

Wound Expo 2019

**Skin Integrity and
Wound Infection Zone**

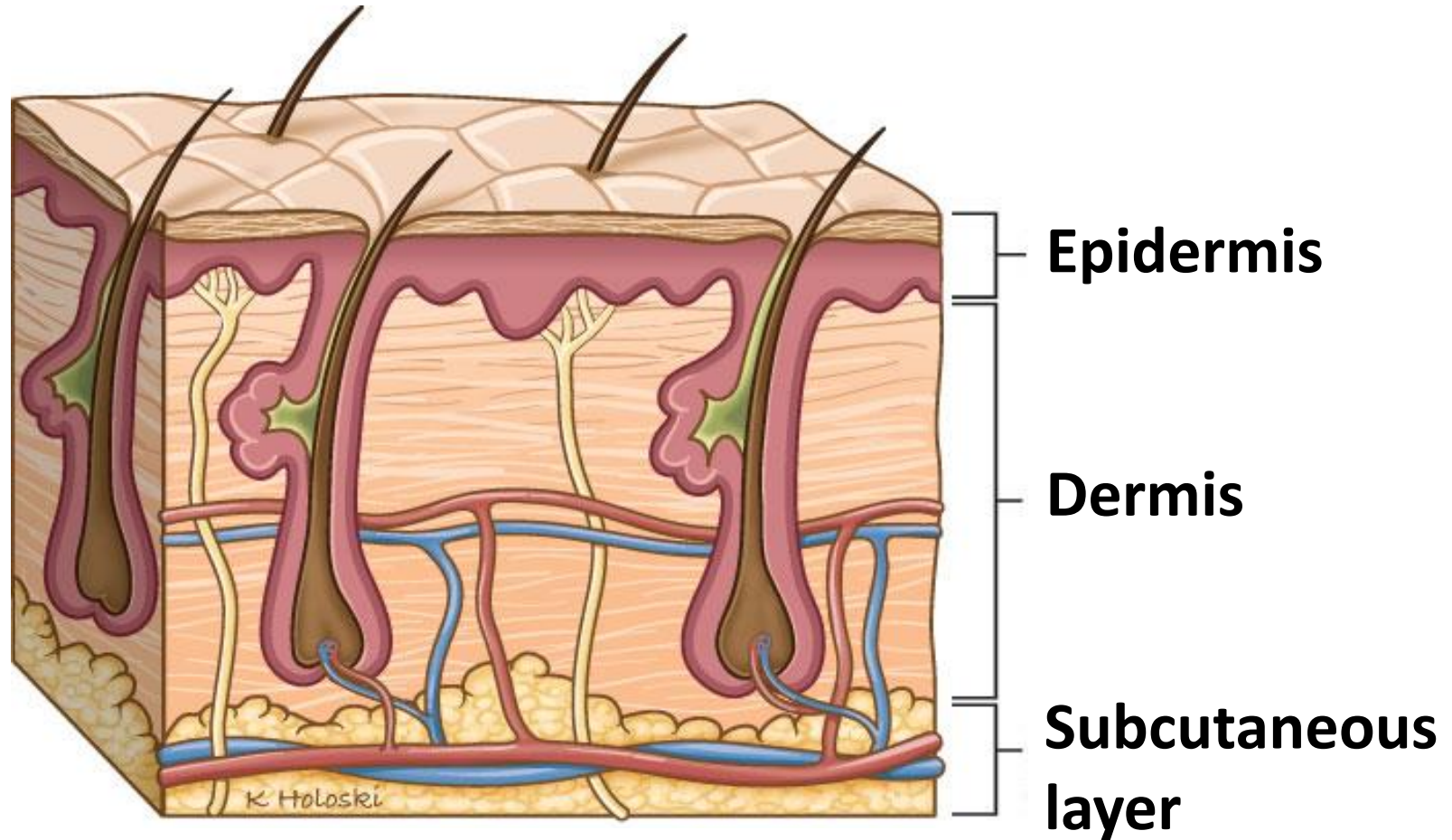
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Objectives

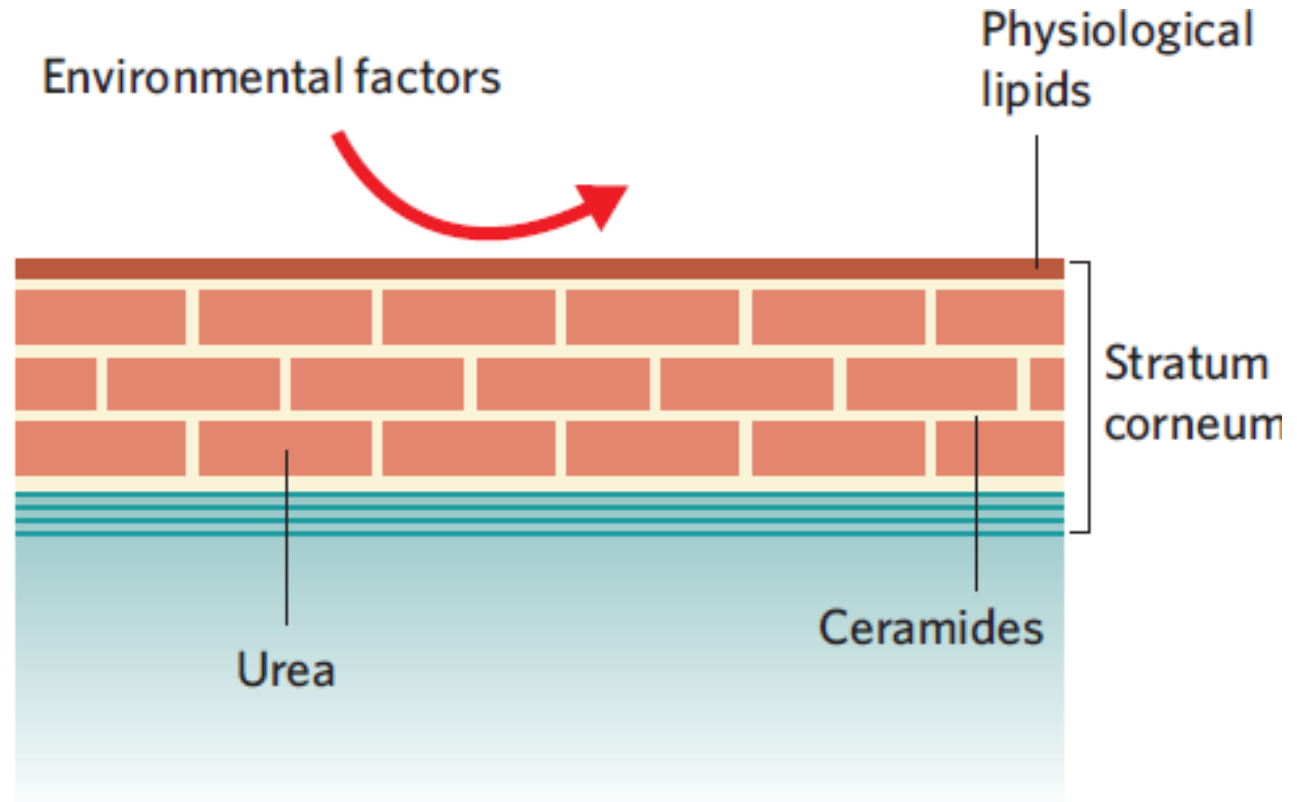
- Explore the nature of the skin barrier function
- Examine the role of emollients and skin care practices in preserving skin integrity
- Consider how entry of bacteria from the skin into broken tissue can increase local bioburden and contribute to biofilm formation
- Discuss the role of wound cleansing in the removal of debris and devitalised tissue and managing biofilm

Structure of the skin

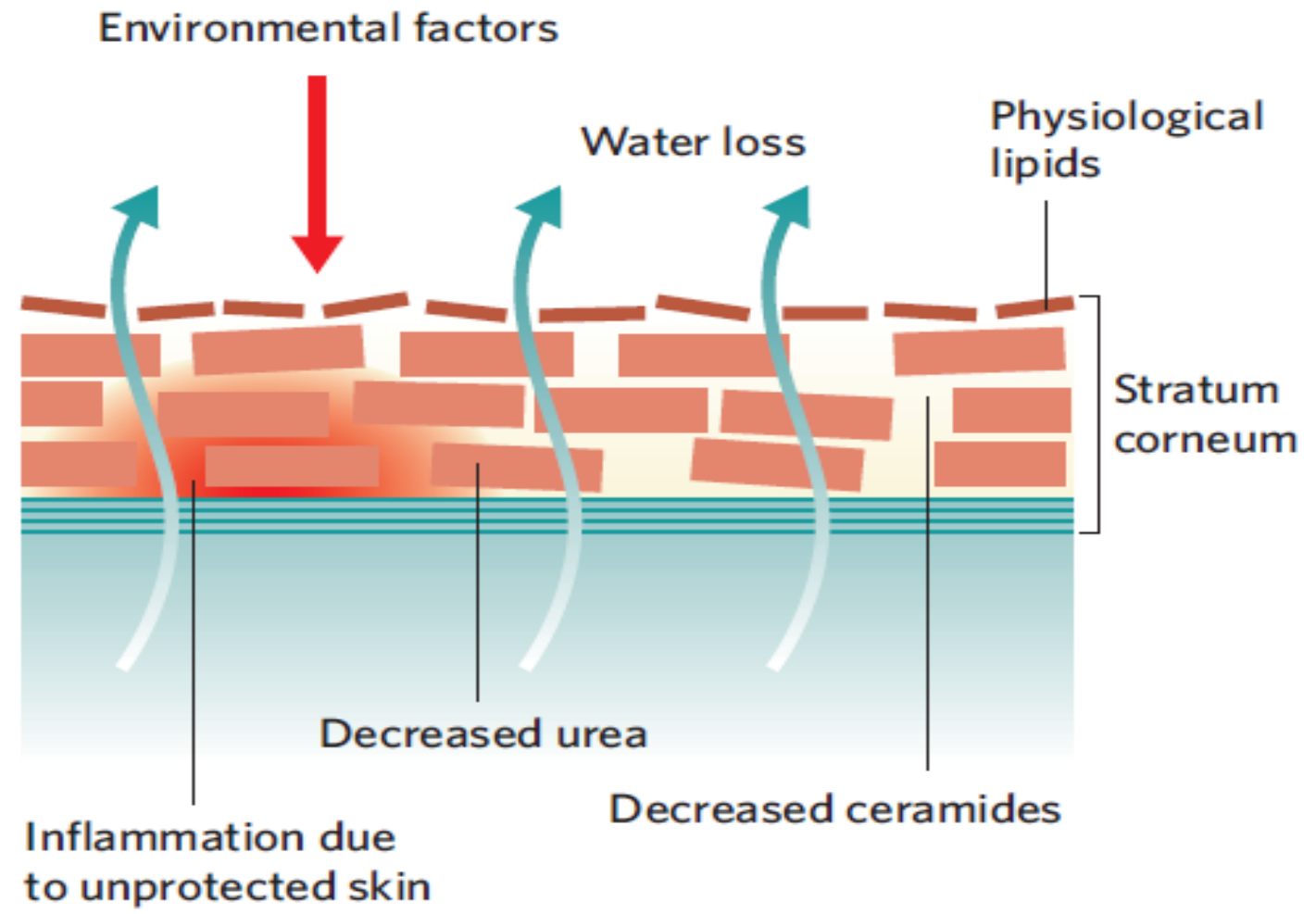


Barrier Function

Physical barrier and chemical barrier



Damaged barrier





Causes of Impaired Barrier Function

- Age
- Genetic disease –dry skin
- Inflammation or infection
- Irritants – debris, moisture, skin cleansing practices – too much/too little
- Mechanical –scratching, pressure, shear, friction, adhesives

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Competition time!



BARRIER

BASKETBALL



Role of emollients

Emollients help to restore the barrier function of the skin, reduce itching and increase the level of hydration.

Oily layer helps repel irritants, bacteria and also keep water in – reduces TEWL.



TRY IT NOW!

Many formulations – Continuum

Less greasy/
high water



Greasy/waxy/
High lipid

- Best Emollient is the one that's used
- Humectants - Urea, glycerol and ceramides
- Antiseptics - Octenidine or chlorhexidine
- Panthanol – to aid skin regeneration



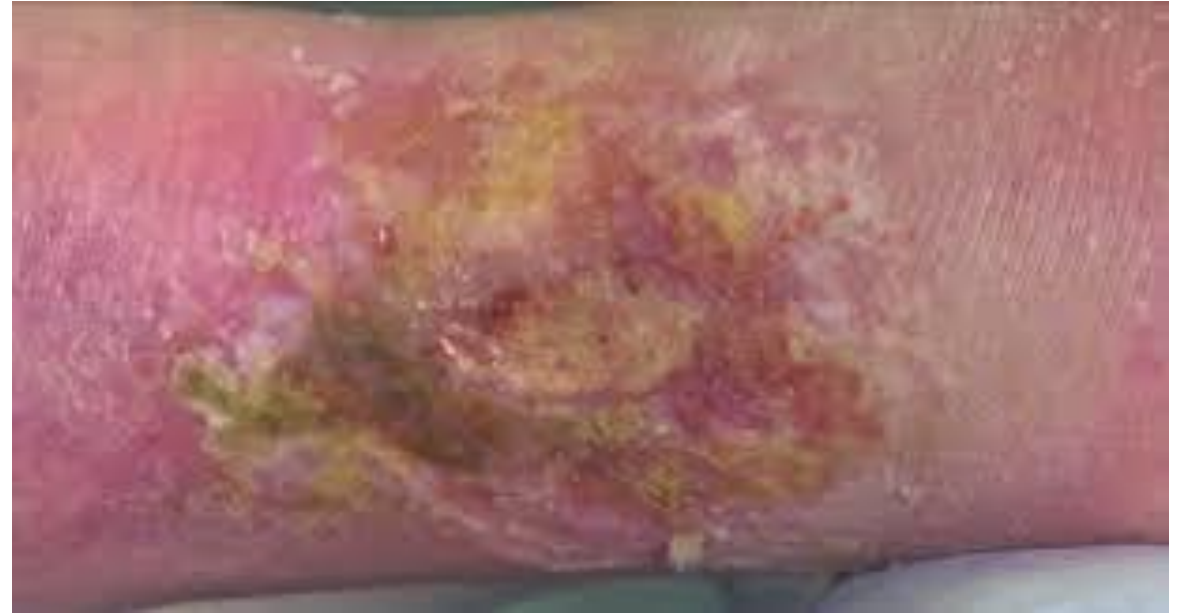
Peri-wound skin

The skin surrounding a wound - the peri-wound skin (4cm) is of particular importance for 2 reasons:

1. It is a source of bacteria which can migrate into the wound bed
2. It is particularly vulnerable to moisture damage from the exudate

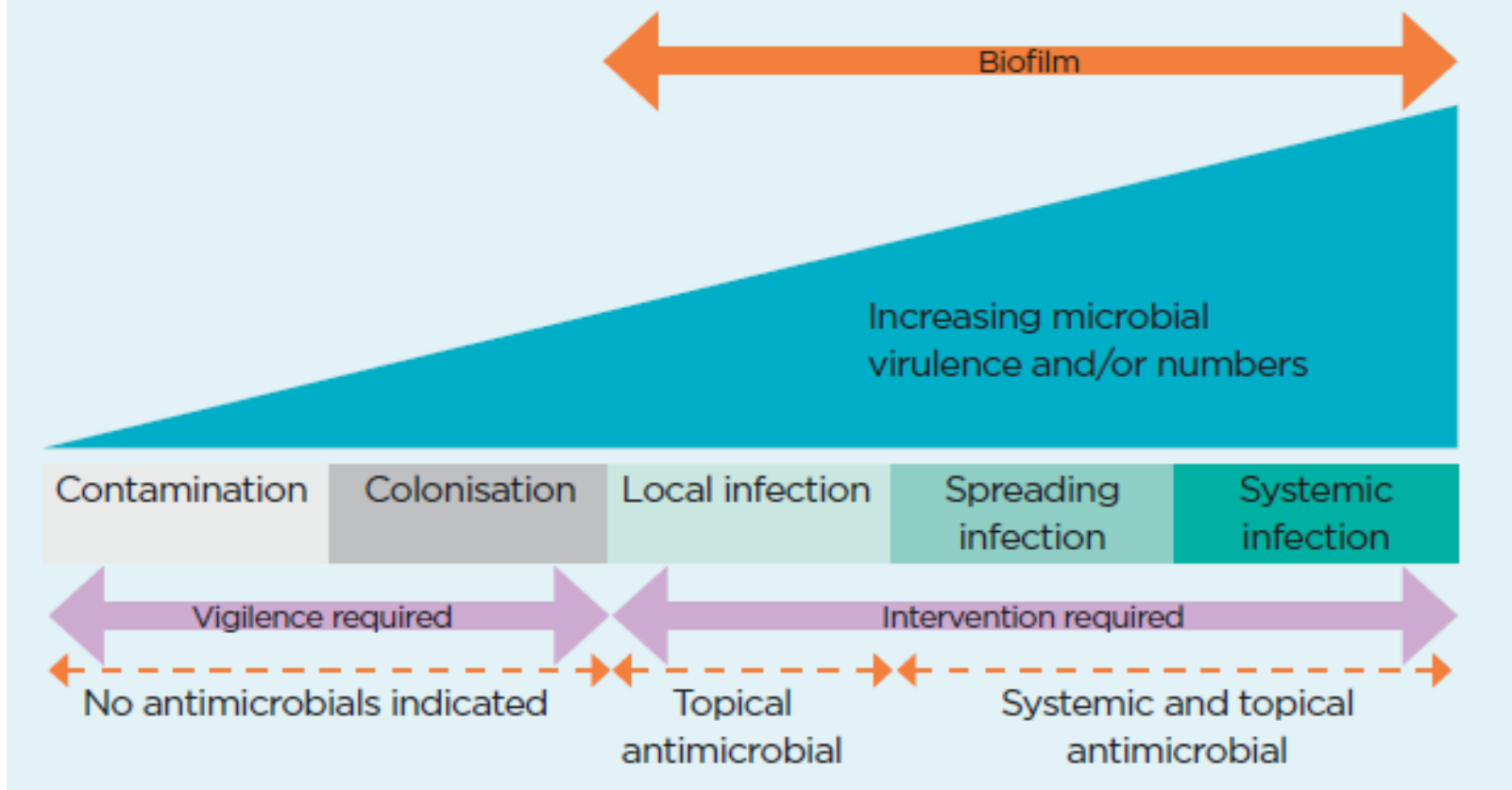
Need to maintain good barrier and keep bio-burden down

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Wound infection

Fig 2. The wound infection continuum



Biofilm

A dynamic community of Micro-organisms (bacteria and fungi) living within a protective self-secreted matrix of sugars and proteins

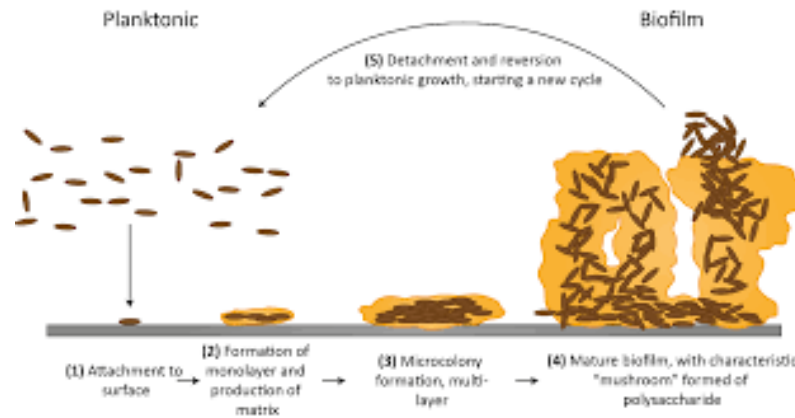


Figure 2: A dehiscence surgical incision in a relatively ischemic patient.

The presence of Biofilm is recognized as a leading cause of delayed wound healing



What % of chronic wounds hare thought to have a biofilm present?

A. 10%

B. 30%

C. 60%

D. 90%



Wound Cleansing

Wound cleansing is an integral part of Wound Bed Preparation.

It optimises the wound environment by:

“remove surface contaminants, loose debris, slough, softened necrosis, microbes and/or remnants of the previous dressing, from the wound surface and surrounding skin”

Irrigation is preferable.



When should you clean a wound?

- A. At every dressing change
- B. If a biofilm is suspected
- C. Only if there is slough
- D. If there is exudate on the peri-wound skin



What should you use to clean a wound?

- A. Sterile water or saline
- B. Tap water
- C. Antiseptic solution
- D. Hydrogen peroxide



Antiseptic wound cleansing solutions

- Octenidine Dihydrochloride – Octenilin
- PHMB – Prontosan
- Hypochlorous acid



Further reading:

Wolcott & Fletcher (2014) The role of wound cleansing in the management of wounds. **Wounds**

International 2014 | Vol 1 Issue 1



What would you clean this with?

- A. Tap water
- B. Sterile saline
- C. Antimicrobial solution





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Any questions?

