



Conservative Sharp Wound Debridement (CSWD) in Adults & Children

EVIDENCE INFORMED PRACTICE TOOLS

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Table of Contents

Purpose & Intent	3
Definition	3
Background	4
Levels of Evidence	5
Practice Level	5
Competencies	6
Indications	7
Precautions	7
Contraindications	7
Wound Assessment	8
Care Plan & Documentation	9
Safety measures	11
Equipment & Supplies	12
Primary Authors	13
References	14
Appendix A Definitions	15
Appendix B Types of debridement	16
Appendix C Sample Mentorship Skills Checklist	18
Appendix D Sample Lower Leg Assessment Tool	21
Appendix E Signs and symptoms of wound infection	24
Appendix F Topical analgesia doses for children	25
Appendix G Wound Irrigation	26

Purpose and Intent

- The purpose of this guideline is to provide the educational and practice requirements for procedure of conservative sharp wound debridement (CSWD).
- The intent is to ensure that Health Care Professionals (HCP) use a consistent framework for CSWD of wounds across sites and facilities within the Winnipeg Regional Health Authority (WRHA).
- Terms other than headings are in bold type throughout the document and are defined in Appendix A.
- The term client used in the document includes patients, residents and clients receiving healthcare from any WRHA site or facility.

Definition

Conservative sharp wound debridement (CSWD) is the removal of de-vascularized tissue, callous or hyperkeratotic tissue with the aid of a scissors, scalpel or curette above the level of viable tissue in order to create a clean wound bed. Wound bed debridement removes necrotic tissue and metabolic waste that impair the healing process and reduces the bacterial load to minimize risk of local and systemic infection. CSWD also removes **biofilm** which is present in most chronic wounds, particularly those recalcitrant to healing. Table 1 outlines the levels of debridement with sharp instruments

Table 1 Debridement methods with Sharp Instruments * adapted from Capital Health

Method	Mechanism of Action	Advantages	Disadvantages
Level 1 Sharp Debridement Tweezers, forceps, scissors	Use of tweezers, forceps and scissors to remove loose avascular tissue Scalpels are not used No tissue is removed below level of dermis	Produces immediate debridement Is selective removing necrotic tissue	Requires additional education for HCPs

Level 2 Sharp Debridement CSWD	Use of a sharp instrument (scalpel, curette or scissors) to remove of non-viable tissue to the level of but not into viable tissue	Produces immediate debridement Cost effective Selective in removing necrotic tissue Very effective on heavily exudating wounds Should not cause pain but may cause minor amounts of bleeding	Requires additional education for HCPs as carries a higher degree of clinical risk than other debridement methods Requires appropriate setting and equipment. Use caution with painful wounds or for clients taking anticoagulants. Not indicated for wounds in which demarcation between viable and non-viable tissue is not clear
Level 3 Sharp Debridement Surgical	Done by a surgeon in the operating room or other suitable environment Goes below the level of non-viable tissue i.e. wound edge so can cause pain and bleeding	Produces immediate debridement Turns a chronic wound into an acute wound thereby promoting more rapid wound healing	Non selective- viable tissue is removed Painful Expensive

1. Background

CSWD is a level of specialized wound management requiring specific knowledge, educational preparation, and supervised skill development.

While there are several methods of wound debridement this guideline only addresses CSWD. However, more than one method of debridement may be used concurrently. Appendix B outlines debridement methods without use of sharp instruments.

Wounds which require debridement are often chronic (present for >4 weeks) and have failed to progress through the orderly phases of hemostasis, inflammation, proliferation, and remodeling. Therefore it is futile to attempt to apply the model of acute wound healing to a chronic wound, as chronic wounds have biochemical differences to acute wounds (Ayello, & Cuddigan 2004; Schultz & Mast, 1998).

CSWD is an efficient and cost effective method of debridement (Woo, Keast, Parsons, Sibbald, & Mittmann, 2015) however it carries a potential risk for complications and may not be appropriate for all clients or in all health care settings. Therefore, careful wound assessment including personal and environmental considerations are required to determine if CSWD is appropriate.

CSWD involves minimal pain and bleeding, and does not require a general anesthetic, but may require analgesia and/or local or topical anesthetic.

CSWD may be done over more than one session if necessary based on the needs of the client, the characteristics of the wound and, the setting in which CSWD takes place.

When assessed as an appropriate treatment, this procedure can be done safely in a client’s room, home, or clinic setting where appropriate lighting, equipment, clean environment, and patient analgesia are available.

2. Levels of Evidence

Table 2

Level	Source of Evidence
Ia	Evidence obtained from meta-analysis or systemic review of randomized controlled trials
Ib	Evidence obtained from at least one randomized control trial
IIa	Evidence obtained from at least one well-designed, controlled study without randomization
IIb	Evidence obtained from a least one other type of well-designed, quasi – experimental study, without randomization
III	Evidence obtained from well designed, non-experimental descriptive studies
IV	Evidence obtained from expert committee reports or opinions

Adapted from Registered Nurses Association of Ontario (2007) Levels of Evidence, November 2014

3. Practice Level

Level of Evidence IV (Rodd-Nielsen et al., 2012)

- In order to perform CSWD, health care professionals (HCPs) must ensure that there is explicit employer approval for the practice of CSWD.
- A Prescriber’s order is not required for CSWD.
- HCPs performing CSWD shall have completed WRHA Level 1 Wound Care Course and Core Level 2 Wound Care Courses specifically Pressure Injuries, Diabetic Foot Ulcers and Venous/Arterial/Mixed Lower Leg Ulcers or equivalent courses.
- Physiotherapists and Occupational Therapists shall complete WRHA Level 1 Wound Care Course and WRHA Physiotherapy and Occupational Therapy Wound Care Modules.
- HCPs shall have certification in CSWD through WRHA Conservative Sharp Wound Debridement Course including mentorship (see Appendix C) or an equivalent course also inclusive of mentorship; this includes the WRHA Physiotherapy and Occupational Therapy Wound Care Modules.

- HCPs shall maintain a log of the number of procedures completed, shall assess their own competency to safely perform procedure through regular clinical practice, and continuing education, and shall recertify every 3 years. Recertification shall include review of the clinician's log of number of procedures performed and a written examination.

4. Competencies for CSWD

HCPs that perform CSWD are expected to demonstrate the following competencies (Vowden & Vowden, 1999; Harris, 2009; Rodd-Nielsen et al., 2012):

4.1 Knowledge

- Conduct a wound and client assessment in order to determine if CSWD is indicated and safe
- Understand discipline specific scope of practice with respect to debridement and CSWD in particular
- Recognize limits in personal competence with CSWD
- Identify the different types of debridement and understand the indications, and contraindications of each
- Describe anatomy and physiology of viable and non-viable tissues
- Recognize and describe the anatomy and physiology of tissue layers and landmark structures in debridement
- Describe and distinguish anatomical structures such as subcutaneous tissue, tendons, muscle and bone
- Conduct a vascular assessment to rule out arterial compromise
- Identify the phases of wound healing and how to utilize appropriate debridement modalities
- Following wound and client assessment identify precautions and contraindications with respect to CSWD
- Explain the procedure to client, and obtain informed consent

4.2 Safety

- Select and utilize the equipment and supplies required to carry out CSWD effectively and safely
- Set up and maintain a sterile or clean field as required by the circumstance for equipment and supplies
- Ensure access to equipment, lighting and assistance from another person if required
- Plan the frequency and extent of debridement
- Document wound assessment, debridement methods and outcomes
- Recognize own skill limitations and those of the technique
- Identify when to seek further specialist intervention or help from other professionals

4.3 Technique

- Manage pain and discomfort prior to, during, and following the procedure

- Demonstrate effective conservative sharp wound debridement techniques
- Be aware of and manage the adverse events associated with CSWD such as pain, damaged underlying tissues, and client anxiety
- Explain the methods to stop bleeding
- List the reasons to stop sharp debridement
- Explain secondary debridement techniques and their use as necessary

5. Indications for CSWD

Level of evidence III (Rodd-Nielsen et al., 2012)

Acute and chronic wounds can be considered for CSWD including, diabetic foot ulcers, pressure injuries, venous leg ulcers, surgical wounds and burns with the following:

- **Slough and/or eschar** present within the wound bed impeding wound healing, contributing to infection, or causing odour
- **Hyperkeratotic** wound edge
- Presence of foreign bodies (e.g. wood splinters, glass)

6. Precautions with CSWD

Level of evidence III (Rodd-Nielsen et al., 2012)

Use caution when performing CSWD with:

- Moderate to severe arterial compromise in lower extremities (Ankle brachial pressure index (ABPI) less than 0.5 or toe pressures less than 40 mmHg)
- Exposed bone, tendon, and/or ligaments
- Untreated systemic infection
- Significant wound pain, or pain with debridement
- Antiplatelet and/or anticoagulant medications
- Visible sutures or non-soluble mesh present within the wound bed
- Wounds on the hands or face

7. Contraindications for CSWD

Level of evidence III (Rodd-Nielsen et al., 2012)

- The underlying structures such as bone, tendons, or ligaments cannot be clearly identified
- The interface between viable and non-viable tissue cannot be clearly identified
- There is necrosis of a toe(s) or digit(s) related to ischemia
- Malignant wounds
- Client has impaired clotting mechanisms e.g. hemophilia, von Willebrand's disease
- Septicemia, in the absence of systemic antibacterial coverage
- Ulcers in an inflammatory etiology including pyoderma gangrenosum, vasculitis, or necrobiosis lipoidica
- Vascular grafts, prostheses or dialysis fistulas in close proximity to the wound

8. Wound Assessment

Level of evidence IV (Rodd-Nielsen et al., 2012)

8.1 Wound Assessment

Prior to the commencement of CSWD, ensure that a comprehensive wound assessment has been conducted, and that co-morbid conditions do not preclude the procedure. Wound assessment should include some* (see NOTE below) or all of:

- History of current and previous wounds, wound etiology
- Location of wound
- Wound measurements (head to toe); undermining or sinus tracts
- Wound probing to bone, exposed bone, arteries, ligaments, or tendons
- Appearance of wound bed, noting percentage of tissue type, especially the nature and amount of eschar/slough
- Amount and type of exudate (check dressing and wound)
- Presence of odour, both before and after wound cleansing
- Description of wound edge noting the interface between viable and non-viable tissue
- Peri-wound skin
- Presence of vascular grafts, prostheses or dialysis fistulas in close proximity to the wound
- Presence of internal sutures or non-soluble mesh in the wound bed
- Presence and characteristics of wound pain and plan for treatment of pain
- Wound healability (See Table 3)

For further information see Evidence Informed Practice Tool: Wound Bed Preparation
<http://www.wrha.mb.ca/extranet/eipt/files/EIPT-013-003.pdf>

*NOTE: Some professions such as Physiotherapy and Occupational Therapy may not assess or treat wounds which probe to bone, have exposed bone, arteries, ligaments, or tendons. If such wounds are encountered a prescriber should be consulted immediately.

8.2. Lower limb wounds including diabetic foot ulcers:

- Complete a lower extremity assessment (see Appendix D)
- Measure ABPI and/or toe pressures if available, if there are signs and symptoms of arterial compromise
- Assess protective sensation in feet

8.3. Pressure Injuries/Burns

- If on lower extremities complete a lower extremity assessment (see Appendix D)

Table 3: Wound Healability

Healable	Maintenance (Non-healing)	Non-healable/palliative
<ul style="list-style-type: none"> • Vascular supply • The cause of the wound can be identified & corrected • Debridement is possible • Client factors can be managed • Medical co-morbidities can be managed & do not prevent healing • Treatments can be accessed 	<ul style="list-style-type: none"> • Vascular supply • Client unable to follow wound treatment plan • Wound requires debridement • Resources not available to treat the wound at the time • Medical conditions not optimized for healing (vascular supply) 	<ul style="list-style-type: none"> • Poor vascular supply • Malignant wounds • Disease process(s) preclude healing (e.g., aggressive immunosuppression) • Client factors such that maximizing for healing not possible (e.g., severe malnutrition)

Note. Adapted from “Local Wound Care for Malignant and Palliative wounds” by K. Woo and G. Sibbald, 2010, *Skin and Wound Care*, 23(9), 417-418. and *Optimizing the Moisture Management Tightrope with Wound Bed Preparation* 2015 by R.G. Sibbald, J.A. Elliott, E.A. Ayello and R. Somayaji, 2015, *Advances in Skin and Wound Care*, 28(10), 466-476.

8.4 Presence of wound infection

- Assess for signs and symptoms of superficial (**NERDS**) and deep/surrounding (**STONEES**) wound infection (see Appendix E for signs and symptoms of wound infection)
- If client has diabetes and/or arterial compromise, visible evidence of localized infection may be muted or nonexistent due to compromised arterial blood flow. In addition, client may not have physical symptoms of infection due to blunting of the inflammatory and immune response and diminished sensation.
- If signs and symptoms of a deep wound infection are present and CSWD has produced an area on the wound bed that is free of necrotic tissue, sample for culture and sensitivity (C & S) if appropriate in clinical setting.
- Notify the Prescriber if deep wound infection is suspected and if the results of the C & S are abnormal.

9. Care Plan & Documentation

Level of Evidence IV (Rodd-Nielsen et al., 2012)

9.1 Informed consent

Conservative Sharp Wound Debridement (CSWD) in Adults & Children

The HCP shall provide client/family/substitute decision maker with education prior to obtaining informed consent for CSWD, as follows:

- Advantages and disadvantages of CSWD reasons, goals, and potential risks for sharp debridement (refer to Table 1)
- Pain management prior to and during the procedure
- Explanation to ensure that the client has the ability to ask for the procedure to be stopped or request that the procedure is paused as necessary.
- Identification of the signs and symptoms of possible complications, and ability to take appropriate action e.g. connects with the HCP, attends local emergency department

9.2 Client Concerns

Plan of care should take into account client/family/substitute decision maker abilities, concerns, preferences and motivation for treatment.

9.3 Client Education and Resources

- Educate the client/family/substitute decision maker on the rationale for and procedure of CSWD and to monitor for intended outcomes which are:
 - a. Removal of necrotic tissue from the wound bed
 - b. Minimal bleeding evident during and following the procedure
 - c. The client indicates that pain due to the procedure is resolved or managed
- Educate the client/family/substitute decision maker to act on their role in monitoring for unintended outcomes which are:
 - a. Excessive bleeding is evident
 - b. The client expresses concerns about poorly managed pain

9.4 Pain Management

Level of evidence Ia (European Wound Management Association, 2002)

- Pain management shall be an integral part of the treatment plan when conducting CSWD.
- Adequate pain management may include pre-intervention analgesia as well as the use of a topical anaesthetic to treat incident pain. Eutectic Mixture of Local Anaesthetics (EMLA ®) has been found to reduce the intensity of the pain associated with CSWD in conjunction with the use of a systemic analgesic.
- EMLA® cream is an over-the-counter product available for purchase without a prescription at most pharmacies, therefore a prescriber's order is not required for it, but pharmacies may not release it unless there is a prescriber's order. In addition for

EMLA® cream to be covered under certain plans (personal care home, social assistance, palliative care, non-insured health benefits, some private insurance plans) a prescriber's order is required. See Appendix F for dosage in children.

- The HCP shall organize care to coordinate with regular analgesic administration allowing sufficient time for the analgesic to take effect prior to initiation of debridement.
- The HCP shall work in collaboration with a prescriber if the client has significant wound pain.
- Clients should be encouraged to request a pause in the procedure if it becomes too painful; if necessary stop CSWD and reschedule for another time.
- When appropriate, use reassurance, music, distraction, conversation, or **guided imagery** during the procedure to reduce pain.

9.5 Documentation

- Document an assessment of the indications for CSWD and the presence of any precautions to performing CSWD.
- Document wound assessments prior to and following CSWD as per agency guidelines to reflect changes in the wound measurements and the wound bed following debridement.
- Document the procedure, expected, and unexpected outcomes, the patient's tolerance of the procedure and changes to the wound care plan according to agency guideline.

10. Safety measures when performing CSWD

Safe performance of a high risk procedure such as CSWD requires that it occurs in a controlled and appropriate environment. There are risks of inadvertent injury to the HCP and the client when safeguards are not in place. Safety measures are as follows:

1. **Positioning:** The client should be positioned comfortably in such a way that the HCP has ease of access to the area to be debrided. When conducting debridement on children, the HCP must ensure that the limb/area can be held still to reduce the likelihood of accidental sharp injury to client or HCP.
2. **Work surface:** The work surface is required to be stable, such as a bed or examination table
3. **Cleanliness:** A sterile or clean field can be maintained as required

4. Lighting: Additional lighting may be required to ensure adequate visualization of the wound
5. Assistance: The HCP has the ability to enlist assistance as required especially when complications arise

11. Equipment and Supplies

Item	Description
Alginate dressing	Hemostatic
Cotton Tip Applicator	Sterile 6" Pack
Curettes (ring)	4mm
EMLA	Topical anesthetic (cream 5g)
Ferric Subsulfate	Hemostatic agent
Forceps	Halstead Mosquito (reusable)
Forceps	Halstead Mosquito 5" (disposable)
Forceps	Adson toothed
Gloves	Clean or sterile
Personal Protective Equipment:	Safety glasses / gown as required
Scalpel	Disposable Scalpel #15
Scalpel	Disposable Scalpel #11
Scissors	Iris curved
Scissors	Mayo straight
Sharps container	
Silver Nitrate	Applicator silver nitrate, 15cm

Skin Cleanser (450ml)	Stanhexidine (chlorhexidine gluconate 2% aqueous, 4% alcohol)
Sterile dressing tray	
Sterile normal saline	
Supplies for wound irrigation	

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References

- Ayello, E., Cuddigan, J. (2004), Conquer chronic wounds with wound bed preparation. *Nurse Practitioner*, 29(3), 8-25.
- British Columbia (BC) Provincial Nursing Skin and Wound Committee (2011). Guideline/Procedure: Conservative Sharp Wound Debridement (CSWD) in Adults and Children. Retrieved from: <https://www.clwk.ca/buddydrive/file/guideline-procedure-cswd/>
- European Wound Management Association. (2002). Position document: Pain at wound dressing changes. London:
- Harris, C, (2009). The nursing practice of conservative sharp wound debridement: Promotion, education & proficiency. *Wound Care Canada*, 7(1), 22-30.
- Joanna Briggs Institute. (2006). Effectiveness of Solutions, Techniques and Pressure in Wound Cleansing Best Practice Evidence Based Information Sheets for Health Professionals. 10(2), 1-4.
- Registered Nurses' Association of Ontario. (2007). Assessment and Management of Stage I to IV Pressure Ulcers (Revised). Toronto, Ontario, Canada: Registered Nurses' Association of Ontario.
- Rodd-Nielsen, E., Brown, J., Brooke, J., Fatum, H., Hill, M., Morin, J. et al. (2011) in Association with the Canadian Association for Enterostomal Therapy (CAET) Evidence-Based Recommendations for Conservative Sharp Wound Debridement
- Schultz, G, et al. (2017). Consensus guidelines for the identification and treatment of biofilms in chronic nonhealing wounds. *Wound Repair and Regeneration*, 25, 744-757.
- Schultz, G.S., Mast, B.A. (1998). Molecular analysis of the environment of healing and chronic wounds: Cytokines, proteases, and growth factors. *Wounds*, 10(Suppl F), 1F-11F.
- Sibbald, R. G., Elliott, J.A., Ayello, E.A., & Somayaji, R, (2015). Optimizing the moisture management tightrope with wound bed preparation 2014. *Advances in Skin & Wound Care*, 28(10), 466-476.
- Vowden K. R., Vowden, P. (1999). Wound debridement, Part 2: Sharp techniques. *The Journal of Wound Care*, 8(6), 291-294.
- Woo, K.Y., Keast, D., Parsons, N., Sibbald, R.G., & Mittmann, N. (2015). The cost of wound care: A Canadian perspective. *International Wound Journal*, 2, 402 – 407.
- Woo, K., & Sibbald, G. (2010). Local wound care for malignant and palliative wounds. *Skin and Wound Care*, 23(9), 417-418.

Appendix A: Definitions

Biofilm: A biofilm is a complex microbial community, consisting of bacteria embedded in a protective matrix of sugars and proteins. Biofilms provide a protective effect for the microorganisms embedded within them, improving their tolerance to the host's immune system, antimicrobials, and environmental stresses. Biofilms stimulate a chronic inflammatory response which benefits the organisms of the biofilm. It is not possible to categorically state when a wound is biofilm-free, because there is a lack of definitive clinical signs and laboratory tests. The best way to disrupt biofilm is use of frequent aggressive debridement, long duration high-dose systemic antibiotics, and combinations of antibacterial biofilm agents.

Eschar: Eschar is dead tissue found in a full-thickness wound. Blood flow in the tissue under the eschar is poor and the wound is susceptible to infection.

Guided imagery: Guided imagery is a simple relaxation technique that can help your client quickly and easily manage stress and reduce tension in their bodies. Starting with deep slow breathing to relax the body, and guide them to envision themselves in the midst of the most relaxing environment they can imagine.

Hyperkeratotic tissue or callus. This abnormally thick or hard area of skin can lead to increased local pressure especially when present on the plantar aspect of the foot. It is important to remove this type of callus and referral to an appropriate specialist is recommended.

NERDS & STONEES

The NERDS and STONEES mnemonic is a memory aide to assist clinicians in identifying the level of bacterial invasion.

NERDS stand for Non-healing, Exudate, Red friable tissue, Debris (discolouration) and Smell. STONEES stand for Size increasing, Temperature elevation, Os (probes to bone), New breakdown, Erythema/Edema, Exudate and Smell. (This mnemonic does not include the symptom of pain).

The Bioburden checklist was developed by Keast and Lindholm to determine the level of bioburden and assist in selecting the correct intervention. It can be found at: www.woundsinternational.com/media/issues/610/files/content_10545.pdf

Slough: Slough is moist devitalized tissue and can have the following characteristics:

- Colour will vary from cream, yellow and tan depending on hydration
- It can firmly attached or loose
- Can be slimy, gelatinous, stringy, clumpy or fibrinous consistency
- Can be liquefying necrosis

Appendix B: Debridement methods without sharp instruments

Method	Mechanism of Action	Advantages	Disadvantages
Autolytic	<p>Moisture retentive dressings support the body's naturally occurring process in which enzymes & moisture in the wound rehydrate, soften, & liquefy eschar & slough</p> <p>Scoring dry eschar prior to applying moisture retentive dressings may help to speed up the autolytic process</p> <p>Suggested dressings include alginates, cadexomer iodine (Iodosorb) film dressings, hydrocolloids, hydrofiber, hydrogels & hydrophilic paste (Triad)</p>	<p>Within HCP scope</p> <p>Selective, preserves viable tissue</p> <p>Pain free; suggested for very painful wounds</p> <p>Can be used with infected wounds if infection being treated</p> <p>Easy to use</p> <p>Safe</p> <p>Readily available</p> <p>Softens tissues in preparation for other debridement methods, e.g. prior to CSWD</p>	<p>Slow especially if the wound is large.</p> <p>Wound fluid may macerate wound edges.</p> <p>Requires close monitoring for wound infection.</p> <p>Iodine can sting on initial application</p> <p>Caution in use of Iodine (refer to Advanced Wound Care Formulary)</p> <p>Less effective in those with a compromised immune system</p> <p>Produces debris that must be removed from the wound</p> <p>Expensive due to longer time required</p>
Enzymatic	Topical application of exogenous enzymes to the	Not available in WRHA sites	

	wound surface to break down necrotic tissue		
Mechanical	<p>Involves the use of mechanical force to remove non-viable tissue from the wound. Includes different strategies to apply mechanical force including:</p> <p>Wound irrigation, see Appendix G for procedure</p> <p>Wet-to-dry dressings (not recommended)</p> <p>Whirlpool therapy (not recommended)</p> <p>Monofilament Fiber pad – Wetted and gently wiped over the wound for 2- 4 minutes</p>	<p>Within HCP scope</p> <p>Wound irrigation is selective preserving viable tissue, is safe & relatively pain free & easy to access and perform</p> <p>Monofilament fiber pads are effective on softened necrotic tissue, quick, easy to use & only occasionally cause minor discomfort during the procedure</p>	<p>Irrigation is slow to debride especially if there is a large amount of necrotic tissue, & does not work on dry necrotic tissue</p> <p>Wet-to-dry dressings are non-selective potentially removing healthy as well as necrotic tissue & are very painful when removed</p> <p>Whirlpool therapy may increase the possibility of a wound infection</p> <p>Monofilament fiber pads are less effective on dry necrotic tissue</p>
Biologic debridement	Involves the use of sterilized maggots	Not used at WRHA sites	
Silver Nitrate	Free silver ions bind with tissue proteins, which leads to the obstruction of small vessels	<p>Within HCP scope</p> <p>Selective, preserves viable tissue</p>	<p>Silver nitrate is a caustic agent & can leak causing skin staining & tissue burns to other unintended areas of treatment</p> <p>Can be painful</p>

Appendix C: Sample Mentorship Skills Checklist

Conservative Sharp Wound Debridement: Mentorship Skills Checklist

Name: _____

Date CSWD Education Module Completed: _____

Date Skills Laboratory Completed: _____

Competency	Achieved	Follow-up (if needed)
	Date	Date
1. Demonstrates understanding of relevant anatomy, underlying tissue and structures.		
2. Identifies viable and non-viable tissue.		
3. Conducts a complete wound assessment to determine need for debridement (includes diabetic foot screen, lower limb and vascular assessments).		
4. States precautions and contraindications for CSWD.		
5. Provides rationale for use of CSWD based on client assessment.		
6. Conducts an environmental scan to determine safety to debride (i.e. adequate lighting, equipment and assistance to hold/stabilize limb or position client)		
7. Explains procedure to the client and obtains informed consent.		
8. Positions the client so that they are comfortable and the wound is easily accessible.		
9. Assembles what is needed to address bleeding during the procedure and identifies the process for addressing bleeding.		
10. Uses sterile or no touch technique correctly.		

<p>11. Demonstrates acceptable skills and techniques:</p> <p>i. Gathers appropriate instruments to debride the specific wound.</p> <p>ii. Selects the appropriate tool (curette, forceps, or scalpel) for the tissue type to be removed.</p> <p>iii. Handles instruments appropriately with respect to safety.</p> <p>iv. Grasps the tissue to be removed securely with care for the underlying viable tissues.</p> <p>v. Removes non-viable tissue is one layer at a time.</p> <p>vi. Does not compromise viable tissue.</p>		
<p>12. Manages pain and discomfort prior to, during and following the procedure.</p>		
<p>13. Identifies when to stop the procedure at the appropriate level of tissue.</p>		
<p>14. Applies an appropriate wound dressing once the procedure is completed.</p>		
<p>15. Recognizes skill limitations and the need to involve others if necessary.</p>		
<p>16. Utilizes secondary debridement techniques if needed.</p>		
<p>17. Documents wound assessment and procedure.</p>		
<p>18. Outlines a comprehensive plan of care for reassessment, ongoing debridement and wound healing.</p>		
<p>Mentoring Objectives Achieved</p>		
<p>Date:</p>		
<p>Mentor Signature:</p>		
<p>Mentee Signature:</p>		

Appendix D: Sample Lower Leg Assessment Tool

Sample Lower Leg Assessment Tool

 Winnipeg Regional Health Authority Office régional de la santé de Winnipeg Caring for Health À l'écoute de notre santé		Name:					
		Address:					
Date of assessment:		DOB:					
Location of assessment:		Manitoba Health #			PHIN		
Signs & Symptoms	Venous	Right	Left	Arterial	Right	Left	
Temperature	Warm to touch			Cool in warm environment			
Colour	Hemosiderin staining (red/brown)			Dependent rubor			
	Redness			Pallor on elevation			
Pain	Heavy, aching legs			Nocturnal			
	On deep palpation			At rest/with legs elevated			
	Relieved with elevation			When walking			
Skin changes	Thickened skin			Shiny taut skin			
	Lipodermatosclerosis (woody fibrosis)			Less hair/hairless			
	Atrophie Blanche			Gangrene			
	Stasis dermatitis						
Nails				Fungal nails			
Capillary refill	3 seconds or less			Greater than 3 seconds			
Pedal Pulses	Palpable Dorsalis Pedis			Diminished/absent Dorsalis Pedis			
	Palpable Post. Tibial			Diminished/absent Post. Tibial			

Edema	Pitting			Minimal		
	Non-pitting			No edema		
Wound	Gaiter area			Bony prominences		
Other symptoms (describe)						
Etiology	Venous <input type="checkbox"/> Arterial <input type="checkbox"/> Mixed Arterial/Venous <input type="checkbox"/>					
Health History	Hx associated with Venous Disease (✓ all that apply)			Hx associated with Arterial Disease (✓ all that apply)		
		Family history of leg ulcers		L/E Arterial Disease		Rheumatoid Arthritis
		Varicose Veins		Intermittent Claudication		Renal Disease
		DVT Affected Leg		Vascular Surgery L/Es		Vasculitis
		DVT Unaffected Leg		Rest Pain/night pain		Hypercholesterolemia
		Venous surgery		Hypertension		Ulcerative Colitis/IBD/Crohn's
		Injection Sclerotherapy		CHF		Current Smoker: #cigarettes/day
		Trauma/Fracture of leg(s)		MI		Past Smoker Quit when? _____
		Pulmonary embolism		Angina		Previous vascular procedure
		Pregnancies # _____		CVA/TIAS		Obesity
		Osteoarthritis		Diabetes		Hx of Atherosclerosis
		Phlebitis		None of the above		
		None of the above				
History of Leg Ulcers	Have you had leg ulcers before this one? <input type="checkbox"/> Yes <input type="checkbox"/> No Year of first occurrence _____ Have you been treated with compression bandaging before? <input type="checkbox"/> Yes <input type="checkbox"/> No					

Appendix E: Signs and symptoms of wound infection

Non-limb threatening	Limb-threatening	
<p>Superficial infection (NERDS) Non-healing Exudate increased Red, friable granulation tissue, bleeds easily Debris in wound Smell</p>	<p>Deep wound infection (STONEES)</p> <p>Size is bigger Temperature is increase Os-Probes to bone New/satellite areas of breakdown Exudate increases Edema (induration) Erythema > 2cm wound margin Smell</p> <p>and</p> <p>Pain Swelling, induration Erythema Undermining/tunneling Anorexia Flu-like symptoms Erratic glucose control</p>	<p>Systemic Infection</p> <p>Deep wound infection + Fever Rigour Chills Hypotension Multi-organ failure</p>

Appendix F: Topical Analgesia (EMLA) dose for children

Age	Dosage of EMLA
Neonates 37 weeks gestational age to infants 3 months	0.5g/10cm ² Max 1g total
Infants 3-13 months	1g/10cm ² Max 2g total
Children 1-12 years	1g/10cm ² Max 10g total

Appendix G: Wound Irrigation

Irrigate wounds for cleansing when the wound has moderate/copious exudate; contains slough or eschar; is critically colonized or infected; and has increased depth and/or undermining (see contraindications below) (Level of Evidence 1b)

- Contraindications to irrigation include:
 - non-healable wound that requires a dry stable environment
 - wound with an unknown endpoint to tunneling
 - wound that has areas where the irrigation solution cannot be retrieved
 - fistula tract

- Solution should be at least room temperature (20° C) to support wound healing.

- Use 30cc syringe and 18 gauge needle or blunt tip for 8-14 psi, for enough irrigation pressure to enhance wound cleansing without causing trauma to the wound bed. Pressures of approximately 13 psi are effective in reducing infection and inflammation (Joanna Briggs, 2006). Irrigation with higher pressures risk the change of penetrating soft tissue that can impair wound healing.

- Use volumes of 100-150ccs