Topical antimicrobials (antiseptics) Iodine, Silver, Honey

Iodine

Silver

Honey

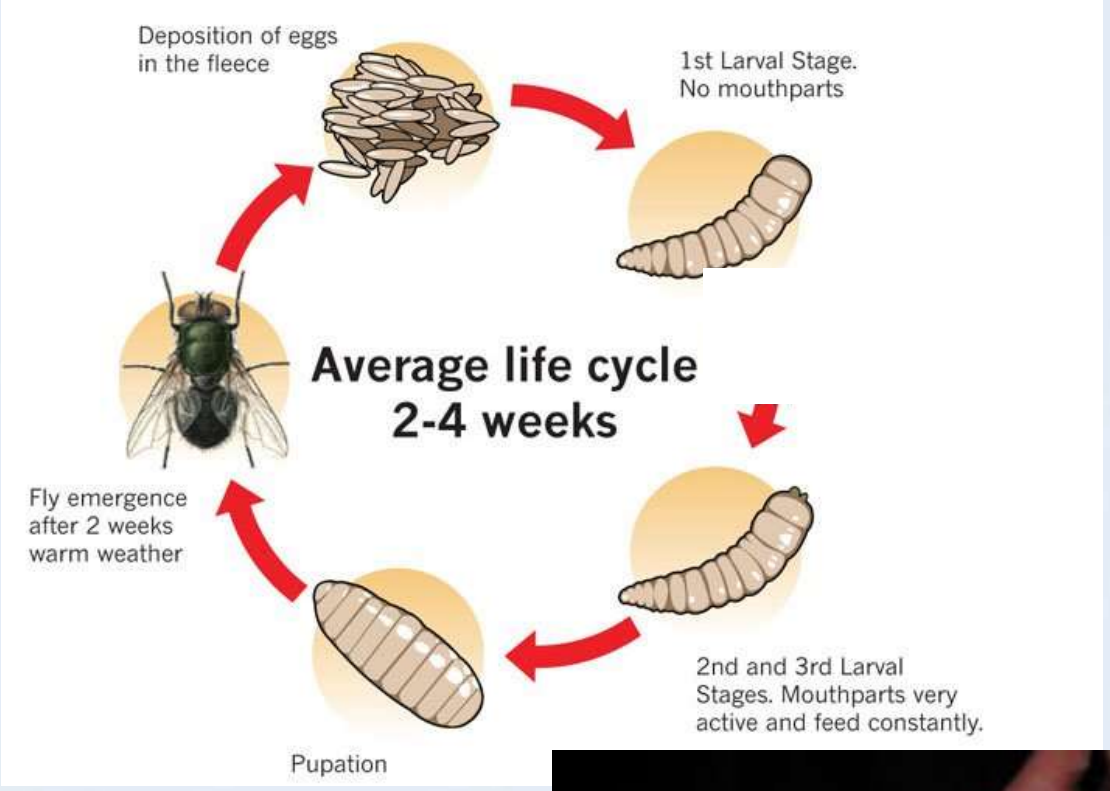
Enzymatic debridement

- Proteolytic enzyme, also called Proteinase
- Proteinase breaks the long chainlike molecules of proteins into shorter fragments (peptides) and eventually into their components, amino acids
- Patients with chronic wounds have been treated since hundreds of years topically with proteolytic enzymes (fruit juices i.e. kiwi, papaya fruit extracts)

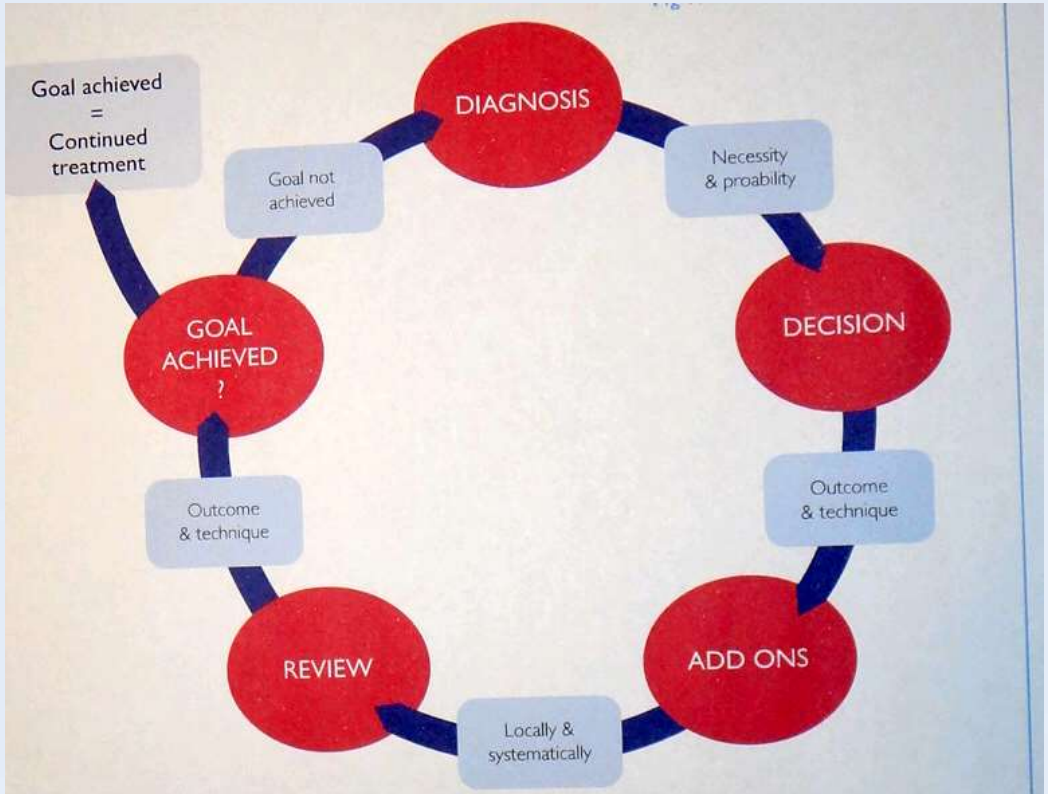
- Not registered for use on wounds in NZ!

Biosurgical debridement

- Biosurgical debridement is the use of sterile maggots or larvae
- The sterile larvae of the green bottle fly Lucila sericata
- Maggot secretions contain antibacterial substances that reduce bacterial load
- Proteolytic enzymes cause eschar degradation
- Promote wound healing


Deposition of eggs
in the fleece
1st Larval Stage.
No mouthparts
Average life cycle
2-4 weeks
Fly emergence
after 2 weeks
warm weather
2nd and 3rd Larval
Stages. Mouthparts very
active and feed constantly.
Pupation

Debridement Quality cycle



Terminology

Diagnosis:
Diagnosis of bioburden, tissue type and factors influencing debridement.

Decision:
Decision on the outcome that should be achieved, the time by which it can be achieved and, depending on this, the techniques that should be used.

Add on:
Additional measures needed to secure a successful debridement process, such as optimising tissue for debridement, locally and additional systemic measures to secure successful debridement, e.g. relieve pressure, treat infection, induce blood flow and optimise comorbidities.

Review:
Review whether the outcome has been successfully achieved and whether the chosen debridement technique had proven to be valid in the specific treatment case.

Goal:
If optimal debridement result has been achieved, continue the management of the individual with the wound. If optimal debridement has not been achieved, re-diagnose and repeat the debridement process cycle.

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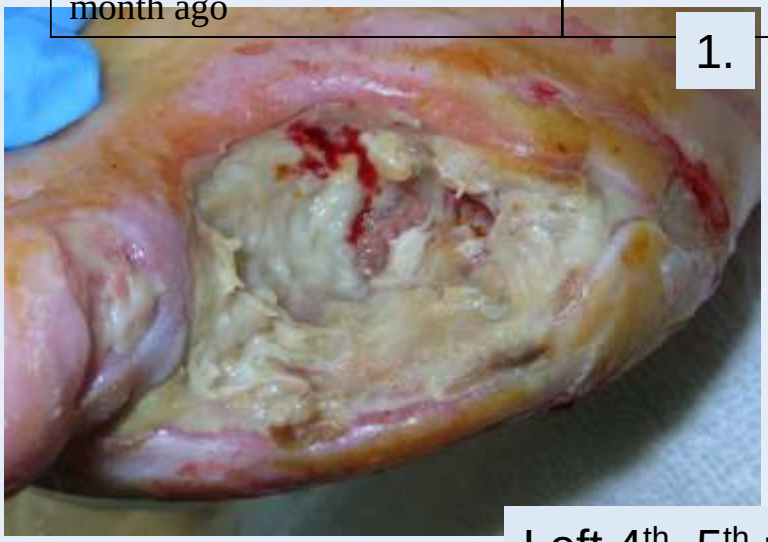
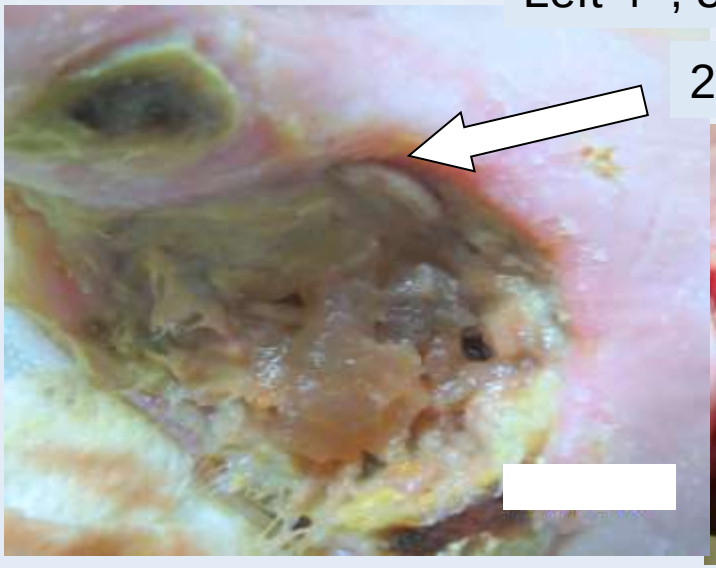
Patient	Treatment	Outcome
83 year old female, Alzheimer's, Diabetes, poor control, non healing amputation of 4ht and 5th toe 4 month ago	4 debridement's with LFUD, NPWT	Healing well, treated with intrasite conformable, rocker boot



Left 4th, 5th metatarsal



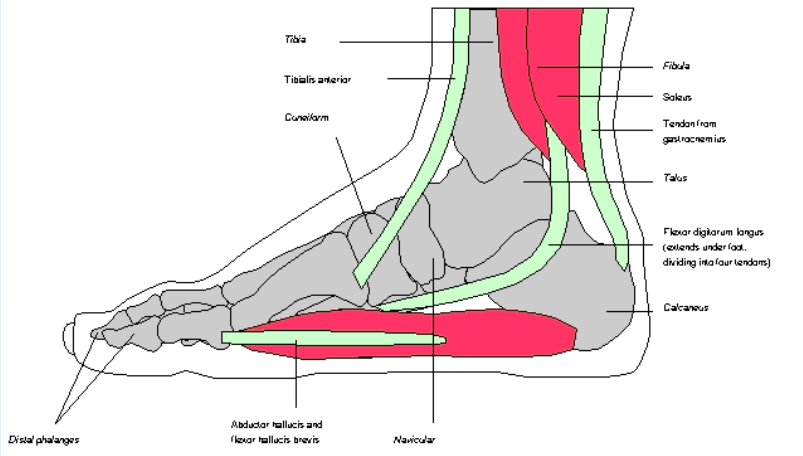
?

Sharp and Surgical Debridement

The rapid removal of necrotic tissue with blade or scissors

- Sharp debridement is conservative frequently leaving a thin margin of necrotic tissue
- Surgical debridement is more extensive, converting a chronic to an acute wound

Sharp debridement



- Know and understand the anatomy
- Be able to recognize structures and distinguish viable tissue
- Have adequate equipment, access, lighting and assistance
- Obtain informed consent
- Manage pain and discomfort
- Be able to deal with complications
- Recognize your and the techniques limitations

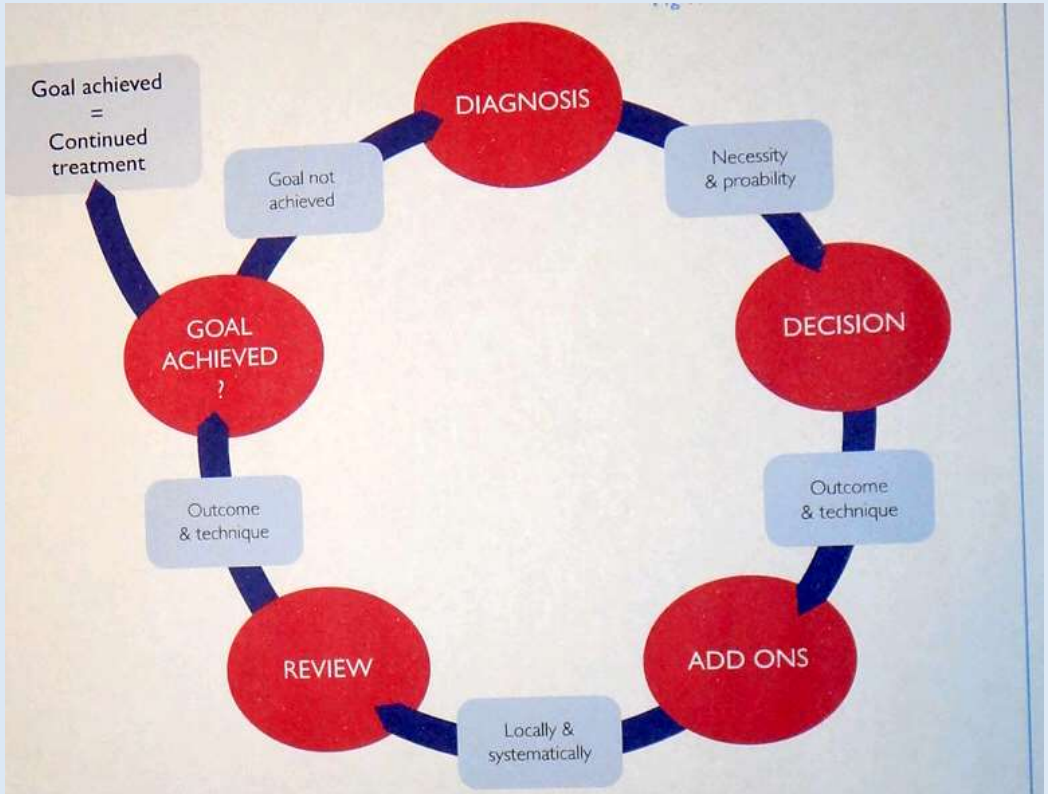
Sharp Curette Debridement

Disposable Curette

LOW FREQUENCY ULTRASOUND DEBRIDEMENT

- Low-frequency ultrasound can provide a debridement alternative for surgical debridement
- Ultrasonic waves are also claimed to lead to destruction of bacteria and disruption of biofilms

Debridement Quality cycle



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Define your method of debridement

Define your dressing plan – antimrobial

Ask 'what do I want the dressing to do…?'

Rehydrate?

Absorb exudate?

Deslough?

Reduce bacterial contamination?

Promote granulation?

Promote a moist / dry wound bed

Adjunct treatment – compression bandaging

Review and adjust

Patient	Treatment	Outcome
VLU, SSG failed twice, painful, not able to sleep or tolerate compression	LFUD, silver dressings, PICO, compression bandaging, stockings	47.8 cm2 now down to 8.9 cm2

Summary

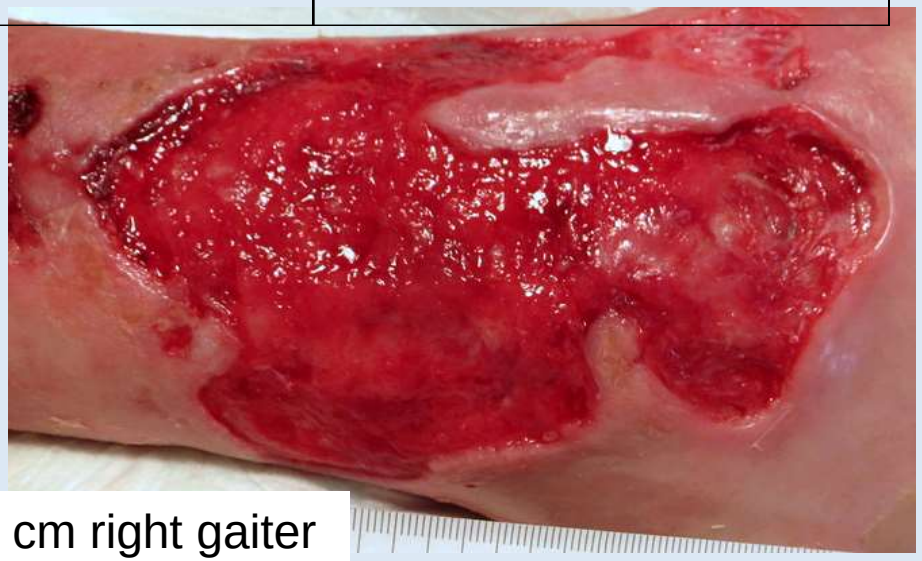
- Debridement has a pivotal role in the progression of a wound to granulation, contraction and epithelisation
- Debridement must be understood as an ongoing process in conjunction with other treatment approaches
- Aim is to create a beneficial situation supporting various clinical goals related to wound management
- Form of debridement depends on type of tissue, the tools available and the clinical environment
- The clients quality and stage of life must be part of the care planning

From your
Wound Care Nurse
Have a lovely day !

Patient	Treatment	Outcome
75 year old female, history of 45 years on and off venous leg ulcers, 4/12 old VLU medial right malleolus,	Admitted acutely for pain and infection, debrided twice with LFUD under LA , NPWT, compression bandaging	SSG, complete healing

Left medial 4.5 cm by 3.6 cm

Patient	Treatment	Outcome
75 year old female, 6/12 old, large medial maleolus right leg ulcer, ABPI 0.55, diabetes,	Debrided on the ward using EMLA 5 %	SSG, 100 % take and survival



13. 7 by 12. 8 cm right gaiter

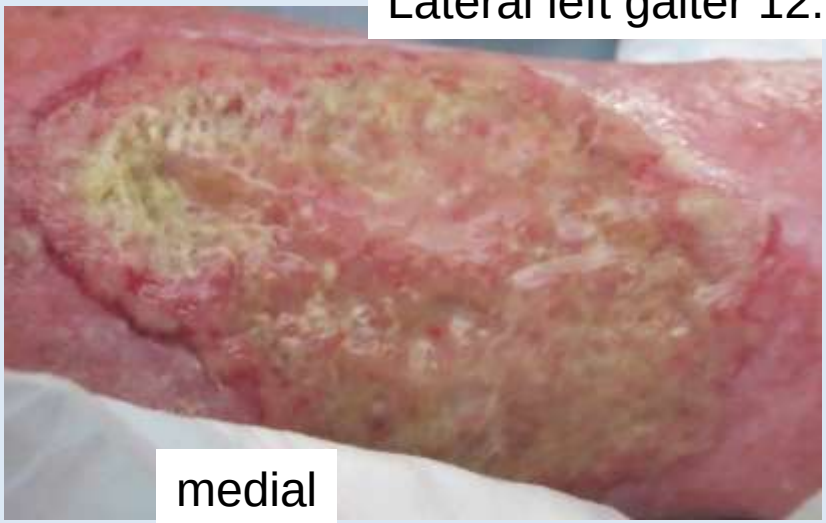
Day 6

Day 10

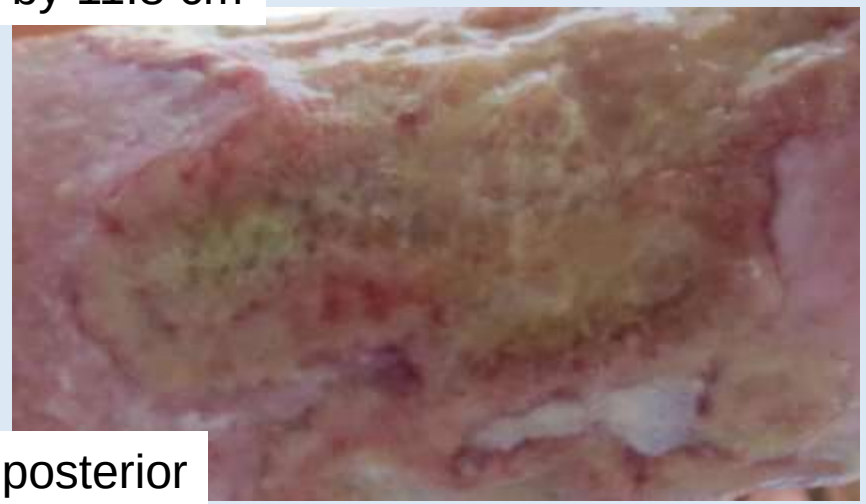
Patient 13	Treatment	Outcome
82 year female, history of increasing very painful left leg ulcer gaiter area, now circumferential, pain 10/10, not tolerating compression, Tendon exposure	NPWT, SSG after several treatments with EMLA + LA Xylocaine prior to LFUD over a 3 week period	95 % healed skin graft, able to wear compression stockings class 1, lives independently again

Thick, tenacious, unhealthy Granulation tissue

Lateral left gaiter 12.2 cm by 11.8 cm

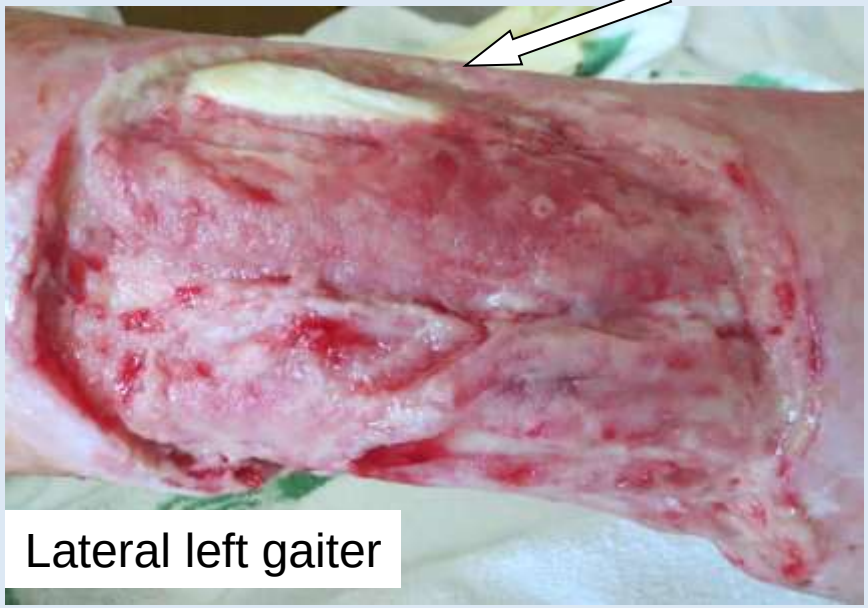


medial



posterior

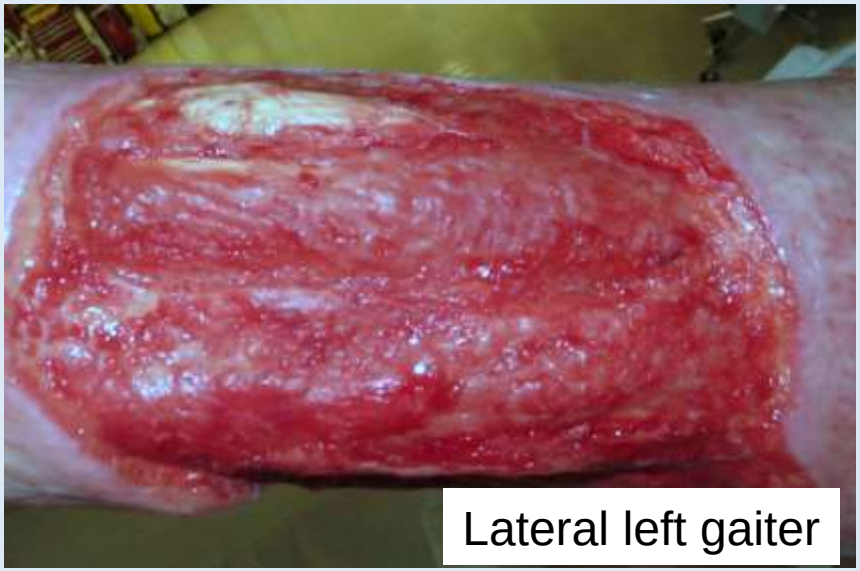
3rd treatment with LFUD - EMLA 5 % crème

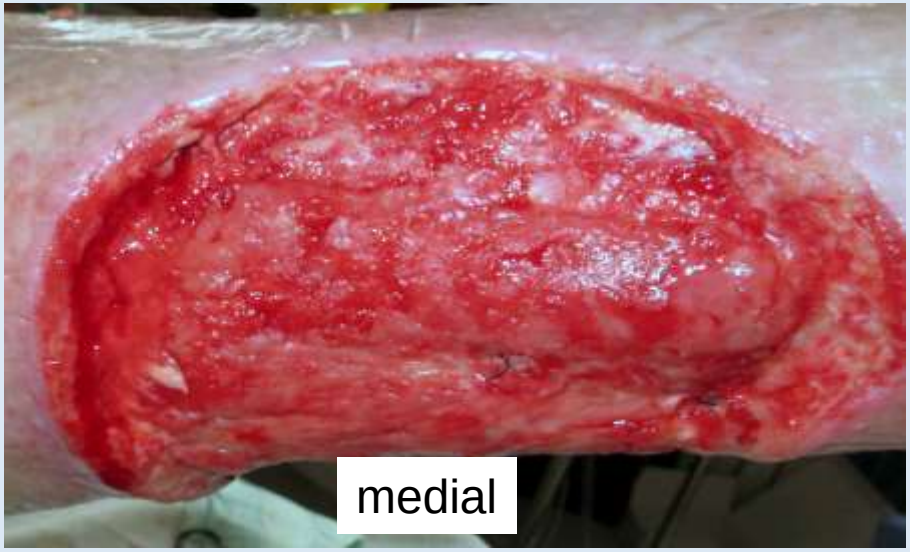


Lateral left gaiter

medial

4th treatment with LFUD - EMLA 5 % crème + NPWT





SSG in MOT 3 wks after start of treatment, Acticoat flex + NPWT

10 days after SSG

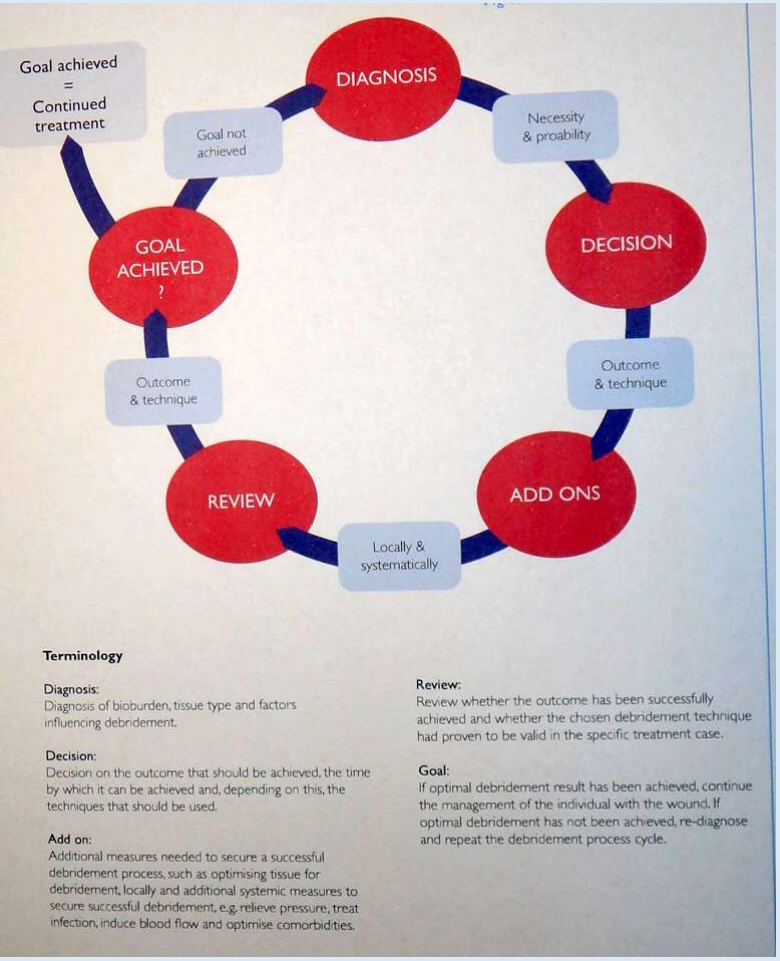
Posterior

Lateral left gaiter

Debridement and TIME

- T – issue
- I – Infection and/or inflammation
- M – oisture imbalance
- E – dge

LFUD debridement of VLU

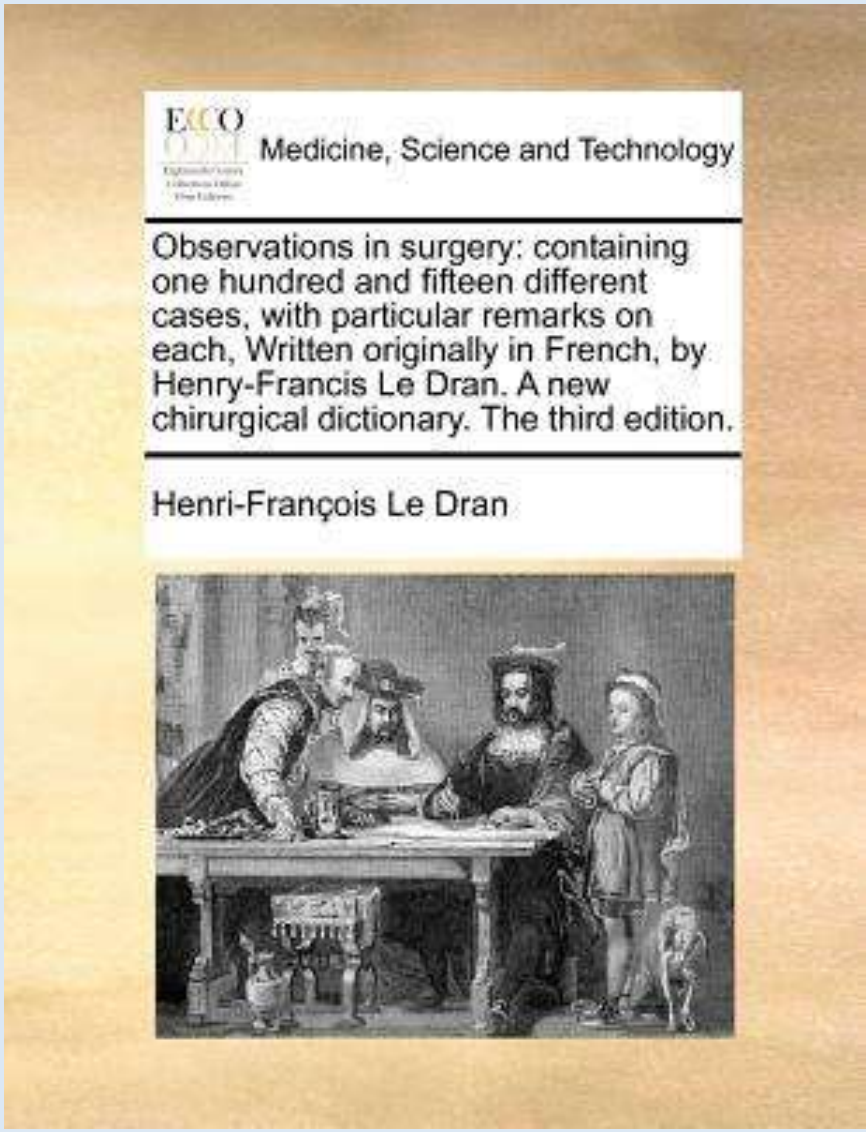


Dry fibrin - the wound edges show that fibrin represents a barrier to healing

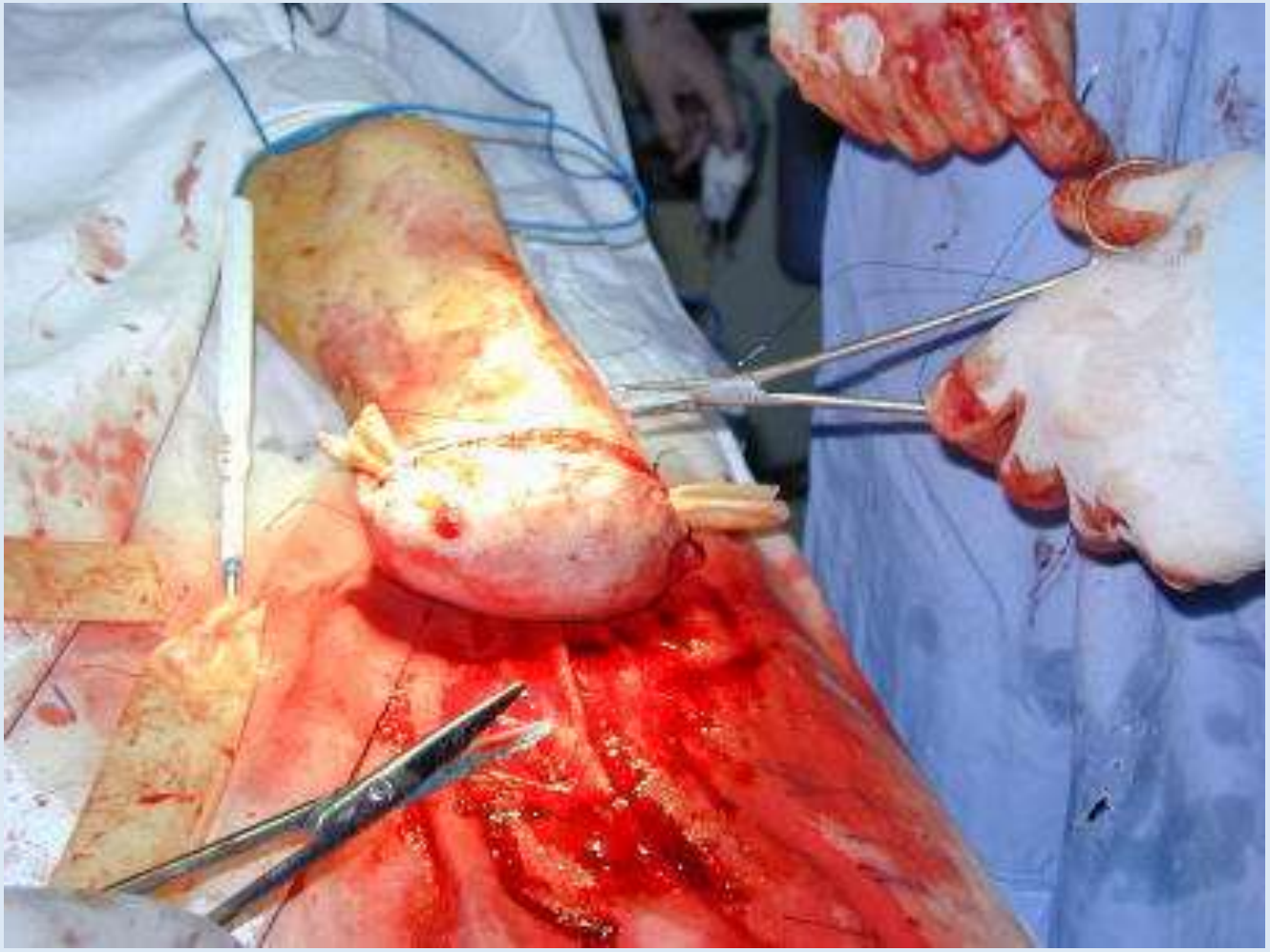
What would you do?

Dictionary

- The word debridement derives from the French *débridement, which means to remove a constraint*
- In clinical medicine this term was first used by Henri Le Dran, a French surgeon (1685–1770), in the context of an incision to promote drainage and relieve of tension
- He stated that cancer progressed in stages, and that it began as a local organic disease. He advocated surgery for cancer before the tumor was allowed to metastasize
- Also described “shock” as a treatise on gunshot wounds as a sudden impact or jolt



Amputation isn’t debridement



Wound revision isn’t debridement

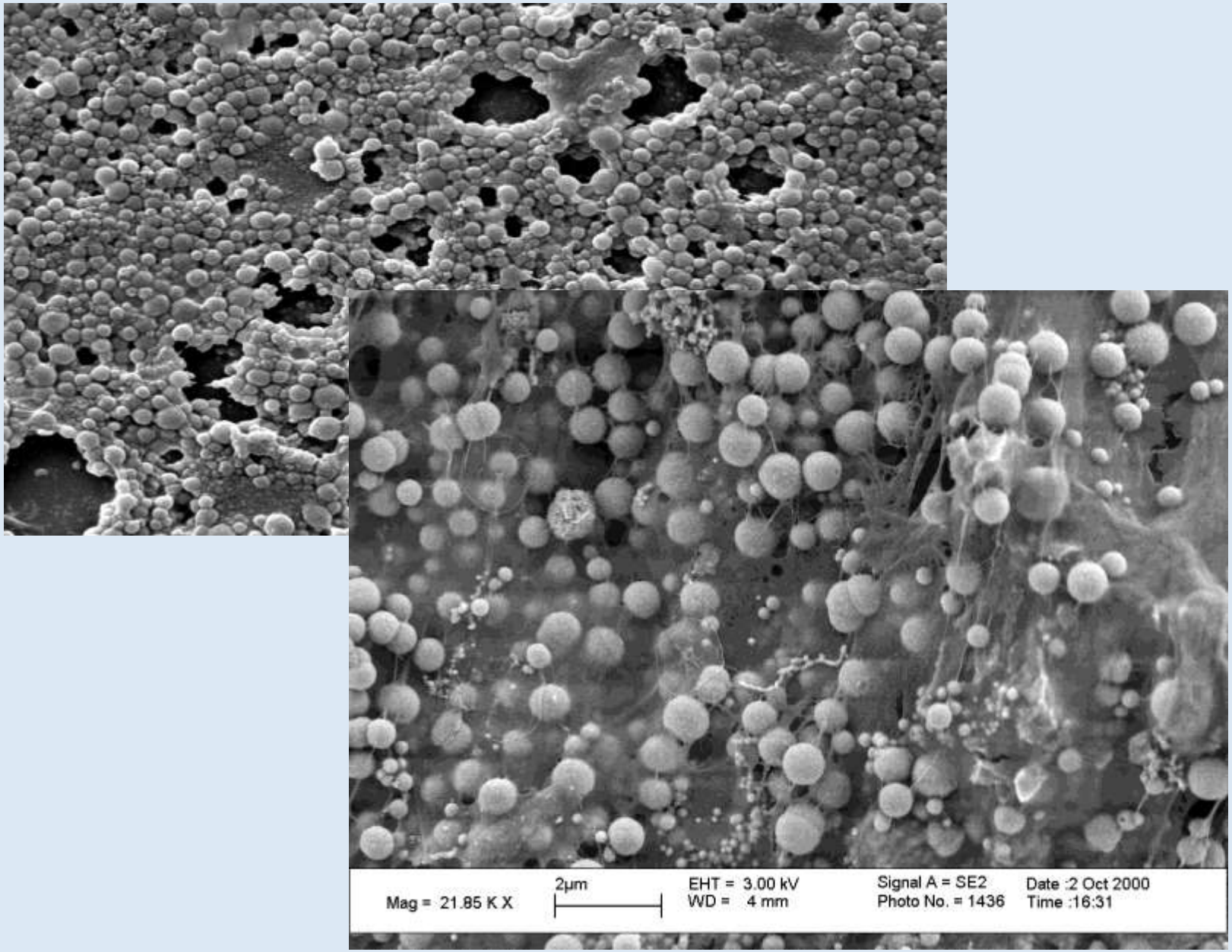
Slough or necrosis delays wound healing

- Prolongs the inflammatory stage of healing
- Focus for infection
- Impedes re-epithelialisation
- Discomfort for the patient
- Reduced quality of life

Branding is not debridement

Resection of functional tissue isn't debridement

Reconstruction for Soft Tissue Sarcomas of the Foot and Ankle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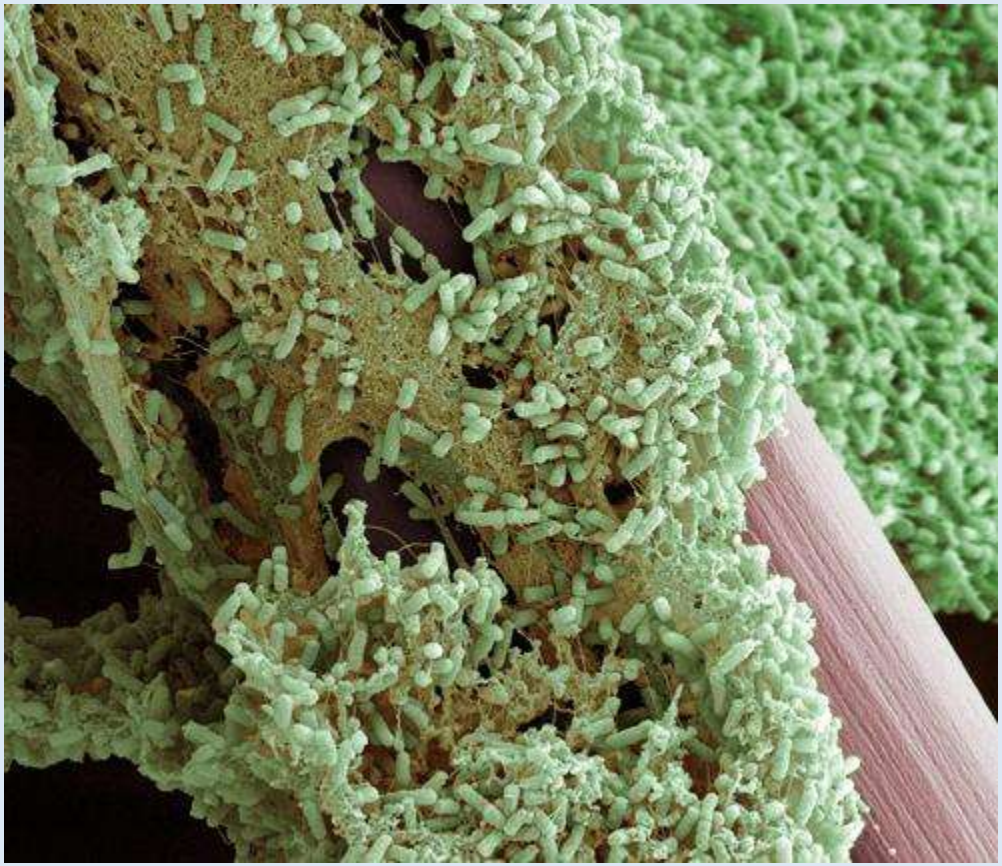
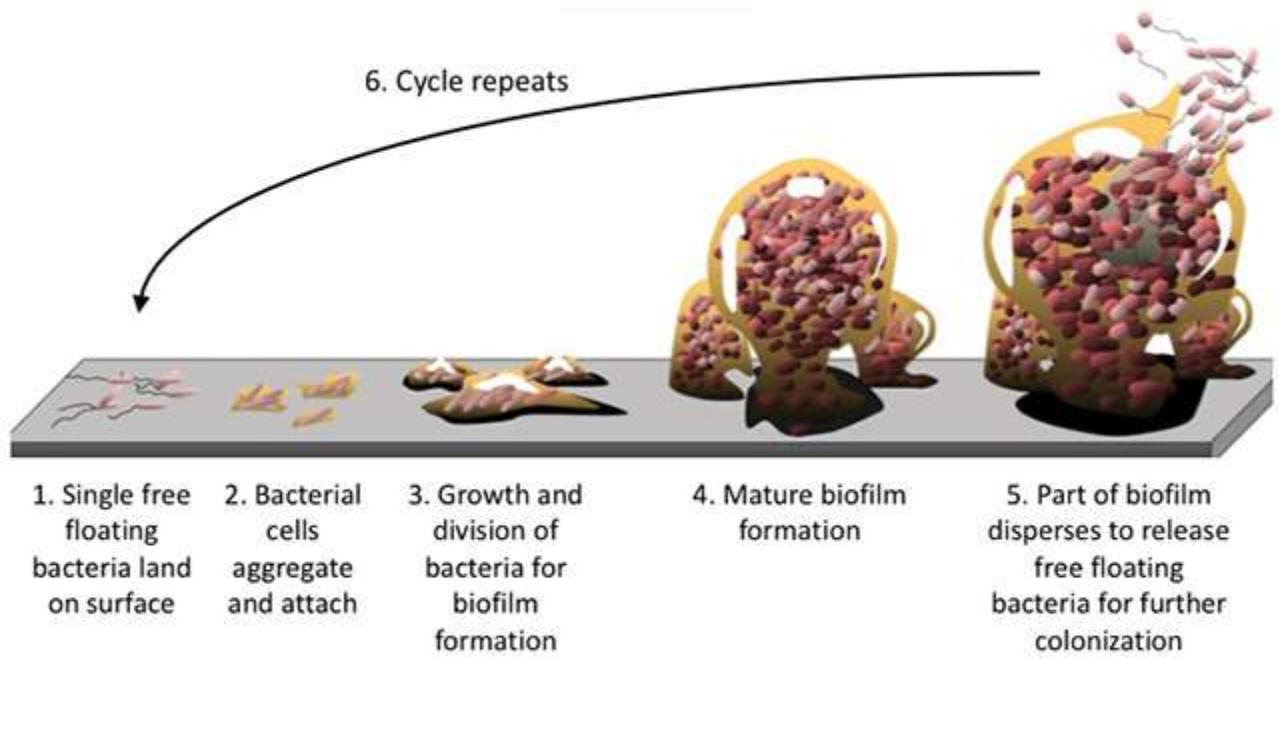


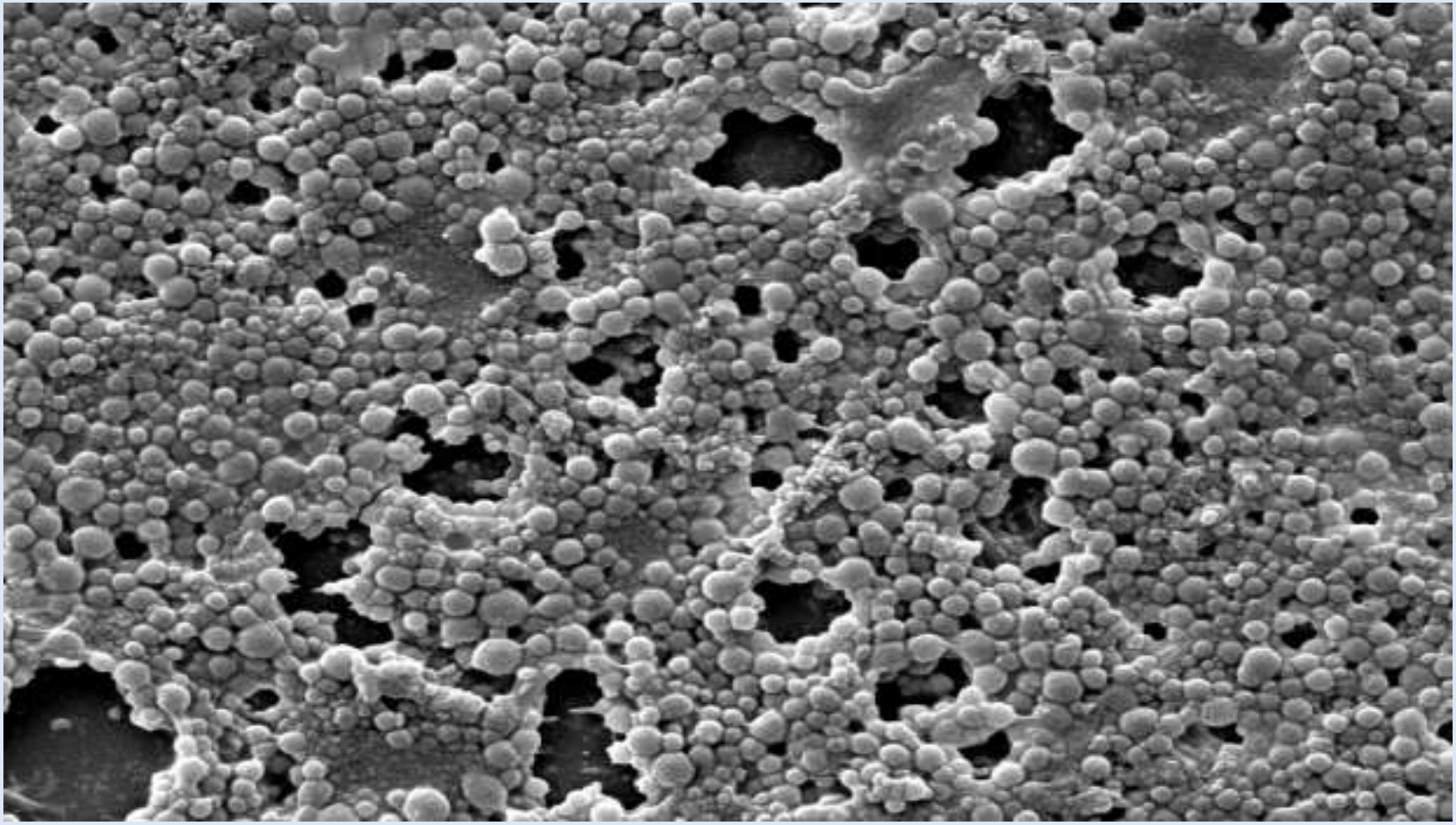

6. Cycle repeats
1. Single free floating bacteria land on surface
2. Bacterial cells aggregate and attach
3. Growth and division of bacteria for biofilm formation
4. Mature biofilm formation
5. Part of biofilm disperses to release free floating bacteria for further colonization

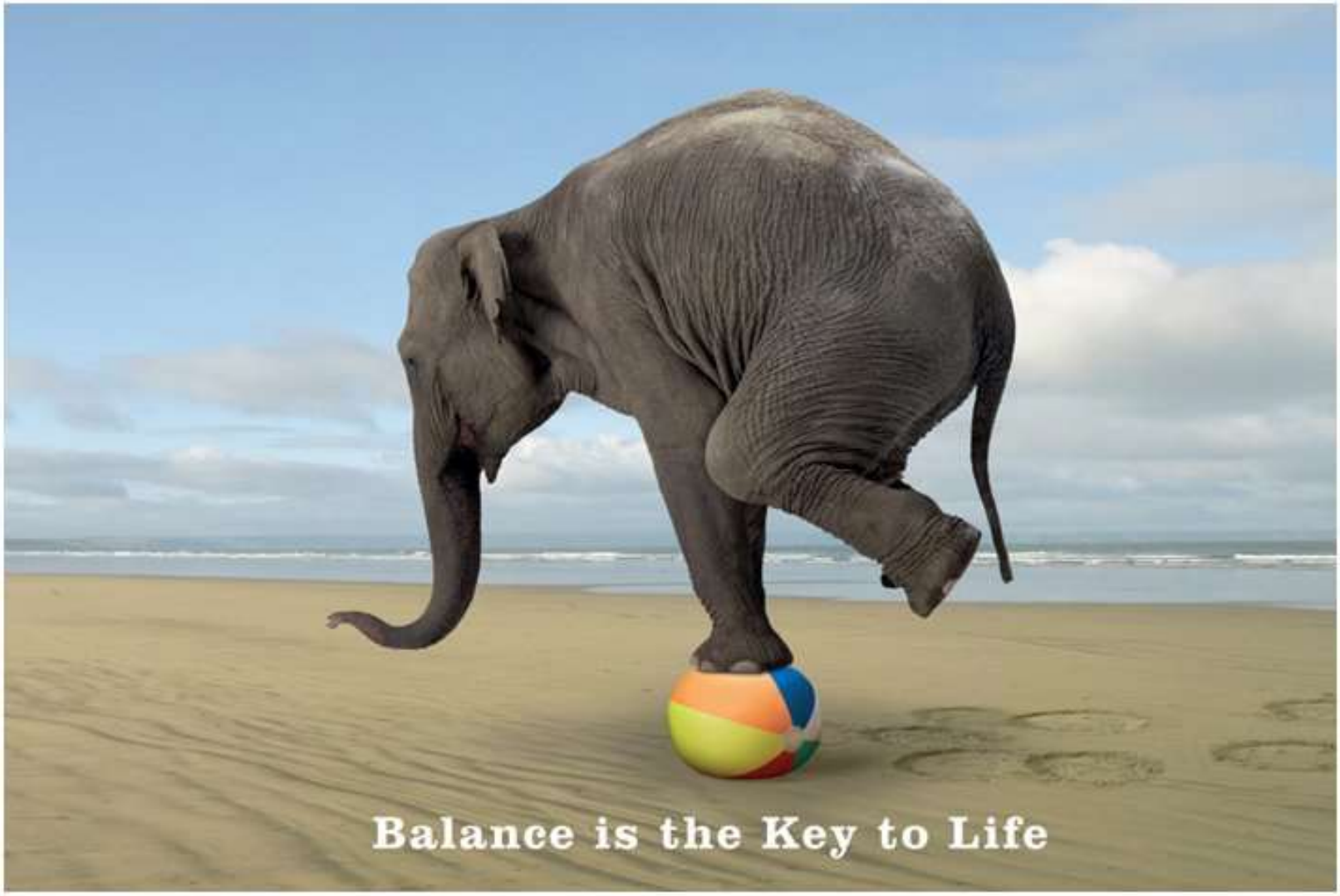
Biofilms interfere in Antibiotic Therapy

- Bacteria growing in a biofilm are highly resistant to antibiotics, up to 1,000 times more resistant than the same bacteria not growing in a biofilm. Standard ***antibiotic therapy*** is often useless

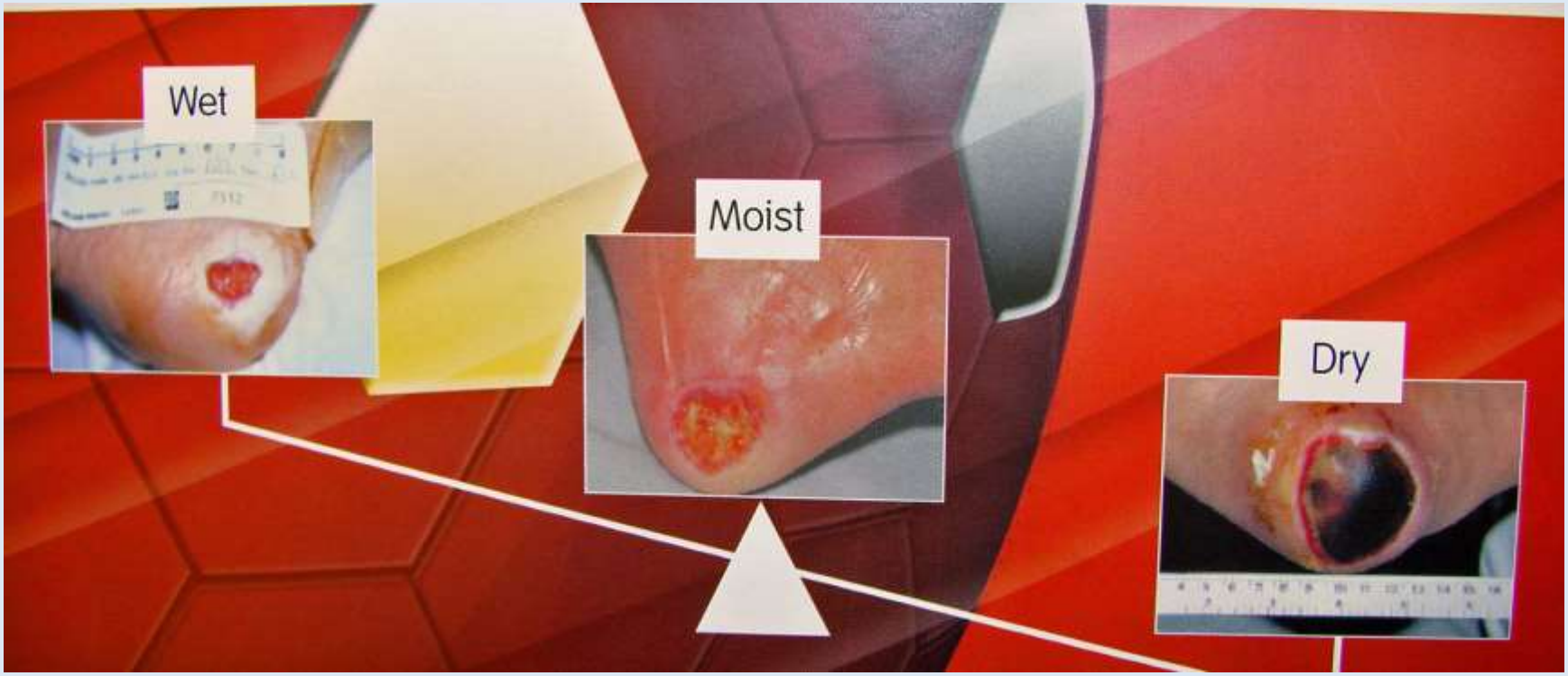
Antibiotics and Biofilms

How to remove Biofilm?




Balance is the Key to Life

Moisture Balance



Moist – not to wet and not to dry