Introducing

BLASTX®

Antimicrobial Biofilm Wound Gel

Oraderm Pharmaceuticals is an Australian company specialising in conditions of the skin

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Wound Basics

Wounds generally fall into two categories: ACUTE and NON HEALING (CHRONIC)

1. Acute Wounds

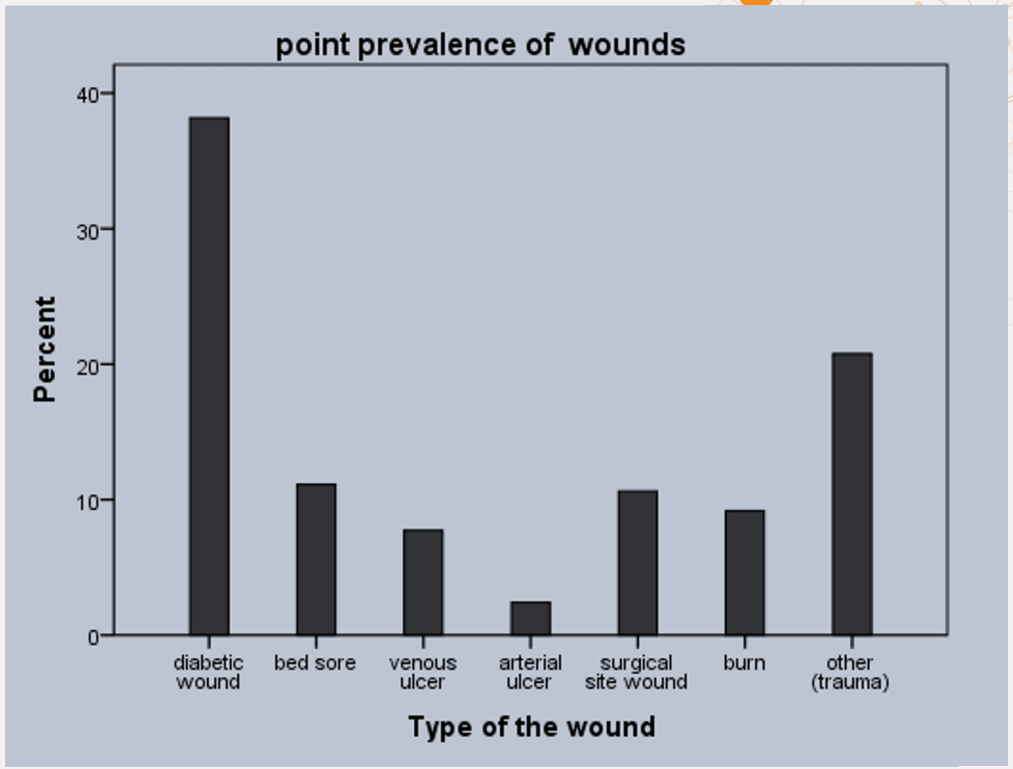
- Burns
- Surgical
- Trauma
- Cuts

Wound Basics

2. Non-healing Wounds

Patients with comorbid health risks are more likely to have >=1 non healing wound

1. Cardiovascular disease
2. Diabetes
3. Elderly
4. Conditions and Medications compromising immune system



The financial impact of chronic wounds

https://treasury.gov.au/sites/default/files/2022-03/258735_wounds_australia.pdf

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4528992/

Patient Life Impact of Wounds

Did you know?

1. Delayed Wound Healing causes significant Impact on patient Quality of Life
   - Pain can prevent people from working, studying or enjoying activities others take for granted
   - Wound discomfort – pain, smell, appearance
   - Can lead to social stigma
2. Australians often delay treatment for wounds because they do not know the warning signs or where to seek help
3. Delay in seeking treatment significantly increases the healing time and cost of treatment.
4. The cost of treatment is often unaffordable - patients select products that are less effective and delay healing which causes further financial impact and stress

Symptoms in the at risk population

PAIN & HEAT

Wounds that are red, swollen, hot & painful

ODOUR

Wounds with a strange or unpleasant smell

EXCESS FLUID

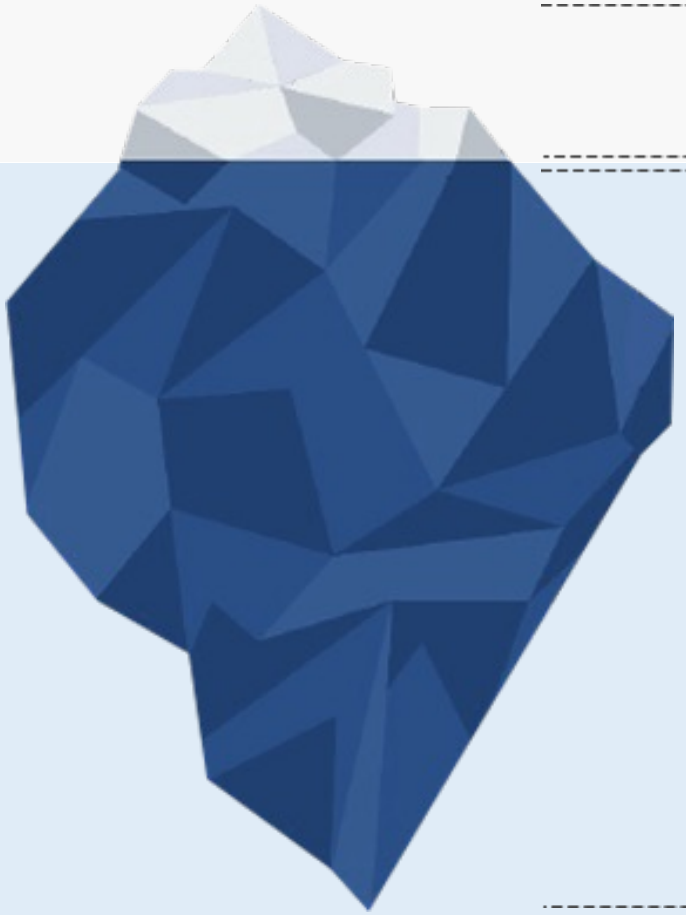
Wounds that have a thick, yellowish fluid

SLOW HEALING

Wounds taking longer than a month to heal

INDICATIONS OF INFECTION & BIOFILM PRESENCE

INFECTION FACTS: BACTERIA are either Free Floating or Biofilm Matrixed



10% of bacteria are planktonic/ free-floating

90% of bacteria exist in biofilms structure which act as a single entity

Biofilms contribute to Antibiotic Resistance

- Biofilms are powerful communities of bacteria that function as a single entity with behaviours and defences that can produce chronic and recurrent infections.
- Biofilm bacteria are protected within a matrix, surrounded by a defensive “slime” layer, that adheres to surfaces including skin, dressings etc and acts as a protective defence
- Biofilms act as a physical barrier obstructing the penetration of antibiotics and contribute to phenotypic resistance
- Antiseptics have no effect on biofilm and act to slow the metabolism of bacteria
- **BLASTX Destory bacteria, Deconstruct biofilm and Defends against re-infection**

Percival SL, Vuotto C, Donelli G, Lipsky BA. Biofilms and wounds: an identification algorithm and potential treatment options. *Adv Wound Care* (New Rochelle). 2015;4(7):389

Biofilms are persistent and harmful

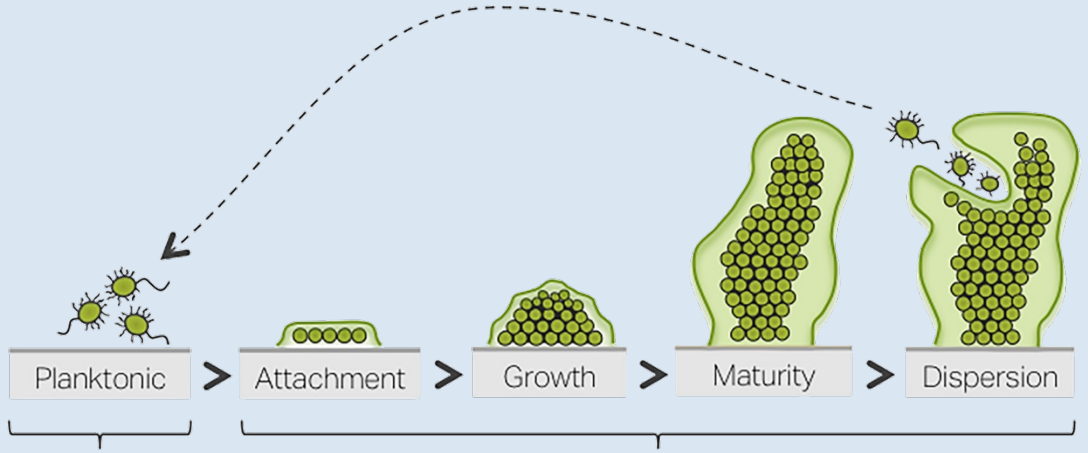
Biofilm is involved in 90% of chronic infections

Mature biofilms spawn new colonies

Biofilm Impacts Patient Quality of Life

HCP **time** and **financial** impact

Microbial Biofilm Lifecycle



Biofilm's role in resistance

By 2050 infection will be the largest cause of worldwide death[1]

10 million people
will die every year due to antimicrobial resistance (AMR)

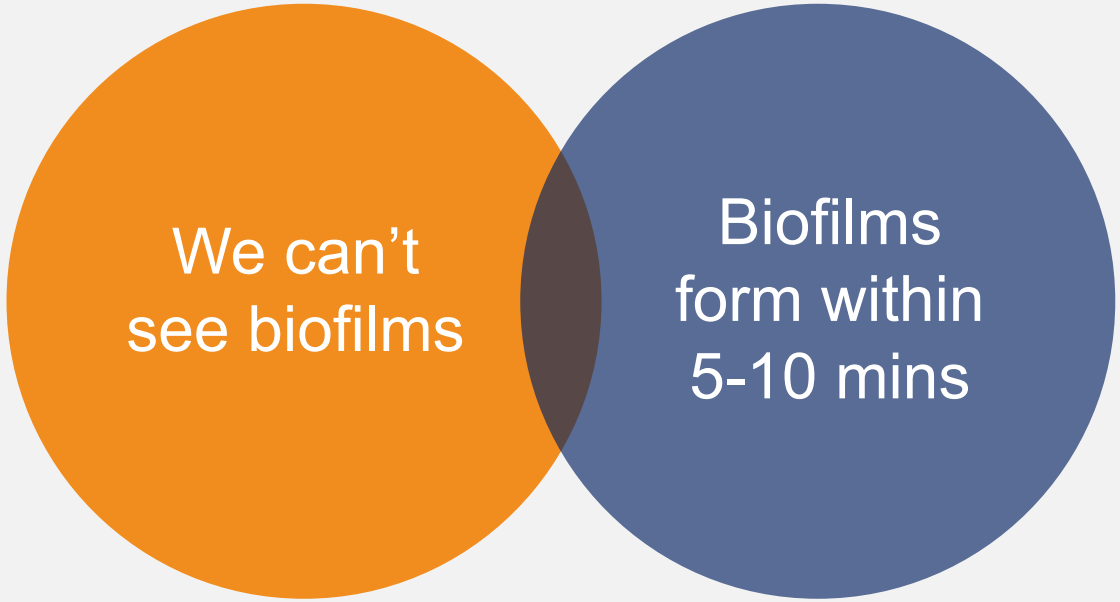
Pathogenic Biofilm Drives AMR

Biofilm influences 65%
of all microbial infections, and
85% of all chronic infections

- **Biofilm contribute to phenotypic resistance**
- **Biofilm is physical barrier to antibacterials**
- **Treating biofilm will push the wound toward healing**

doi.org/10.1016/S0140-6736(21)02724-0 Bull World Health Organ. 2016 Sep 1;94(9):638-639. doi: 10.2471/BLT.16.020916. Erratum in: Bull World Health Organ. 2016 Oct 1;94(10):784. PMID: 27708467; PMCID: PMC5034641. Malone M. et al. The prevalence of biofilms in chronic wounds: a systematic review and meta-analysis of published data. J Wound Care 2017: 26(1): 20-25

Did you know?



Antiseptics and antibacterials cannot penetrate biofilm

Impact of biofilm and non healing wounds

Clinical Impact

- Infection
- Pain
- Malodour
- Delayed wound healing

Patient Impact

- Highly stressful
- Isolating
- Debilitating/Loss of function
- Extended hospital stay
- Increased cost
- Social and family impact

Individuals also live in fear of recurrence and complications

IDF . IDF Diabetes Atlas. 9th ed. International Diabetes Federation; Brussels, Belgium: 2019

Tips for Dressing a Wound

- Wash hands with soap and water before and after the dressing
- Clean the wound bed well
- Apply **BlastX** antimicrobial biofilm wound gel to the wound bed and edge
- Cover the wound with an appropriate dressing will create and maintain a moist environment suitable for fast healing and protects the wound from external contamination
- Leaving a wound uncovered will interfere with healing and increase scar risk and ongoing infection
- If the skin is fragile then use a bandage to hold the dressing in place to minimise damage to the skin
- Change the dressing every 3-5 days or immediately if it gets wet or becomes loose or dirty

BLASTX®

Antimicrobial Biofilm Wound Gel

Deconstructs the biofilm

Destroys bacteria within the gel

Defends against recolonisation

And Moisture for fast wound Healing

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BLASTX®

Antimicrobial Biofilm Wound Gel

- Thick white hydrogel
- Non toxic – no systemic uptake
- Broad spectrum activity for bacteria and fungi including: S. aureus, S. epidermidis, P. aeruginosa, A. baumannii, Klebsiella pneumoniae, MRSA
- Increases wound healing rates
- Bacteria and Biofilms cannot reform in the presence of BlastX
- 2 tube sizes 7.5mL and 30mL

Bacteria and Biofilm removal + moisture protection promotes healing and reduces risk of scar formation

Wolcott, R. (2015). Disrupting the biofilm matrix improves wound healing outcomes. Journal of Wound Care 24(8), 366-71. Kim D, et al. Wounds. 2018;30(5):120-130. Miller KG *et al.* Next Science Wound Gel Technology, a Novel Agent That Inhibits Biofilm Development by Gram-Positive and Gram-Negative Wound Pathogens. Antimicrobial Agents and Chemotherapy 2014. 58(6): 3060 -3072

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The BLASTX patient

BLAST**X** is a non-toxic antimicrobial biofilm wound gel for the **management of wounds** such as:

- Surgical site infections
- First and second-degree burns
- Grafted and donor sites
- Partial and full thickness wounds
- Pressure injuries
- Diabetic foot and leg wounds

How does BLASTX work on bacteria and biofilm?

NEW XBIO™ TECHNOLOGY

Australian Patented technology is underpinned by targeted action of 4 key ingredients

DECONSTRUCTS
the biofilm

Sodium Citrate and Citric Acid

Removes metal ions of the EPS, exposing pathogens within the biofilm

DESTROYS
pathogens within the XBIO™ technology

Benzalkonium Chloride

High osmolarity environment + antimicrobial surfactant induces lysis of bacteria within the gel

DEFENDS
against recolonisation

Citric Acid

Biofilm matrix cannot reform in the presence of low pH BLASTX

Miller KG *et al.* Next Science Wound Gel Technology, a Novel Agent That Inhibits Biofilm Development by Gram-Positive and Gram-Negative Wound Pathogens. Antimicrobial Agents and Chemotherapy 2014. 58(6): 3060

BLASTX: How to apply

Best practice wound bed preparation before application

STEP 1

Apply BLASTX directly to the wound

Apply BLASTX 3mm thick and cover the entire wound bed to the wound edge

STEP 2

Cover with appropriate dressing

Do not use alginate dressings

Reapply with each dressing change

1mL covers 5cm

"You can't heal [a wound] until the biofilm is out, the inflammation is curbed and the wound is reset. destroy pathogens, extinguish chronic inflammation, reset the wound healing trajectory all with the BlastX Xbio technology".

Dr Matthew Regulski, DPM

BLASTX®

Antimicrobial Wound Gel

Quiz and Feedback

Patients with known comorbidities are at risk of non healing wounds. What symptoms are indicative that a patient may be experiencing a wound that is not healing?

A. Pain on walking
B. Malodour
C. Excessive moisture
D. Unhealed for more than 28 days
E. All of the above

What type of acute wounds is BlastX helpful to heal? Tick all that apply?

A. Surgical Site infections
B. Burns
C. Ulcers
D. Partial Thickness skin trauma

Quiz and Feedback

What type of wounds of those listed below are the most prevalent?

1. Surgical Infections
2. Diabetes Foot Ulcers
3. Venous or arterial ulcers

Bacteria mostly exist in communities of pathogens called biofilms?

A. True
B. False

Biofilms exert a negative impact on host immunity and inflammation in the wound bed?

A. True
B. False

Which of the following statements is true?

1. Biofilms cause phenotypic resistance and act as a physical defence to antimicrobials
2. Biofilms cannot reform in five minutes
3. Biofilms only attach to the skin of immunocompromised people