FACEBOOK LIVE

BARRIERS TO **WOUND HEALING**

THURSDAY
14 OCTOBER
7.30-8.30

FACEBOOK LIVE

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JULIE MULLINGS

JOANNE WILKINS

FACEBOOK LIVE

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LEARNING OBJECTIVES

- To understand the impact of delayed healing in wounds
- To understand what the barriers to healing are and discuss management
- The benefits of standardisation and pathways
- Patient case studies

SETTING THE SCENE

- In the UK, it was estimated 2.2 million people had a chronic wound in 2012/13 (Guest et al, 2015)

NOW estimated at around 3.8 million (Guest et al, 2020)

- The annual cost to the UK National Health Service for chronic wound management in 2012/13 was estimated at £5.4 billion (Guest et al, 2015)

NOW estimated at around £8 billion (Guest et al, 2020)

An even greater cost is that of the patient's quality of life

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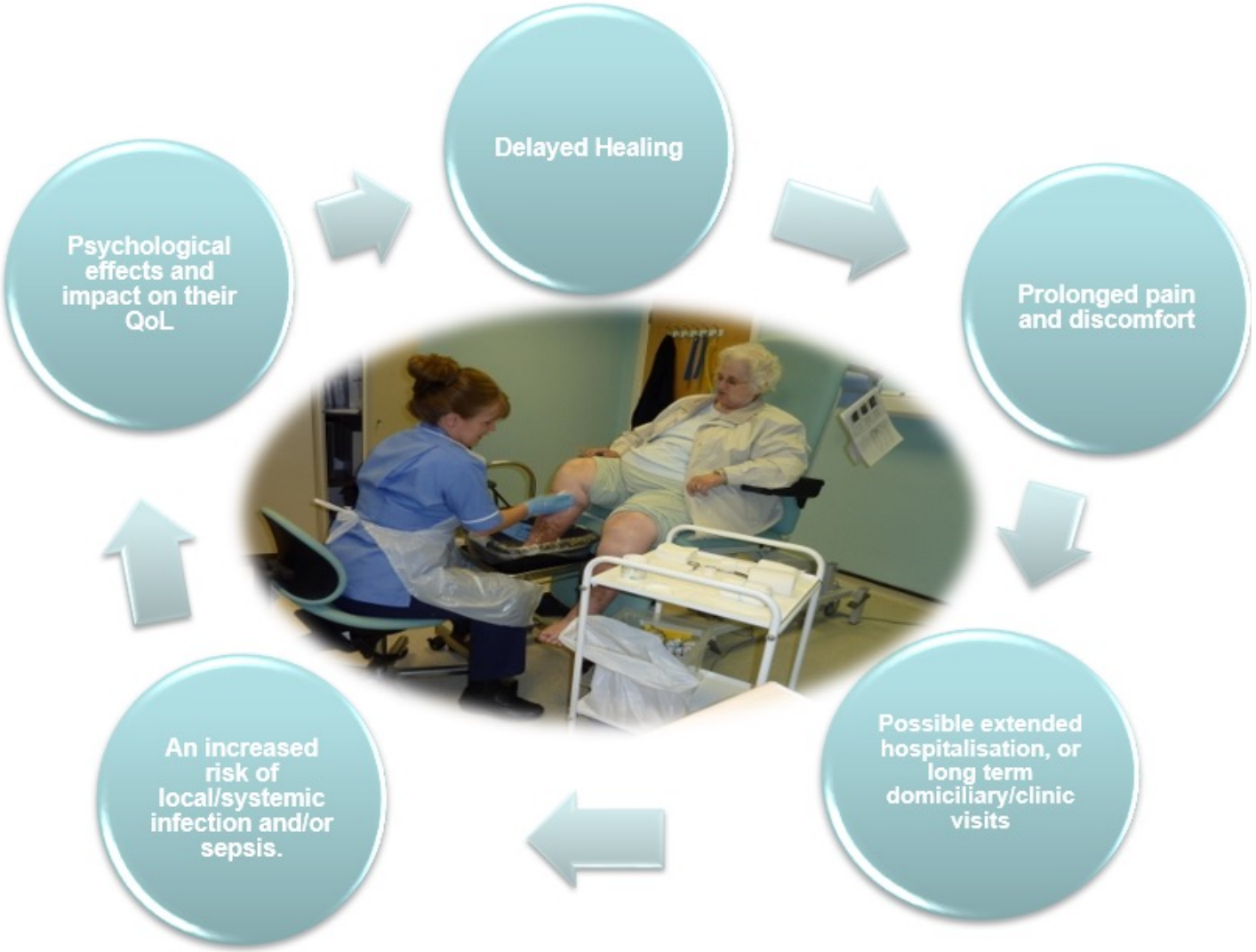
IMPLICATIONS FOR THE PATIENT



FACTORS DELAYING WOUND HEALING...

Local factors

- Excess exudate
- Infection
- Biofilm
- Oedema
- Elevated proteases
- Devitalised tissue
- External pressure

Systemic factors

- Inadequate perfusion
- Lifestyle
- Co-morbidities, e.g. diabetes
- Neuropathy
- Malnourished
- Medication
- Immunosuppression

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LOCAL BARRIERS TO WOUND HEALING

Excess exudate

- The right amount of exudate facilitates healing, but excess exudate can contribute to delayed healing (World Union of Wound. Healing Societies [WUWHS], 2007).

Infection

- Development of wound infection causes delays in healing and can lead to clinical complications.

LOCAL BARRIERS TO WOUND HEALING

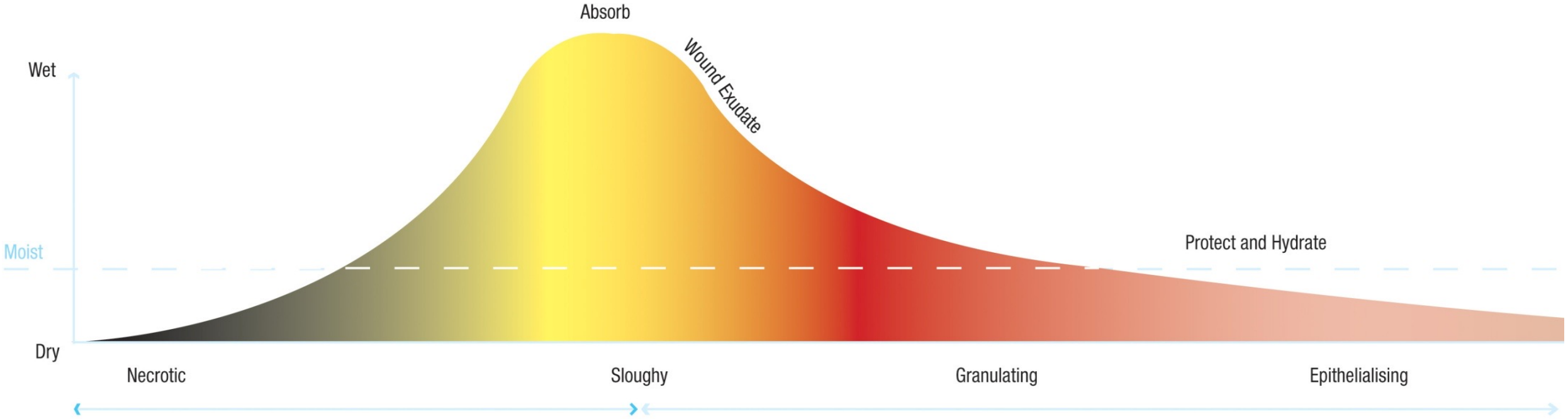
Biofilm

- These colonies of bacteria form a protective layer and can resist attack from topical antimicrobials, systemic antibiotics, and hinder the body's attempt to heal

(Stewart and Costerton, 2001; Percival et al, 2011; Metcalf and Bowler, 2013).

WOUND PROGRESSION: EXUDATE LEVELS

In a healing wound, exudate production generally reduces over time. In a wound that is not healing as expected, exudate production may continue and be excessive due to ongoing inflammatory or other processes.



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EFFECTS OF EXUDATE PRODUCTION ON WOUND HEALING

Exudate assists healing:

- Prevents wound bed from drying out
- Aids migration of tissue-repairing cells
- Provides essential nutrients for cell metabolism
- Assists separation of dead or damaged tissue (autolysis).

(WUWHS, 2007)

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Excess exudate may:

- Cause maceration of surrounding tissue
- Delay or prevent wound healing
- Cause subsequent breakdown and further deterioration of the wound bed
- Cause an increased demand on healthcare resources.

(WUWHS, 2007)

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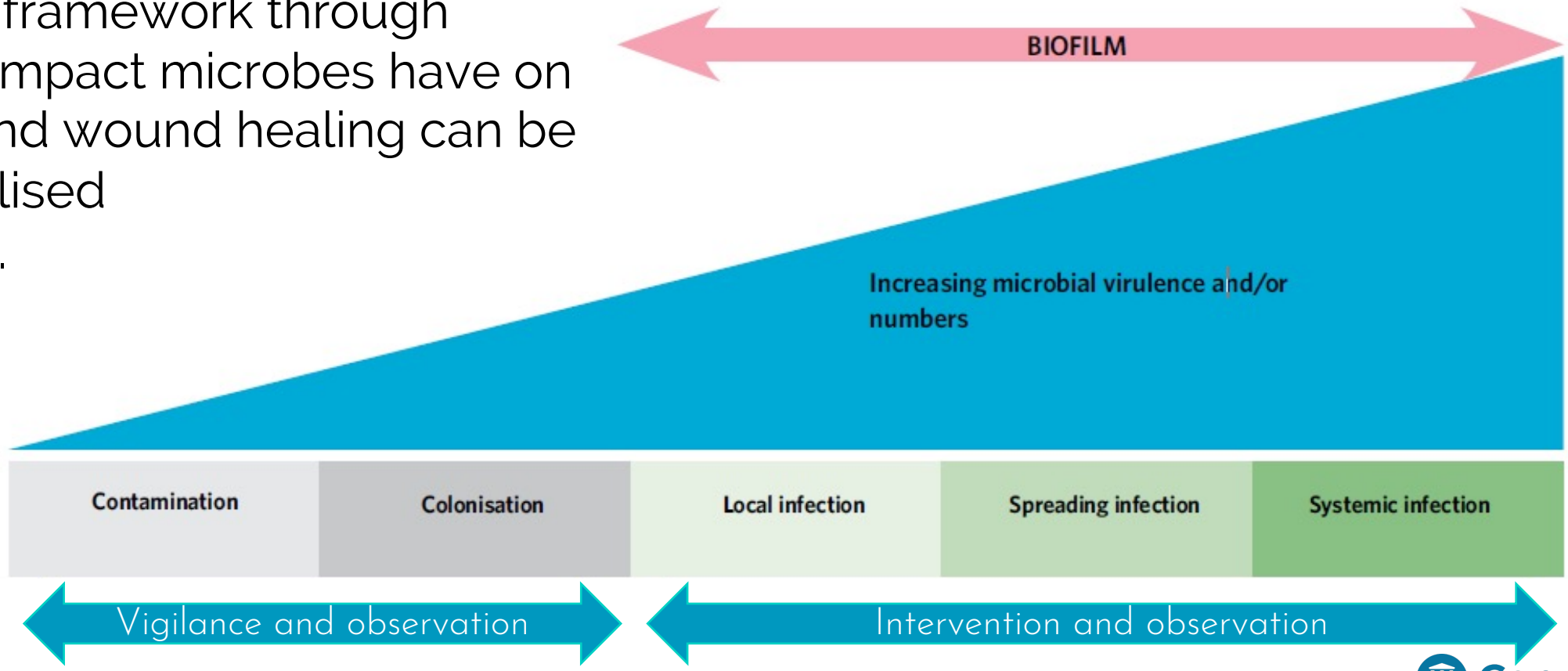
WOUND INFECTION… BY DEFINITION

'Wound infection is the invasion of a wound by proliferating microbes, to a level that invokes a local and/or systemic response in the host.'

(International Wound Infection Institute [IWII], 2016)

WOUND INFECTION CONTINUUM

The wound infection continuum provides a framework through which the impact microbes have on a wound and wound healing can be conceptualised (IWII, 2016).



HOW INFECTION AFFECTS WOUND HEALING

- Prolonging the inflammatory phase
- Decreased tissue perfusion (minimal oxygen and nutrition)
- Inhibition of granulation/epithelialisation and collagen synthesis
- Toxins/enzymes damage the tissue locally
- If the patient is systemically unwell (septic), energy that would normally be used to heal the wound is diverted to maintaining the patient's physiological status.

A DEFINITION OF BIOFILM FOR WOUND CARE

'Microbial cells adherent to a living or non-living surface, or each other…'

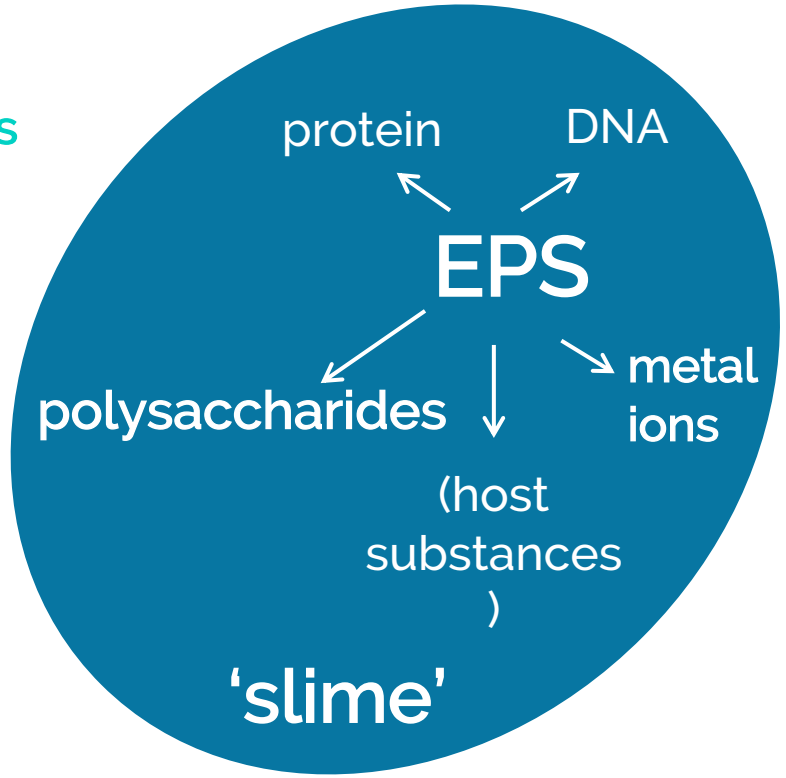
skin

wound bed/ wound tissue

sutures, dressings

i.e. colonies deeper in wound bed

'…embedded within a matrix of extra-cellular polymeric substances (EPS),'



Host defences

'…which may tolerate antimicrobial agents'

antibiotics

antiseptics

(Burmolle et al, 2010; Sanchez Jr et al, 2013)

WHY IS BIOFILM A PROBLEM?

- Biofilm exists in at least 60–80% of chronic wounds
- Biofilm can be difficult to remove completely and reforms quickly (Hurlow and Bowler, 2009)
- There is debate as to whether they can be seen! (Wounds International, 2010)

WHY IS BIOFILM A PROBLEM?

- Biofilm keeps the wound in a low-grade inflammatory state and is also a physical barrier to healing (Gurjala et al, 2011; Metcalf and Bowler, 2013)
- Delays granulation and re-epithelialization
- Biofilm tolerates antiseptics, antibiotics and host defences. (Stewart and Costerton, 2001; Gurjala et al, 2011; Percival et al, 2011).

SELECTING A DRESSING

Exudate

- Moist wound healing
- Absorption, Respond quickly
- Retention, Absorb and lock exudate in to the dressing
- Protection of peri wound skin

Symptom: Infection

- Availability of the antimicrobial properties within the dressing
- Management of bacterial burden, retention/ sequestration
- Intimacy with the wound bed
- Availability of the antimicrobial properties within the dressing management of associated symptoms

Symptom: Biofilm

- Break it down
- Management of bacterial burden
- Stop it from reforming

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GET IT RIGHT FIRST TIME

- Understand how to select the most appropriate dressing products based on your assessment of the wound bed symptoms and barriers to healing

- Optimise any ‘systemic’ barriers to healing where possible to effectively manage the main ‘local’ barriers to healing!

FACEBOOK LIVE

NHS
Manchester University
NHS Foundation Trust

Julie Mullings

- **Lead Nurse Tissue Viability & Infection Prevention: Community Services**

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BENEFITS OF A PATHWAY WHEN REDUCING BARRIERS TO HEALING

- Standardisation
- Best Practice
- Patient Outcomes
- Continuity of Care
- Antimicrobial Stewardship
- Early Identification of infection
- Guides clinical decision making
- Right dressing, right time, right duration

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Infection Identification & Treatment Ladder

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Manchester University
NHS Foundation Trust

Guidelines for identifying wounds and when to start and stop using topical Antimicrobial Wound Dressing (AWD). For leg ulcers refer to the Leg Ulcer Pathway

Signs and Symptoms stage 1 – 4 Each stage can move up the ladder using previous signs and symptoms.	Treatment stage 1 to stage 4 Each stage can move up the ladder.	Patient selection Of antimicrobial wound dressings.
Stage 4 – when 1 or more signs of systemic infection present: **May lead to sepsis if not treated** • Malaise/lethargy or non specific general deterioration • Spreading cellulitis • Pus/abscess • Patient systemically unwell • Pyrexia • Raised white cell count/CRP • Wound breakdown, undermining/tracking/dehiscence, etc. • Exposed bone, fat, tendon, muscle etc	**Stage 4 – Treatment** 1. Swab wound 2. Refer to MFT sepsis recognition tool with Sepsis 6 guidance, other source, blood cultures 3. Start systemic antibiotics and monitor patient 4. If rapid deterioration immediate referral for urgent medical advice 5. Consider Biofilm disrupting and surfactant cleansing solution 6. Consider topical antimicrobial wound dressing 7. Monitor wound progress – see stage 2, point 4 for actions	**Exudate levels: saturated** • Refer to TVN for consideration of Acticoat • Consider wound irrigation with Octenillin • Consider Debrisoft for Biofilm disruption • Apply Aquacel Ag + Extra until treatment plan is agreed with TVN
Stage 3 – when 2 or more signs of spreading infection present: **Wound deteriorating** • Localised cellulitis/erythema • Pain increasing • Exudate, thick, saturated or purulent	**Stage 3 – Treatment** 1. Swab wound 2. Consider Biofilm disrupting and surfactant cleansing solution 3. Start topical antimicrobial wound dressing 4. Consider starting systemic antibiotics 5. Monitor wound progress, review at 2 weeks. See stage 2 point 4 for actions 6. If signs of systemic infection, go to stage 4	**Exudate levels: saturated** • Consider wound irrigation with Octenillin • Consider Debrisoft for Biofilm disruption • Apply Aquacel Ag + Extra
Stage 2 – when 2 or more signs of local infection present: **Wound healing, not progressing normally** • Exudate levels moist to wet • Malodour • Pain in or around the wound • Over granulation tissue • Discoloured or bleeding granulation tissue • Slough/necrosis	**Stage 2 – Treatment** 1. DO NOT swab 2. Consider Biofilm disrupting and surfactant cleansing solution 3. Consider topical antimicrobial wound dressing 4. Monitor wound progress, review at 2 weeks a. If no signs of infection, STOP and return to stage 1, point 4 for actions b. If improving, continue and review weekly until no signs of infection c. If static, review antimicrobial wound dressing choice 5. If signs of spreading infection, go to stage 3	**Exudate level: wet** • Consider Aquacel Ag+ Extra • Consider Debrisoft for Biofilm disruption **Exudate level: moist** • Consider honey
Stage 1 – when 2 or more signs of contamination/ colonisation present and wound healing progressing normally • Exudate levels moist to wet • Pain – minimal • Odour – minimal • Slough/necrosis – minimal START	**Stage 1 – Treatment** 1. DO NOT swab 2. Identify aetiology of the wound and refer if any concerns e.g., vascular, lymphoedema, diabetes, immunocompromised 3. Refer all diabetic lower limb wounds to the diabetic podiatry/MDT 4. Optimise wound healing with debridement and dressings. Refer to Tissue Type Guide 5. If no progress after 2 weeks, review wound management plan 6. If signs of local infection go to stage 2	**Refer to Tissue Type guide for indication of product usage** No antimicrobial dressing required. START

In certain patients', some signs and symptoms of infection might be masked due to diabetes, vascular, immunocompromised. Clinical judgement should be used to determine when AWDs are required.

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Patient case studies

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BARRIER TO HEALING: EXCESS EXUDATE

AQUACEL® Ag+ Dressings

Patient profile:

- 60-year-old male with type 2 diabetes and hypertension
- Wound duration three months, caused by a trauma injury when gardening
- Wound measures 5cm length x 6cm width, 100% sloughy, exudate volume wet, with malodour.

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BARRIER TO HEALING: EXCESS EXUDATE

Condition:

Holistic leg ulcer assessment with handheld Doppler confirmed venous leg ulcer. Stage 2 of the Infection Identification Ladder.

Treatment:

Aquacel Ag+ Extra, a super absorbent pad and full compression.

Outcome:

Reduction in exudate, signs of local infection resolved, 50% reduction in wound size within six weeks.

BARRIER TO HEALING: INFECTION

Patient profile:

- 83-year-old female with rheumatoid arthritis, bedbound and declines to be repositioned
- Wound duration one month, caused by direct pressure
- Wound measures 8cm length x 9cm width, 4cm depth, 20% sloughy, 80% granulating, exudate levels saturated and purulent with localised erythema.

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BARRIER TO HEALING: INFECTION

Condition:

Holistic assessment confirming a category 3 pressure ulcer. Stage 3 of the Infection Identification Ladder.

Treatment:

Aquacel Ag+ Extra, a super absorbent pad secured with a film window, lateral turning aid and dynamic mattress to aid repositioning and relieve pressure.

Outcome:

Reduction in exudate, signs of local cellulitis resolved, reduction in wound size and depth within three months.

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BARRIER TO HEALING: BIOFILM

Patient profile:

- 75-year-old female, with dementia, type 2 diabetes and transient ischaemic attacks
- Wound duration six months, caused by wound infection and dehiscence following abdominal surgery
- Wound measures 10cm length x 4cm width, 3.5cm depth, with undermining, 60% sloughy, 40% granulating, exudate levels wet with malodour.

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BARRIER TO HEALING: BIOFILM

Condition:

Holistic assessment confirming a surgical site infection with dehiscence, now a chronic wound. Stage 2 of the Infection Identification Ladder. No wound progression.

Treatment:

Cleansed with a surfactant, biofilm disruption with mechanical debridement, Aquacel Ag+ Extra and foam dressing.

Outcome:

Reduction in exudate, 100% granulating wound bed, reduction in wound size and no depth within three months.

TAKE HOME MESSAGE

- Holistic assessment
- Evidence-based practice
- Standardised approach
- Early identification of infection
- Right dressing, right time, right duration
- Antimicrobial stewardship.

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RESOURCES TO LEARN MORE

For further information about ConvaTec products or to request product samples and contact from a representative:

Visit: https://www.convatec.co.uk/wound-skin

Or email: Wound.Webcare@convatec.com

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AQUACEL® Ag+ Dressings

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WCT 2021

19th – 20th October
Marshall Arena, Milton Keynes

Register today:
www.woundcare-today.com/conference/milton-keynes-2021

We can't wait to see you!
Let's get #togetheragain

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