subcutaneous tissue** which is composed of major vessels, lymphatics, fat and connective tissue. This area provides insulation and nutritional support for the skin. Located below the subcutaneous tissue are **fascia, muscles, tendons and bone**. All layers of tissue below the epidermis are moist. Therefore, moisture retentive wound care treatments are usually indicated in order to maintain cell life and proliferation.

The **skin changes as we age**. The number of sweat glands declines and the epithelial and fatty layers of the subcutaneous tissue become thinner. As this padding is lost, a higher risk of skin breakdown secondary to pressure, friction, stripping and shearing exists. Itching and dry skin are also common complaints. Disease states, dehydration, malnutrition, medications and immobilization may further affect the skin and, when a wound is present, may impair healing.

Variations in **skin color** based on ethnic background can lead to a missed diagnosis of early compromise. Although the epidermal outer layer in dark pigmented patients is the same thickness as that of lighter skinned individuals, there are a greater numbers of cells which are arranged in a more compact fashion. This results in a more effective barrier to chemical and mechanical insults. However, the dark pigmentation also makes assessment of early injury and treatment more difficult to detect. In dark pigmented patients, a purplish or gray appearance of the skin, warmth, tightness or firmness under the skin are signs of early compromise.

An in-depth discussion of the skin is beyond the scope of this material. However, knowledge of optimal conditions for healthy skin is important to understanding the rationale for prevention techniques.

The algorithm on the reverse side provides a general path of decision-making for assessment, prevention and management of early skin breakdown. Below is detailed information designed to assist health care providers. This tool should be used along with the consultative services of a skin and wound care specialist such as a WOC/ET nurse, physical therapist, clinical nurse specialist with expertise in skin care or a physician when indicated.

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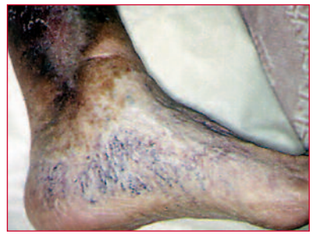
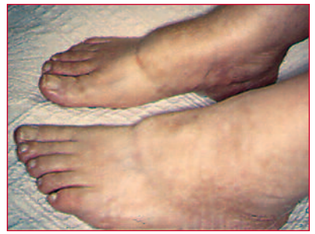


### Intact Skin

Intact skin is without visible evidence of injury or where there is a healed wound which has epithelialized and maintains closure.

**Goals of Care:** protect and maintain intact skin.

**Wound and Skin Care Objectives:** cleanse and moisturize intact skin.



### Compromised Skin

Compromised skin is tissue exposed to potential injury or tissue that is in a weakened condition (e.g. dry, thin).

**Goals of Care:** maintain intact skin and improve tissue tolerance.

**Wound and Skin Care Objectives:** cleanse and moisturize skin and protect tissue.

### Skin at Risk

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Restore Skin Conditioning Creme
(moisturize)

Restore Moisture Barrier Skin Ointment
(protect)

Restore Extra Thin Hydrocolloid
(protect & cover)

*Developed in collaboration with Bonnie Sue Rolstad, RN, BA, CWOCN*
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*Photography courtesy of Ms. Rolstad*

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