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Skin Care at End of Life

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OBJECTIVES

- Explain basic skin care assessment.
- Discuss common skin issues pertaining to patients at end of life.
- Describe wound care treatment options for patients at end of life.

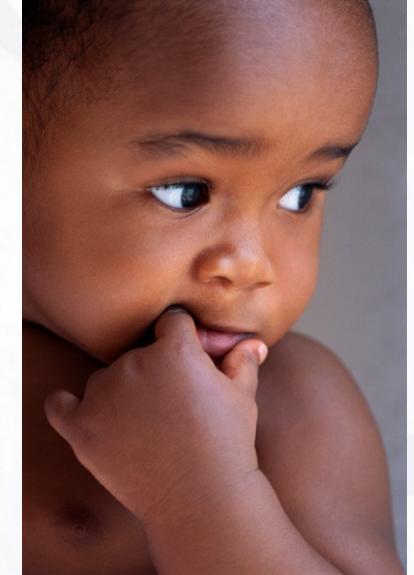


Skin is the largest organ of the body.

Skin is 3000 square inches.

Receives 1/3 of the body's blood volume.

Every minute of the day we lose about 30,000- 40,000 dead skin cells off the surface of our skin which is about 1.5 pounds a year.



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FUNCTION

- **Protection** from bacterial invasion and against external elements such as excessive water, chemicals, mechanical forces, bacterial or viral infection and UV radiation.
- Prevents excessive loss of fluids and electrolytes. The body strives for a homeostatic environment.



- **Immunological response** – WBC capture and destroy bacteria.
- Produces sebum, a lipid-rich oily surface
- Sebum – secreted by the sebaceous glands, provides an acidic coating that retards growth of microorganisms
- Melanocytes – serves as protection against UV rays. These levels are race dependent

- Hold the body in “**shape**”
- **Sense the environment** -(pain, touch, temperature, pressure)
- **Retain water** - provide protection against water loss.
- **Thermoregulation** – primary mechanisms of this regulation is circulation and sweating

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- Temperature up = vasodilation to dissipate heat.
- Temperature down = vasoconstriction to retain heat.



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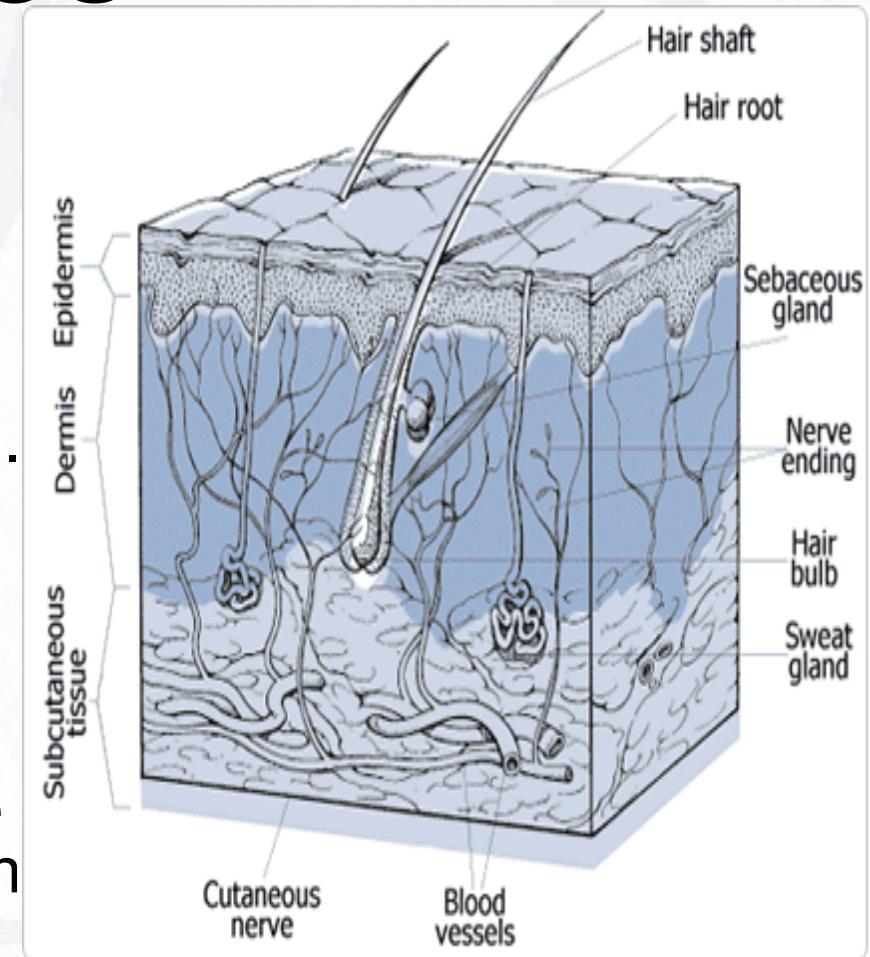


- **Expression** of emotions – identification of a person, plays a role in internal and external assessments of beauty and body image
- **Metabolism** – when exposed to ultraviolet B radiation from sunlight, cells in the epidermis convert a cholesterol-related steroid to vitamin D. The general result is maintenance of calcium and phosphorus levels in the bone and blood.

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BASICS

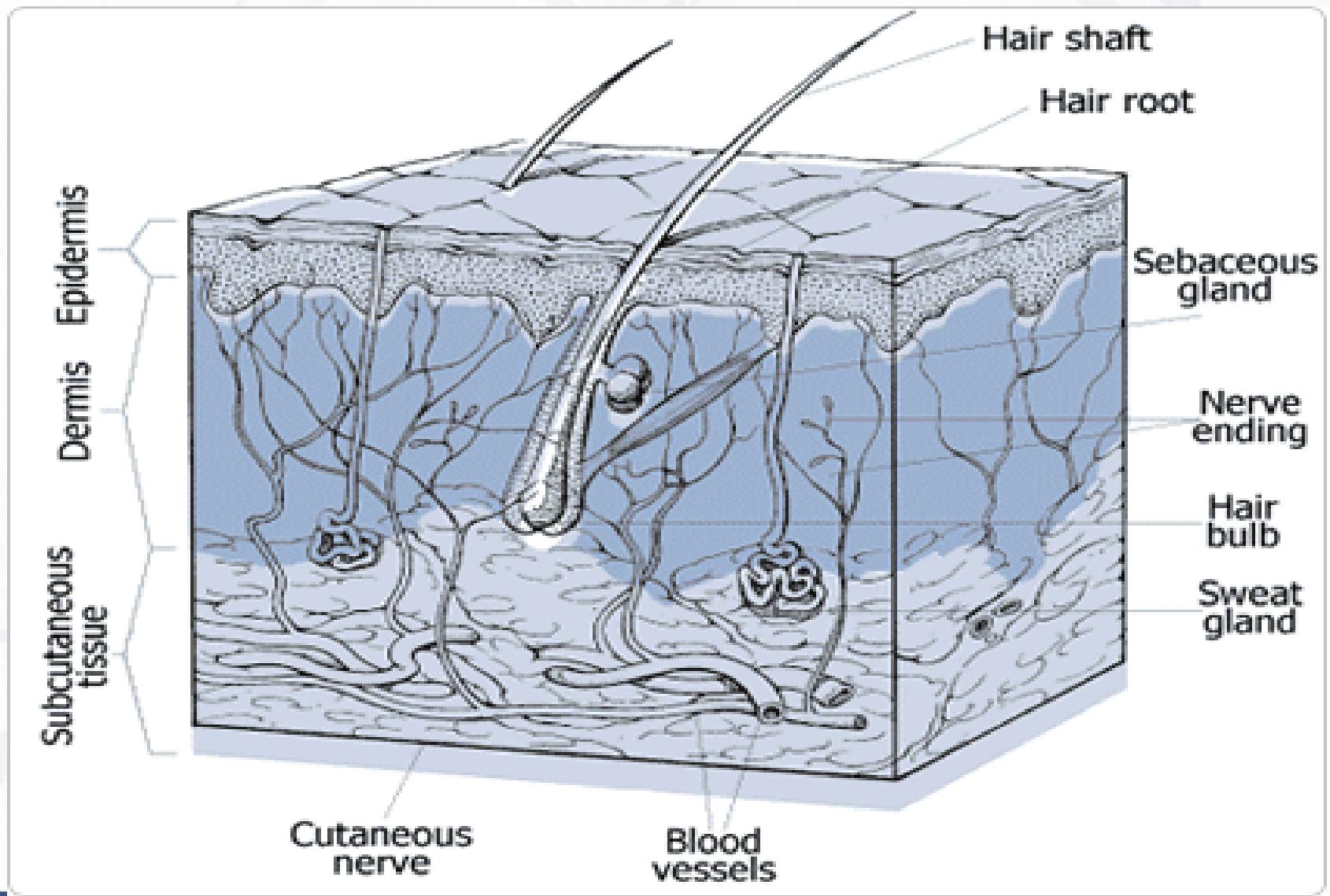
- Thin outer layer (called the **epidermis**) and a thicker outer layer (called the **dermis**). **Subcutaneous tissue**, which contains fat. Buried in the skin are nerves that sense cold, heat, pain, pressure, and touch. Deep within the skin sweat glands, which produce perspiration. **Fascia** - white shiny sheath like covering for muscles, nerves and blood vessels that give support to the muscle fibers – keeping them in tight bundles so that they can act as a single unit. **Muscles** – dull red color, attached to skeleton.



Source: AMA's *Current Procedural Terminology*, Revised 1998 Edition. CPT is a trademark of the American Medical Association.



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BASICS

- Complete medical history and physical exam
- Medications - Rx and OTC, Allergies
- Nutritional assessment
- Social history – tobacco/alcohol use
- Cause of wound – pressure, trauma, venous, diabetes
- Treatment history to date

Basics

- Wound duration – acute vs. chronic
- Environmental factors that may affect healing (bedridden, decreased activities, shearing during transfer, tight shoes, tubing or lines, history of travel/epidemic exposure such as fungal/parasite cause)
- **Expectations for wound healing – to heal or palliate (comfort only)**

Factors that impede wound healing

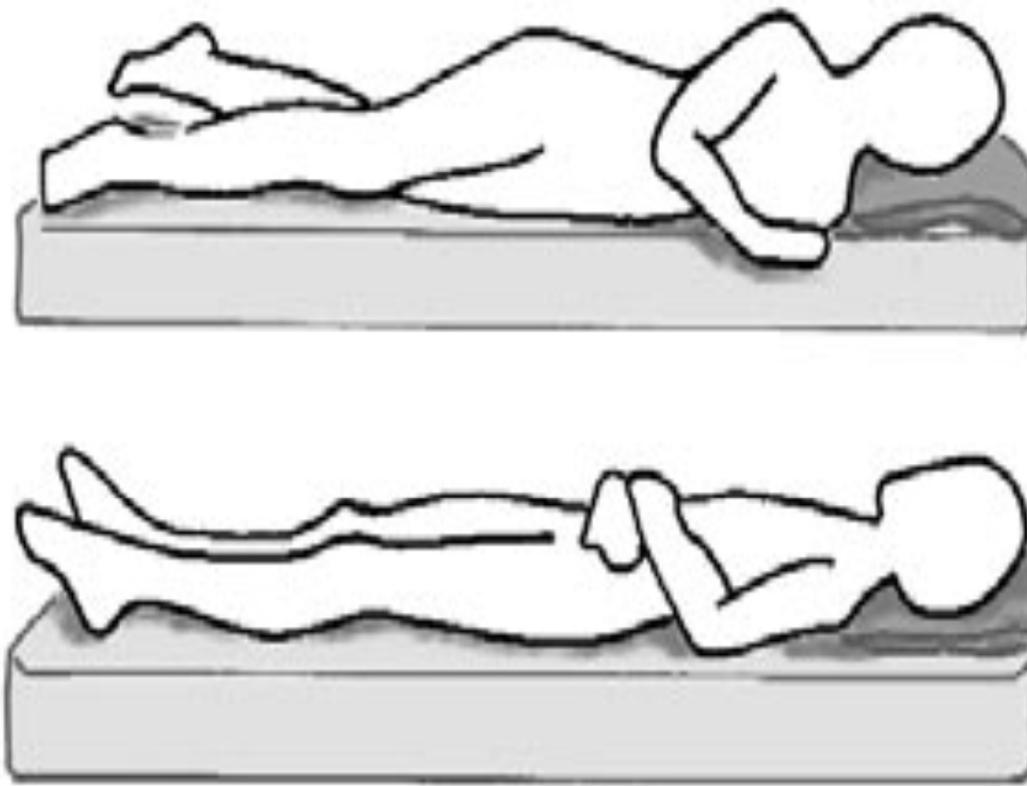
- Inadequate nutrition (vitamins/minerals), tissue hypoxia (low blood flow, exudate, eschar), wound infection, wound exudate, wound trauma (toxic chemicals, environmental insult, traumatic dressing changes)
- Inadequate wound blood volume and oxygen delivery, loss of lean body mass, systemic infection

Common skin conditions

- Pressure ulcers
- Wounds associated with malignancy
- Venous/Arterial ulcers



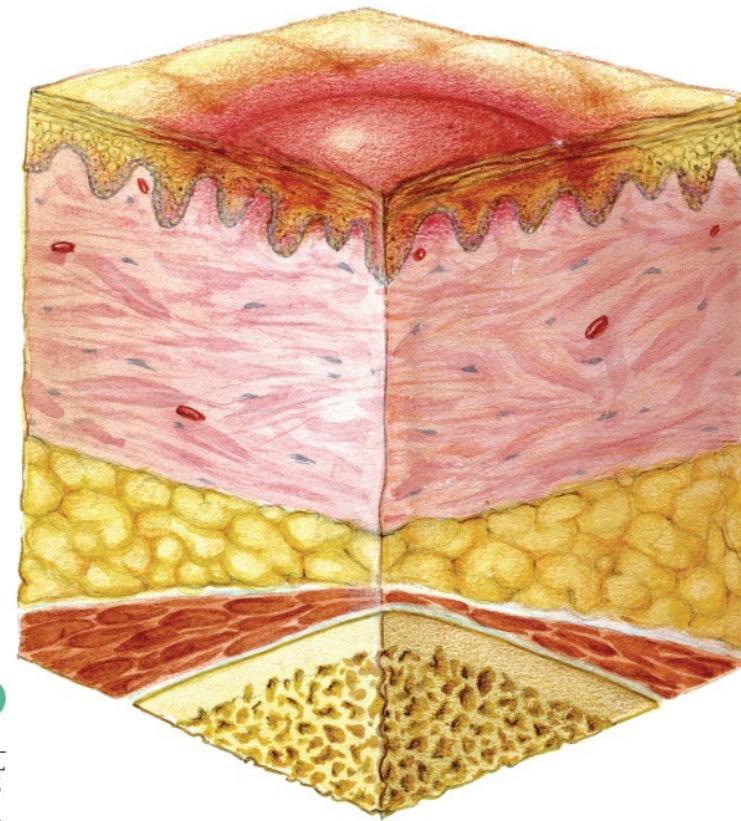
Common sites of pressure ulcers



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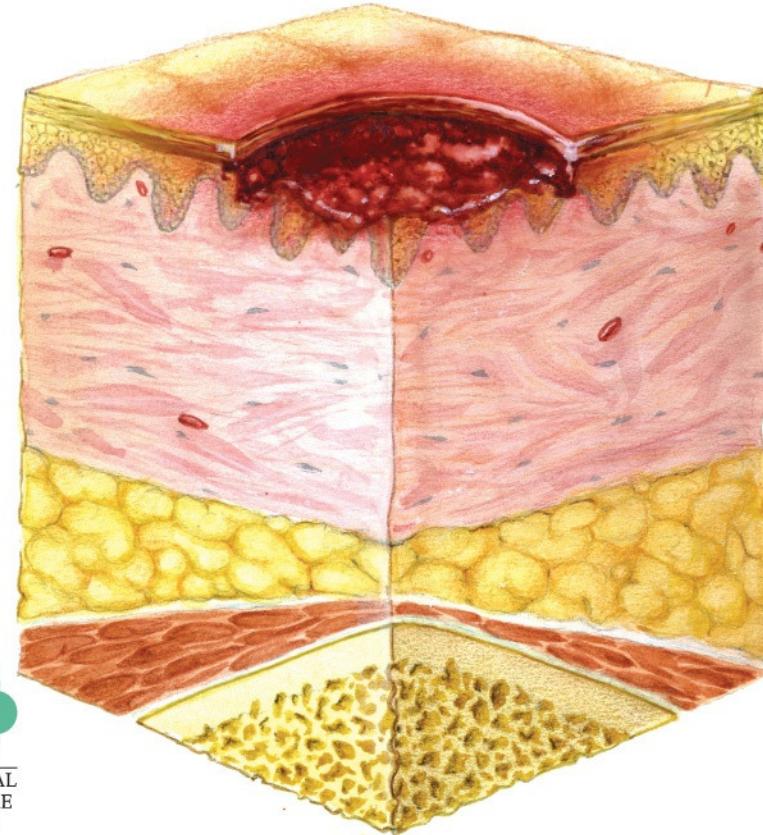
STAGE 1

Stage 1 ulcers do not have any visible skin cuts. However, the skin covering the wound can be remarkably different from the surrounding area. The differences may be changes in temperature, firmness, or color of the skin. The wound may also be pain or itchy.

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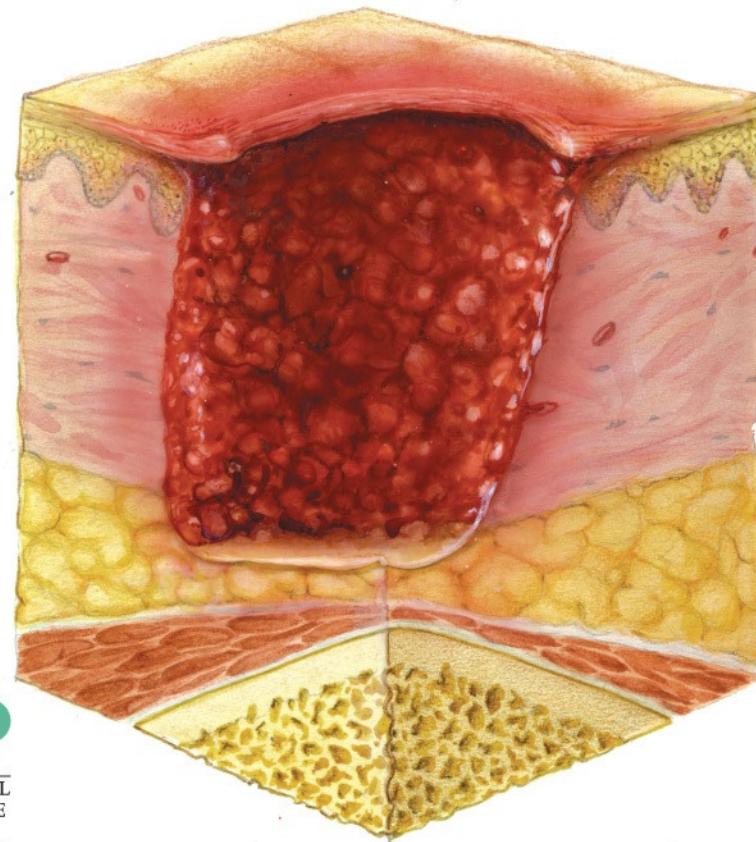
STAGE 2

In a Stage 2 ulcer the topmost layers of skin is severed (epidermis and dermis). There may be some drainage.

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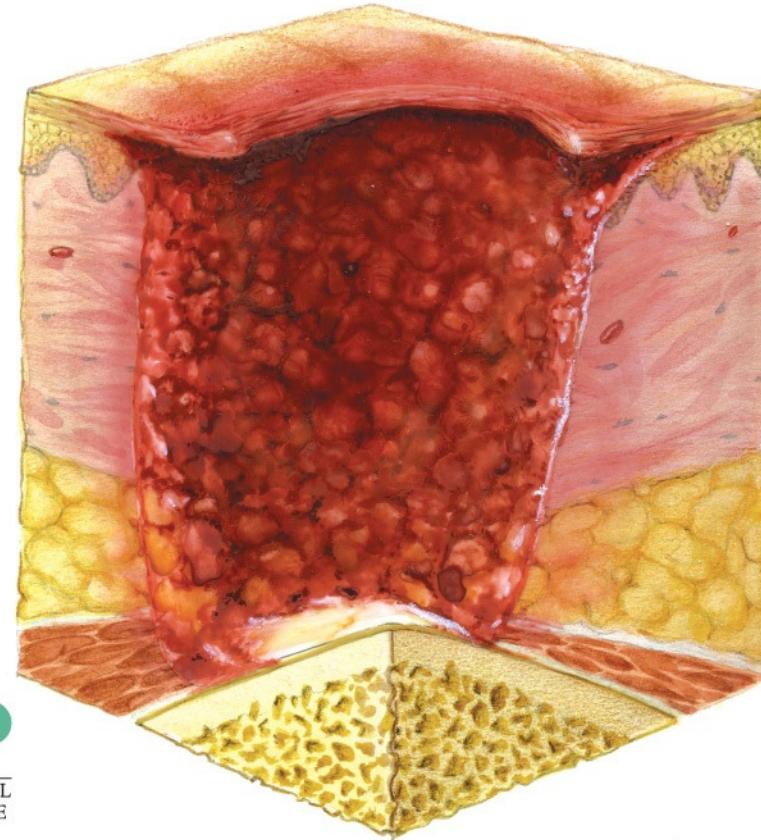
STAGE 3

Stage 3 ulcers are deeper than stage 2 wounds. They typically go down to the "fat" layer (subcutaneous), but do not extend any further. There may be dead tissue and drainage

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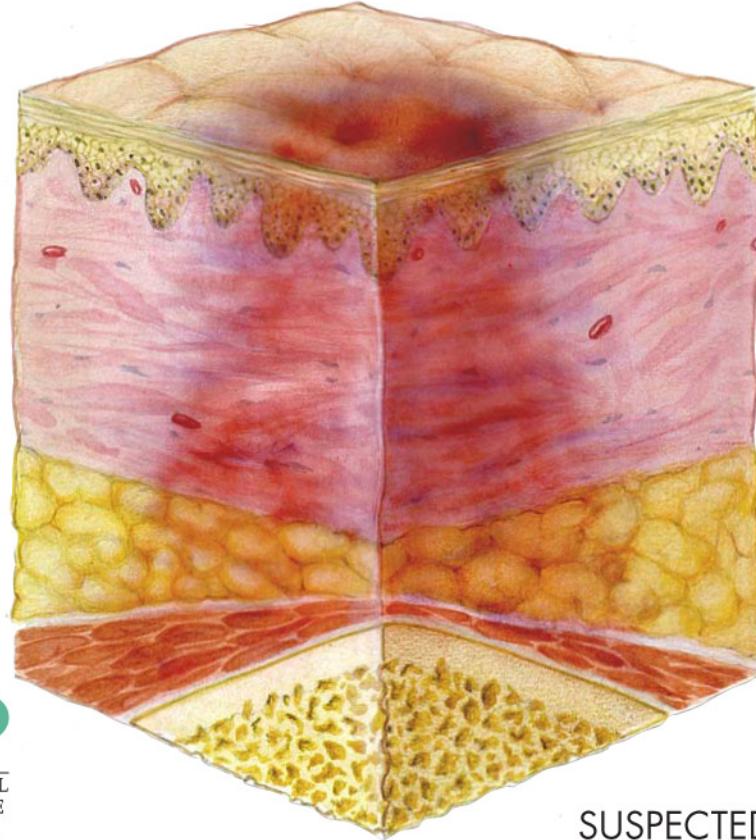


Stage 4 ulcers extend to the bone and muscle. Dead tissue and drainage are almost always present.

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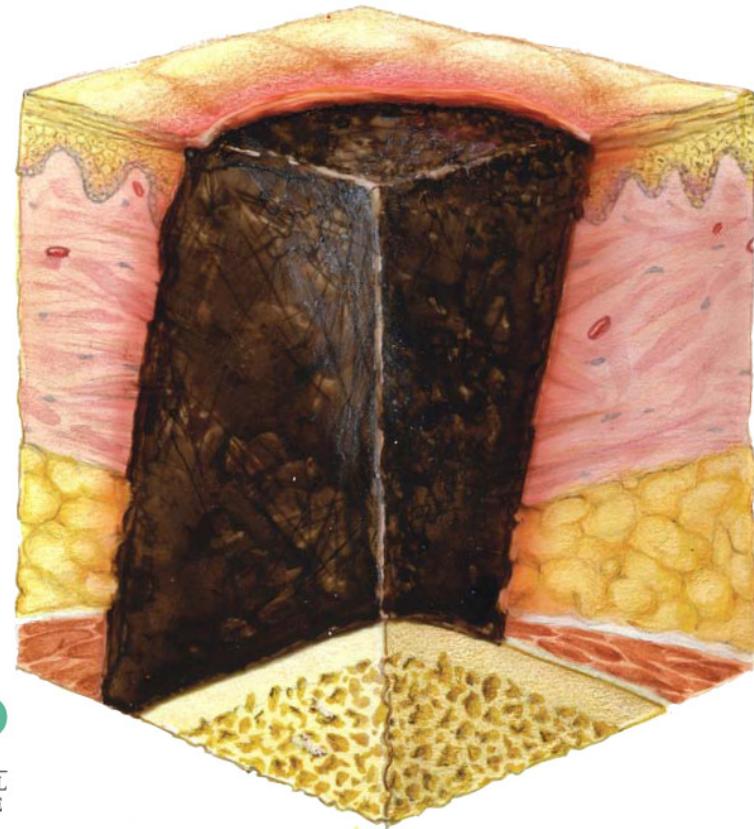


Deep tissue injury may be characterized by a purple or maroon localized area of discolored intact skin or a blood-filled blister due to damage of underlying soft tissue from pressure and/or shear. Presentation may be preceded by tissue that is painful, firm, mushy, boggy, and warmer or cooler as compared to adjacent tissue. In these wounds, the outer skin layer is breached only in the late phases of the wound's development.

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UNSTAGEABLE

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 may render a wound unstageable.

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WOUNDS WITH MALIGNANCY

Malignant wounds are necrotic areas caused directly by cancer

Fungating tumors are rapidly growing external tumors

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Left chest wall malignancy



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Malignant wounds are caused by infiltration of the epidermis by a primary or metastatic tumor, cutaneous infiltration via the lymphatics or bloodstream, or as a result of direct invasion from a primary lesion. Once the fungating wound develops, perfusion of tissues is altered and the mass expands.

The center of the tumor then becomes hypoxic leading to tumor necrosis.

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Squamous cell carcinoma of head

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Head and neck cancer

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Right breast cancer with
firm, vascular nodular
masses



Left breast cancer with
excoriation and satellite
lesions.



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Kennedy Terminal Ulcer (KTU)

- OMG
- The (KTU) is a pressure ulcer that some(not all) get as they are dying. Onset: can be sudden, usually on the sacrum or coccyx but can appear in other areas. Appearance: shape of a pear, butterfly, or horseshoe, edges are usually irregular, red, yellow, and black color as the ulcer progresses.



Kennedy Terminal Ulcer (KTU)

- Often looks like abrasion, blister, or darkened area and may develop rapidly to a Stage II, Stage III, or Stage IV ulcer.
- Karen Kennedy Evans, NP ,1983 at the Byron Health Center, a 500-bed, long-term care institution in Fort Wayne, IN. The skin care team started to investigate the data regarding how long individuals lived after the onset of a pressure ulcer; data showed 55.7% of the people who died with a pressure ulcer expired within 6 weeks of the onset of their pressure ulcer.

Kennedy Terminal Ulcer (KTU)



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Calciphylaxis

- Rare syndrome of vascular calcification, thrombosis and skin necrosis.
- It is seen almost exclusively in patients with end stage renal failure, but can be seen in obesity, diabetes mellitus, hypercalcemia, hyperphosphatemia, and secondary hyperparathyroidism.
- Wound is chronic non-healing wounds and fatal.

- Lesions typically develop suddenly and progress rapidly. May be singular or numerous, and they generally occur on the lower extremities however, lesions also may develop on the hands and torso.
- Calciphylaxis begins as surface purple-colored mottling of the skin then bleeding occurs within the affected area. There may be blood-filled blisters. The skin goes black in the center with star-shaped purple lesions. The skin cells die because of lack of blood supply,). This causing deep and often extensive ulcers.
- **Intense pain**



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Calciphylaxis

- Treatment – **pain management, palliative wound care**, discontinuation of parenteral iron therapy, calcium supplementation, and vitamin D supplementation, low-calcium bath dialysis, **Bisphosphonates** (Fosamax/Actonel po, Pamidronate IV) which inhibit osteoclasts –breakdown of bone thereby slowing down of bone loss.



Venous stasis ulcers

Venous ulcers - located below the knee, primarily found just above the ankle. The base is usually red, may be covered with yellow fibrous tissue or there may be a green or yellow discharge if the ulcer is infected. **Fluid drainage** can be significant with this type of ulcer. The borders are usually **irregularly shaped** and the surrounding skin is often discolored and swollen. It may even feel warm or hot. The skin may appear shiny and tight, depending on the amount of edema (swelling).

Very common in patients who have a history of leg swelling, varicose veins, or a history of blood clots in either the superficial or the deep veins of the legs. Ulcers may affect one or both legs.



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Venous ulcer



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Venous status Ulcer of lower leg



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Arterial ulcers



Complete or partial arterial blockage may lead to tissue necrosis and / or ulceration. Signs include: pulselessness of the extremity, painful ulceration, **Usually small, punctate ulcers that are usually well circumscribed**, cool or cold skin, delayed capillary return time (briefly push on the end of the toe and release, normal color should return to the toe in 3 seconds or less), atrophic appearing skin (shiny, thin, dry), loss of digital and pedal hair, can occur anywhere, but is frequently seen on the dorsum (top) of the foot.



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Arterial ulcers



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Braden Scale

Assess 6 Clinical Factors

- Activity
- Dietary Intake
- Friction and Shear
- Mobility
- Sensory Perception
- Moisture

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Prevention and Management of Pressure Ulcers

Braden Skin Assessment Score	Nursing Actions	
At Risk** Score 15-10 *If other major risk factors are present (advanced age, fever, poor dietary intake of protein, diastolic pressure below 60, hemodynamic instability) advance to the next level of risk.	<ul style="list-style-type: none">▪ Frequent turning▪ Maximal remobilization▪ Protect heels▪ Pressure reduction support surface if bed or chair bound▪ Manage moisture, nutrition and friction and shear	Manage Moisture: <ul style="list-style-type: none">▪ Use commercial moisture barrier▪ Use absorbent pads or diapers that wick and hold moisture▪ Address cause if possible▪ Offer bedpan/urinal and glass of water in conjunction with turning schedule
Moderate Risk** Score 13-14 *If other major risk factors are present, advance to the next level of risk.	<ul style="list-style-type: none">▪ Implement turning schedule▪ Use foam wedges for 30 degree lateral positioning▪ Pressure-reduction support surface▪ Maximal remobilization▪ Protect heels▪ Manage moisture, nutrition and friction and shear	Manage Nutrition: <ul style="list-style-type: none">▪ Increase protein intake▪ Increase caloric intake to spare proteins▪ Supplement with multi-vitamin (should include A,C, & E)▪ Act quickly to alleviate deficits; consult dietitian
High Risk Score 10-12	<ul style="list-style-type: none">▪ Increase frequency of turning; supplement with small shifts▪ Pressure reduction support surface▪ Use foam wedges for 30 degree lateral positioning▪ Maximal remobilization▪ Protect heels▪ Manage moisture, nutrition and friction and shear	Manage Friction and Shear: <ul style="list-style-type: none">▪ Elevate HOB no more than 30 degrees▪ Use trapeze when indicated▪ Use lift sheet to move patient▪ Protect elbows and heels if exposed to friction
Very High Risk Score 9 or below	<ul style="list-style-type: none">▪ Implement all the above▪ Use pressure-relieving surface if pt has intractable pain or severe pain exacerbated by turning or had additional risk factors▪ Low air loss beds do not substitute for turning schedules	Other General Care Reminders: <ul style="list-style-type: none">▪ No massage of reddened bony prominences▪ No donut type devices▪ Maintain good hydration▪ Avoid drying skin

Source: www.merckmanuals.com

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The ideal dressing and treatment

- Provides protection from further injury or infection
- Permits movement of joints and body parts proximal to the wound
- Exercises some compression on the wound site to control bleeding and scarring
- Absorbs fluids draining from the wound
- Ultimately contributes to an improved esthetic outcome for the resulting scar

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Wound care options

- Ointments
- Impregnated gauze
- Gauze packing
- Hydrocolloids
- Hydrogels
- Alginates
- Adhesive films
- Medihoney
- Vacuum assisted closure (VAC)



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“See the whole
person - not the hole
in the person.”

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NICE dressing method

- N – necrotic tissue
- I – infected or inflammation
- C – characteristics (LxWxD,
comfortable for patient, ease of use
pt/family, staff
- E – exudate control

Necrotic tissue

- Protect and support
- Maintain dryness
- Wet to dry dressing
- Autolytic debridement
- Surgical debridement
- Chemical debridement



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Infection/Inflammation

- Consider antimicrobial dressings (silver or iodine).
- More frequent dressing changes
- Oral antibiotics

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Characteristics

- Location (LxWxD), waterproof dressings
- Comfort and pain relief
- Ease of use for patient, family, staff



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Exudate

- Match absorbency of dressing to exudate
- Assess surrounding tissue and protection
- May need more frequent dressing changes

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Matching the dressing to the wound



- Gauze(sterile and non-sterile)
- Impregnated gauze/ strips
- AMD dressings, Kerlix
- Wound cleansers
- Clear transparent adhesives
- Alginates, Collagens
- Skin prep, Foams
- Hydrocolloids
- Silver products
- Wound VAC
- Maggot therapy
- MediHoney

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