LIVE ON FACEBOOK

DEBRIDEMENT: A KEY ASPECT OF WOUND CARE

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Debridement: a key aspect of wound care

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Key learning outcomes

- Understand the importance of debridement in wound care
- Identify the clinical appearance of devitalised tissue
- Clarify some of the confusing terminology
- Understand why, when, how and who can debride in primary care
- Know how debridement can accelerate wound healing and improve patient quality of life
- Be aware of the role of mechanical debridement and its relevance in primary care

Introduction

- The ability to undertake holistic wound assessment and identify barriers to wound healing is an important skill (Mahoney, 2020)
- One barrier to healing is the presence of dead/devitalised tissue on the surface of the wound. Its removal is considered to be a cornerstone of wound management (Atkin, 2016)
- Also, always consider the removal of dead skin/hyperkeratosis in the management of lower limb conditions — an example of where a patient can participate in self-care

Clinical appearance

Image courtesy of Clare Morris, tissue viability nurse specialist

- Black necrotic centre
- Yellow/black, softer towards the edge
- Yellow softer slough at the very edge of the wound
- Red periwound area, but not wound infection
- Remnants of previous blister

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Clinical appearance

Image courtesy of Clare Morris, tissue viability nurse specialist

- Areas of granulation tissue
- Soft yellow slough
- Area of harder black necrotic tissue
- Some remaining sutures
- Hyperkeratosis on the foot

Terminology

We use a number of terms interchangeably:

- Debridement — 'to remove constraints' — the removal of adherent, dead or contaminated tissue (Strohal et al, 2013)
- Wound bed preparation — based on TIMES (tissue, infection/inflammation, moisture, edge and surrounding skin; Wounds UK, 2016).
  Refers to management of the wound as a whole (Harries et al, 2016)

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Terminology

- Wound cleansing:
  - Removal of dirt, loose metabolic waste or foreign material (Strohal et al, 2013)
  - Using fluids to gently remove loosely adherent contaminants and devitalised materials from the surface of the wound (Rodeheaver and Ratliff, 2018)

Debridement — why?

Why debride?

The presence of dead/devitalised tissue on the wound bed hinders wound healing.

(Atkin, 2016)

- Physical barrier to healing
- Bacteria proliferate in dead/devitalised tissue
- Masks or mimics infection
- Increased risk of infection and malodour
- Reduces effectiveness of topical preparations
- Increased volume of exudate
- Hinders wound assessment

(Vowden and Vowden, 2011; Wounds UK, 2013)

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Debridement — biofilm and infection

- The presence of devitalised tissue is known to facilitate infection (Atkins et al, 2019)
- Debridement removes bacteria and can disrupt biofilm:
  - Biofilm has been recognised as an important factor in hard-to-heal chronic wounds
  - Debridement is an essential step to facilitate healing (Atkins et al, 2019)
- Debridement should be incorporated into a biofilm pathway where appropriate

Biofilm — criteria and clinical signs

- Failure to progress following appropriate antibiotic and local antimicrobial treatment
- Recurrence of delayed healing after antibiotic treatment
- Delayed healing despite optimal wound management
- Clinical signs;
  - Increase in exudate
  - Chronic inflammation
  - Erythema
  - Poor quality/friable granulation tissue

  (International Wound Infection Institute [IWII], 2016)

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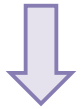
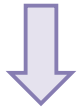
Biofilm management

Static chronic wound



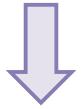
Suspected biofilm

Reduce biofilm – debridement/vigorous cleansing



Prevent recontamination – topical antimicrobials

Supress biofilm reformation – repeat debridement



Reassess

(Phillips et al, 2010)

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Targets for debridement

Remove:

- Necrotic, devitalised, sloughy tissue
- Sources of infection, inflammation
- Exudate, dried exudate and dry skin/hyperkeratosis
- Pus
- Haematoma
- Debris or foreign bodies
- Any other barriers to healing

(Strohal et al, 2013)

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Targets for debridement

Decrease:

- Odour
- Excess moisture
- Risk of infection

Stimulate:

- Wound edges and epithelialisation

Improve:

- Quality of life

(Strohal et al, 2013)

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Debridement — when and how often?

- When it is safe to do so (Atkin, 2016)
- Early debridement accelerates healing (Atkin, 2016)
- Frequent debridement = better healing outcomes (Wilcox et al, 2013)

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Debridement — when and how often?

Beware — when NOT to debride:

- Peripheral arterial disease (PAD)
- Distal gangrene/dry gangrene
- High risk areas, e.g. hands, feet or face
- Proximity to blood vessels, nerves or tendons
- Blood clotting disorders
- Inflammatory conditions such as *pyoderma gangrenosum* (Vowden and Vowden, 2011)

Image courtesy of Clare Morris, tissue viability nurse specialist

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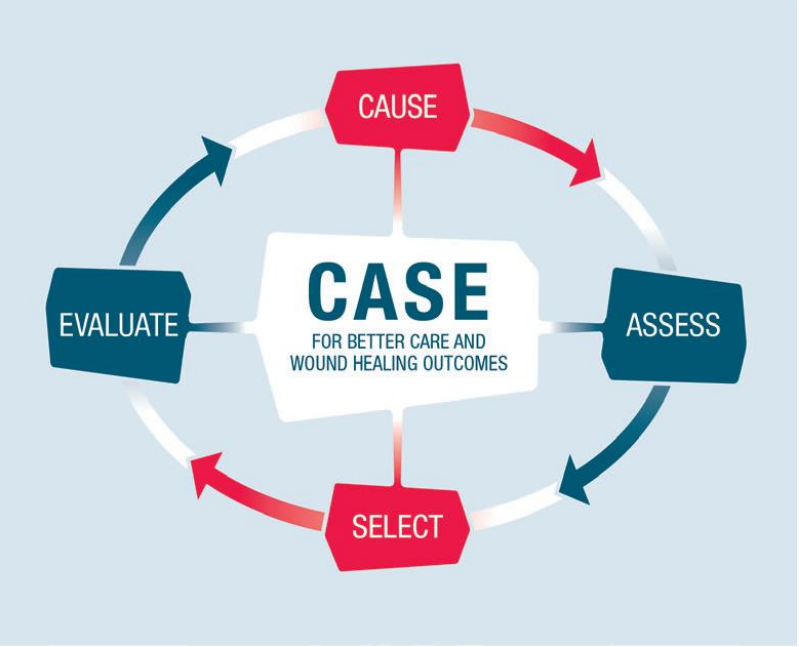
Debridement — how?

- Debridement method should be based on the need of the patient and **not** the skills or familiarities of the nurse (Price and Young, 2013)
- Debridement follows full, holistic assessment of the patient and wound (Wounds UK, 2013)

Debridement — how?

- Holistic wound assessment, e.g. based on CASE (Wounds UK, 2018):
  - Cause
  - Assess
  - Select delivery of care
  - Evaluate



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Debridement — how?

Method choice based on:

- Nature of the tissue
- Anatomical location
- Size of the wound
- Speed of debridement required (Wounds UK, 2013)

Debridement — how?

Debridement should also be based on (Strohal et al, 2013):

Patient factors:

- Level of pain
- Environment
- Choice and consent
- Age and any comorbidities
- Quality of life

Clinician factors:

- Level of skill
- Available resources
- Organisation's policy
- Organisation's guidelines

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Debridement — patient consent

- Involve them in the decision
- Informed consent
- Expressed or implied, written or verbal
- Suitable information to enable a decision
- Capable of making the decision
- Patient or guardian where appropriate (Strohal et al, 2013)

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Methods of debridement — primary care

Method	Description
Autolytic	• Occurs naturally using body's own enzymes • This method uses moisture to soften hard necrotic tissue and liquify slough, e.g. hydrogels, hydrocolloids, hydrofiber • Suitable for most types of devitalised tissue • May not be suitable if high volume of exudate present • The process may be slower than other methods • Suitable for self-care by patients and carers • Known to be an over-used method because selection based on familiarity rather than need of the patient • Relatively pain-free and easily available • Suitable for self-care by patients and carers

Wounds UK, 2013; Harries et al, 2016; Mahoney, 2020

Methods of debridement — primary care

Method	Description
Mechanical	• Use of monofilament pads or debridement cloths containing a surfactant • Monofilament pads can help remove bacteria and biofilm • Suitable for softer and not tenacious or hard devitalised tissue, unless softened beforehand with autolytic debridement • Rapid debridement and suitable for self-care by patients and carers • Traditional mechanical debridement (wet-to-dry gauze) no longer used because of pain and trauma

Wounds UK, 2013; Harries et al, 2016; Mahoney, 2020

Methods of debridement — primary care

Method	Description
Larval	• Sometimes referred to as Biosurgical debridement • Uses the sterile larvae of the greenbottle fly • A form of autolytic debridement as the larvae produces an enzyme that liquifies devitalised tissue • Rapid debridement • Not always acceptable with patients or healthcare workers

Wounds UK, 2013; Harries et al, 2016; Mahoney, 2020

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Methods of debridement — specialist referral

Method	Description
Ultrasonic	Using ultrasound either directly on the wound bed or by an atomised solution
Hydrosurgical	The use of a high energy saline beam as a cutting implement
Sharp	Using a scalpel, scissors or curette to remove tissue. Often used in conjunction with other methods
Surgical	Excision and removal performed by a specialist in an acute, operating theatre environment

Wounds UK, 2013; Harries et al, 2016; Mahoney, 2020

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Debridement — who?

'Every practitioner has a duty of care to provide debridement services in a manner that is timely, safe and appropriate.'

- It is important that you know when to refer to a specialist best qualified to debride
- Not debriding or referring can potentially cause harm
- Involve the multidisciplinary team where relevant

(Wounds UK, 2013)

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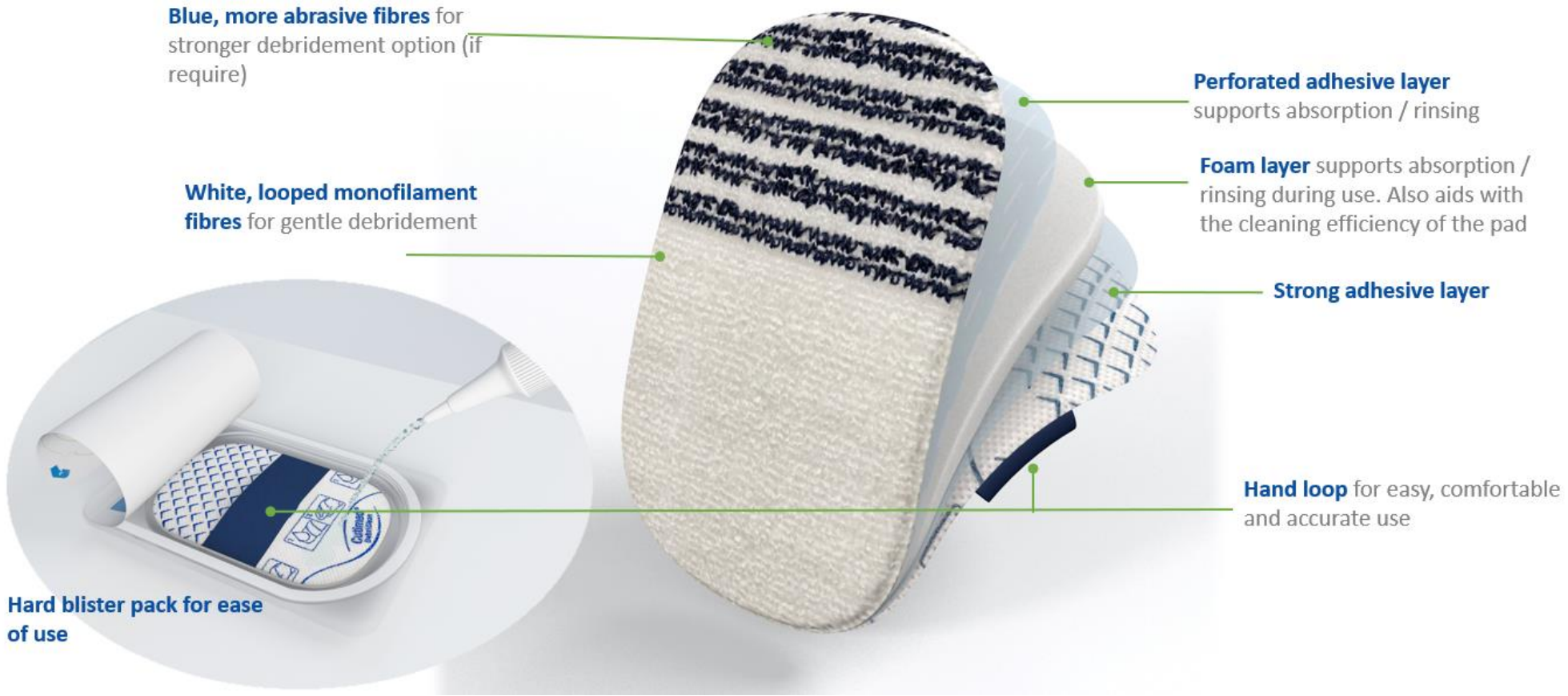
Cutimed® DebriClean



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Innovative, safe and effective debridement

- Cutimed® DebriClean is a brand new, innovative product — available on Drug tariff from 1 July, 2020
- Gentle looped monofilament fibres in white
- More abrasive looped monofilament fibres in blue
- Able to absorb bacteria
- Firm/viscous slough removed
- £4.63 per pad, £23.15 per pack of five

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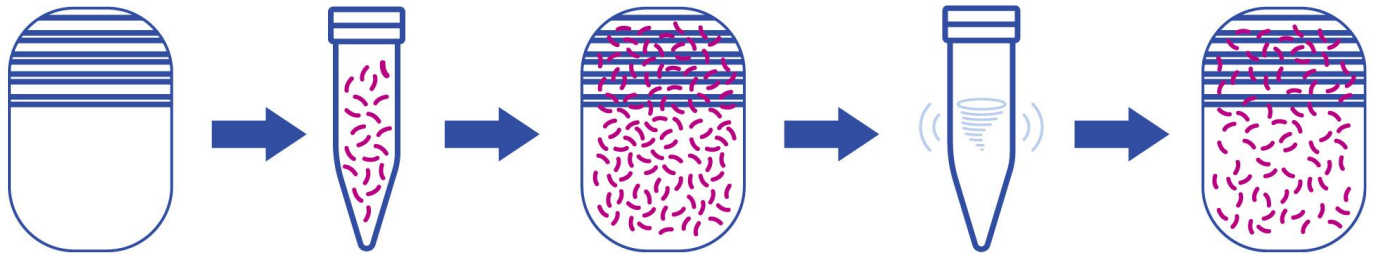
Innovative, safe and effective debridement

- >99% biofilm removal with just four wipes
- Strong cleaning efficiency
- Effective bacterial binding



JB4 40031908, In vitro evaluation of removal of viable biofilm by Cutimed® DebriClean and Cutisoft Cotton. August 2018, BSN medical data on file.

JB4 40031810, In vitro evaluation of the cleansing effect of Cutimed® DebriClean and Cutisoft Cotton. August 2018, BSN medical data on file.

JB4 40031811, In vitro evaluation of the bacterial adhesion to Cutimed® DebriClean and Cutisoft Cotton. July 2018, BSN medical data on file.

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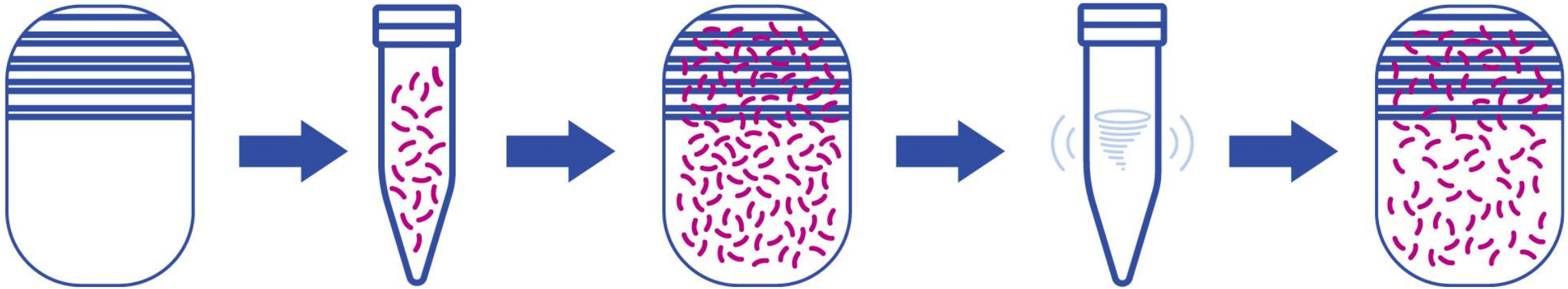
Effective bacterial binding



Clean Cutimed® DebriClean pad

A sample of the clean product is placed in a test tube with bacteria (Pseudomonas aeruginosa)

High quantity of bacterial microbes bound to Cutimed® DebriClean pad

Sample was then intensively rinsed mechanically to remove loosely attached bacteria

After rinsing, Cutimed® DebriClean shows much higher bacterial binding to wound microorganisms than other products

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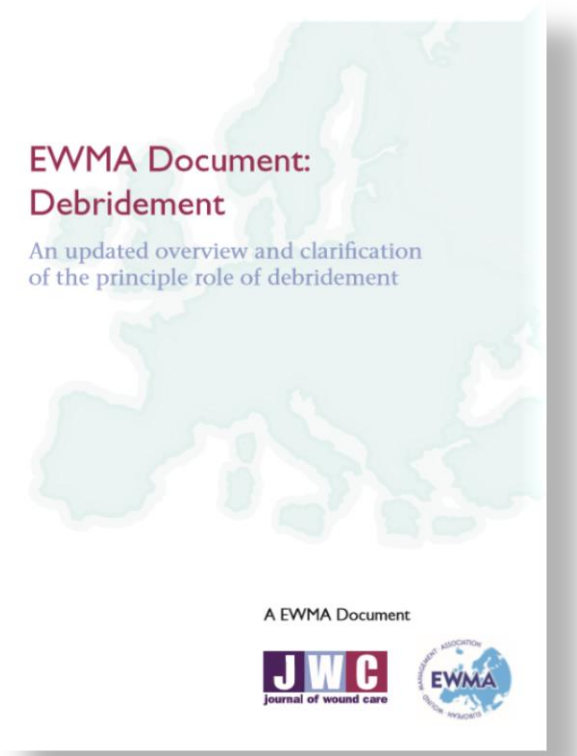
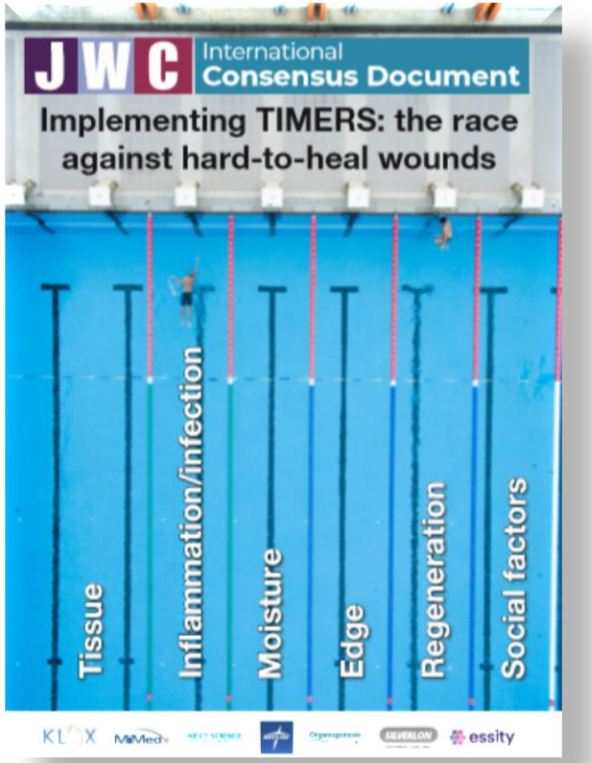
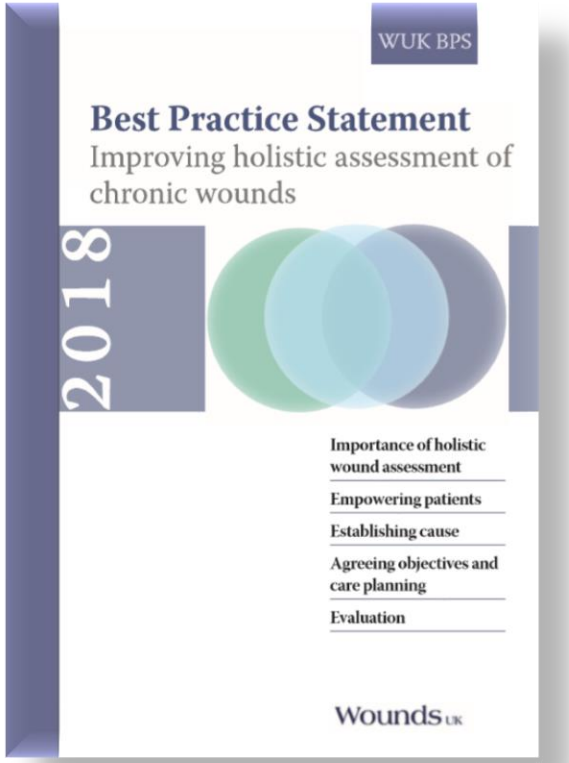
Conclusion

- The presence of dead/devitalised tissue on the wound bed hinders wound healing, making debridement an essential step to facilitate healing
- Debridement follows holistic, patient and wound assessment and the method chosen should be based on the need of the patient, not the skills or familiarities of the nurse
- There are several methods suitable in primary care, mechanical debridement is a quick and gentle option and suitable for self-care

Useful resources







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More information

- For more information, or if you are interested in trialling Cutimed DebriClean, please contact Essity, email: concierge.service@essity.com

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New from Essity

Tena Community

Support and education for your patients suffering from incontinence

Find us on Facebook: **@TENAUK**

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