Debriding and Desloughing Management Strategies

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Controversy

EWMA 2015 – workshop/debate

Is there a difference between debridement and desloughing?

A new category will risk confusing nurses

Desloughing is part of debridement

Clinicians are educated on how to remove slough

Educated on how to determine which approach to take

Differentiate between slough and necrotic tissue

Cowan, T. Is there a difference between debridement and desloughing. Br J Nurs. 2015; 24(15): S18, s20

Necrotic tissue versus slough

Necrotic tissue

- Associated with cell death

Sloughy tissue

- Considered part of the inflammatory process

Milne J. Wound bed preparation: the importance of rapid and effective desloughing to promote healing. Br J Nur. 2015; 24 (Sup 20): S52-S58.

Sloughy tissue

Consists of fibrin (non-soluble fibrinogen, which is a by product of the clotting cascade)

White blood cells, bacteria and debris, along with dead tissue and other proteinaceous material

In short, the cellular debris resulting from the process of inflammation

Sloughy tissue

Unlike necrotic tissue we more than always aim to remove it

Do not remove or remove with caution

- Lower extremity wounds
  - Arterial disease
  - Dry gangrene
- Stable eschar heels
- Fungating or ulcerating tumours
- Wounds with an inflammatory process

Debridement versus desloughing

Debridement

Usually for necrotic tissue

Method will depend on

- Clinical judgment
- Clinical need
- Anatomical location
- Amount of necrotic tissue
- Accessibility
- Co-morbidities
- Wound pathology

Surgical debridement

Can be high risk

Deslouging

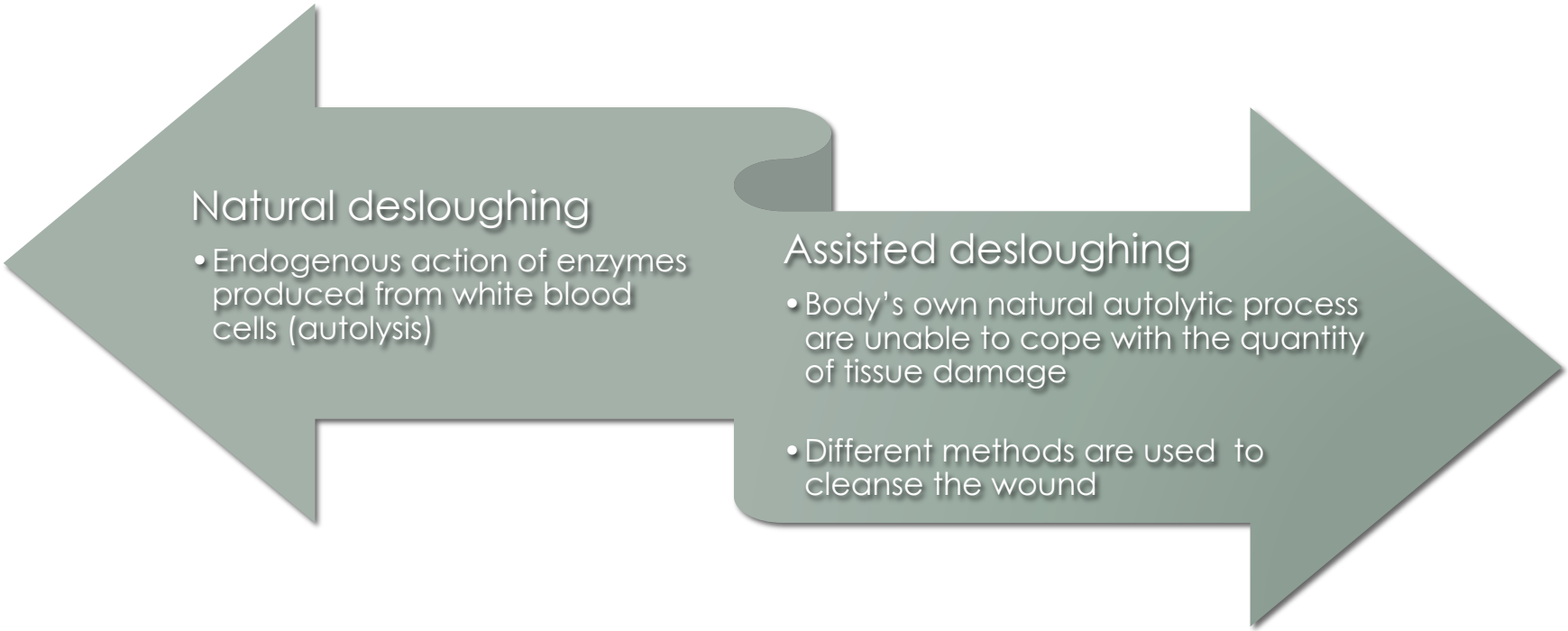
Lower risk alternative

Includes using wound care products

Both terms used interchangeably in the literature!

Percival, SL, Suleman, N. Slough and biofilm: removal of barriers to wound healing by desloughing. J Wound Care 2015; 24:11:498, 500-3, 506-10.

Desloughing



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Cycle of slough formation

Milne J. Wound bed preparation: the importance of rapid and effective desloughing to promote healing. Br J Nur. 2015; 24 (Sup 20): S52-S58.

Clinical challenges

Present in the large majority of wounds

Slough reoccurrence common post debridement
- Ongoing desloughing procedures need to be maintained

No single method is able to remove all devitialised tissue

Evidence suggests combination of method is required
- Surfactants to disrupt the outer membrane
- Dressings
- Other methods

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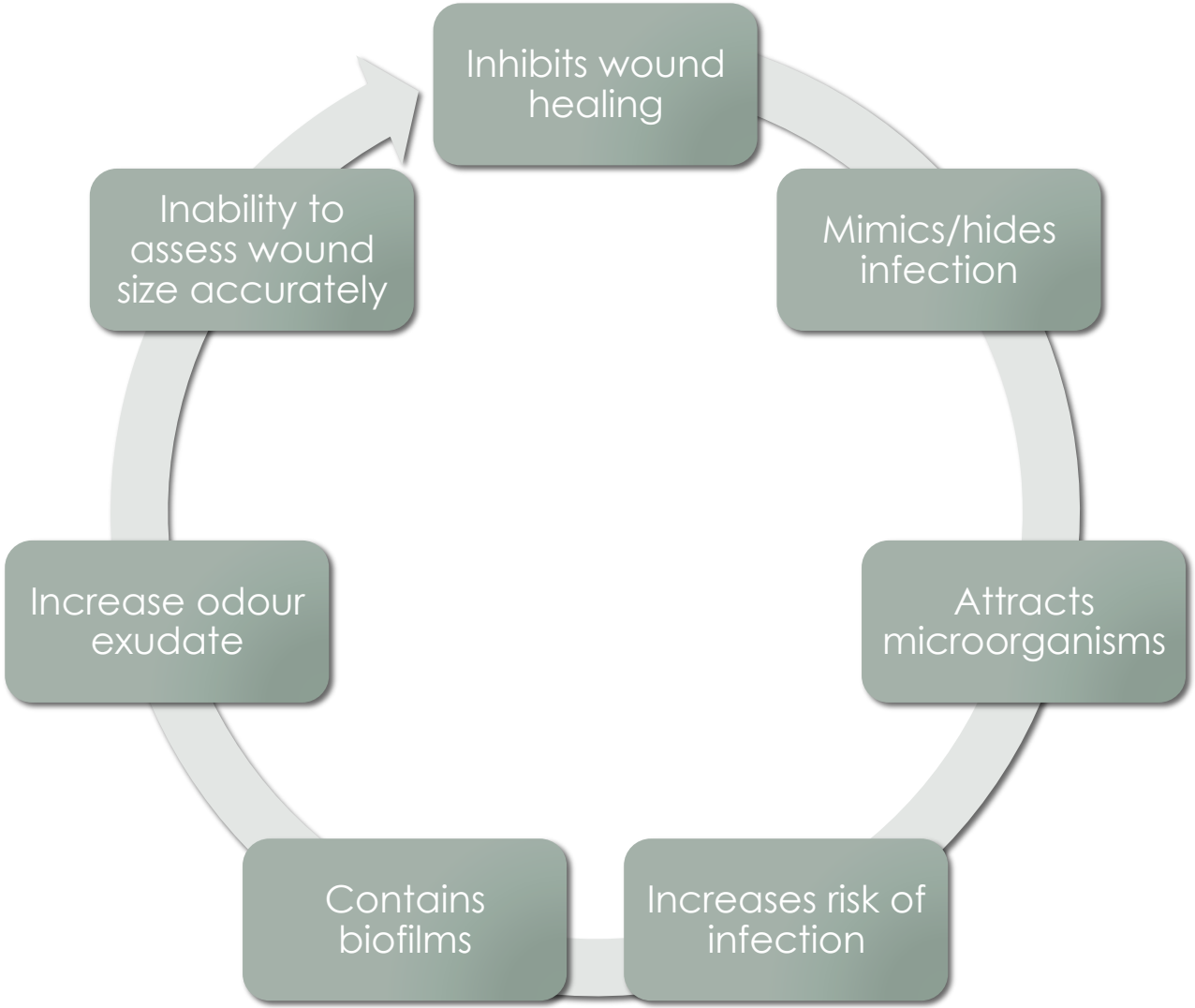
Slough - a barrier to wound healing



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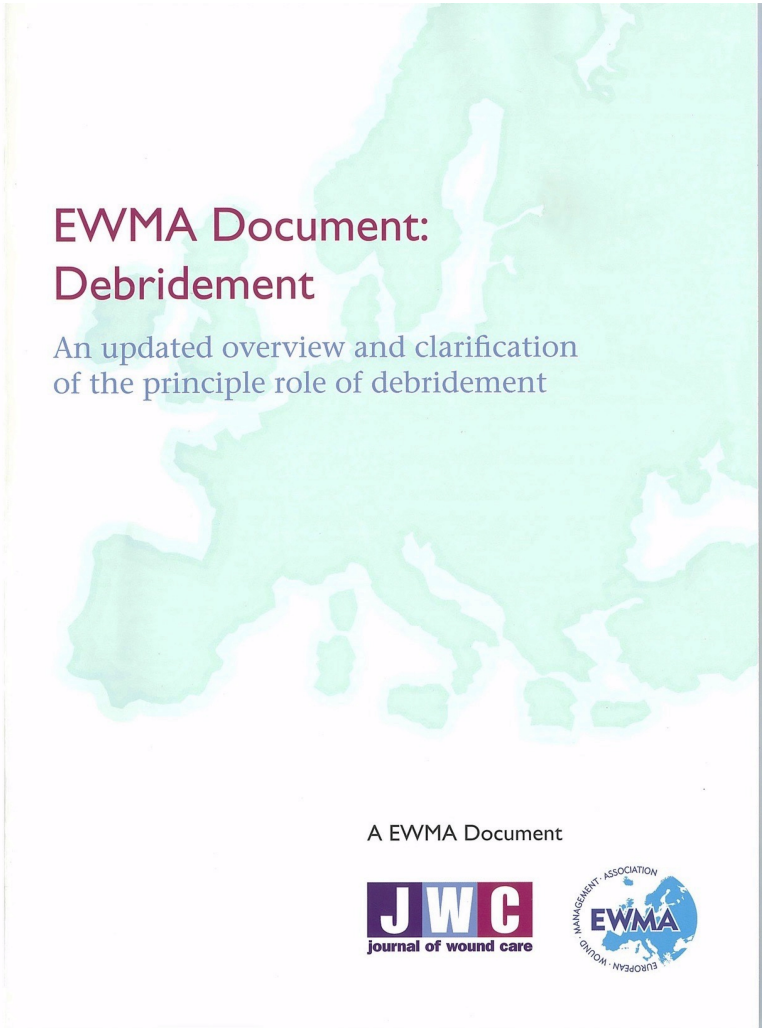
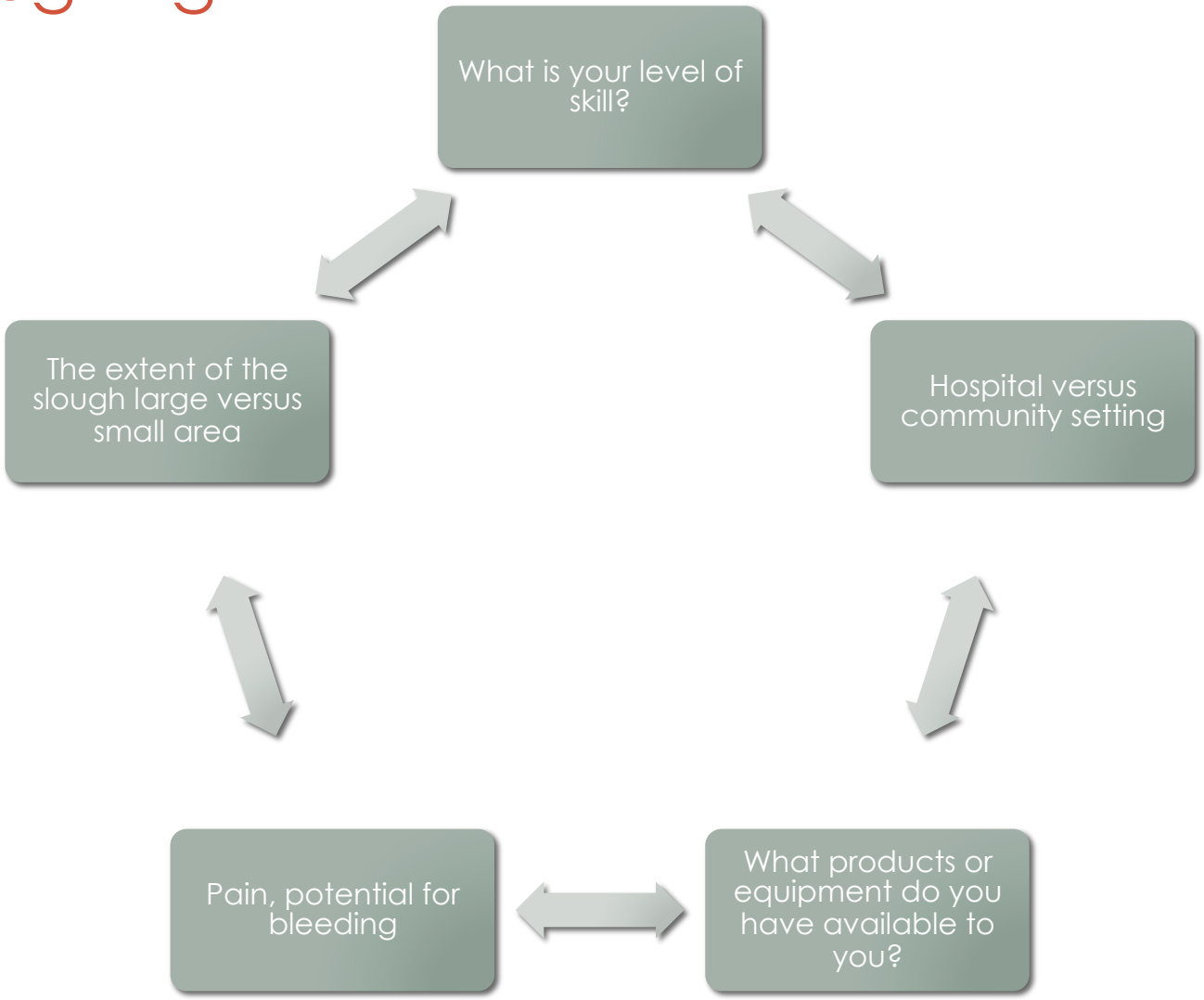
EWMA document - 2013



Strophal, R., Apelqvist, J., Dissemond, J. et al. EWMA document: debridement. J Wound Care. 213; 22 (Suppl. 1): S1-52.

Considerations before debridement/ desloughing



Several desloughing/debridement methods to choose from

- Autolytic
- Enzymatic
- Honey
- Biological therapy
- Low frequency ultrasonic
- Hydrosurgical/jet lavage
- Curettee
- Surgical, sharp
- Wound cleansing agents
- Indirect method – NPWT
- Monofilament pad
- Mechanical

Autolytic debridement

Selective debridement by release of endogenous proteolytic enzymes and phagocytes

Dressings support autolytic debridement

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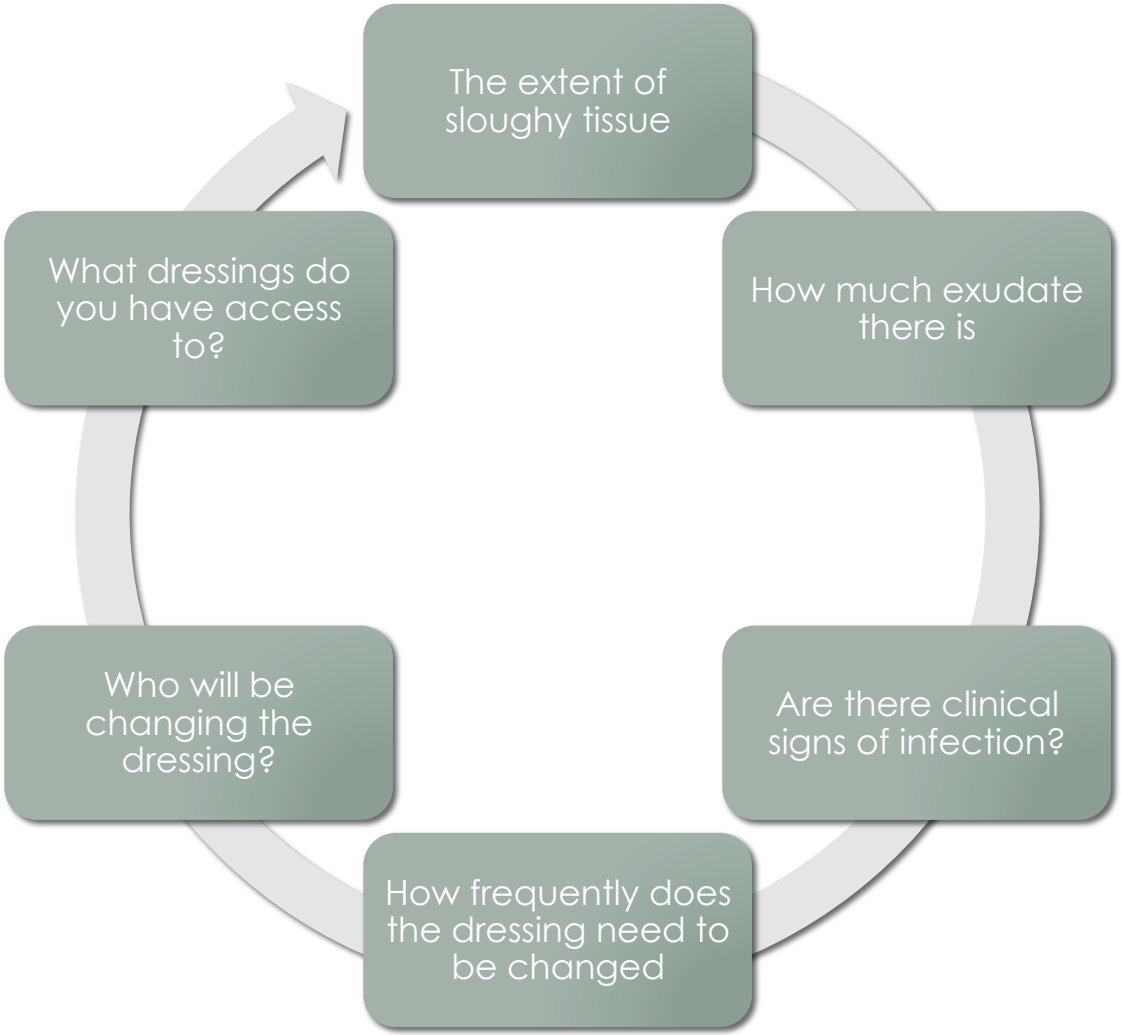
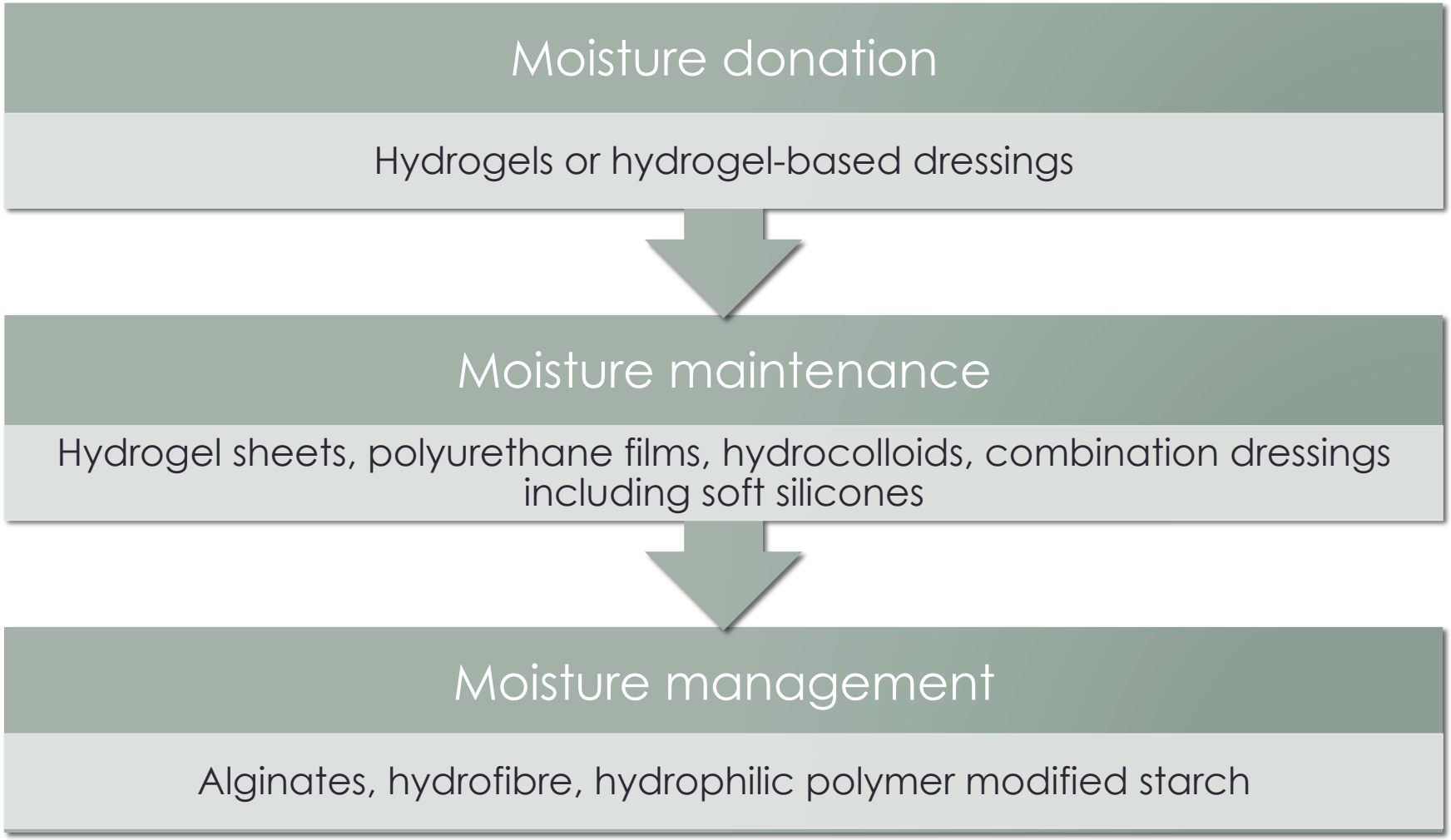
Factors influencing dressing choice



Choice of dressings reliant on wound assessment



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Autolytic debridement

Moisture donation

Moisture maintenance

Moisture management

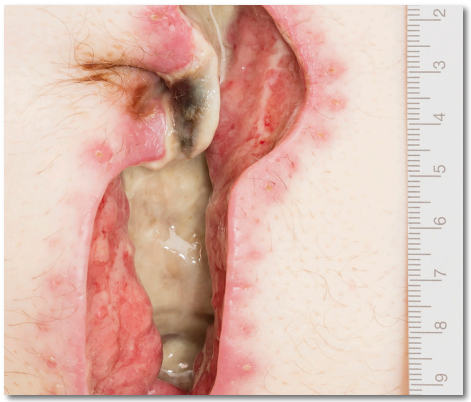
Conservative sharp debridement

- Removal of non viable tissue
- Scissors, Scalpel, Curette
- Avoid damage to underlying tissue
- Scope of practice
- Aseptic technique

Conservative sharp wound debridement

Curette

Combination of methods



CSWD/Dressings/NPWT

NPWT

Almost healed

Strophal, R., Apelqvist, J., Dissemond, J. et al. EWMA document: debridement. J Wound Care. 213; 22 (Suppl. 1): S1-52.

A good case for surgical debridement

Ultrasonic debridement

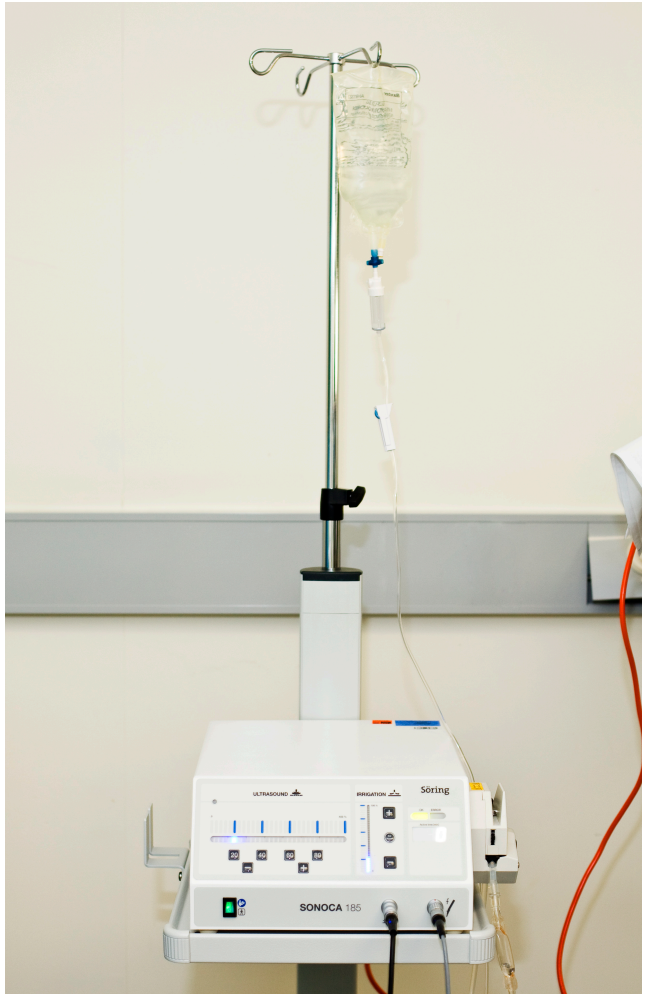
Butcher, G. & Pinnuck, L. Wound bed preparation: ultrasonic-assisted debridement.BNJ, 2013. (Tissue Viability Suppl): 22(6).

Ultrasonic debridement - Sonoca 185®

Low frequency ultrasound (25Khz)

Leads to the formation and implosion of bubbles/ cavitation

Bubbles implode, shockwaves are transmitted via the solution to the wound bed (microstreaming)



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Ultrasonic debridement

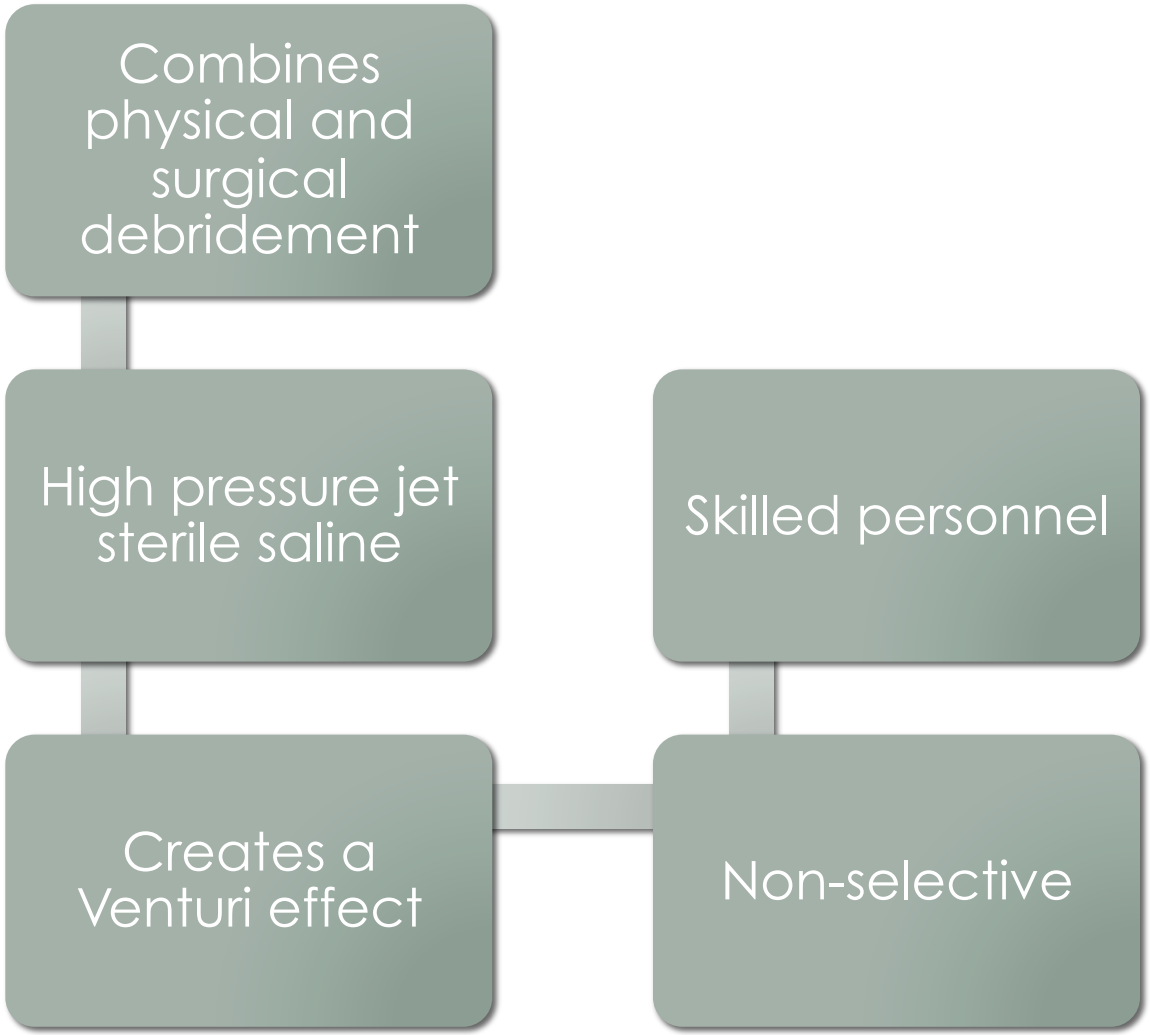
Contact mode

- Debridement
- Bactericidal effect
- Wound healing stimulation

Non-contact mode

- Bactericidal effect

Hydrosurgical



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Osmotic debridement/honey

Draws fluid from the surrounding healthy tissue to accelerate autolytic debridement

Reduces the wound pH (3-4.5) creates and acidic environment hostile to bacteria and other pathogens

A byproduct is the release of hydrogen peroxide – supports autolytic debridement

Martinez, JL, et al. Debridement and the diabetic foot. Foot international, 2019, Feb.

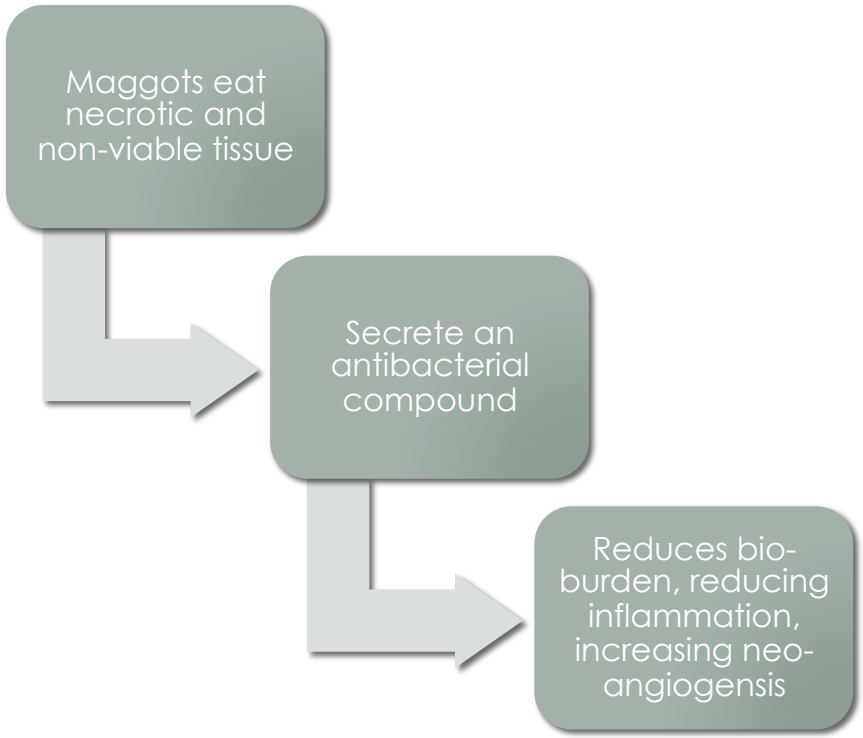
Biological debridement (Laval therapy)

Live maggots (Lucila sericata) applied to the wound bed

Loose or in a net dressing

Sig Ak, Koro, O & Araz E. Maggot debridement therapy: Utility in chronic wounds and a perspective beyond. Wound Practice and Research. 2017; 26(3):140-145.

Biological debridement



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Enzymatic dressings

Derived from proteolytic enzymes

Extracted from

- Bovine plasma or pancreas
- Fruit and plants such as papin from papaya or bromelaine from pineapple
- Bacterial collagenase derived from the *Clostridium histolyticum sp.*

Recommended for hard dry eschar

Strophal, R., Apelqvist, J., Dissemond, J. et al. EWMA document: debridement. J Wound Care. 213; 22 (Suppl. 1): S1-52

Monofilament fibre pad

- Wound contact side is fleecy
- Moisten with a wound cleansing solution
- Gently wipe over the surface of the wound
- Useful for sloughy wounds, hyperkeratosis

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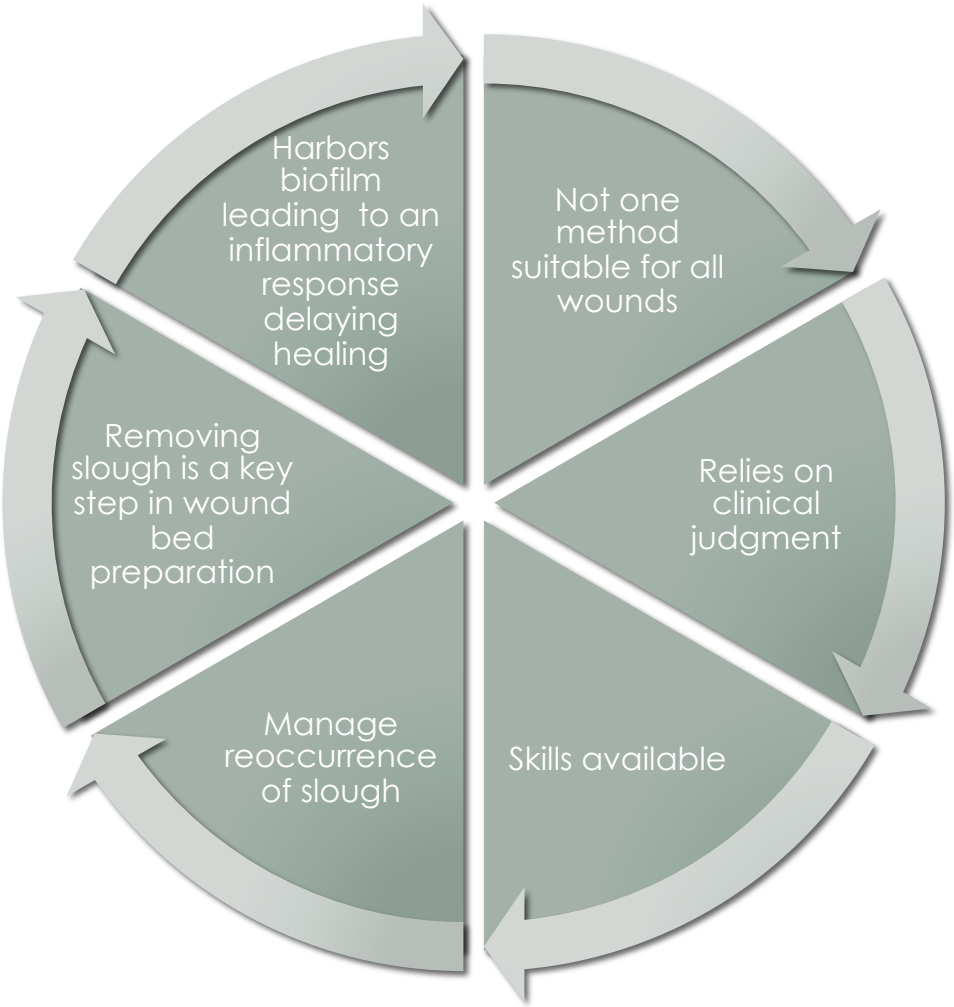
Key points


Harbors biofilm leading to an inflammatory response delaying healing
Not one method suitable for all wounds
Relies on clinical judgment
Skills available
Manage reoccurrence of slough
Removing slough is a key step in wound bed preparation

Thank you for your attention