

# Debridement:

## Clinician's Resource Guide



## D.E.B.R.I.D.E.

A guide to assist you in  
selecting or recommending  
a debridement method for  
your patient

## PDQWC mission

PDQWC elevates the importance of critical thinking and educates to improve the practice of skin and wound care.



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This resource guide was developed with input from the Professionals Dedicated to Quality Wound Care (PDQWC). Any guidelines or recommendations referenced in this resource guide are based on standards and practices commonly utilized by PDQWC members; such guidelines or recommendations are not intended to supersede independent clinical judgment or institutional protocols. Where laws, regulations, or other protocols/guidelines require or suggest an alternative approach be taken, a clinician should follow such measures.

For the purposes of this document, the term “patient” is intended to denote both patients and residents.

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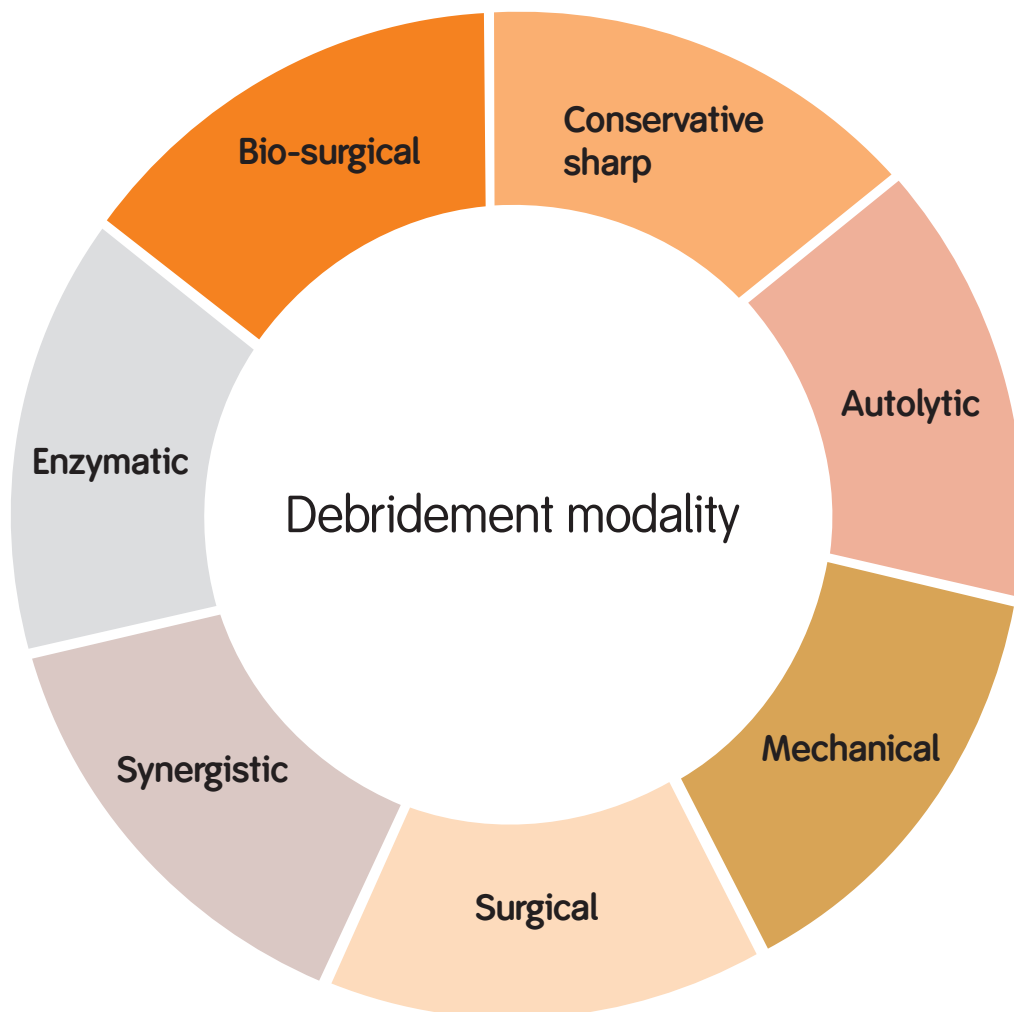
## Introduction

Choosing or recommending a method of debridement for a patient is a complex task. The individual's risk factors, comorbidities, wound status and overall plan of care must be carefully considered in order to select from the seven major types of debridement that are commonly available:

- Enzymatic
- Bio-surgical
- Conservative sharp
- Autolytic
- Mechanical
- Surgical
- Synergistic

This resource guide will review the use and considerations of these debridement modalities and will introduce the D.E.B.R.I.D.E. mnemonic for helping you to choose/recommend the best debridement method for your patient.

Debridement is most appropriate for healable wounds, but it may also be used for non-healable or palliative wounds. For further information on non-healable wounds and Skin Changes At Life's End (SCALE 2009), visit [www.TheWoundInstitute.com](http://www.TheWoundInstitute.com).<sup>8</sup>



**D.E.B.R.I.D.E. is a simple mnemonic developed to help busy clinicians review the important steps of clinical decision making to promote the safest and most effective debridement method for your patient**

- D** **Determine** by medical record review, patient and caregiver interview (review of systems), potential options for and contraindications to debridement and debridement modalities
- E** **Evaluate** patient (exam/assessment) and clinical setting to select best debridement modalities
- B** **Bathe** the wound before initiating debridement modality(ies) – (eg, wound cleansing)
- R** **Request** order to begin debridement/remove devitalized tissue with selected modality(ies)
- I** **Infection** – monitor for signs and symptoms for localized and systemic infection
- D** **Document** findings and interventions
- E** **Evaluate** outcomes

**Determining the best method or methods for wound debridement is a multifaceted process. Each of the following sections reviews essential details**

**D Determine by medical record review and patient and caregiver interview (review of systems), potential options for and contraindications to debridement/debridement modalities**

Your patient's medical conditions may impact selection of debridement modalities and subsequent outcome. Refer to the algorithm on the next page. Evaluate your patient for the following conditions that impact the ability to heal the wound:

Abnormal lab values, advanced age, agitation, anticoagulants, bedridden/decreased mobility, dehydration, dementia, lack of appetite, diabetes, HIV, hypertension, infection, end-stage renal disease/dialysis, medical devices/therapies may impact wound healing, medications, wound history, neurological diseases, pain, pressure redistribution surfaces on bed and chair while in facility and when patient is out of the building, psychosocial issues that predispose patient to non-adherence to plan of care, rheumatologic issues, thyroid disorders, vascular conditions, weight loss and nutritional status.<sup>1,2,3</sup>

**Classify wound healing capacity as “healable,” “stalled,” or “non-healable.”<sup>3,4</sup>**

- **Healable wound** – a wound that has a capacity to heal
- **Stalled wound** – wound healing is impaired due to reversible barrier, eg, lack of blood flow, smoking, inability to get a specific product or implement an intervention, patient cannot afford out of pocket expenses associated with treatment
- **Non-healable wound** – inability to treat the underlying condition, eg, lack of correctable blood flow, end-of-life, cachexia associated with dementia or malignancy, or wound exacerbation factors

A caution to debridement includes the presence of stable black eschar without drainage, odor or infection in the heel area<sup>5</sup>

**E Evaluate patient (exam/assessment) and clinical setting to select best debridement modalities**

- A) Perform patient assessment for above systemic factors that can impact selection of debridement modalities. Determine probable wound outcome.
- B) Focused wound assessment (length x width, depth, tissue type, drainage, clinical signs of bioburden locally or systemically)
- C) Environmental assessment (support surfaces on bed and chair, medical devices impacting wound healing, staff knowledge/skill in performing selected debridement modality(ies), patient ability to tolerate selected modality, available clinician skill set and equipment available if complications occur with debridement, patient or clinician safety issues that maybe impacted by debridement choice, cost/reimbursement factors.<sup>3,4</sup>
- D) Is synergistic wound debridement possible? Synergistic modalities can improve debridement outcomes. For more information on synergistic wound debridement, see page 7.

## **B** Bathe the wound before initiating debridement modality(ies) – (eg, wound cleansing)

Wound cleansing using proper solution, amount and pressures can reduce bacterial load and foreign substances such as feces and urine. Cleansing solutions can impact the success of selected debridement modalities.

**Note:** pressurized saline and other non-toxic hyperchlorous acid wound cleansers may be an option to work synergistically with other debriding options, including enzymatic debridement. Always review specific product labeling to ensure compatibility.

## **R** Request order to begin debridement/remove devitalized tissue with selected modality(ies)

Please refer to the Appendix, Table “Selecting a debridement option using D.E.B.R.I.D.E.” for more information.

**Note:** Each healthcare provider should be familiar with their state scope of practice when performing any debridement option.

## **I** Infection – monitor for signs and symptoms for localized and systemic infection

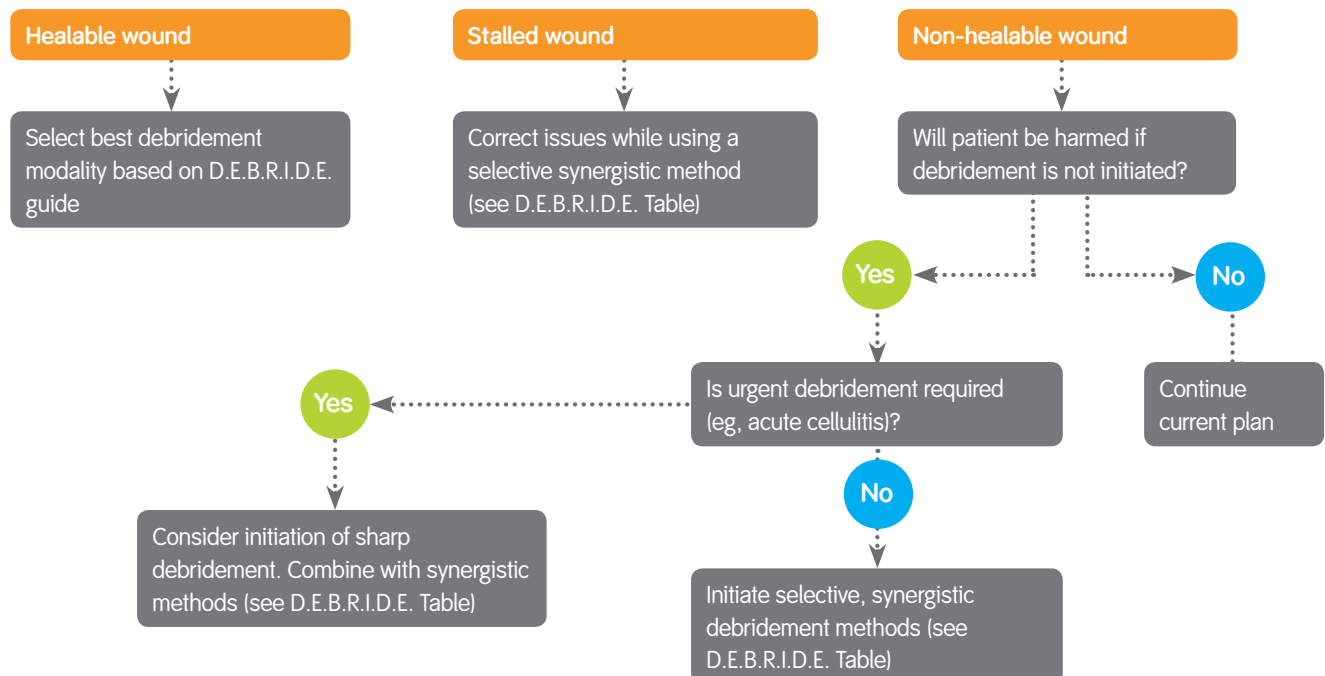
All open wounds are at risk for developing localized or systemic infection. Routine monitoring of increased localized bioburden (odor, change in drainage, wound pain or enlarging wound size) and systemic infection (classic signs of redness and induration around the wound or altered mental status) should be undertaken.

## **D** Document findings and interventions

Documentation communicates to other members of the interprofessional team what has occurred and provides a record for determining reimbursement of services.<sup>7</sup>

## **E** Evaluate outcomes – routinely reassess the wound, the patient and the environment for any barriers to successful debridement

**Note:** Not intended to supersede independent clinical judgment or institutional protocols, but rather to be used as a guide to help in your debridement selection. Other considerations for wounds, for example, in heel wounds dry occlusive devitalized tissue; every debridement method is contraindicated unless there is a medical opinion to the contrary. Each wound needs to be evaluated for adequate blood perfusion in the affected area, and each patient considered for his/her nutritional, metabolic and infection status.



**Table: Selecting a debridement option using D.E.B.R.I.D.E.**

Debridement modality	How it works	Considerations	Using D.E.B.R.I.D.E.
<b>Enzymatic</b>	Application of a biological proteolytic enzyme to degrade protein	<ul style="list-style-type: none"> <li>• Effective</li> <li>• Requires prescription</li> <li>• Once a day application</li> <li>• Active debridement</li> <li>• Selective</li> <li>• Easy to use and apply</li> </ul>	<p><b>D</b> - Allergy or sensitivity to enzyme</p> <p><b>E</b> - Required. Moist wound environment to optimize effectiveness of enzyme</p> <p><b>B</b> - Required. Avoid wound cleansers and antiseptics that may inhibit enzyme effectiveness</p> <p><b>R</b> - Required. Valid wound treatment order addresses frequency of application, what to cleanse wound with prior to application of enzyme, amount of drug to be applied and type of cover dressing and frequency of application</p> <p><b>I</b> - Use of antimicrobial dressings or topical antibiotics to control bioburden (check for compatibility with enzymes prior to use)</p> <p><b>D</b> - Document to support its use</p> <p><b>E</b> - Literature supports enzyme usage. Can be effective when used in synergy with other methods</p>
<b>Bio-surgical</b>	Application of sterile larvae (maggots) which feed exclusively on dead tissue and spare healthy tissue	<ul style="list-style-type: none"> <li>• Fast and effective, selective for tissue type removed</li> <li>• Must be ordered from a specialized vendor</li> <li>• Can be psychologically disturbing for patients, family or staff</li> </ul>	<p><b>D</b> - Limited effectiveness on venous ulcers, wounds with <i>Pseudomonas aeruginosa</i>. Contraindicated in open abdominal wounds, Pyoderma gangrenosum</p> <p><b>E</b> - Requires consent of patient and facility support. May require extensive in-servicing of staff. Wound needs moist environment to be effective. Wound must be effectively and consistently free of any external pressure to maintain viability of maggots. Secondary “cage-like” dressing can be laborious to create and/or expensive to purchase.</p> <p><b>B</b> - Required</p> <p><b>R</b> - Required. Delivery of product unlikely on weekends and holidays without incurring additional costs</p> <p><b>I</b> - Requires observation for presence of bioburden/infection</p> <p><b>D</b> - Document consent of patient</p> <p><b>E</b> - Literature supports use when other methods have failed, though can be used earlier</p>
<b>Conservative sharp</b>	Uses forceps, scissors, scalpel or curette to remove only devitalized tissue and foreign material from the wound	<ul style="list-style-type: none"> <li>• Clinician use limited – due to scope of practice regulations</li> <li>• May injure patient or staff if patient has agitation or aggressive behaviors</li> <li>• Fast and effective, but non-selective in tissue type removed</li> <li>• Works well in synergy with other modalities</li> <li>• Example – autolytic followed by conservative sharp</li> </ul>	<p><b>D</b> - Anticoagulant use is a relative contraindication. Check labs prior to initiation and have supplies/knowledge to control inadvertent bleeding available</p> <p><b>E</b> - Assess clinically for factors that support or do not favor this modality</p> <p><b>B</b> - Antiseptic cleansing before and after in addition to routine wound cleansing required</p> <p><b>R</b> - Required. May need topical or injectable anesthetic prior to procedure. Reimbursement for provider and cost to facility highly dependent on payor source</p> <p><b>I</b> - Can place patient at higher risk for infection</p> <p><b>D</b> - Document tissue type removed wound measurements and wound bed description before and after in addition to usual documentation</p> <p><b>E</b> - Literature supports this modality on a routine basis. More effective when used in synergy with other methods</p> <p><b>Note:</b> Conservative sharp debridement should not be performed on heel wounds with non-draining, non-infected stable black eschar, that is without adequate vascularity to support healing (ischemic limb)</p>

Debridement modality	How it works	Considerations	Using D.E.B.R.I.D.E.
<b>Autolytic</b>	Use of a topical dressing creates a moist wound environment to support the body's natural debridement ability	<ul style="list-style-type: none"> <li>• Slowest method of debridement</li> <li>• Should be discontinued in 3-7 days if no wound progress occurs or discontinue immediately if the wound worsens</li> <li>• Requires immunocompetent patient with intrinsic enzymes</li> <li>• Passive and selective for removal of necrotic tissue</li> <li>• Easy to obtain and apply</li> </ul>	<p><b>D</b> - Hospice or actively dying patient when pain control/comfort is favored as faster debridement will not affect overall clinical endpoint. Alternatively, healthy individuals with good circulation and good immune system without other systemic complications with a smaller, acute, type of wound may be a good candidate</p> <p><b>E</b> - As above, supported by clinical assessment</p> <p><b>B</b> - Required</p> <p><b>R</b> - Required. Intimate knowledge of hundreds of autolytic dressings needed to differentiate between forms, functions and components that may cause sensitization</p> <p><b>I</b> - Requires observation for presence of bioburden/infection</p> <p><b>D</b> - Document to support its use</p> <p><b>E</b> - Consider when other methods have failed</p>
<b>Mechanical</b>	Use of a physical force to remove devitalized tissue	<ul style="list-style-type: none"> <li>• Non-selective in tissue type removed</li> <li>• Depending on specific modality used, may be fast and effective or slow and less effective</li> <li>• Effective modalities such as pulsed lavage require knowledgeable staff and equipment, usually performed by physical therapy</li> <li>• Works well in synergy with other modalities</li> </ul>	<p><b>D</b> - Contraindications depend on modality selected, including use over exposed vessels, use in patients with embedded metal or pacemakers. Ordering clinician should be familiar with these contraindications</p> <p><b>E</b> - Assess clinically for factors that support or do not favor specific modality such as pain</p> <p><b>B</b> - Required except when using lavage</p> <p><b>R</b> - Required. Depending on specific modality ordered, may not be available on all shifts or seven days a week</p> <p><b>I</b> - May disrupt biofilm</p> <p><b>D</b> - Specific documentation is required to support its use and for reimbursement</p> <p><b>E</b> - Literature supports selected non-wet-to-dry physical modalities on a routine basis. Can be effective when used in synergy with other methods</p> <p><b>Note:</b> F314 Guidelines in long term care do not support the use of wet-to-dry-dressings for wound management. Its use can place the facility at risk for citations for substandard care.</p>
<b>Surgical</b>	Removal of devitalized tissue in a controlled environment under general anesthesia using a variety of instruments	<ul style="list-style-type: none"> <li>• Generally accepted as the fastest method</li> <li>• Associated with the best wound healing outcomes when excision done in conjunction with immediate grafting</li> <li>• Patient must be medically cleared for surgery and informed consent obtained</li> <li>• Indicated for fulminating infection and limb salvage</li> </ul>	<p><b>D</b> - Considered only if other options have not been helpful but carries a high risk for morbidity in the elderly patient</p> <p><b>E</b> - Medical clearance required</p> <p><b>B</b> - Unnecessary as this is done at the time of the procedure</p> <p><b>R</b> - Coordination of care between facility and acute care facility performing procedure required along with multiple orders from the prescribers involved. This may be a high expense to a facility</p> <p><b>I</b> - Requires observation for presence of bioburden/infection</p> <p><b>D</b> - Specific documentation as to necessity as well as care coordination required</p> <p><b>E</b> - Literature supports this modality in specific circumstances</p>
<b>Synergistic</b>	Combination of several methods to remove necrotic tissue	<ul style="list-style-type: none"> <li>• Combination of methods can be tailored to individual clinical situations and environmental challenges</li> </ul>	<p><b>D</b> - Assess for factors that may support more than one specific method</p> <p><b>E</b> - Clinically assess patient and environment</p> <p><b>B</b> - Required unless lavage is used as one of the synergistic modalities</p> <p><b>R</b> - Required treatment orders may be somewhat complex as more than one modality is used</p> <p><b>I</b> - Requires observation for presence of bioburden/infection</p> <p><b>D</b> - Specific documentation dependent on methods used</p> <p><b>E</b> - Literature supports the use of the appropriate debridement modality based on the clinical situation and environmental changes</p>

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