Know Your Wounds

Why Does this Matter?

- The wrong wound diagnosis can lead to inappropriate or ineffective treatment that results in burdensome financial and resident-related costs.
- Pressure ulcers are often confused with diabetic ulcers and vice versa. Arterial and venous ulcers require very different interventions to address the underlying issues.
- Without appropriate diagnosis and corresponding treatment, the resident can experience delays in healing which can have detrimental impact on the resident's physical, social, and emotional well being.

Qsource®

Why Does this Matter? (cont.)

- Inadequacies in treatment can also result in infection which increases the risk of surgical interventions or resident mortality.
- The risk of either adverse outcome is decreased if an appropriate diagnosis is made that leads to effective treatment of the wound and contributing factors.

Diabetic Foot Ulcers (DFU)

- A diabetic neuropathic ulcer requires that the resident be diagnosed with diabetes mellitus (DM) and have peripheral neuropathy.
- The resident is usually ambulatory, and the diabetic ulcer characteristically occurs on the foot, e.g., at mid-foot, at the ball of the foot over the metatarsal heads, or on the top of toes with Charcot deformity.

Clinical Questions to Determine Etiology

History: Is the resident diabetic? If so, then DFU is a possibility.

Mobility: Is the resident ambulatory or has minimal mobility issues? Diabetic residents with repeated trauma to sole of foot from ill fitting footwear are at greater risk for diabetic foot ulcers. Residents with limited mobility may lack the ability to offload pressure to the feet, thereby increasing the risk for the development of pressure injuries vs diabetic foot ulcers.

Clinical Questions to Determine Etiology

Neuropathy: Does the resident have a history of neuropathy or a loss of protective sensation? In a resident with severe sensory neuropathy, an ulcer can easily develop if there is decreased or abnormal sensation to the foot. A diagnosis of neuropathy must be present to determine a wound is a diabetic ulcer versus pressure ulcer.

Foot deformities: Is there an obvious foot deformity? Many residents with DM have deformities such as Charcot foot in which the architecture of the foot becomes deranged and causes changes in pressure points in the foot. This, in turn, increases the risk of development of wounds related to DM.

Clinical Questions to Determine Etiology (cont.)

Trauma: Is there a history of trauma? If so, what is the history of the trauma? Is it caused by a wound obtained during a transfer or by inadvertently stubbing the toe? Is it a wound caused by persistent forces on the foot during ambulation resulting from footwear or repetitive trauma?

History of previous amputations involving the foot: Is there a history of previous toe or partial foot amputations? This strongly suggests that the wound may be a DFU. Patients with previous amputations and history of DM are at significantly higher risk for the development of recurrent ulcers.

Diabetic Foot Ulcers

Qsource®

Venous or Stasis Ulcer

- A venous ulcer (previously known as a stasis ulcer) is an open lesion of the skin and subcutaneous tissue of the lower leg, often occurring in the lower leg around the medial ankle.
- Venous insufficiency may result in edema and induration, dilated superficial veins, dry scaly crusts, dark pigmented skin in the lower third of the leg, or dermatitis.
- The pigmentation may appear as darkening skin, tan or purple areas in light skinned residents and dark purple, black or dark brown in dark skinned residents. Cellulitis may be present if the tissue is infected.

Characteristics

- Occurs on lower leg
- Edema of lower legs is often present due to poor venous return
- Moist wound beds/ large amounts of wound exudate
- Surrounding skin can be dry, itchy, hardened, scaly
- Underlying edema must be controlled to effectively heal wounds
  - Diuretics
  - Leg wraps for compression - if Ankle Brachial Index (ABI) permits
  - Leg elevation

Qsource®

Venous Ulcers

Qsource®

Arterial Ulcer

- An arterial ulcer is an ulceration that occurs as the result of arterial occlusive disease when non-pressure related disruption or blockage of the arterial blood flow to an area causes tissue necrosis.
- Blocked arteries are common causes of arterial ulcers. They're also referred to as ischemic ulcers.
- The arteries are responsible for delivering nutrients and oxygen to different tissues. Clogged arteries prevent nutrient-rich blood from flowing to the extremities. This results in an open wound.

Qsource®

Developing a Diagnosis of Arterial Ulcer (cont.)

- Usually occurs in the distal portion of the lower extremity and may be over the ankle or bony areas of the foot (e.g., top of the foot or toe, outside edge of the foot).
- The wound bed is frequently dry and pale with minimal or no exudate.
- The affected foot may exhibit:
  - diminished or absent pedal pulse
  - coolness to touch

Qsource®

Developing a Diagnosis of Arterial Ulcer (cont.)

- The affected foot may exhibit:
  - decreased pain when hanging down (dependent) or increased pain when elevated
  - delayed capillary fill time
  - hair loss on top of the foot and toes
  - toenail thickening
  - Abnormal Ankle Brachial Index – non-invasive test that measures systolic pressure of the brachial and tibial artery – systolic pressure should be the same and indicates adequate blood flow

Characteristics of an Arterial Ulcer

- Wound has a **punched-out** look, usually round in shape
- Well-defined, even wound margins
- Wound bed often covered in black eschar, or pale in color
- Wound bed is dry, very little to no bleeding

Qsource®

Characteristics of an Arterial Ulcer (cont.)

- Can be extremely painful
- Surrounding skin often tight, shiny, and hairless
- Difficult to heal due to poor perfusion, often require surgical intervention to restore blood flow
- Without surgical intervention to heal, the goal of treatment is to prevent infection

Arterial Ulcers

Qsource®

Incontinence-Associated Dermatitis

- A type of moisture-associated skin damage (MASD)
- Diffuse redness/excoriation/blistering due to prolonged exposure to moisture
- Related to incontinence of urine and feces, not pressure
- Do not confuse open areas with pressure ulcers, pressure ulcers have defined edges and occur over bony prominences

Qsource®

Incontinence-Associated Dermatitis (cont.)

- Treatment includes keeping urine/feces off resident skin –
  - Barrier creams
  - Well-fitted incontinence briefs
  - Toileting programs
  - pH balanced skin cleansers – soap can further irritate areas
  - Do not scrub or use rough washcloths – wipes are the preferred method for cleansing, gently wipe to cleanse

Earlam, A. & Woods, L. (2022, October 3). Moisture-associated skin damage: The basics. American Nurse Journal https://www.myamericannurse.com/moisture-associated-skin-damage/

Incontinence-Associated Dermatitis (IAD)

VS

Intertriginous Dermatitis (ITD)

Qsource®

Intertriginous Dermatitis

- Inflammatory dermatitis of opposing skin surfaces caused by moisture accumulation in skin folds and friction between the opposing skin surfaces
- Some of the most common locations for ITD are the groin, the axilla, underneath the breast, and in the abdominal panniculus or pannus
- Can lead to secondary fungal or yeast infections

Qsource®

Intertriginous Dermatitis (cont.)

- Most common in obese, diabetic, and immobile residents
- Can result in open area that appears as skin split at base of skin fold, not a pressure injury

Earlam, A. & Woods, L. (2022, October 3). Moisture-associated skin damage: The basics. American Nurse Journal https://www.myamericannurse.com/moisture-associated-skin-damage/

Surgical Wounds

- Wounds and incisions resulting from a surgical procedure
- Pressure ulcers treated with surgical closure, graft, or flap can have etiology changed to surgical wounds following procedure
  - Provider must agree with change in etiology
  - Ensure family/resident notification
  - Pressure reduction interventions remain an integral part of success of surgical closure
  - Consider advanced pressure reduction surfaces to provide optimal healing environments

Qsource®

Surgical Wounds

- If edges are well approximated, usually treated with betadine and cover dressing
- Some redness and early serosanguinous drainage expected
- Notify physician for changes in:
  - Periwound – increased redness, warmth, induration
  - Resident reports increased pain at incision site
  - Increased swelling
  - Change in color, consistency, and odor of drainage

Qsource

Treatment Plan

- Follow treatment guidelines based on wound diagnosis, contributing factors, and wound characteristics. Review the resident holistically as an interdisciplinary team.
- Facility skin/wound product suppliers often offer treatment guidelines, measuring devices, and additional education to support nursing leadership and staff.
- Discuss with providers, is additional testing/consultation necessary? eg. Arterial Brachial Index, venous ultrasound, surgical consult for debridement?
- Many areas have local wound clinics. Does the resident require more skilled monitoring of wound by a wound provider?

Qsource®

In Summary

This presentation was intended to provide a summary of common types of wounds encountered in long term care that are often misdiagnosed. This is not a comprehensive list and provides only a reference guide to assist with identifying different wounds. Always discuss diagnosis with facility physician and ensure supporting diagnostic testing/documentation/comorbid diagnosis is in place to support treatment plan.

Utilize CMS Care Pathways in the development of your facility's wound management policy and program. Always refer to your facility's policy and procedures.

Qsource®

Your Quality Improvement Advisors

Teresa Hostettler	thostettler@qsource.org
Patty Stephenson-Neal	pneal@qsource.org
Jessica Parker	jparker@qsource.org
Jerrie Yost	jyost@qsource.org

Qsource®

Thank you!

Patty Stephenson-Neal, Quality Improvement Advisor
Teresa Hostettler, Lead Quality Improvement Advisor