WOUND CARE TODAY

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TACKLING THE CHRONIC WOUND AND THE ROLE OF DEBRIDEMENT

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WOUND CARE TODAY

LIVE Q&A

SEND IN YOUR QUESTIONS BY COMMENTING ON THE VIDEO

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OVERVIEW OF PRESENTATION

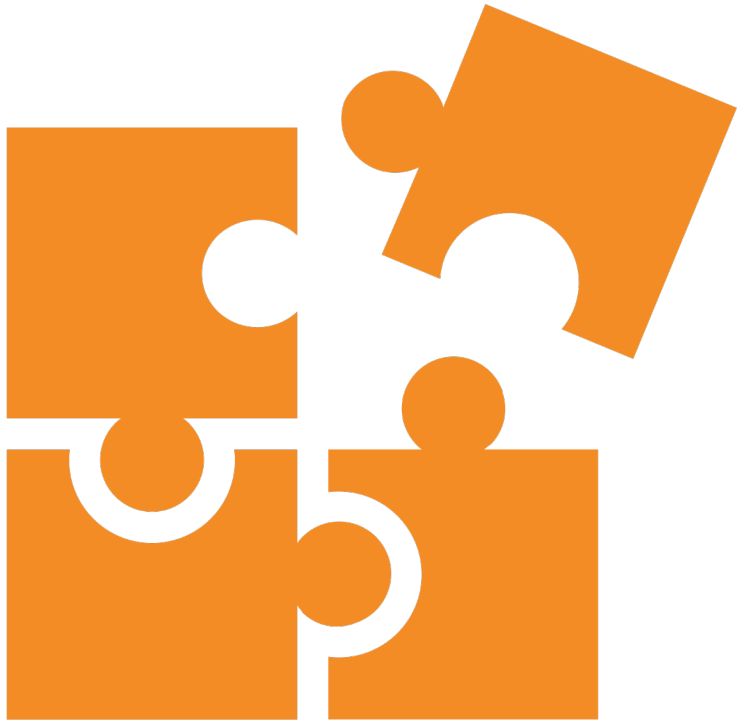
I will briefly cover:

- Overall principals of diabetic foot ulcer treatment
- Provide a definition of debridement
- Describe the different types of debridement
- Where, when and by whom debridement should be carried out
- Competence to enable safe and effective debridement to be carried out.

DIFFERENT ELEMENTS NEED ASSESSING WHEN TREATING DIABETIC FOOT ULCERS

- Offloading
- Infection control
- Debridement
- Wound management
- Revascularisation.

Each element needs to be assessed and addressed.



DEFINITION OF DEBRIDEMENT

‘The medical removal of dead, damaged or infected tissue to improve the healing potential of the remaining healthy tissue.’

(Wikipedia)

NICE DEFINITION OF DEBRIDEMENT

‘Debridement is an accepted principle of good wound care, especially when the debris is acting as a focus for infection.’

(NICE Guidance)

TYPES OF DEBRIDEMENT (based on Gray et al, 2011)

Type	Mechanisms of action	Advantages	Disadvantages	Who/where
Autolytic	Use the body's own enzymes and moisture to rehydrate, soften and liquify hard eschar and slough using occlusive or semi-occlusive dressings and/or antimicrobial products to create a balanced moist wound environment either by donating or absorbing moisture	• Can be used for pre-debridement when there is a small amount of non-viable tissue • Also suitable for wounds where other forms of debridement are inappropriate • Can be used for maintenance debridement	• The process is slow, increasing potential for infection and maceration	Can be done by both generalist and specialist
Biosurgical	Larvae of the green bottle fly are used to remove necrotic and devitalised tissue from the wound. Larvae are also able to ingest pathogenic organisms in the wound (Thomas et al, 1998)	• Highly selective and rapid	• Costs are higher than autolytic debridement, but treatment is sort once in place • Not suitable for all patients or wounds	Can be applied by generalist or specialist practitioner with training - Closed bag methos reduces skill level required and can be left for 4-5 days
Hydrosurgical	Removal of dead tissue using a high energy saline beam as a cutting implement	• Short treatment time and selective • Capable of removing most if not all devitalised tissue from the wound bed	• Requires specialist equipment – There is potential for aerosol spread and it is associated with higher costs	Must be carried out by a specialist practitioner with relevant training – can be used in a variety of settings
Mechanical	Traditional method involves using wet to dry gauze that dries and adheres to the top layer of the wound bed, which is 'pulled' away when the dressing is removed	• Newer methods are more selective, faster and relatively pain-free (see Newer methods, page 1)	• Non-selective and traditional methods are potentially harmful • Requires frequent dressing changes and can be very painful for the patient	Can be done by both generalist and specialist
Sharp	Removal of dead or devitalised tissue using a scalpel, scissors and/or forceps to just above the viable tissue level. This does not result in total debridement of all non-viable tissue and can be undertaken in conjunction with other therapies (e.g. autolysis)	• Selective and quick – No analgesia is required normally	• Clinicians need to be able to distinguish tissue types and understand autonomy as the procedure carries the risk of damage to blood vessels, nerves and tendons	Can be done at the patient's bedside or in clinic by a skilled practitioner with specialist training
Surgical	Excision or wider resection of non-viable tissue, including the removal of healthy tissue from the wound margins, until a healthy bleeding wound bed is achieved	• Selective and is best used on large areas when rapid removal is required	• It can be painful for the patient and anaesthetic is normally required • It can be associated with higher costs	Must be performed in the operating theatre by a surgeon, podiatrist or specialist nurses following training

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Vowden K, Vowden P (2011) Debridement made easy. *Wounds UK* **7(4):** 1-4

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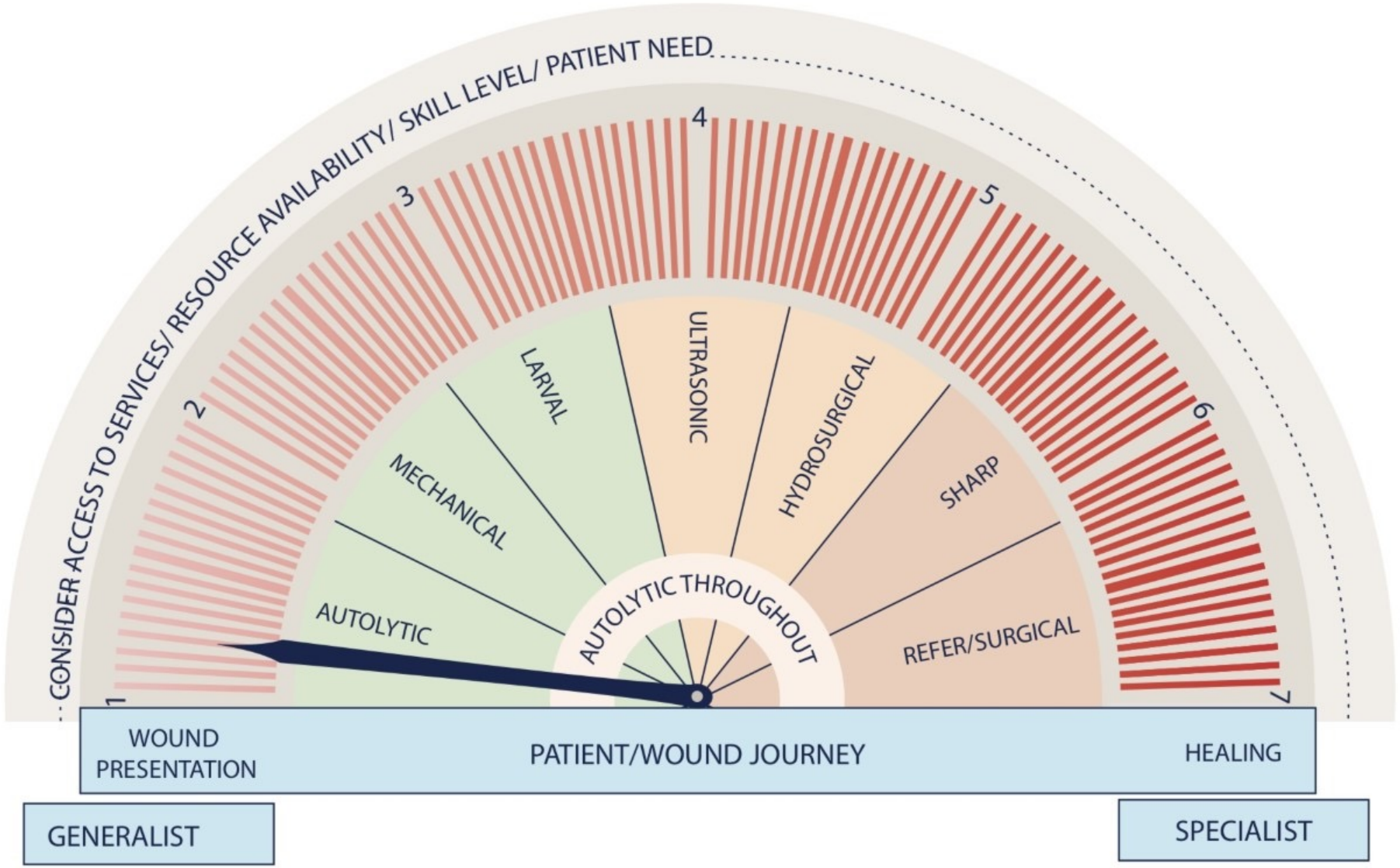
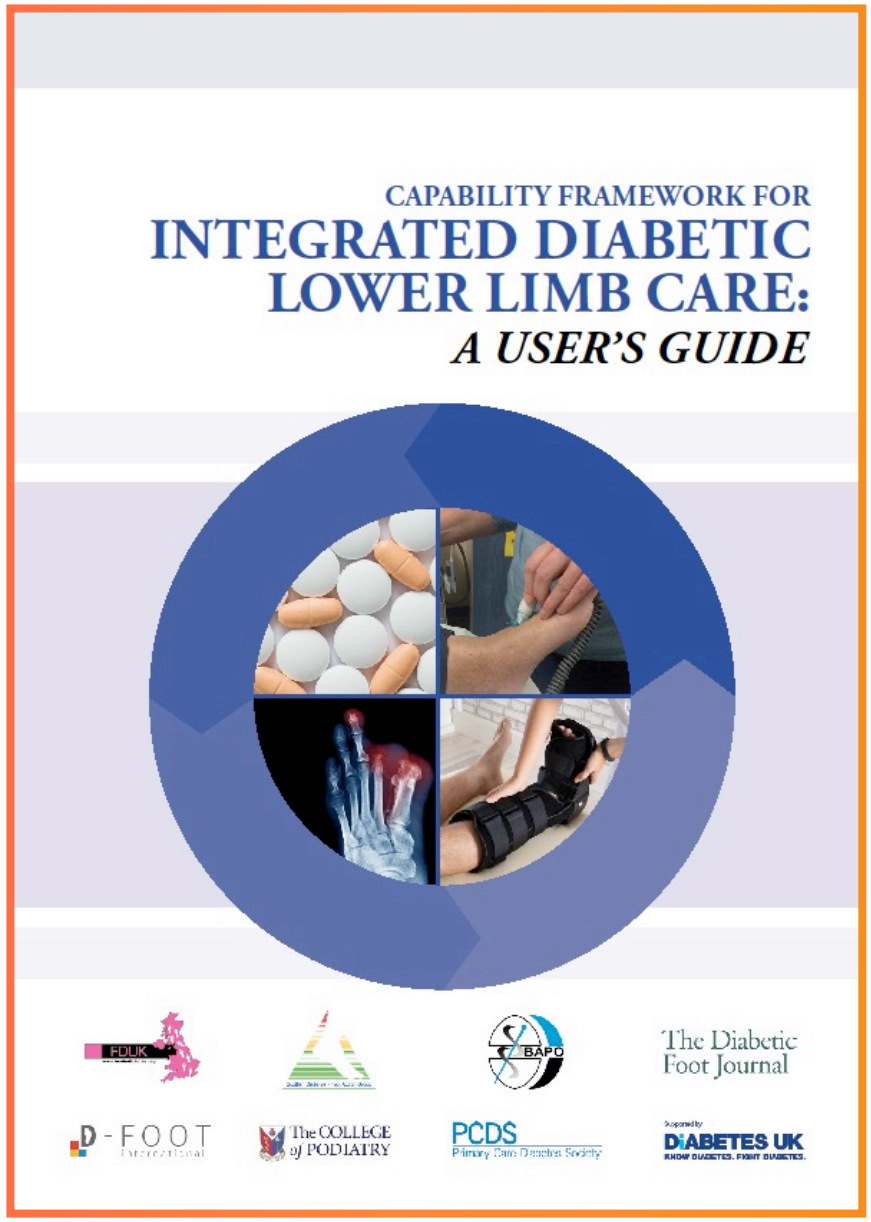
BEFORE A DECISION ON WHICH METHOD(S) TO BE USED

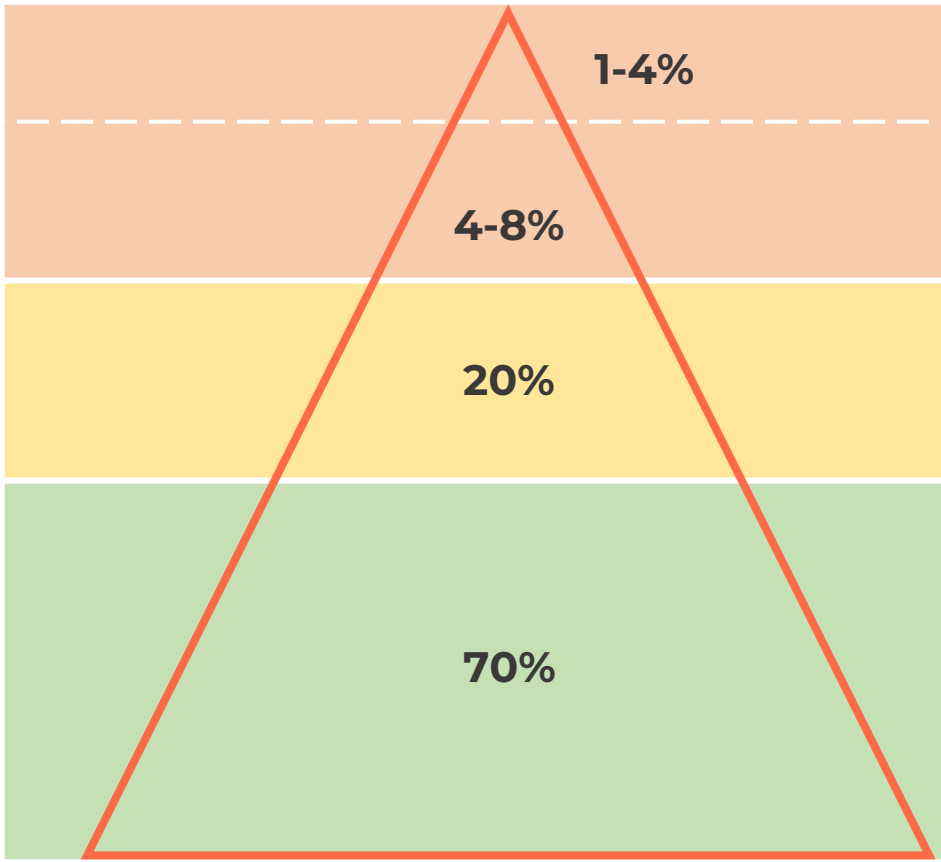
1. Thorough assessment of ulcer
2. Thorough assessment of the individual
3. Decide what you hope to achieve
4. Decide how quickly you wish to achieve it
5. Decide which method would best suit the individual
6. Consider the environment in which it is going to be carried out
7. Be aware of your level of competence to practice safely and effectively.


CONSIDER ACCESS TO SERVICES/ RESOURCE AVAILABILITY/ SKILL LEVEL/ PATIENT NEED
1
2
3
4
5
6
7
AUTOLYTIC
MECHANICAL
LARVAL
ULTRASONIC
HYDROSURGICAL
SHARP
REFER/SURGICAL
AUTOLYTIC THROUGHOUT
WOUND PRESENTATION
PATIENT/WOUND JOURNEY
HEALING
GENERALIST
SPECIALIST



Capability Framework for Integrated Diabetic Lower Limb Care: A User's Guide

A representation of the adult population with diabetes, their risk of diabetic foot disease and the competency framework levels related to their care (Leese et al, 2011; TRIEPodD-UK, 2012)



Level of Risk	Related Competency Framework Levels
Patients with active diabetic foot disease	E-F
Patients with a history of diabetic foot disease; risk of reulceration 40-50% per year	D-E
Patients with established risk factors for diabetic foot disease; risk of ulceration 3-7% per year	C-E
Patients at low risk of diabetic foot disease; risk of ulceration; 99.6% ulcer-free after 2 years	A-C

Figure 1: adapted from Podiatry Competency Framework for Integrated Foot Care: A User's Guide

WOUND MANAGEMENT

To provide effective wound care for people with active diabetic foot ulceration, clinicians and assistants should be able to demonstrate the following capabilities:

9.1 Level A: Healthcare technician		**Generic** • Understands how the complications of diabetes mean that a wound on the foot must be seen by a suitably skilled colleague as a matter of urgency • Accesses local referral pathways appropriately for further investigations and treatment
		Debridement [Not Applicable]
		Infection Control • Demonstrates a working knowledge of basic infection control procedures (e.g. hand hygiene) and techniques for minimising cross infection
		Load distribution, load sharing and axial offloading [see chapter 15]
		Evidence-based wound care products and devices • Carries out dressing changes as instructed and within the scope of their practice • Encourages the patient and/or carer to comply with recommended dressing regimens
9.2 Level B: Healthcare assistant/practitioner		**As for Level A**

9.3 Level C: Qualified clinician	**As for Level B, and:** **Generic** • A working knowledge of diabetic wound management-related local, regional and national guidance • Recognises and classifies active foot ulceration, including identification of vascular insufficiency, neurological deficit, significant foot deformity, trauma, increased pressures, and extent and degree of infection • An understanding of the wound healing process and the potential complications of, or delays to, that process • An understanding of the psychological impact of active diabetic foot ulcer on the patient • Confirms that the patient and/or carer understands the purpose and nature of a proposed care plan • Assist in a proposed care plan
	Debridement • Understands the principles of debridement and wound bed management to optimise the process of healing (Strohal et al, 2013) • Carries out wound management techniques within the scope of their practice (e.g. antimicrobial treatment, basic sharp debridement, wound irrigation) • An understanding of the requirement to refer onwards for multidisciplinary input as per local, regional and national guidelines and pathways
	Infection Control • Recognises the clinical signs and symptoms of wound infection and refers quickly and appropriately • Carries out basic microbiological culturing (e.g. wound swabbing) and ensures results are interpreted by an appropriately skilled colleague as per local policies
	Load distribution, load sharing and axial offloading [see chapter 15]
	Evidence-based wound care products and devices • A working knowledge of available dressing products, their modes of action, and appropriate use • Aware of their local wound management formulary and formulary group and related groups

9.4 Level D: Specialist clinician	**As for Level C, and:** **Generic** • A broad understanding of the wound healing process and its potential complications • A broad understanding of the psychological impact of active diabetic foot disease
	Debridement • Carries out sharp debridement of simple and complex wounds within the scope of their practice • Appropriately recognises the need for advanced debridement and refers the patient accordingly • An in-depth knowledge of debridement techniques other than sharp debridement • Critically analyses wound care interventions to develop evidence-based, individualised care plans • Carries out advanced wound management techniques with appropriate support and supervision
	Infection Control • Recognises the signs and symptoms of local wound infection and manages them effectively • Recognises when to refer the patient for infection control by appropriately skilled colleagues • Undertakes comprehensive, microbiological sampling (e.g. wound swabbing, tissue biopsy) and reporting • Ensures the results of microbiological investigations are seen and interpreted by an appropriately skilled colleague
	Load distribution, load sharing and axial offloading [see chapter 15]
	Evidence-based wound care products and devices • A good knowledge of available dressing products, their modes of action, and appropriate use

9.5 Level E: advanced clinician	**As for Level D, and:** **Generic** • An advanced understanding of the wound healing process and its potential complications • An advanced understanding of the psychological impact of active diabetic foot disease on the patient • Classifies active foot ulceration, including advanced investigations of vascular insufficiency (e.g. ankle-brachial pressure index, Doppler ultrasound), neurological deficit, foot deformity, trauma, increased pressures, extent and degree of infection • Contributes expert opinion on the development of care plans for complex diabetic foot ulceration • Contributes to the development of local guidance related to diabetic wound management • A working knowledge of national guidance related to diabetic wound management • Contributes to the development of local referral pathways • Applies high-level clinical reasoning in the management of complex diabetic foot ulcers
	Debridement • Carries out advanced debridement (with a range of debridement tools) of complex wounds, within the scope of their practice) • Carries out advanced wound management techniques (e.g. topical negative pressure systems) • Recognises the need, and refers the patient, for surgical debridement appropriately • Supports less-experienced colleagues in developing advanced debridement skills
	Infection Control • Leads colleagues and prescribes comprehensive microbiological sampling (e.g. wound swabbing, bone sampling, tissue biopsy) and reporting • Interprets results from microbiological sampling • Recognises deep infection (e.g. foot abscess) and refers appropriately • Recognises the need for inpatient treatment of diabetic foot ulceration, and facilitates the process of the patient's admission to hospital using local pathways • Contributes to the development of local antibiotic use guidance

9.6 Level F: Consultant clinician

As for Level E, and:

Generic

- Contributes to the development of relevant national guidance
- Facilitates the development of local referral pathways and enables their implementations
- Works with stakeholders to develop and implement care pathways for patients with active foot disease
- Proactively identifies the need for clinical or service innovations to effectively manage active diabetic foot ulceration, and takes a leading role designing and implementing these innovations
- Leads in the integration of theoretical wound management into clinical practice, and collaborates with higher educational institutions and other educational providers to achieve this
- Ensures there is local capacity to facilitate, support and mentor colleagues seeking to develop their clinical practice (e.g. advanced debridement, total-contact cast fabrication)

Debridement

- Leads in the evaluation of novel wound care products
- Provides clinical leadership in advanced wound debridement techniques
- Leads in the establishment of working relationships with surgical staff responsible for surgical debridement
- Provides expert opinion on debridement products, techniques and indications in local and national expert groups

Infection Control

- Leads, in conjunction with appropriate stakeholders, the development and implementation of local antibiotic use guidance
- Collaborates with higher educational institutions and other educational providers on meeting the diabetic foot-related educational needs of colleagues
- Leads in establishing relationships with surgical staff for infection control and vascular reconstruction
- Leads in liaising with local infection control, microbiology and multidisciplinary teams to minimise patient risk associated with infection

Load distribution, load sharing and axial offloading [see chapter 15]

Evidence-based wound care products and devices

- Provides expert opinion on dressings and medical devices in local and national wound formulary and associated groups

EMPOWERING CLINICIANS TO MAKE SAFE, INFORMED CLINICAL DECISIONS

Like providing clinicians with a toolkit...

Versatility

Availability

Flexibility

THE ART OF USING A TOOLKIT

- Knowing what tool to use at that moment in time
- Knowing when using a different tool would be beneficial
- When it comes to debridement, don't be afraid to change debridement method
- Also, be aware that you may need to use more than one form of debridement during a single treatment session.

NOW OVER TO DEBBIE...

Debbie will cover:

- The rational and clinical decision-making involved
- Will talk you through a real case study

BACKGROUND

- Non-healing chronic wounds remain a **major area of unmet clinical need**
- In 2020, Guest *et al* suggested that chronic wounds were costing the NHS **8.3 billion pounds a year**
- It is estimated that approximately **2% of the adult population in the UK** is affected by active leg and foot ulceration, which equates to around 1,054,000 patients (Guest et al, 2020)
- This leads to **increased patient morbidity and mortality**, while imposing a **significant financial burden** on healthcare providers worldwide (Harding et al, 2002; Watson et al, 2011)

WOUND CHRONICITY

Wound chronicity can arise through malfunction at any stage of repair and can be influenced by:

Standardised and holistic multidisciplinary considerations

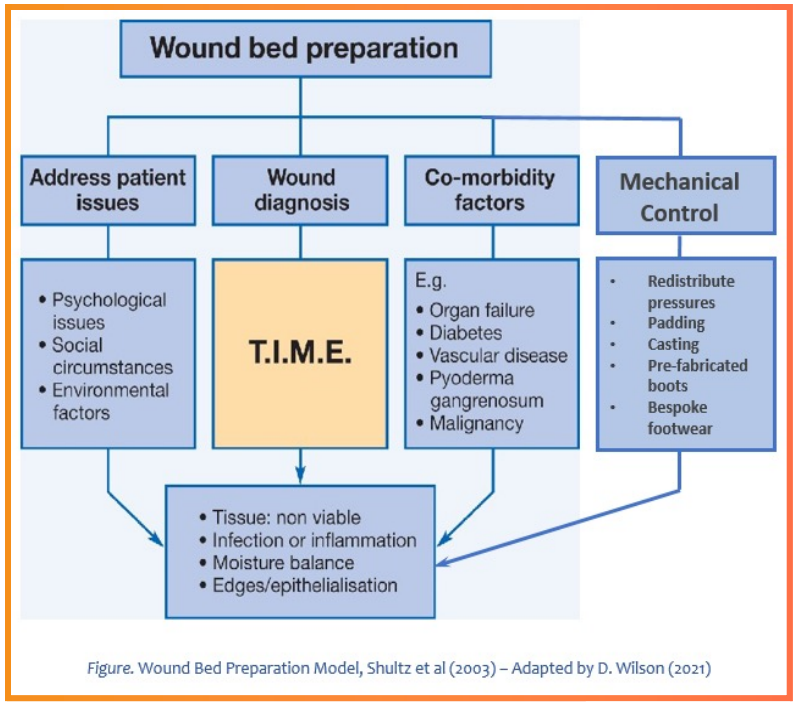
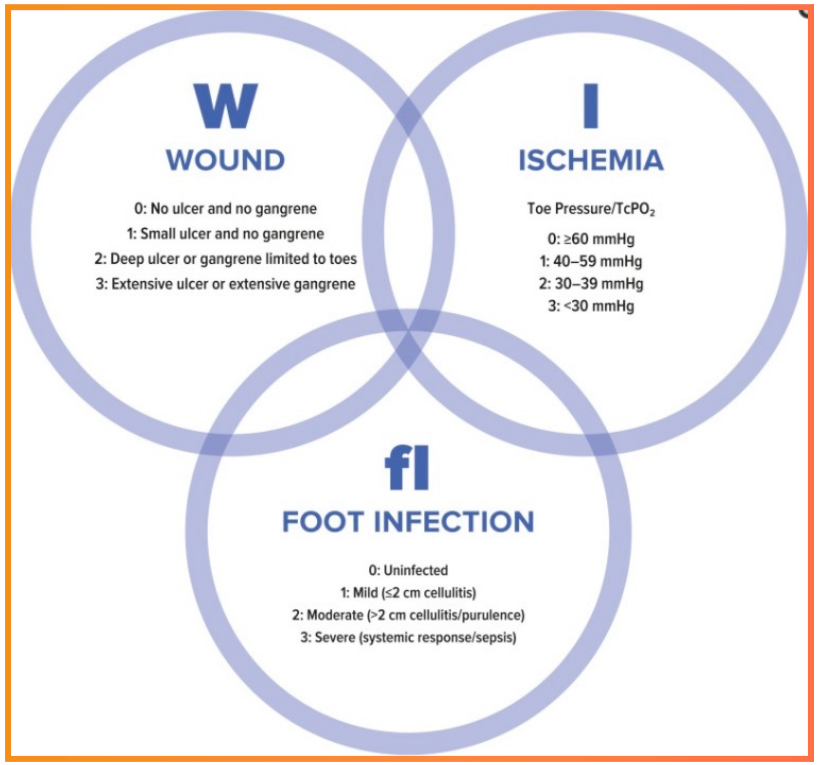


Figure. Wound Bed Preparation Model, Shultz et al (2003) – Adapted by D. Wilson (2021)

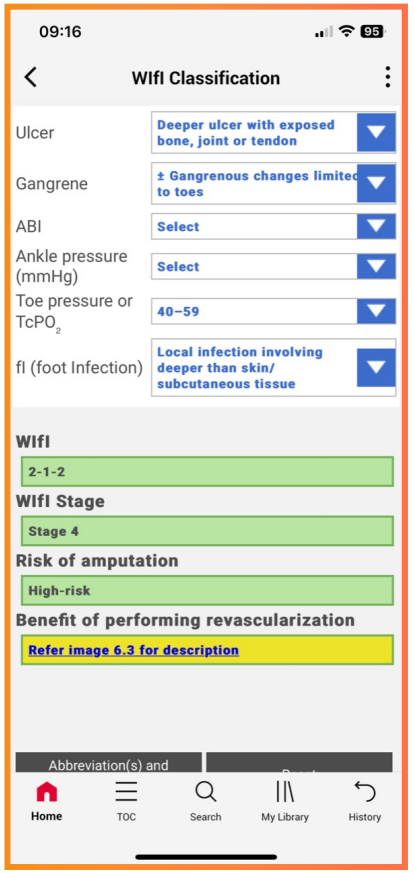
(Harding et al, 2002)

THREATENED LIMB CLASSIFICATION SYSTEM



(Mills et al, 2014)

ESVS GUIDELINES APP



WOUND CHRONICITY

- One of the most discussed causes of chronicity is the presence of infection, where opportunistic ‘critical’ colonisation of a wound by micro-organisms can lead to the formation of a biofilm.

(James et al, 2008)

WHAT IS A BIOFILM?

- The term ‘biofilm’ was first used to describe surface-adherent bacteria encased within, and protected by a self-produced glycocalyx
- Today, more commonly referred to as extracellular polymeric substance, or EPS.

BIOFILM

- Biofilm is implicated in numerous bacterial infections, including those associated with:
  - Urinary tract, ear, sinuses, indwelling catheters, cystic fibrosis, periodontal disease and chronic wounds
- It is likely that at least half of all chronic wounds contain biofilm (James et al, 2008). However, more recent sources suggest biofilm involvement in up to **80% of chronic wounds** (Malone et al, 2017)
- Additionally, it became evident that infections associated with bacterial biofilm **persisted despite aggressive antimicrobial therapy** (Nickel et al, 1985).

BIOFILM

- Biofilm tolerance to antimicrobial agents and host defence mechanisms is now well documented, and this highlights the **importance of effective biofilm management in chronic infections** (Percival et al, 2011; Thurlow et al, 2011)
- Recent evidence from animal models has demonstrated that **biofilm creates a low-grade and persistent inflammatory response** and **impairs both epithelialisation and granulation tissue formation**.

STRATEGIES TO MANAGE BIOFILM

Strategies to manage biofilm and encourage progression to wound healing include:

- **Debridement**
- **Appropriate antimicrobial therapies**
- **Dressing technologies**

DEBRIDEMENT METHODS

EVIDENCE FOR DEBRIDEMENT

Wound debridement and the removal of contaminated tissue and senescent cells is necessary for optimal wound healing.

However...

There is no definitive evidence to suggest one method of debridement over another and largely rests on each clinician's experience and abilities.

DEBRIDEMENT RATIONALE

- Any decision on wound debridement should be part of a holistic patient assessment
- Considering person-specific health and social circumstances is fundamental.

MAIN METHODS OF DEBRIDEMENT

- AUTOLYTIC
- MECHANICAL
- SHARP
- HYDRO-SURGICAL
- SURGICAL
- BIOLOGICAL

Image: Lateral view R foot with infected necrosis.

CLINICAL CASE EXAMPLE

CASE PRESENTATION

- AUTOLYTIC
- MECHANICAL
- SHARP
- HYDRO-SURGICAL
- SURGICAL
- BIOLOGICAL

CASE HISTORY

Mr A was 56 years old

Past medical history:

- Type 2 diabetes
- Peripheral neuropathy
- Proliferative retinopathy
- Hypertension

Presents to the acute MDFT with foot wound WIFI (wound, ischaemia, and foot infection) stage 4:

- Deep ulcer to bone with gangrene
- Ankle brachial pressure index (ABPI) – 1.25
- Systemic inflammatory response indicators

CASE HISTORY

Patient specific issues:

- Single parent
- Self-employed mechanical engineer

Action:

- Admission to hospital for intravenous (IV) antibiotics/medical management and surgical opinion

DEBRIDEMENT JOURNEY

Initial debridement method:

- Surgical amputation
  - Right great toe and partial ray. (gangrenous)
- Discharged to podiatric care and management with shared care between community and acute MD diabetic foot clinic.

Image: Medial view R foot.
Post surgical wound - 1st digit and partial ray amputation

FOOT INFECTION RISK IN DIABETES

- Over half of foot ulcers in diabetes will develop an infection (Frykberg et al, 2007)
- Factors which may increase risk of infection are:
  - Diabetes-related immunosuppression
  - High rate of anterior nasal colonisation with *Staphylococcus aureus* (Lipsky et al, 1992)
  - More frequent encounters with the healthcare system
- Local factors:
  - Peripheral arterial disease (PAD) and venous/lymphatic insufficiency
  - Obesity
  - Poor foot-care practices/fungal infections

DEBRIDEMENT PRIORITIES

- Prevent biofilm formation and infection
- Reduce formation of negative tissue types
- Establish depth and determine structural involvement
- Reduce callus build-up and reduce ulcer formation
- Promote healing.

Image: Medial view R foot.
Post surgical wound - 1st digit and partial ray amputation

FOUR MONTHS LATER

Autolytic

- Wound dressings to maintain the moist healing environment and promote self-debridement

Podiatric sharp

- Using a scalpel, callused, fibrous and sloughy tissue reduced or removed

Mechanical

- Using a monofilament debriding device known as Debrisoft® to remove biofilm formation, slough and peripheral light callus/eschar.

Image: Medial view R foot.
Post surgical wound - 1st digit and partial ray amputation four months later.

EVIDENCE FOR USE

- NICE (2014) — Medical Technologies Guidance (MTG17) — The Debrisoft monofilament debridement pad for use in acute or chronic wounds
- The available evidence is limited, but the likely benefits of using the Debrisoft pad on appropriate wounds are that they will be fully debrided more quickly, with fewer nurse visits needed, compared with other debridement methods
- In addition, the Debrisoft pad is convenient and easy to use, and is well tolerated by patients
- Debridement is an important component of standard wound care management, as described in pressure ulcers (NICE clinical guideline 29) [now replaced by guideline 179] and diabetic foot problems (NICE clinical guideline 119).

EVIDENCE FOR USE

- Wilkinson et al (2016) in a study to combine controlled and defined debridement application with a biologically relevant *ex vivo* biofilm model to directly compare monofilament debriding devices
- These data support the use of monofilament debriding devices for the removal of established wound biofilms and suggest variable efficacy towards biofilms composed of different species of bacteria
- Interestingly, histological and morphological analyses suggested that debridement not only removed bacteria, but also differentially disrupted the bacterially-derived extracellular polymeric substance. Finally, SEM of post-debridement monofilaments showed structural changes in attached bacteria, implying a negative impact on viability.

MECHANICAL DEBRIDEMENT

Image 1: Image of a post-surgical wound pre-application of Debrisoft monofilament pad.

Image 2: Image of Debrisoft Lolly being used to debride a wound surface.

MECHANICAL DEBRIDEMENT

Image 1: Image of a wound pre-application of Debrisoft monofilament pad.

Image 2: Illustration of a Debrisoft monofilament pad being used to debride a wound surface.

MECHANICAL DEBRIDEMENT

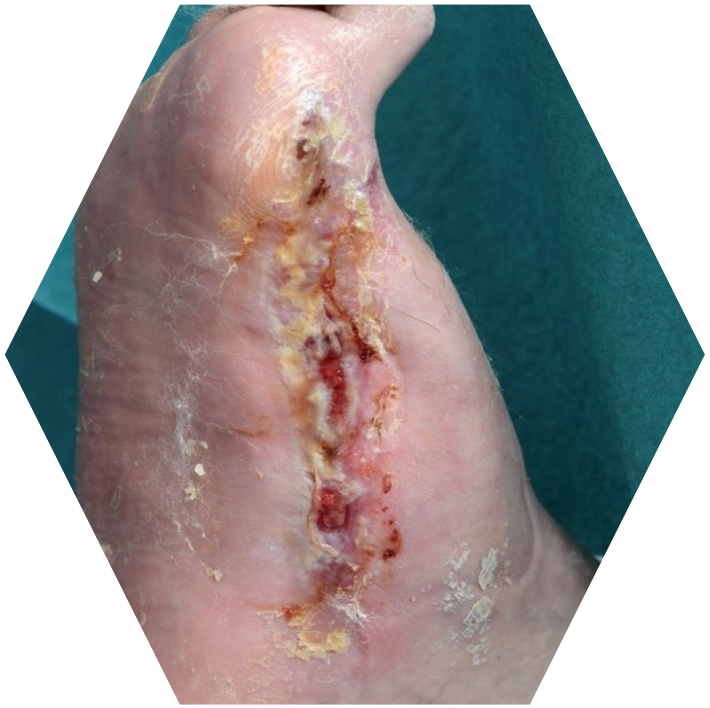


*Image 1: W*ound pre-application of Debrisoft monofilament pad.

Image 2: wound post-application of Debrisoft monofilament pad.

KEY POINTS

- Debridement to remove biofilm formation, necrotic and/or infected tissue and promote active healing remains a cornerstone of contemporary chronic wound management.
- A variety of debridement techniques are available requiring varied skill sets and accessibility.
- Holistic multidisciplinary patient-centred assessment is vital to ensure appropriate and safe patient-cared and management.

KEY POINTS

- A variety of debridement techniques can be required for an individual's wound journey.
- Debrisoft is a convenient and easy to use method of mechanical debridement supported by limited but convincing evidence.
- The Medical Technologies Advisory Committee made a positive recommendation for the adoption of Debrisoft and has been published as NICE medical technology guidance (MTG17).

REFERENCES

Frykberg RG, Wittmayer B, Zgonis T (2007) Surgical management of diabetic foot infections and osteomyelitis. *Clin Podiatr Med Surg* **24(3):** 469–ix.

Guest JF, Ayoub N, McIlwraith T, et al (2015) Health economic burden that wounds impose on the National Health Service in the UK. *BMJ Open* **5:** e009283

Guest JF, Fuller GW, Vowden P (2020) Cohort study evaluating the burden of wounds to the UK's National Health Service in 2017/2018: update from 2012/2013. *BMJ Open* **10:** e045253

Harding K, Morris H, Patel G (2002) Science, medicine, and the future: healing chronic wounds. *BMJ* **324:** 160–3

James GA, Swogger E, Wolcott R, Secor P, Sestrich J, Costerton JW, et al (2008) Biofilms in chronic wounds. *Wound Repair Regen* **16:** 37–44

Leese GP, Stang D, McKnight J (2011) A national strategic approach to diabetic foot disease in Scotland – changing a culture. Br J Diabetes Vasc Dis **11**: 69–73

Lipsky BA, Peugot RL, Boyko EJ, Kent DL (1992) A prospective Study of *Staphylococcus aureus* nasal colonisation and intravenous therapy-related phlebitis. *Arch Intern Med* **152:** 2109–12

Malone M, Bjarnsholt T, McBain AJ (2017) The prevalence of biofilms in chronic wounds: a systematic review and metaanalysis of published data. J Wound Care **26(1):** 20–25

Mills JL, Conte MS, Armstrong DG, Pomposelli FB, Schanzer A, Sidawy AN, et al (2014)The Society for Vascular Surgery Lower Extremity Threatened Limb Classification System: risk stratification based on Wound, Ischemia, and foot Infection (WIfI). *J Vasc Surg* **59:** 220–34

National Institute for Health and Care Excellence (2014) *Pressure ulcers: prevention and management.* [CG179]. Available online: www.nice.org.uk/guidance/cg179

National Institute for Health and Care Excellence (2011) *Diabetic foot problems: inpatient management of diabetic foot problems.* [CG119]. Available online: www.nice.org.uk/guidance/cg119

National Institute for Health and Care Excellence (2014) *The Debrisoft monofilament debridement pad for use in acute or chronic wounds.* [MTG17]. Available online: www.nice.org.uk/guidance/mtg17

REFERENCES

Nickel JC, Ruseska I, Wright JB, Costerton JW (1985) Tobramycin resistance of cells of *Pseudomonas aeruginosa* growing as biofilm on urinary catheter material. *Antimicrob Agents Chemother* **27**: 619–24

Percival SL, Hill KE, Malic S, Thomas DW, Williams DW (2011) Antimicrobial tolerance and the significance of persister cells in recalcitrant chronic wound biofilms. *Wound Rep Regen* **19**: 1–9

Shultz GS, Sibbald RG, Falanga V, Ayello EA, Dowsett C, Harding K, et al (2003) Wound bed preparation: a systematic approach to wound management. *Wound Rep Reg* **11:** 1–28

Strohal R, Apelqvist J, Dissemond J, et al (2013) EWMA Document: Debridment. *J Wound Care* **22(Suppl.1):** S1–S52

Thurlow LR, Hanke ML, Fritz T, Angle A, Aldrich A, Williams SH, et al (2011) *Staphylococcus aureus* biofilms prevent macrophage phagocytosis and attenuate inflammation *in vivo. J Immunol* **186**: 6585–96

TRIEPodD-UK (2012) Podiatry Competency Framework for integrated diabetic foot care: A User's Guide. Edinburgh: TRIEPodD-UK. Available online: www.wounds-uk.com/resources/details/podiatry-capability-framework-integrateddiabetic-foot-care-users-guide (accessed 13.02.19)

Vowden K, Vowden P (2011) Debridement made easy. *Wounds UK* **7(4):** 1–4

Watson JM, Kang'ombe AR, Soares MO, Chuang L-H, Worthy G, Bland JM, et al (2011) Use of weekly, low dose, high frequency ultrasound for hard to heal venous leg ulcers: the VenUS III randomised controlled trial. *BMJ* **342:** d1092

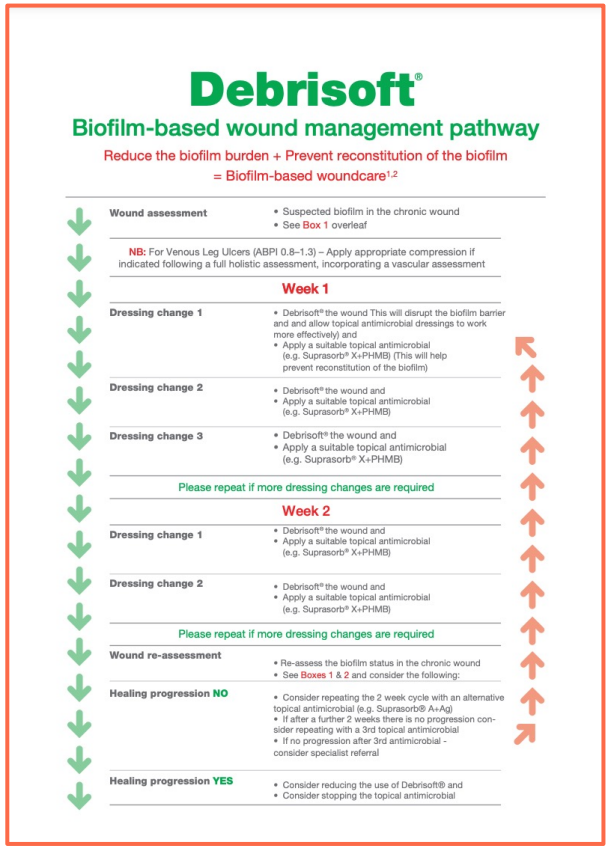
Wilkinson HN, McBain AJ, Stephenson C, Hardman MJ (2016) Comparing the Effectiveness of Polymer Debriding Devices Using a Porcine Wound Biofilm Model. *Adv Wound Care (New Rochelle)* **5(11):** 475–85

Woo KY, Keast D, Parsons N, Sibbald RG, Mittmann N (2015) The cost of debridement: a Canadian perspective. *Int Wound J* **12(4):** 402–7

CALL FOR ACTION

- Download some useful tools, including our Biofilm Pathway: https://lohmann-rauscher.co.uk/products/woundcare/debrisoft#downloads

- Learn more about Debrisoft® and Wound Assessment on our free online learning platform LeaRn on Demand: https://lohmann-rauscher.co.uk/learn-on-demand



Debrisoft®

Biofilm-based wound management pathway

Reduce the biofilm burden + Prevent reconstitution of the biofilm
= Biofilm-based woundcare[1,2]

Wound assessment	• Suspected biofilm in the chronic wound • See Box 1 overleaf
NB: For Venous Leg Ulcers (ABPI 0.8–1.3) – Apply appropriate compression if indicated following a full holistic assessment, incorporating a vascular assessment	
Week 1	
Dressing change 1	• Debrisoft® the wound This will disrupt the biofilm barrier and and allow topical antimicrobial dressings to work more effectively) and • Apply a suitable topical antimicrobial (e.g. Suprasorb® X+PHMB) (This will help prevent reconstitution of the biofilm)
Dressing change 2	• Debrisoft® the wound and • Apply a suitable topical antimicrobial (e.g. Suprasorb® X+PHMB)
Dressing change 3	• Debrisoft® the wound and • Apply a suitable topical antimicrobial (e.g. Suprasorb® X+PHMB)
Please repeat if more dressing changes are required	
Week 2	
Dressing change 1	• Debrisoft® the wound and • Apply a suitable topical antimicrobial (e.g. Suprasorb® X+PHMB)
Dressing change 2	• Debrisoft® the wound and • Apply a suitable topical antimicrobial (e.g. Suprasorb® X+PHMB)
Please repeat if more dressing changes are required	
Wound re-assessment	• Re-assess the biofilm status in the chronic wound • See Boxes 1 & 2 and consider the following:
Healing progression NO	• Consider repeating the 2 week cycle with an alternative topical antimicrobial (e.g. Suprasorb® A+Ag) • If after a further 2 weeks there is no progression consider repeating with a 3rd topical antimicrobial • If no progression after 3rd antimicrobial - consider specialist referral
Healing progression YES	• Consider reducing the use of Debrisoft® and • Consider stopping the topical antimicrobial