

Wound Debridement Techniques

SKIN AND WOUND – TIP SHEET

Applies to: Clinicians (nurses, including RNs, LPNs and RPNs) who provide wound bed management, to assist in the selection of a suitable debridement technique(s)

Debridement technique(s) is selected based on the type/amount of necrotic tissue present in the wound, signs and symptoms of infection (if present), goals of care, scope of practice and access to resources.

Wound debridement is a key principle of wound bed management and is only performed on healable wounds. The goals of debridement include the removal of senescent cells, debris, & non-viable tissue, and in some cases to stimulate an inflammatory response to re-activate healing.

Note: If dry eschar is present, do not debride. If dry eschar becomes soft/boggy, refer to a NSWOC/Wound Clinician or Physician/NP.

Debridement options within general nursing scope of practice

Autolytic

Autolysis is the natural process of phagocytosis which occurs from an optimal environment of wound enzymes, moisture and thermal balance.

Most wound care products can support autolysis; however, some are more effective:

- Wound gels can be used to add moisture to dry wounds.
- Occlusive and semi-occlusive dressings (for example, hydrocolloids, hydrophilic paste, film dressing and acrylics), will retain wound bed moisture and thermal insulation, which support the correct environment for autolysis.

Note: Never use occlusive dressings on infected wounds.

- Osmotic dressings that cause a fluid shift from the wound bed cells to facilitate autolytic debridement:
 - Hypertonic dressings (impregnated with sodium). For example: Mesalt works well for heavily exuding wounds.
 - Honey-based dressings. For example: Medihoney and Medihoney apinate also have anti-inflammatory effects.

Autolytic debridement is indicated for small- to medium-sized wounds and/or painful wounds that can not tolerate other methods. This method is inexpensive and easy to use, but it increases exudate and is the slowest option (it can take days or weeks).

Due to the increased exudate and slow speed this would not be the best choice for wounds at high risk for infection.

Mechanical

Mechanical debridement is the physical removal of slough and debris from a wound bed using irrigation with a stream of 8-15 psi across the wound bed, or gently wiping the wound bed with gauze.

Note: Do not use wet-to-dry dressings to mechanically debride wounds.

This form of debridement is indicated for wounds that have loosely attached non-viable tissue. This method can be quite painful, and can damage healthy tissue (it is non-selective), but does not produce extra exudate.

Mechanical debridement often needs to be repeated frequently, to maintain a clean wound bed.

Enzymatic

Collagenase is a prescribed enzymatic ointment called [Santyl](#). Collagenase destroys the collagen that holds slough to the wound base, which allows the slough to be removed during dressing changes.

Enzymatic debridement is indicated for wounds with loosely or firmly attached non-viable tissue, and painful wounds. It acts only on necrotic tissue, and produces a large amount of exudate. Due to the exudate level, this method requires frequent dressing changes, absorptive dressings, periwound protection and close monitoring of S&S of infection.

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Debridement options beyond general nursing scope of practice

See: [Limits and Conditions for RN and LPN's](#).

Conservative Sharps Wound Debridement (CSWD)

CSWD is the removal of devitalized tissue (slough, eschar and callous) and biofilm, down to the level of viable tissue, using a sterile scalpel, scissors, or a curette to create a clean wound bed.

NSWOC's/Wound Clinicians, Physicians and NP's are the only clinicians approved to perform this method in Island Health.

CSWD is indicated for small to large wounds with loose or firmly attached non-viable tissue. This method is quick, disrupts bioburden, and is effective at converting chronic wounds to acute wounds.

CSWD can be painful in wound beds, but callus reduction should have minimal pain.

There is a risk of bleeding and damage to underlying structures, such as tendons, nerves and bone.

Biologic

Biological debridement refers to Maggot Debridement Therapy (MDT) and is used to remove necrotic tissue from moist necrotic tissue and slough.

Medicinal maggots act by debriding wounds and biofilms by dissolving and ingesting necrotic tissue, disinfecting the wound by killing bacteria, and stimulating the growth of granulation tissue.

In Island Health currently this method is only performed by NSWOCs/Wound Clinicians, Physicians and NPs.

MDT is effective for wounds with soft necrotic tissue and is appropriate for infected wounds. This method can produce a large amount of exudate.

Once they are applied, the maggots work quickly, and are very selective, only consuming the dead tissue. Maggots require protection so that they are not suffocated, squished or drowned in exudate.

Some challenges to using this therapy are access to competent clinicians, difficulty accessing and storing maggots, psychological comfort by clients, and limitations in the types of wounds that are appropriate for this therapy.

Surgical

Surgical debridement is completed by a surgeon and removes devitalized tissue below the level of viable tissue. This method is the only option for debridement of bone, due to osteomyelitis.

Surgical debridement is indicated for larger wounds, with areas of increased contamination/infection. This method is quick, once the client is in the operating room, and pain is usually well managed. Clients who are at risk of systemic infection due to their wounds would benefit from this method, as all of the non-viable tissue is removed at once.

The client must be a surgical candidate, and have the ability to follow through with any surgical follow-up.