

LIVE

MONDAY 7TH MARCH, 7.30PM

Understanding the role of **silver dressings** in wound infection



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JCN

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LIVE Q&A

*SEND IN YOUR QUESTIONS BY COMMENTING
ON THE VIDEO*

WHY INFECTION IS AN IMPORTANT ISSUE IN WOUND CARE?

High prevalence:

- Infection is one of the most frequent complications of non-healing wounds¹

Complications of wound infection:

- Delayed wound healing, patient anxiety, confusion and stress
- Hospitalisation, amputation and potentially death
- Delays in planned surgical interventions

Increased workload and emotionally draining for NHS staff



WHAT IS THE SILVER BEST PRACTICE STATEMENT?

- Authored by a panel of UK experts and launched at Wounds UK 2021
- An overview of silver dressings and dispels myths and their use with silver
- Introduces the TILI score for Local Infections
- Provides guidance on appropriate use in practice.

EXPERT WORKING GROUP:

- **Jacqui Fletcher (Chair)**, Independent Consultant
- **Leanne Atkin**, Vascular Nurse Consultant, Mid Yorks NHS Trust; Lecturer Practitioner, University of Huddersfield
- **Val Edwards-Jones**, Professor Emeritus of Medical Microbiology, Manchester Metropolitan University, and Institute of Skin Integrity and Infection Prevention, University of Huddersfield
- **Jeanette Milne**, Chief Matron Community, Northumbria Healthcare NHS Foundation Trust, Northumbria
- **Sue Murray**, Clinical Lead, Tissue Viability, Central London Community Healthcare NHS Trust
- **Karen Ousey**, Professor and Director for the Institute of Skin Integrity and Infection Prevention, University of Huddersfield
- **Andrew Sharpe**, Advanced Podiatrist, Salford Royal NHS Foundation Trust

REVIEWER:

- **Claire Acton**, Head of Tissue Viability, Kent Community Health NHS Foundation Trust

WUK BPS

Best Practice Statement

Use of silver dressings in wound care

2021



The role of silver

Myths and truths

Identification of infection with the TILI score

Managing bioburden

Wounds UK

WHAT WAS THE NEED FOR A SILVER BEST PRACTICE STATEMENT?

Confusion & misconceptions around silver

- highlighted the need for clear guidance.

Lack of knowledge & confidence

- contributed to patients not receiving appropriate, timely treatment with silver dressings.

Crucially, cultural change is required

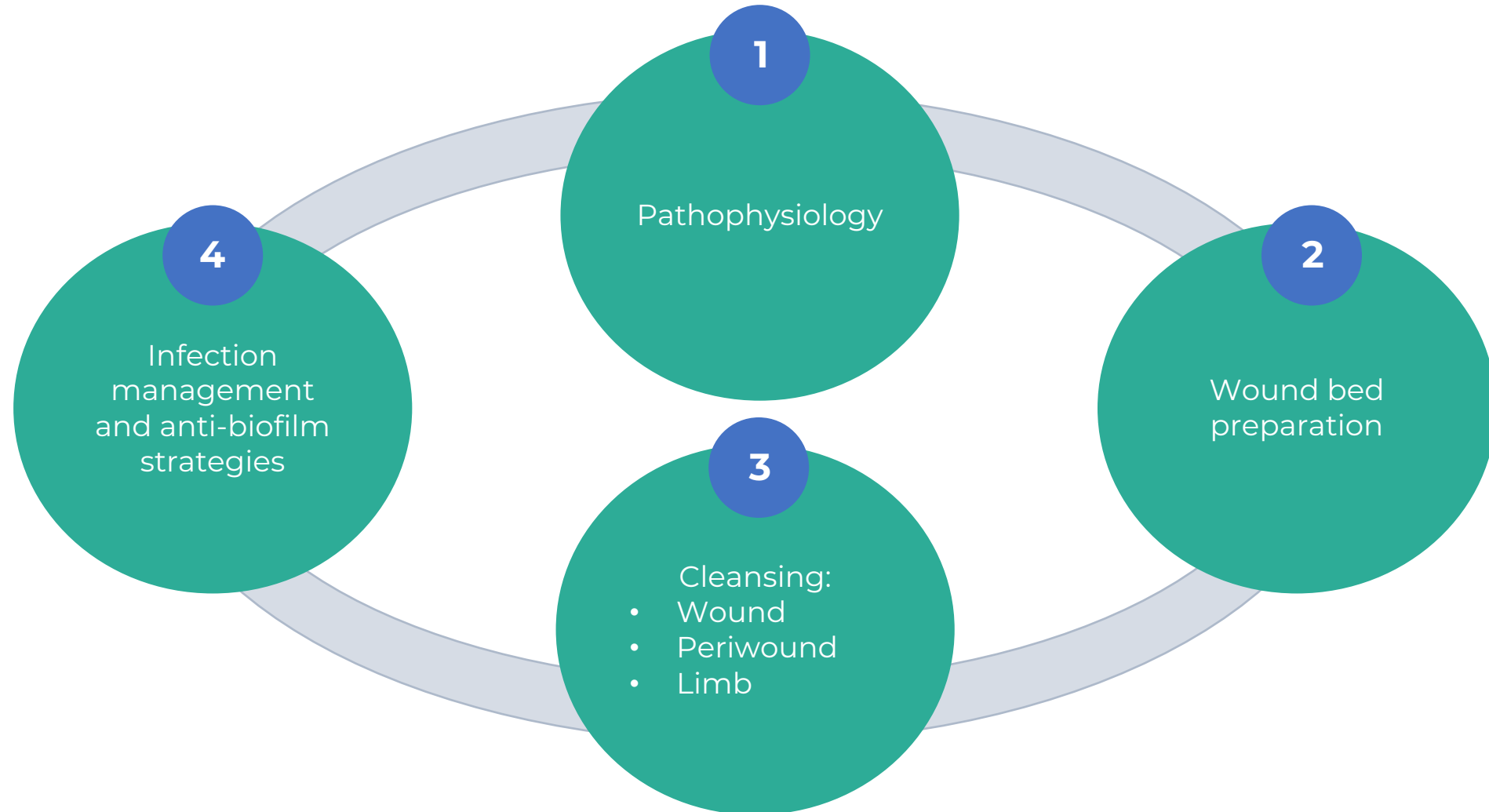
- wound care needs to focus on healing wounds, rather than managing wounds.

The 'two-week challenge' approach

- in some cases, treatment with silver has been stopped prematurely.



FOUR CORNERSTONES OF TREATMENT



NOT ALL SILVER DRESSINGS ARE THE SAME!

Carrier dressing is important

- exudate handling, adhesion, and dressing materials, cleaning action of fibres.

Available in a number of different forms and amounts vary considerably

- (e.g. elemental silver, an inorganic/organic compound such as silver oxide/silver alginate).

The active component is the silver ion Ag⁺.

Cleaning action is also important within a dressing and not just silver

- facilitates continuous removal of biofilm, slough and exudate.

NOT ALL SILVER DRESSINGS ARE THE SAME!



Silver dressings should be selected based on holistic assessment of the patient and their wound.

SILVER BEST PRACTICE STATEMENT – MYTHS AND TRUTHS



Silver dressings cause systemic toxic effects



Silver is not cost-effective



The levels of silver in the dressing are important



Silver is non-toxic and very little is absorbed systemically



A number of studies support the cost-effective use of silver



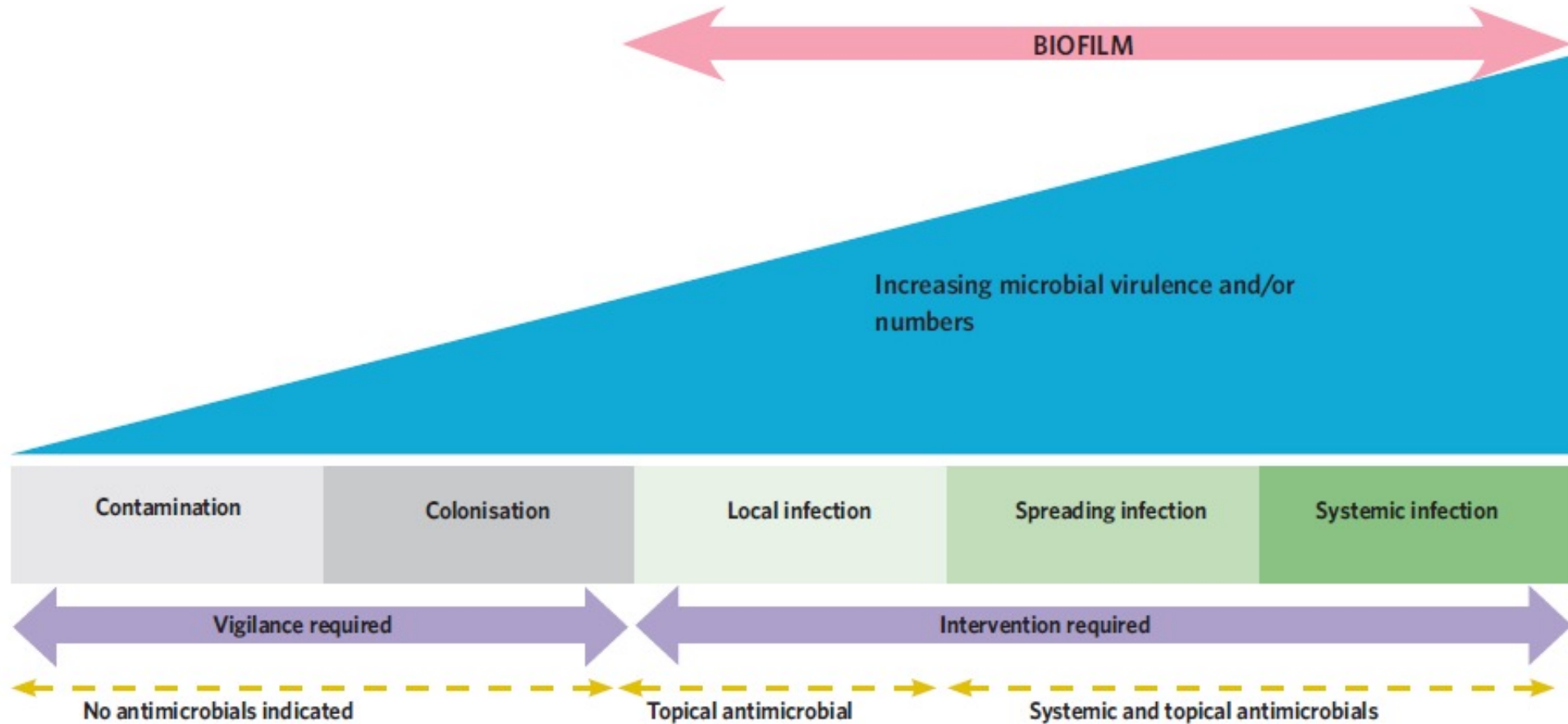
The availability of silver ions within the wound is more important

CHALLENGES IN DIAGNOSING WOUND INFECTION

Identifying local infection in chronic wounds may be difficult.

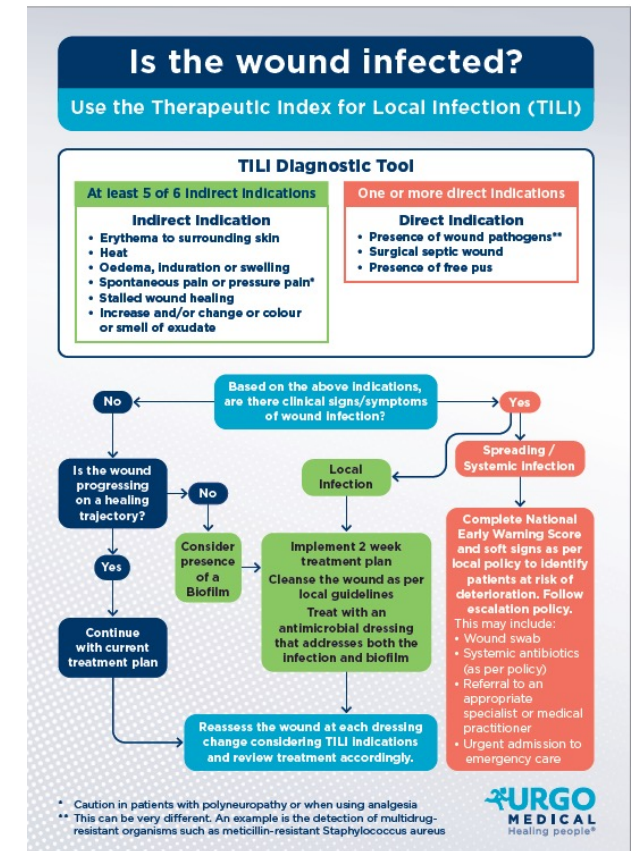
Clinicians needed to rely on other signs and symptoms and there was no consensus on which signs to use **UNTIL NOW!**

CHALLENGES IN DIAGNOSING WOUND INFECTION



TILI SCORE SUPPORTS EFFECTIVE DIAGNOSIS

- An evidence-based framework
- Validated and found to be suitable for use²
- **Prioritises early intervention** as part of an antimicrobial stewardship (AMS)-focused approach to wound care
- Assessment, identification and early intervention a priority in all patients with (potential) wound infections.



Pathway for use of the TILI score in practice

TILI DIAGNOSIS

At least 5 of 6 indirect

Indirect Indications

- Erythema to surrounding skin
- Heat
- Oedema, induration or swelling
- Spontaneous pain or pressure pain*
- Stalled wound healing
- Increase and/or change in colour or smell of exudate

Is the wound infected?

Use the Therapeutic Index for Local Infection (TILI)

TILI Diagnostic Tool

At least 5 of 6 Indirect Indications

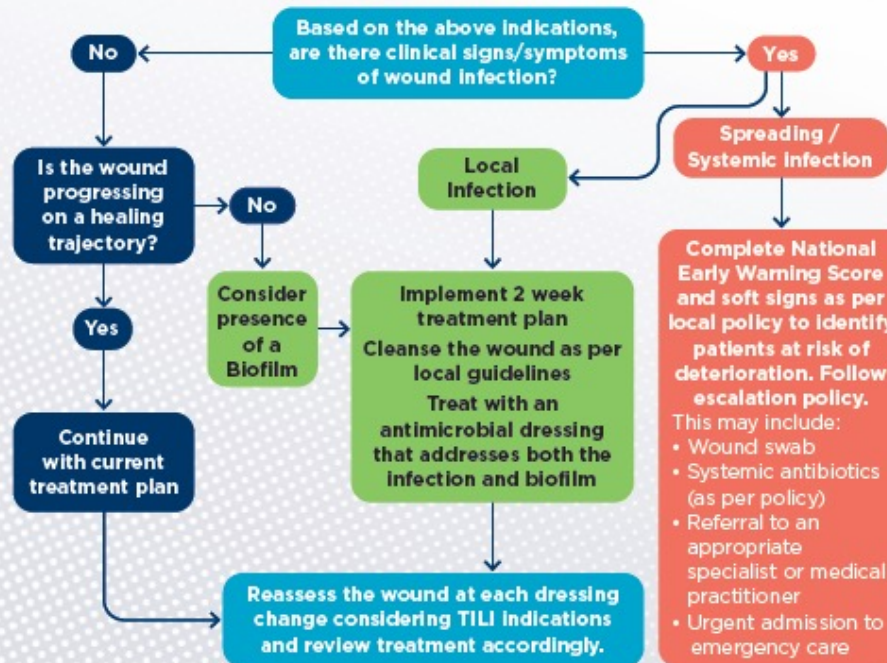
Indirect Indication

- Erythema to surrounding skin
- Heat
- Oedema, induration or swelling
- Spontaneous pain or pressure pain*
- Stalled wound healing
- Increase and/or change in colour or smell of exudate

One or more direct Indications

Direct Indication

- Presence of wound pathogens**
- Surgical septic wound
- Presence of free pus



* Caution in patients with polyneuropathy or when using analgesia
 ** This can be very different. An example is the detection of multidrug-resistant organisms such as methicillin-resistant *Staphylococcus aureus*

Direct indications

Indication

- Presence of wound pathogens**
- Surgical septic wound
- Presence of free pus

There are also health concerns with antimicrobial therapy:

- Presence of wound pathogens
- Presence of free pus
- Cases of post-surgical wound infection

antimicrobial wound

Staphylococcus aureus ≠

EXAMPLE – HOW TO CALCULATE THE TILI SCORE

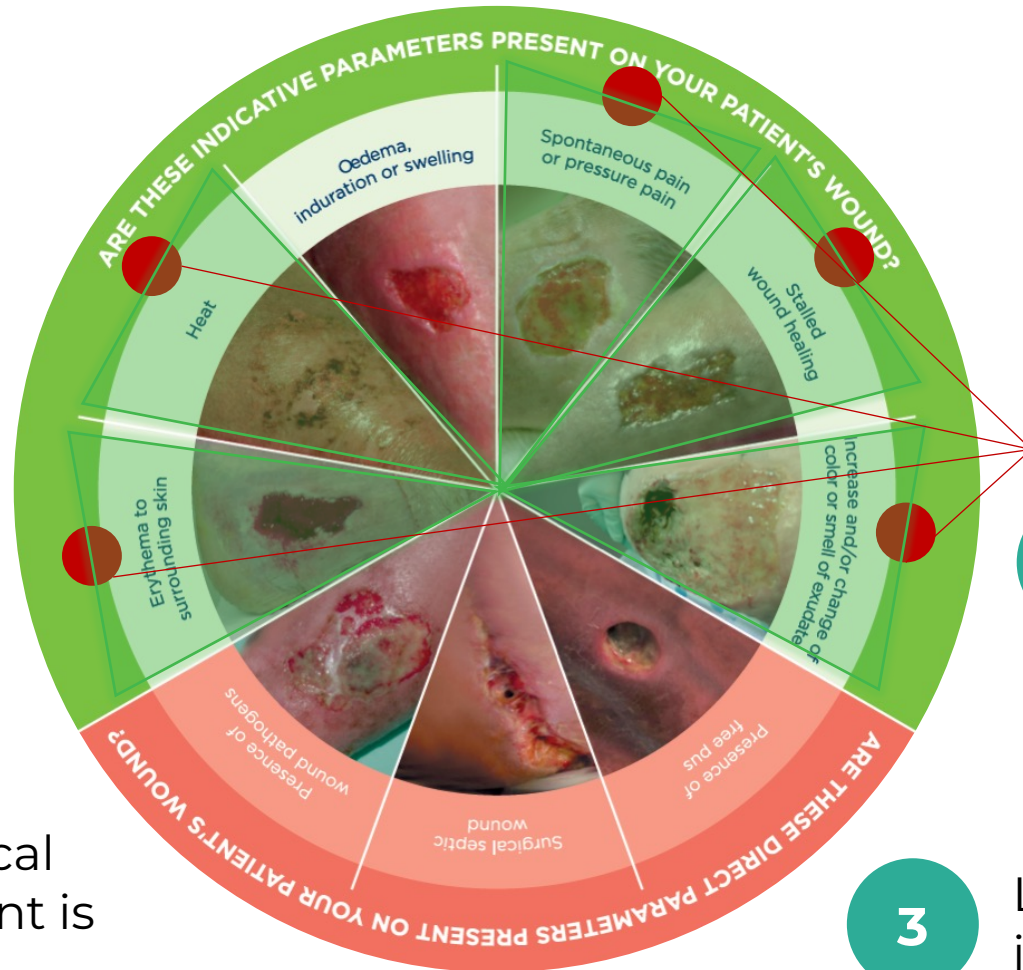
Clinical case example: 21-year-old male referred to community nursing with category 4 pressure ulcer on the spine.

The wound had deteriorated and increased in size for one week. The secondary dressing was saturated with **exudate** and the patient did not feel well and was concerned by increasing **odour, heat and pain.**



EXAMPLE – HOW TO CALCULATE THE TILI SCORE

1 Turn the wheel and count the number of parameters present on the wound of the patient.



2 5 of 6 indirect indicators are present for this patient's wound.

3 Local infection is present.

4 Immediate use of a local antimicrobial treatment is recommended.

THE SILVER TOOLKIT

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Best Practice Statement Use of silver dressings in wound care



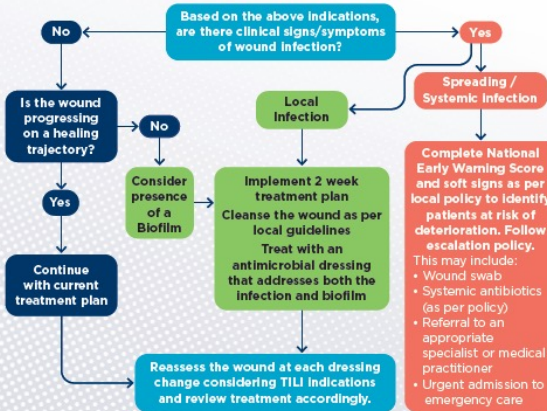
- The role of silver
- Myths and truths
- Identification of infection with the TILI score
- Managing bioburden

Wounds UK

Is the wound infected? Use the Therapeutic Index for Local Infection (TILI)

TILI Diagnostic Tool

<p>At least 5 of 6 Indirect Indications</p> <p>Indirect Indication</p> <ul style="list-style-type: none"> Erythema to surrounding skin Heat Oedema, induration or swelling Spontaneous pain or pressure pain* Stalled wound healing Increase and/or change of colour or smell of exudate 	<p>One or more direct Indications</p> <p>Direct Indication</p> <ul style="list-style-type: none"> Presence of wound pathogens** Surgical septic wound Presence of free pus
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** This can be very different. An example is the detection of multidrug-resistant organisms such as methicillin-resistant Staphylococcus aureus



TILI Score made easy WoundsUK

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Introduction

Infection is an important and common complication in wound care and can develop in any wound type. Clinicians involved in wound care need to be able to accurately assess and identify symptoms of wound infection. Early intervention should be carried out according to evidence-based best practice within a structured framework to standardise care (Wounds UK, 2021). This Made Easy will introduce the Therapeutic Index for Local Infections (TILI) score, a diagnostic tool designed to facilitate identification and decision-making around infection for staff of all levels (Dissemond et al, 2020a).

Authors: Val Edwards-Jones, Jeanette Milne and Andrew Sharpe (details on page 4)

Overview of wound infection

Wound infection is the result of microbial invasion of soft tissue and can manifest in acute wounds (such as surgical, traumatic and burns) and chronic wounds of all types, but predominantly of venous, arterial, diabetic and pressure aetiologies (International Wound Infection Institute [IWII], 2016). Infection can cause increased patient morbidity, anxiety and distress, and is associated with delayed healing and increased healthcare costs (Cutting, 2016).

Real-world evidence has shown that an estimated 3.8 million patients with a wound were managed by the NHS in 2017/2018, of which 89% of acute wounds and 49% of chronic wounds healed in the study year (Guest et al, 2020). The healing rate of chronic wounds was also estimated: 59% healed if there was no evidence of infection, compared with 45% if there was a definite or suspected infection (Guest et al, 2020). This evidence highlights the substantial burden of wounds, but also the importance of preventing wound infection.

Historically, wound swabs are taken to aid diagnosis of local wound infection, and antibiotics, are frequently prescribed. Whereas in acute wounds, this is the correct approach, in chronic wounds, where a biofilm can exist in up to 80% of wounds (Malone et al, 2017), a wound swab often does not identify any clear pathogen and antibiotics are not beneficial. A different approach to diagnosis and treatment may be needed with the threat of antimicrobial resistance (AMR) looming. Accurate clinical diagnosis of local wound infection at the point of care is essential, so that use of antibiotics can be reduced and appropriate topical treatment administered.

Importance of an AMS-informed approach

AMR is a global health issue that threatens the effective prevention and treatment of infection and occurs when bacteria, viruses, fungi, and parasites evolve over time and no longer respond to specific antimicrobials, groups of antimicrobials or even to any antimicrobial therapy (Fletcher et al, 2020; WHO, 2020). 'Antimicrobial' is an umbrella term that includes antibiotics, antifungals, disinfectants, and other agents, such as antiviral, antifungal, antibacterial and antiparasitic medicines (Wounds UK, 2021).

All infection treatment should therefore take an approach informed by antimicrobial stewardship (AMS), which includes infection prevention and avoiding the misuse or overuse of antimicrobials. Adopting such an approach requires a systemic change in behaviour through increased public awareness and education (Wounds UK, 2021).

Early intervention and judicious use of antimicrobial dressings can help to form part of an AMS-informed approach, by managing infection locally and using antiseptic agents over systemic antibiotics wherever possible (Wounds UK, 2021).

Risk factors and signs and symptoms of wound infection

In dealing with wound infection, it is important for clinicians to understand the risk factors, and the signs and symptoms, as this can assist with identifying infection and early intervention. Characteristics of both the individual, their wound and the wound environment can contribute to the development of infection (IWII, 2016) and, in most cases, infection occurs when cumulative risk factors overwhelm the host's defence system (Koroi et al, 2013).

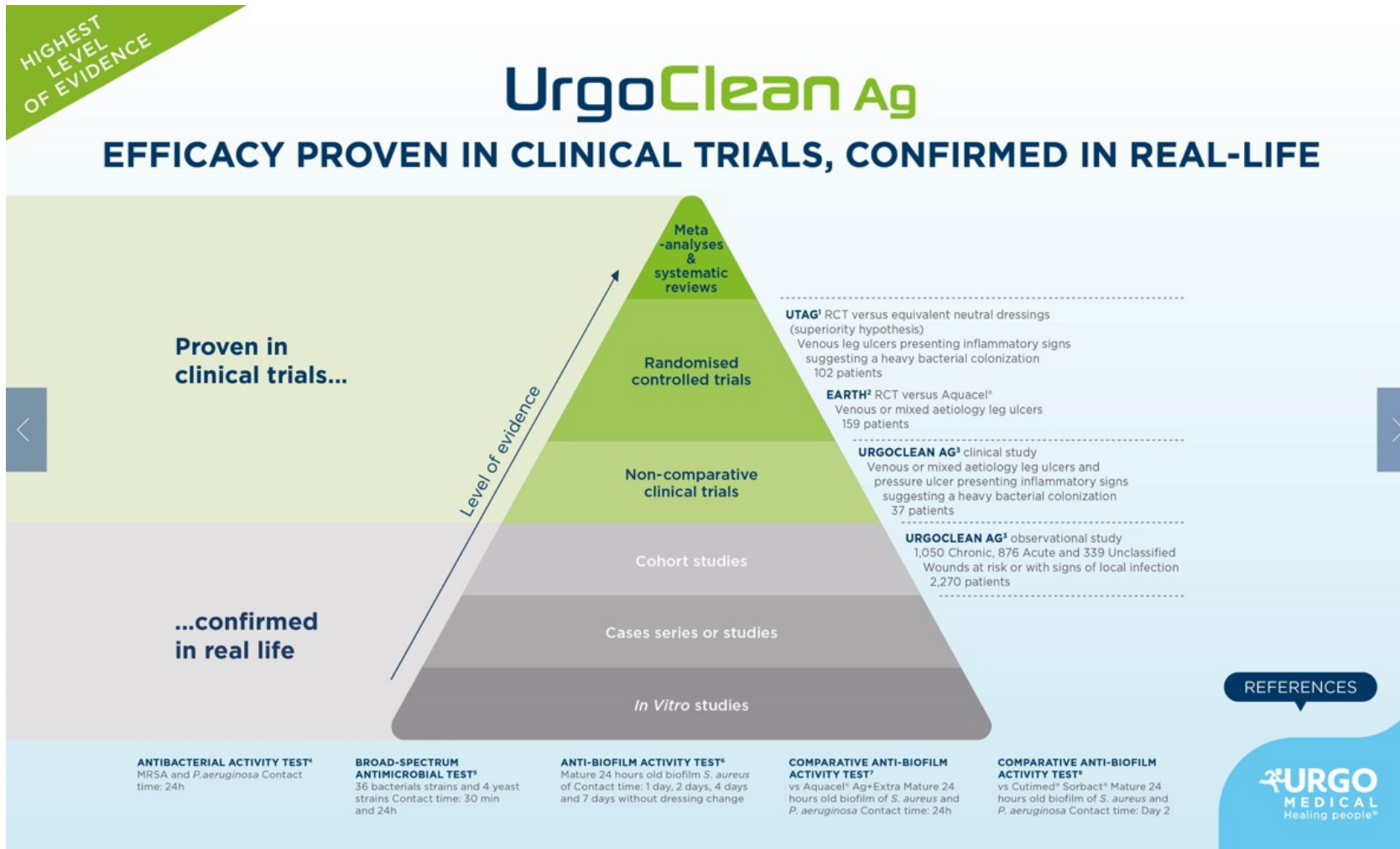
For healthy individuals with an acute wound, an experienced clinician will often identify overt signs of infection easily, such as purulent discharge, erythema and swelling, local warmth, increasing malodour and new or increasing pain (IWII, 2016). However, in immunocompromised individuals and those with chronic wounds, subtle or covert signs of infection may exist and must be identified to detect infection (IWII, 2016). Box 1 lists the covert signs of wound infection to consider.

Box 1. Covert signs of infection (adapted from IWII, 2016)

- ▣ Friable, bright red granulation tissue
- ▣ Increased malodour
- ▣ New/increased pain or change in sensation
- ▣ Epithelial bridges, and pocketing in granulation tissue
- ▣ Delayed wound healing beyond expectations
- ▣ Wound breakdown and enlargement or new ulcerations of the periwound.



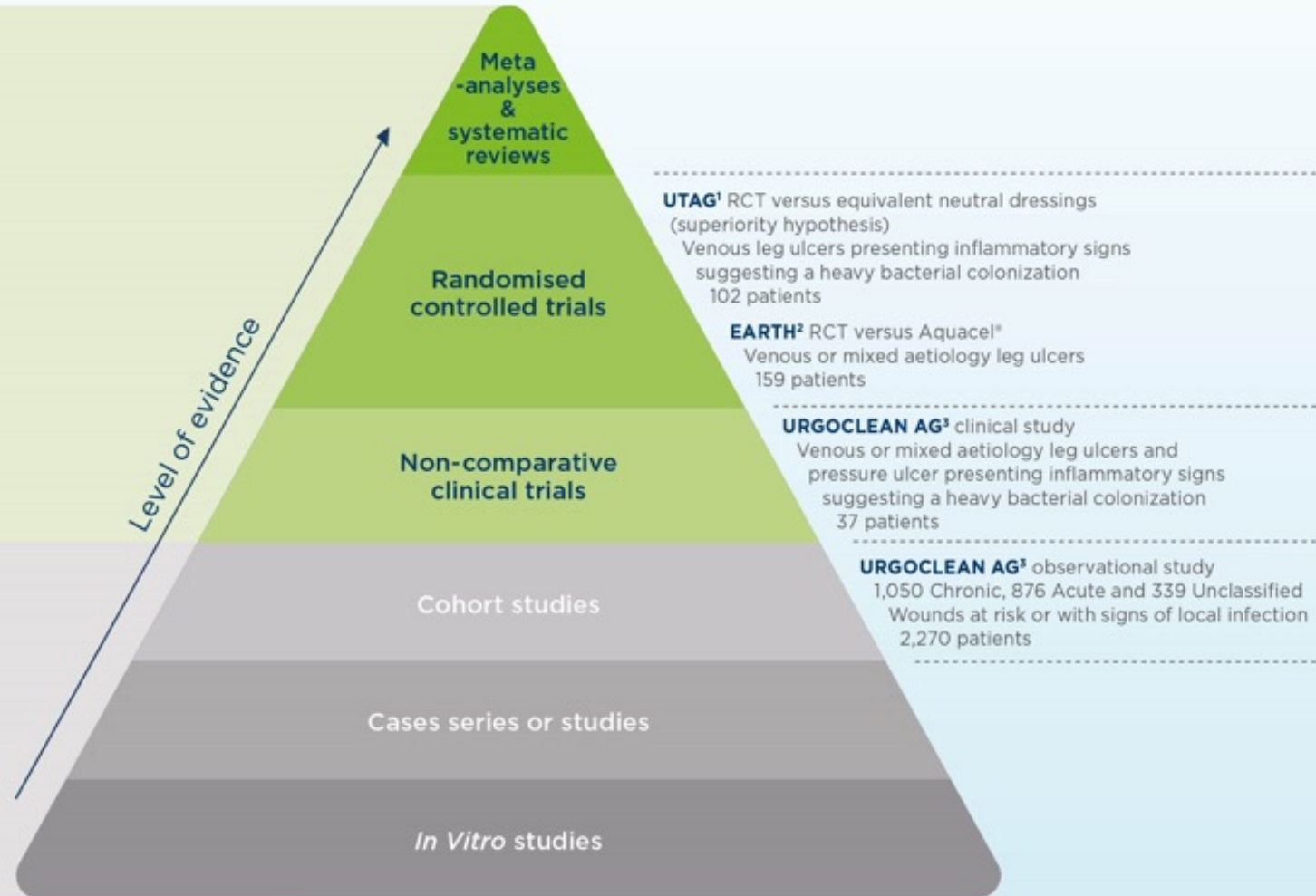
THE CLINICAL EVIDENCE



EFFICACY PROVEN IN CLINICAL TRIALS, CONFIRMED IN REAL-LIFE

Proven in clinical trials...

...confirmed in real life



REFERENCES

ANTIBACTERIAL ACTIVITY TEST⁴
MRSA and *P.aeruginosa* Contact time: 24h

BROAD-SPECTRUM ANTIMICROBIAL TEST⁵
36 bacterial strains and 4 yeast strains Contact time: 30 min and 24h

ANTI-BIOFILM ACTIVITY TEST⁶
Mature 24 hours old biofilm *S. aureus* of Contact time: 1 day, 2 days, 4 days and 7 days without dressing change

COMPARATIVE ANTI-BIOFILM ACTIVITY TEST⁷
vs Aquacel[®] Ag+Extra Mature 24 hours old biofilm of *S. aureus* and *P. aeruginosa* Contact time: 24h

COMPARATIVE ANTI-BIOFILM ACTIVITY TEST⁸
vs Cutimed[®] Sorbact[®] Mature 24 hours old biofilm of *S. aureus* and *P. aeruginosa* Contact time: Day 2



How do we change mindsets regarding the myths around silver dressings and ensure appropriate usage?



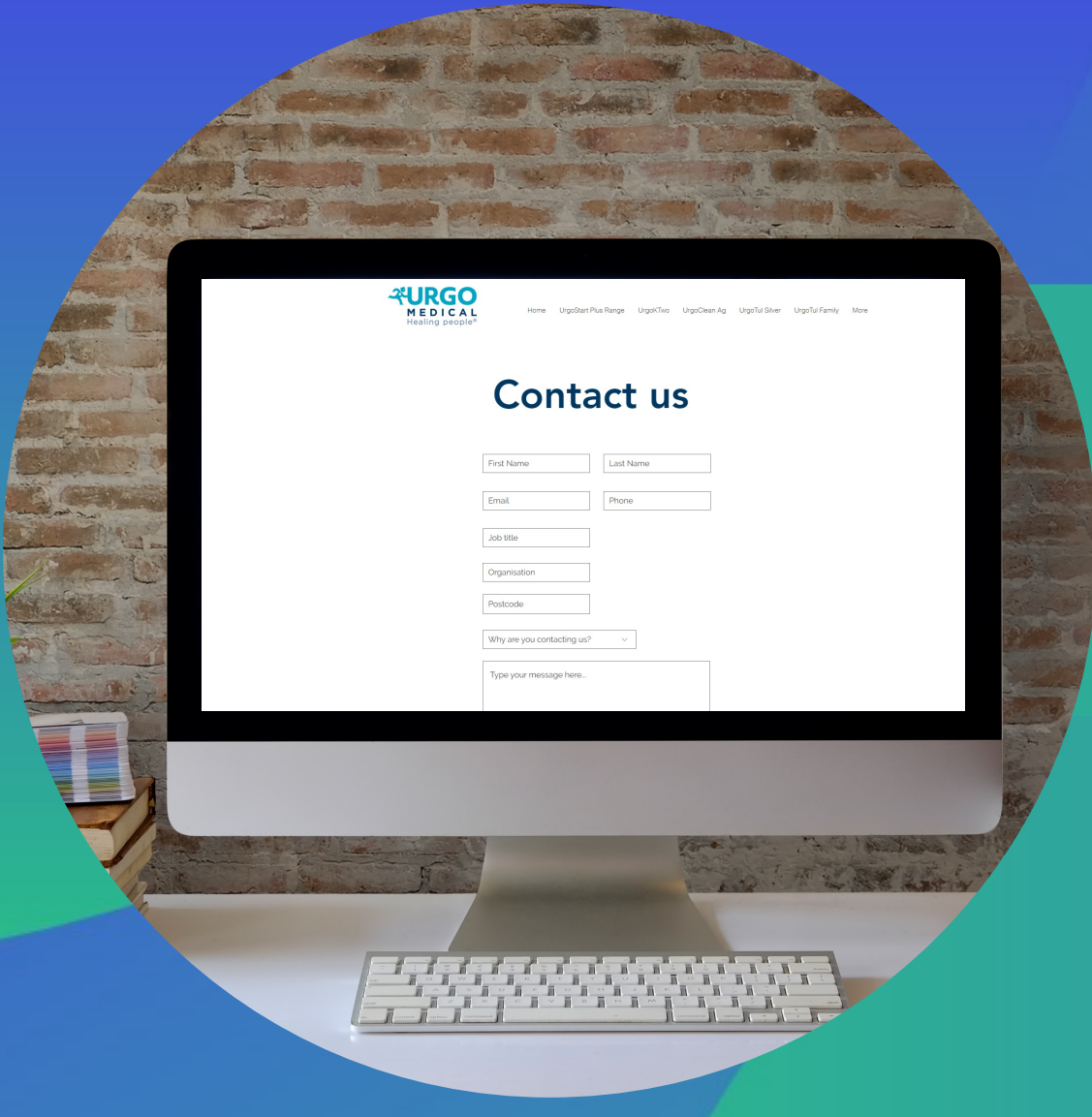
HOW DO WE SHAPE THE FUTURE AND CHANGE MINDSETS?

- **Education and communication**
- **Early intervention**
- **Needs of the individual patient — continually reassess their wounds**



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