Wounds in Long Term Care

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No Conflict of Interest to declare

Agenda

- Wound healing principles, and barriers
- Wound Types and care (focus on pressure injury)
- Formulary products

How Wounds Heal a review

- Hemostasis first 24hours
 - Clinical Goal: Stop bleeding
- Inflammation 1-4 days
 - Clinical Goal: Manage excessive inflammation, promote wound progression
- Proliferation/granulation 4-21 days
 - Clinical Goal: Reduce wound volume, promote wound
 - progression, prepare wound for closure
- **Remodeling or maturation** up to 2 years
 - Goal : increase tensile strength. Results in scar-active dynamic tissue
 - Stage 1: (up to 4 wks.) soft fine and weak
 - Stage 11: (4-12 weeks) red and hard and Strong
 - Stage 111: (12wks to 2 yrs.) soft, white and supple scar)









Barriers to Wound Healing

- Bioburden
- Hemorrhage
- Pressure, mechanical damage
- Chronic illness, smoking
- Age
- Pharmacology
- Skin condition
- Nutrition

Is it Infected?

Critical colonization (NERDS)

- N = Nonhealing wound
 - E = Exudative wound
- R = Red and bleeding wound
- D = Debris
- S = Smell from the wound

Deep tissue infection (STONESS)

- S = Size is bigger
- T = Temperature increased
- O = Os (probes to or exposed bone)
- N = New area of breakdown
- E = Erythema/Edema
- E = Exudate
- S = Smell

BIOFILM

- Usually invisible to the eye
- Not detected with usual wound cultures
- May appear as slimy, mucousy film
- Detrimental to wound healing
- Suspect in older and stalled wounds
- Debridement required for wound healing to progress

(Sharp debridement by qualified clinician, cadexomer iodine, Anasept, maggot therapy)

Care by Wound Types

- Skin Tears
- Venous disease
- Arterial Disease
- Diabetic
- Cancers
- Pressure Injury

Skin Tears (ISTAP)

Type 1: No Skin Loss



Linear or Flap Tear which can be repositioned to cover the wound bed

Type 2: Partial Flap Loss



Partial Flap loss which cannot be repositioned to cover the wound bed





Total Flap loss exposing entire wound bed



LeBlanc et al 2013

Lower leg wounds: what, why

Venous

Arterial

- 6 Ps: pain, pallor, paresthesia. paralysis, polar (cold), pulseless
- Limb pain at rest; pain worse with activity or when leg elevated
- Intermittent claudication pain progresses to resting pain as condition worsens
- Tissue loss (ulcer/gangrene); wounds at tips, tops of toes and inbetween, dorsum, lateral



- Normal skin temperature, capillary refill; palpable pulses (difficult to assess d/t edema)
- Hemosiderin staining, broken capillaries, spider /varicose veins
- Dull achy pain, leg heaviness at end of day, usually relieved by leg elevation. Pitting edema, worse at night and relieved with elevation
- Weeping legs with/without open areas (dermal leaking) – red, itchy, scaling, crusting can create dermatitis
- ulcers at medial malleolus, lower gator region of the leg; shallow wound bed, granular beefy red base (wounds with mixed-etiology may have more slough present); irregular, uneven, diffuse borders/edges; moderate, high levels serous drainage



Lower leg wounds: how

Arterial

- ▶ Identify/rule out arterial compromise with ABI, toe pressures, CT Angiogram with run-off.
- Goal: to keep dry and closed *if no capacity to heal*
- Consider Vascular surgeon referral, CHS referral
- Monitor for gangrene, need for ABX

Immediate referral for critical ischemia: Acute onset of extremity pain, absent pulses, superficial necrosis foot, digital gangrene.

Notify MRP to refer to emergency and consult with Vascular Surgeon.

Wound bed will be unhealthy due to the lack of perfusion. Round shape, with a "punched out" appearance and smooth even edges. Pale wound base, may have slough or dry necrotic tissue. Low to no exudate, often quite dry

▶ Until perfusion is confirmed: maintain, prevent/manage infection. If no signs of improvement after 2-3 weeks, refer. Keep exposed bone/tendon moist

Debridement and moist wound healing are **contraindicated if circulation is severely impaired, revascularization not possible/unsuccessful, and/or the wound is covered with hard, dry eschar

Venous

Identify/rule out arterial compromise

Confirm chronic venous disease:

Venous duplex ultrasound.

Elevate, cleanse, moist wound healing, manage periwound, heel-toe ambulation, compress

▶ GOAL: 40% decrease in 3/52. If no progress in 4/52, consider topical antimicrobials, adjuvants

Weeping legs with/without open areas (dermal leaking) – red, itchy, scaling, crusting can create dermatitis; ulcers at medial malleolus, lower gator region of the leg

Attempts to treat dermatitis using multiple products can lead to <u>contact</u> <u>sensitization</u>. This is commonly mistaken for cellulitis, leading to unnecessary antibiotic therapy.

Wound bed will be shallow, irregular shape and edges/borders. Beefy red granular base, ++ serous exudate

**Each clinician is responsible for ensuring that a clinical assessment of the lower limb, including appropriate vascular diagnostics, has been completed prior to applying any type of compression therapy over 20mmHng.

Neuropathic (Diabetic)

Can be wet or dry

- Treatment varies on presentation
- **Don't use tensors** until flow pattern confirmed with ABI readings
- Consider sugar control, LOPS, Compliancy, abx, blood flow
- Foot care nurse, referral or podiatrist to debride callous
- Complete offloading needed via bed rest or device
- Antimicrobial dressing protection always

Cancers

- Can be irregular in shape
- Non healing ulcers or a growth
- Presents in an areas unusual for pressure
- Vascular/bleeds
- Slow healing if radiated
- Refer to dermatology
- No V.A.C Therapy

Pressure Injury

- A pressure injury is localized damage to the skin and underlying soft tissue (usually over a bony prominence) or related to a medical or other device.
- > The injury can present as intact skin or an open ulcer and may be painful.
- The injury occurs as a result of intense and/or prolonged pressure or pressure in combination with shear. The tolerance of soft tissue for pressure and shear may also be affected by microclimate nutrition, perfusion, co-morbitities and condition of the soft tissue.

Pressure Injury Access Clinic: Referral on Pathways and the VIHA internet

 Clinic 3 Team • Physiatrist • Plastics • RN (ET nurse) • OT seating specialist • PT • Dietitian



Stage 1

- Localized area of **non-blanchable** erythema in intact skin
- Presence of blanchable erythema or changes in sensation, temperature, or firmness may precede visual changes.
- Color changes do not include purple or maroon discoloration; these may indicate deep tissue pressure injury.





Stage 2

- Partial-thickness skin loss with exposed dermis
- Wound bed is viable, pink or red, moist; may also present as an intact or ruptured serum-filled blister
- Adipose (fat), deeper tissues are **not** visible
- Granulation tissue, slough and eschar are not present



These injuries commonly result from adverse microclimate and shear, in the skin over the pelvis and shear in the heel.

This stage should not be used to describe moisture associated skin damage (MASD) including incontinence associated dermatitis (IAD), intertriginous dermatitis (ITD), medical adhesive related skin injury (MARSI), or traumatic wounds (skin tears, burns, abrasions).

Stage 3

- Full-thickness skin loss
- adipose (fat) visible in the ulcer; granulation tissue and epibole (rolled wound edges) are often present.
- Slough and/or eschar may be visible.
- The depth of tissue damage varies by anatomical location; areas of significant adiposity can develop deep wounds.
- Undermining and tunneling may occur. Fascia, muscle, tendon, ligament, cartilage and/or bone are **not** exposed. If slough or eschar obscures the extent of tissue loss this is an Unstageable Pressure Injury





Stage 4

- Full-thickness skin and tissue loss
- Exposed or palpable fascia, muscle, tendon, ligament, cartilage or bone
- Slough and/or eschar may be visible.
- Epibole (rolled edges), undermining and/or tunneling often occur.
- Depth varies by anatomical location. If slough or eschar obscures the extent of tissue loss this is an Unstageable Pressure Injury.



Stage X (Unstageable)

- Obscured full thickness skin and tissue loss
- Extent of tissue damage within the ulcer cannot be confirmed, because it is obscured by slough or eschar.
- If slough or eschar is removed, a Stage 3 or Stage 4 pressure injury will be revealed.
- Stable eschar (i.e. dry, adherent, intact without erythema or fluctuance) on the heel or ischemic limb should not be softened or removed





Deep Tissue Pressure Injury

- Intact or non-intact skin with localized area of persistent nonblanchable deep red, maroon, purple discoloration
- Epidermal separation revealing a dark wound bed or blood filled blister
- Pain and temperature change often precede skin color changes.
- Results from intense and/or prolonged pressure and shear forces at the bone-muscle interface
- May evolve rapidly to reveal the actual extent of tissue injury, or may resolve without tissue loss
- If necrotic tissue, subcutaneous tissue, granulation tissue, fascia, muscle or other underlying structures are visible, this indicates a full thickness pressure injury (Unstageable, Stage 3 or Stage 4). Do not use DTPI to describe vascular, traumatic, neuropathic, or dermatologic conditions.



Wound Management principles (AKA patient optimization)

Decision Support Tools (DST)

What stage is the wound in? How did it start? How old? Is it infected? Nutritional status? Smoking?

Hemoglobin
Albumin
Edema
Venous disease
Anticoagulant
therapy
Autoimmune disorders
Blood flow(ABI)
Doppler exam
Medications
Heart failure
Blood pressure

Human/Environmental

Look at the availability of supplies • Cost of dressings (who is paying) • Expertise and training of provider doing care • Time and accessibility of provider to give care • Patient compliancy • cognition • Surface • Overall ability to heal

The Ideal Dressing...Is one that

closes the wound the fastest

- Removes excess exudate and toxins
- High humidity at the dressing wound interface
- Allows for gaseous exchange
- Provides thermal insulation
- Protects against secondary infection
- Free from particulate and toxic components
- No trauma with removal
- Decreased pain for client
- Considers labor related costs

Phase 1: Clean up job. Goals are to reduce inflammation, slough and bio burden, and maybe infection (Santyl, Maggots, sharp debridement, Traid*)

Phase 2: Proliferation. Enhance healing, antimicrobial dressing to control bio burden if indicated, manage moisture balance (Inadine, Iodasorb, Hydrofera, UrgoTu, AG)

Phase 3: Closure. Protect, and control edema

Formulary Wound Care Products

- Solutions: NS, Anasept, Prontosan*
- Non Adherents: Jelonet, Adaptic or Mepitel
- Haemostats: Calcium Alginates, Surgicel)
- Antimicrobials: Inadine, betadine, Iodasorb, UrgoTul AG, Flamazine, Hydrofera Blue
- **Compression:** Unna boot, Coban
- **Debriding agents:** Santyl, Traid* maggots, sharp debridement
- **Hyper granulation:** silver nitrate sticks, Tobradex
- Burns: Jelonet*/Vaseline, Flamazine, UrgoTul AG
- **Cover dressings:** Mepore, Mepilex Border)

Resources and referrals

- IH Wound and Skin Guidelines https://intranet.viha.ca/departments/hcc/standards/Pages/skin_and_woun d_care.aspx CLWK website https://www.clwk.ca/communities-of-practice/skinwound-community-ofpractice/
- ET-out patient clinic at RJH (Stoma care, Pressure Injury)
- Burn and Wound Clinic (plastics referral required)
- CHS(anyone can refer: family, neighbor...)
- Pressure Injury Access Clinic (referral required)
- Urgetn Vascualr Access Clinic (referral required)
- NSWOC
- CAWC site
- LLWC (patient referral required) physiatrist

CLWK Website

https://www.clwk.ca/communitie s-of-practice/skin-woundcommunity-ofpractice/buddydrive/



Royal Jubilee Hospital Diagnostic and Treatment Center Clinic 3 1952 Bay Street Victoria BC V8R 1J0 Phone: 250-519-1513 FAX: 250-519-1514 Email:<u>Ilwc@viha.ca</u>

Urgent Vascular Limb Clinic

Referral Instructions

Inclusion Criteria: Patient with an ABNORMAL arterial or venous physical exam PLUS one of the following:

- a) Poorly healing lower limb wound(s) or gangrene
- b) Ischemic rest pain

Fax the following information for intake:

- 1. Complete the Urgent Vascular Limb Clinic referral form
- 2. Order and include the following information:

Venous:

- □ Venous Reflux study of deep, superficial and perforator veins (includes non-urgent DVT study)
- Arterial Doppler Resting bilateral (Ankle Brachial Index)

Arterial:

- □ CTA with run-off (have this completed at your local hospital prior to clinic visit if the referral is for limb threatening ischemia)
- □ Allergies □ Medication list □ Past medical history
- □ Recent eGFR/Creatinine including date drawn

Patients need to be accompanied by a support person and translator if necessary to their appointment.

Please fax complete referrals to 250-519-1514

| island health |
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RJH Urgent Vascular Limb Clinic Referral Form

|)c | □ New Patient □ Re-referral |
|------------------------------|--|
| atient Name: | (Please Print clearly or attach label) |
| Su | name Given Name Middle |
| ate of Birth | (dd/mm/yyyy) PHN (Personal Health Number): |
| avtime Phone: | Cell Phone: E-mail Address; |
| ferring Physician' | MSP#: Phone: Fax: |
| sterring rivateitin | Please Print Name |
| imaryCarePhysician: | MSP#: Phone: Pas |
| ealth Unit Homeand Community | Contact number: |
| | |
| | 1. Reason for referral:RtLtBilateral |
| Thesterne | Arterial ulcer/gangreneIschemic rest pain |
| ruises | Venous ulcer |
| | Location(s): Please circle the wound locations on the picture |
| | |
| | 3. Urgency of referral D2 weeks D2 months |
| | (*patient will see first available Vascular Surgeon) |
| | |
| | Femoral A Indicate the atterial pulses for each location 0-4 as listed below |
| | Femoral RT IT |
| \sim / | Ponliteal RT IT |
| | Popliteal Posterior Tibial RT LT |
| ſ | Dorgalis Pedis RT LT |
| | |
| | 0-Absent 1+=Weak 2+=Normal 3+=Increase Normal 4+=Boundin |
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| | dose |
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| | |
| Wound care | done by: □Community nurse □Client/caregiver □ Lower Limb Wound Clinic |
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| Infectious st | |
| History of a | gressive behavior: _Yes _No Comments |
| i natory or ag | |
| Transfer me | thod: |
| □ Independe | ent 🛛 🗖 person assist 🗠 2 person assist 🗠 Mechanical lift |
| Equipment: | |
| □ Cane □ V | /alker Wheelchair: □ power □ manual |
| | |
| | |
| ş. | Date: |

Questions?

References

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National Pressure Injury Advisory Panel (2016). Pressure Injury Stages. https://npiap.com/page/PressureInjuryStages