Wound Dressings

South West Regional Wound Care Program

SOUTHWEST REGIONAL WOUND CARE PROGRAM

Ontario

Objectives

- Identifying healability
- Dressings – Form and Function
- Case examples
- Dressing Selection Tool

Identifying Wound Healability

Healability

- The clinician should distinguish:
  - **Healable** wounds with adequate blood supply that can be healed if the underlying cause is addressed
  - **Non-healing** wounds have healing potential, but also have patient or health system barriers compromising healing, including patient non-adherence to treatment or healthcare resource limitations
  - **Non-healable** wounds (including palliative wounds) cannot heal because of irreversible causes or associated illnesses, including critical ischemia or non-treatable malignancy

Practice… Determine the wound's ability to heal

Dan has ALS and a pressure injury on his coccyx. He is sitting on a pillow when he is in his wheelchair.

- A: Healable
- B: Not-healing
- C: Not-healable

Answer

B: Not-healing

WHY?

Dan's wound has the potential to heal but he needs better support and education. For example, seating assessment, pressure redistribution, and position changes would be of benefit.

Practice… Determine the wound's ability to heal

Bert is a palliative care patient. He has moderate dementia and advanced cancer. He has a pressure injury on back of his head.

- A: Healable
- B: Not-healing
- C: Not-healable

Answer

B: Not-healable

WHY?

Bert has multiple chronic disease's which are impairing his ability to heal. Because Bert is EOL, goals of treatment are to prevent infection, control pain, and control exudate/odour.

Practice… Determine the wound's ability to heal

Nan loves her new compression stockings and she wears them as recommended. With her new dressing type, Nan's leg ulcer is getting smaller after 2 years of it growing in size.

- A: Healable
- B: Not-healing
- C: Not-healable

Answer

B: Healable

WHY?

The cause of Nan's wound is being addressed and she is actively following the treatment plan

Effective Interventions to treat Chronic Wounds (Tricco et al. 2015)

- VLU: multi-layer, high compression bandages and wound cleansing
- Mixed arterial/VLU: four-layer bandages
- DFU and leg ulcers: biologics, US, and hydrogel dressings
- Pressure Injuries: hydrocolloid, E-Stim, air-fluidized beds, and foam mattresses
- Unspecified mixed complex wounds: silver dressings and ultrasound

Wound Dressings

An ideal dressing …

- Matches the volume of wound exudate so that the wound bed is kept moist and peri-wound is kept dry
- Is appropriate to size, depth, and location of the wound
- Loosely fills the wound cavity
- Decreases frequency of dressing change
- Is comfortable and cosmetically acceptable to the patient (patient-centered)
- Works in conjunction with adjunct therapies

An ideal dressing…

- Provides thermal insulation and wound temperature stability
- Protects from contamination by outside microorganisms
- Addresses bacterial bioburden as necessary
- Maintains its integrity while on the wound and does not leave behind fibers or foreign material when removed
- Minimizes pain and trauma to the wound bed on application or removal
- Is cost effective

Hydrogel

- Dressings have high water content
- Provide moisture to the wound
- Aid in autolytic debridement
- Clear or translucent, vary in viscosity – available in: impregnated gauze, wafer, gel
- Can lead to maceration – peri-wound should be protected

Film

- Film dressings are transparent polyurethane dressings with or without adhesives
- Often used for local protection of a wound at the late re-epithelialization stage or to protect a recently healed wound
- Can cause skin tears
- Semi-occlusive, no absorptive capacity
- Have a varying degree of permeability (referred to as the moisture vapor transmission rate) that allow for evaporation of fluid

Hydrocolloids

- Most commonly available in a wafer type of occlusive dressing that consist of gel-forming agents with a flexible, water-resistant outer layer
- Adhere to the skin, come in a variety of shapes
- Mildly absorptive with wear time up to 7 days – change colour with moisture
- Application - the wound margin should be overlapped by 1 to 2 cm to form an adhesive seal to prevent exudate leakage
- Removal of nonviable slough from the surface of the wound may also be required at dressing change to prevent odor or secondary bacterial proliferation under the dressing

Hydrofibres

- Consist of carboxymethylcellulose in fiber
- Fiber gives the dressing tensile strength, and it can usually be removed easily in 1 piece
- Bind exudate with interior fluid lock, the dressing promotes very little autolytic debriding
- Dressing absorbs fluid – hydrofibers are converted into a gel
- Hydrofiber dressings are thin and have low to moderate absorbency
- Newer thicker dressing options have increased absorbency
- Require a secondary dressing

Calcium Alginates

- Nonwoven biodegradable fibers processed from brown seaweed
- Able to absorb up to 20 times their weight in fluid
- In gel form, the dressings can promote autolytic debridement
- Release of calcium ions into the wound bed which help in hemostasis
- Dressings come in sheets (lateral wicking) or in ropes (vertical wicking) and can readily conform to wounds of varying shapes
- Alginate dressings are bioresorbable and need a secondary dressing
- If fibers are left intact at dressing change, moistened to remove, and consider a hydrogel

Foam

- Usually made of polyurethane and can absorb a moderate to large amount of exudate
- Consist of 2 to 3 layers with a hydrophilic contact surface between the foam and a hydrophobic backing
- Many shapes, sizes, adhesive, non-adhesive, silicone (decrease pain on removal)
- Pores allow for fluid exchange and contribute to moist wound environment
- Fluid exchange function can lead to periwound maceration – apply barrier to protect
- Many foams have also been combined with antiseptics

Super Absorbents

- Superabsorbent polymer wound dressings are for manage highly exudative wounds
- They can absorb an enormous amount of water relative to their dry weights
- Same technology utilized in diapers,
- Multiple layers: a large absorbent surface, a fluid lock to prevent periwound maceration, and a contact layer that protects the wound base from the inner core
- Core fluid locking materials may include powders, crystals, or gelling agents that work by osmosis, with fibers having capillary-like action
- Secondary dressings may be necessary

Antimicrobials

- There are 5 major choices of antimicrobial dressings:
  - Silver
  - PHMB
  - Iodine
  - Methylene blue/crystal violet
  - Honey
- 2 of these choices have anti-inflammatory properties: silver, honey
- Moisture balance dressing classes are often combined with antibacterial and anti-inflammatory dressings in healable wounds to manage inflammation/infection according to the clinical characteristics of the wound

Practice: Case Examples

Jeremy's Pressure Ulcer

Age of pressure ulcer: 7 months

Location: Left Hip

Stage: 3

Cause of Pressure Injury: Improper transfer, lack of weight shifting, inadequate seat cushion on wheelchair, and poor nutrition. In addition, a health care provider without wound care experience made a common assumption - a super absorbant dressing would be the best option to completely dry up the wound. Unfortunately, this compromised wound healing.

How would you describe the healability of Jeremy's wound?

Answer…

- Healable

- His wound would be considered **healable** but it is currently not healing due to incorrect dressing selection. There's a plan in place to manage the causes of his pressure injury. The age of the wound is in the high potential for healing zone.

How would you describe the tissue?

- Dry

- What are some good dressing options for dry wounds?

Dressing Option

- Hydrogel
- Hydrocolloid

Heidi's Leg Ulcer

Age of Leg Ulcer: 5 years

Location: Lower left leg

Type of Wound: Venous leg ulcer

Causes: Chronic diseases, smoking, occupation (on her feet for many hours).

Heidi's wound has gotten worse.

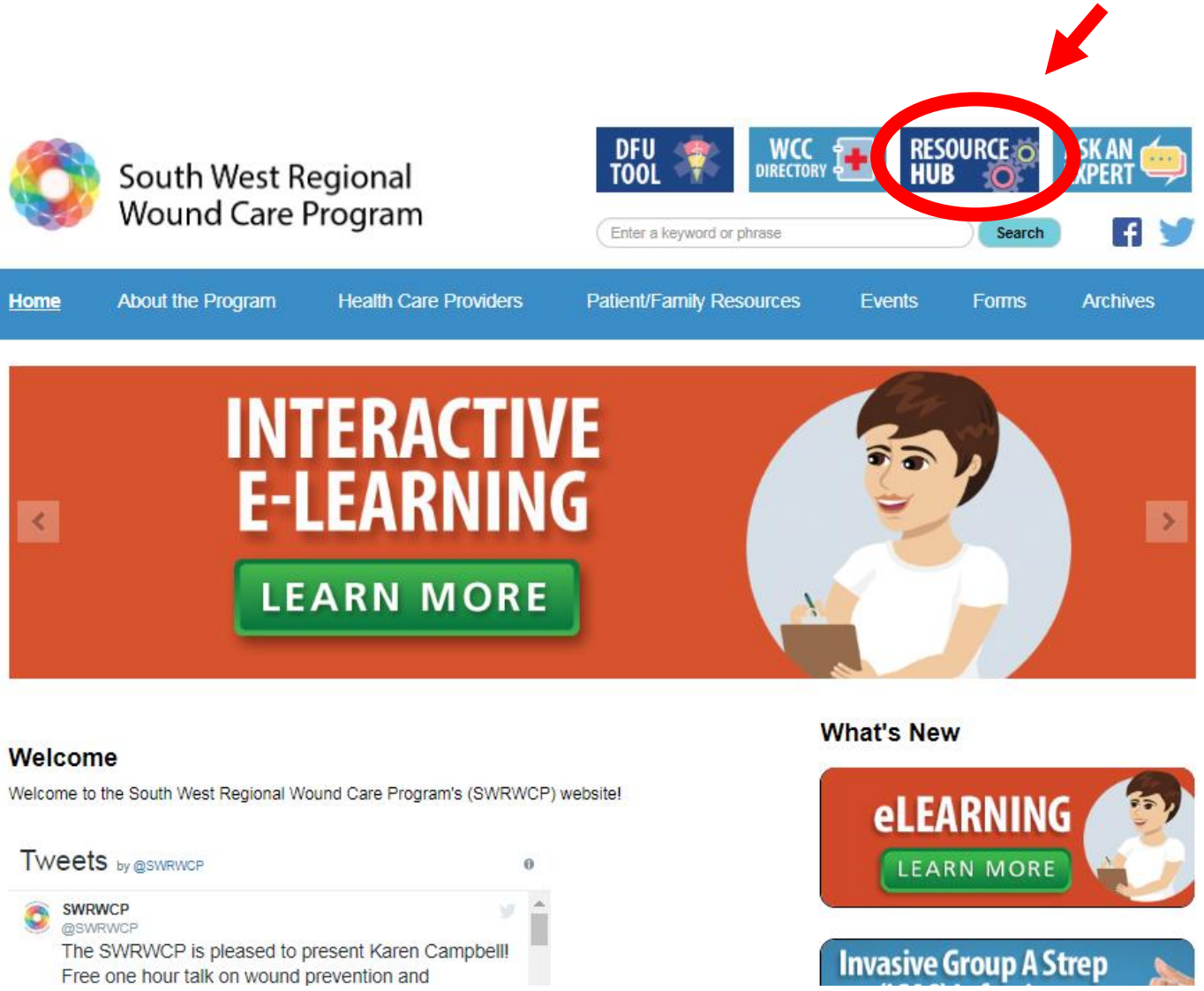
How would you describe the healability of Heidi's wound?

- Non-healing
  - Heidi's wound is non-healing because it has the potential to heal but healing is stuck because the risk factors and underlying causes have not been addressed. In addition, there are wound treatment options that have not yet been applied.
- Exudate quantity?
  - Heavy

Dressing Option

- Superabsorbant

Dressing Selection Tool


South West Regional
Wound Care Program
DFU TOOL
WCC DIRECTORY
RESOURCE HUB
ASK AN EXPERT
Enter a keyword or phrase
Search
Home
About the Program
Health Care Providers
Patient/Family Resources
Events
Forms
Archives
INTERACTIVE E-LEARNING
LEARN MORE
Welcome
Welcome to the South West Regional Wound Care Program's (SWRWCP) website!
Tweets by @SWRWCP
SWRWCP
@SWRWCP
The SWRWCP is pleased to present Karen Campbell!
Free one hour talk on wound prevention and
What's New
eLEARNING
LEARN MORE
Invasive Group A Strep

South West Regional
Wound Care Program

Contact Us | SWRWCP

Welcome to the SWRWCP Resource Hub!

The South West Regional Wound Care Program's (SWRWCP) Resource Hub provides access to the Dressing Selection Tool, skin and wound care related videos, as well as e-modules.

To access these resources, please input your email address and password below and click the 'Login' button.

If you are new to the SWRWCP's Resource Hub, you may register for access to the Hub by clicking the link that reads 'Click here for instructions on how to get a login'.

Email Address

nichole.wood@lhins.on.ca

Password

••••••••

Login

Forgot password?

Click here for instructions on how to get a login

South West Regional
Wound Care Program

Contact Us | SWRWCP

Logged in as *nichole.wood@lhins.on.ca* | Logout

Welcome to the Resource Hub!

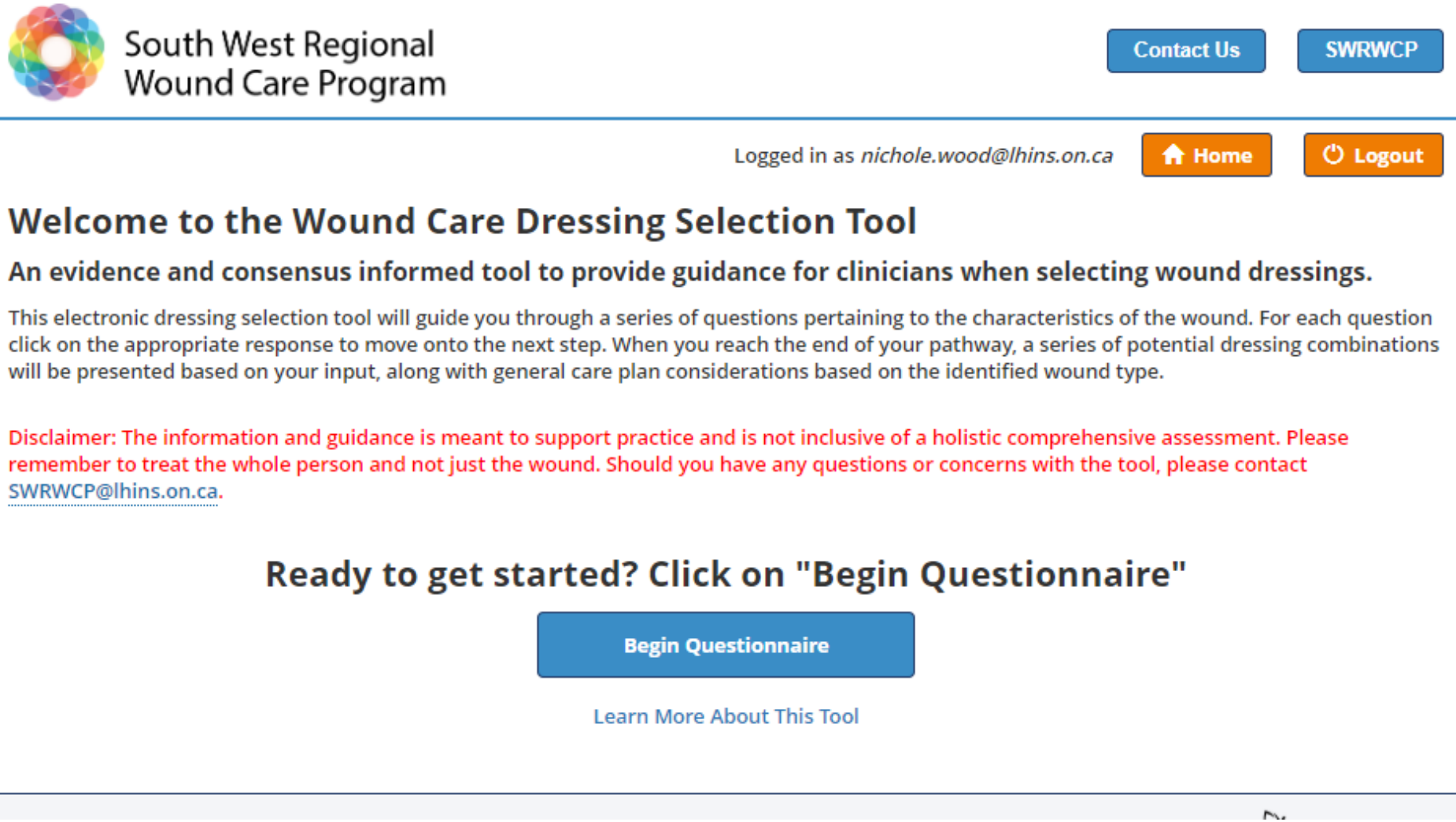
As a healthcare provider who works within the South West LHIN, we are happy to provide you with access to an array of educational resources, videos, e-modules, and enabler tools.

Please click the icons below to access the resources

Wound Skills Videos

Dressing Selection Tool

E-Learning


South West Regional
Wound Care Program
Contact Us
SWRWCP
Logged in as nichole.wood@lhins.on.ca
Home
Logout
Welcome to the Wound Care Dressing Selection Tool
An evidence and consensus informed tool to provide guidance for clinicians when selecting wound dressings.
This electronic dressing selection tool will guide you through a series of questions pertaining to the characteristics of the wound. For each question click on the appropriate response to move onto the next step. When you reach the end of your pathway, a series of potential dressing combinations will be presented based on your input, along with general care plan considerations based on the identified wound type.
Disclaimer: The information and guidance is meant to support practice and is not inclusive of a holistic comprehensive assessment. Please remember to treat the whole person and not just the wound. Should you have any questions or concerns with the tool, please contact SWRWCP@lhins.on.ca.
Ready to get started? Click on "Begin Questionnaire"
Begin Questionnaire
Learn More About This Tool

South West Regional Wound Care Program

Contact Us | SWRWCP

Logged in as *nichole.wood@lhins.on.ca* | Home | Logout

1. Wound Type | 2. Healability | 3. Tissue Type | 4. Exudate Type | 5. Exudate Amount | 6. Wound Pain | ! |

1. Wound Type

Exit Survey

Please click on the image or name of the type of wound in question. If you are unsure click on the ? for a description.

Closed Surgical Wounds

Venous or Mixed Leg Ulcer

Pilonidal Sinus

Abscess (iGAS)

South West Regional Wound Care Program

Contact Us | SWRWCP

Logged in as *nichole.wood@lhins.on.ca* | Home | Logout

1. Wound Type > 2. Healability > 3. Tissue Type > 4. Exudate Type > 5. Exudate Amount > 6. Wound Pain > ! >

2. Healability

Exit Survey

Please click on the image or term that best describes the 'healability' of the wound in question. If you are unsure, click on the ? for a description.

Healable

Maintenance

Non-Healable

South West Regional Wound Care Program

Contact Us | SWRWCP

Logged in as *nichole.wood@lhins.on.ca* | Home | Logout

1. Wound Type > 2. Healability > 3. Tissue Type > 4. Exudate Type > 5. Exudate Amount > 6. Wound Pain > ! >

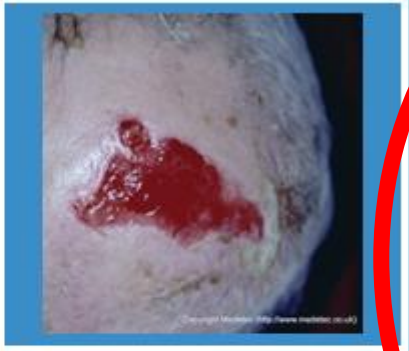
3. Tissue Type

Exit Survey

Please click on the image or term that best describes the most predominant type of tissue in the wound in question. If you are unsure click on the (?) for a description.

NOTE: If there is more than one tissue type present choose the most severe type.

Epithelial (?)



Granulation (?)

Slough (?)

Eschar (?)

South West Regional Wound Care Program

Contact Us | SWRWCP

Logged in as *nichole.wood@lhins.on.ca* | Home | Logout

1. Wound Type > 2. Healability > 3. Tissue Type > 4. Exudate Type > 5. Exudate Amount > 6. Wound Pain > !

4. Exudate Type

Exit Survey

Please click on the image or term that best describes the most predominant type of exudate in the wound in question. If you are unsure click on the ? for a description.

None

?

Serous

?

Serous-Sanguineous

?

Sanguineous

?

South West Regional Wound Care Program

Contact Us | SWRWCP

Logged in as *nichole.wood@lhins.on.ca* | Home | Logout

1. Wound Type > 2. Healability > 3. Tissue Type > 4. Exudate Type > 5. Exudate Amount > 6. Wound Pain > ! >

5. Exudate Amount

Exit Survey

Please click on the image or term that best describes the amount of exudate associated with the wound in question. If you are unsure click on the ? for a description.

Scant

Small

Moderate

Large

South West Regional Wound Care Program

Contact Us | SWRWCP

Logged in as *nichole.wood@lhins.on.ca* | Home | Logout

1. Wound Type > 2. Healability > 3. Tissue Type > 4. Exudate Type > 5. Exudate Amount > 6. Wound Pain > ! >

Exit Survey

6. Wound Pain

Please click on the image or term that best describes the wound related pain of the patient in question.

No

Yes

South West Regional Wound Care Program

Contact Us | SWRWCP

Logged in as *nichole.wood@lhins.on.ca* | Home | Logout

1. Wound Type > 2. Healability > 3. Tissue Type > 4. Exudate Type > 5. Exudate Amount > 6. Wound Pain > ! >

Is there an infection?

Exit Survey

***If your patient has rapidly extending redness away from their wound, fever, flu-like symptoms, or signs of sepsis (such as rapid heart rate and low blood pressure) this may indicate a very serious infection and your patient should immediately present to their nearest emergency department.**

Please fill this questionaire out to confirm that there is no infection currently in the wound.

NERDS

☐ **N**onhealing wounds

Not healing despite appropriate interventions (healable wound with the cause treated and patient-centered concerns addressed). Reduction in wound size of 20-40% after 4 weeks of appropriate treatment.

South West Regional Wound Care Program

Contact Us | SWRWCP

Logged in as *nichole.wood@lhins.on.ca* | Home | Logout

1. Wound Type > 2. Healability > 3. Tissue Type > 4. Exudate Type > 5. Exudate Amount > 6. Wound Pain > ! > ✓

Summary

You have identified three or more **NERDS**. This suggests that the patient may have a localized or superficial infection. This bacterial burden may respond to a topical antimicrobial wound dressing. There are a number of antimicrobial wound products available. Common antimicrobials include: silver, iodine, PHMB, Honey, and gentian violet and methylene blue. Before selecting an antimicrobial dressing for your patient please complete a holistic review to ensure that you are selecting the most appropriate product for both the wound and the patient. This should include a review of patient allergies. Ensure that the patient's Primary Care Provider is updated regarding the change in condition.

You have identified three or more **STONEES**. This is suggestive of a deep compartment or spreading infection. Your patient should be assessed by a physician or nurse practitioner to determine the extent of possible infection and for consideration of systemic antimicrobial therapy. Please send your patient for assessment as soon as possible. Early intervention is key.

Probing to bone or having exposed bone in a patient with a neuropathic foot ulcer is highly suggestive of osteomyelitis and the patient should be seen by a physician, nurse practitioner, or chiropodist for further assessment.

1. **Wound Type:** Venous or Mixed Leg Ulcer
2. **Healability:** Healable
3. **Tissue Type:** Slough
4. **Exudate Type:** Serous

5. **Exudate Amount:** Moderate
6. **Wound Pain:** No

Dressing Options (Consider patient, environment and system factors when making your choice)

Option A

1. Irrigate (7-15 PSI) with a minimum of 100cc of Normal Saline. Gently pat dry with gauze.
2. Remove any loose non-viable tissue with your forceps, as able.
3. Apply a liquid barrier spray/wipe to the periwound (if needed). Allow the product to air dry.
4. Apply a silicone or low-tack foam dressing without an adhesive border. Secure in place with kling or a tubular retention dressing if required to maintain the positioning of the dressing prior to applying compression therapy.
5. Change the dressing every 2-7 days and PRN should the dressing leak or become otherwise soiled or should te person exhibit signs/symptoms of wound infection. You may wish to coordinate your dressing change frequency with your compression therapy system change frequency.

Option B

1. Irrigate (7-15 PSI) with a minimum of 100cc of Normal Saline. Gently pat dry with gauze.
2. Remove any loose non-viable tissue with your forceps, as able.
3. Apply a liquid barrier spray/wipe to the periwound (if needed). Allow the product to air dry.
4. Lightly fill/pack the wound with a hydrophilic fiber dressing.
5. Apply a foam dressing without an adhesive border. Secure in place with kling or a tubular retention dressing if required to maintian the positioning of the dressing prior to applying compression therapy.
6. Change the dressing every 2-7 days and PRN should the dressing leak or become otherwise soiled or should te person exhibit signs/symptoms of wound infection. You may wish to coordinate your dressing change frequency with your compression therapy system change frequency.

Venous and Mixed Venous-Arterial Ulcer

1. Treat the underlying cause of the wound (if possible) and support prevention of further leg ulcers
2. Address extrinsic, intrinsic and iatrogenic co-factors affecting ability to heal
3. Implement appropriate compression therapy
4. Treat any present complications of chronic venous insufficiency, i.e. stasis dermatitis, woody fibrosis, etc.
5. Address patient-centered concerns identified in your holistic patient assessment
6. Support an optimal wound environment, i.e. consider debridement, infection/inflammation and moisture balance
7. Continuously re-evaluate in a timely manner to ensure you are meeting the goals outlined in the plan of care

Thank you!