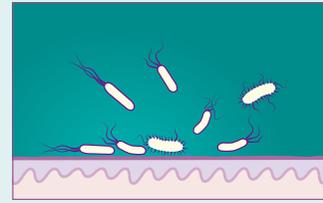
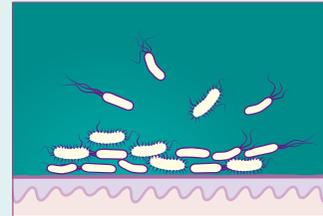


Problems with wound healing - bacterial biofilm

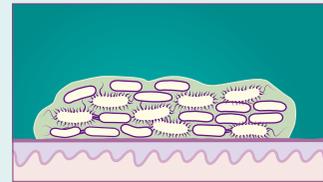
Biofilm formation is a multi-step process:



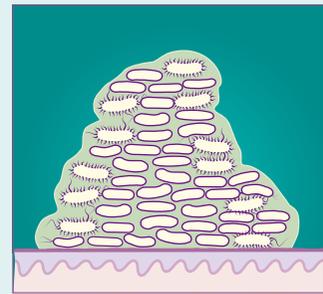
1. The colonization of wounds. The bacteria attach themselves reversibly to the wound. This occurs within seconds after injury (after the creation of the wound).



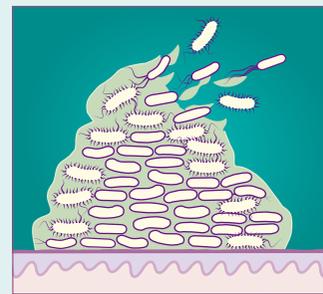
2. Permanent and irreversible combination of bacteria with the substrate and the beginning of proliferation (seconds - minutes after injury).



3. Intensive bacterial growth and the production of capsular polysaccharide. The formation of the biofilm matrix (a few hours - days after injury).



4. The creation of a three-dimensional structure of the biofilm (a few hours - days after injury).



5. The biofilm's dispersion onto adjacent healthy tissue (a few days - months after the injury).

Bacterial biofilm is a microbial „colony” (or bacterial microcolonies) which forms around the wound, and is protected by its extracellular matrix.

The biofilm is firmly and strongly bonded to the substrate, removing it from the surface of the wound with normal rinsing (water, soapy water, physiological saline) is not possible.

Biofilm, due to its characteristics, is a major obstacle to wound healing.

- It shields the bacteria and other pathogens from „harmful” external factors, such as disinfectants, antibiotics and immune cells.
- It creates favorable conditions for the continuous proliferation of already settled bacteria and the colonization and development of new bacteria or other pathogens.
- It affects the spread of infection to neighboring healthy tissue.
- It disturbs gas exchange in the wound and blocks access to nutrients.

Treatment of wounds. TIME scheme

TIME is a scheme of the procedure for the treatment of wounds, developed by **The International Advisory Board on Wound Bed Preparation** and **The European Society for Wound Healing**. TIME is an acronym formed from the first letters of the name specifying the different processes and changes in the wounds and treatment procedure at various stages:

- T** – **Tissue deficient** (loss, lack of tissue, contaminants) / **Tissue debridement** (removal of dead tissue, mechanical and biological contaminants)
- I** – **Infection/inflammation** (inflammation and/or infection) / **Infection/inflammation control** (prevention and control of infections and inflammatory processes)
- M** – **Moisture imbalance** (violation of moisture balance in the wound) / **Moisture balance** (control of the appropriate hydration of wounds)
- E** – **Edge of wound, non-advancing** (non-healing wound edges) / **Epidermization stimulation** (stimulation of repair processes in the wound - intent, epidermal, angiogenesis)

Polisept® Vet Wound Irrigation and **Polisept Vet® Wound Gel** are complementary products meeting the requirements of all points in the TIME scheme.

Polisept® Vet Wound Irrigation can be used at all stages of the proceedings according to the TIME scheme, particularly points T and I.

Polisept® Vet Wound Gel is most applicable to points M and E.

An extension of the TIME algorithm is the introduction of an additional element of the procedure referred to as lavaseptics (cleaning / wound irrigation). Lavaseptics is an important point in preparing the wound bed for further proceedings. This is a special way of washing the wounds, requiring the use of suitable formulations, which, among others, effectively remove the bacterial biofilm, which is a major obstacle in conducting the effective treatment of wounds.

Polisept® Vet Wound Irrigation meets all the requirements of good lavaseptic medicine

	TIME Problems with wound treatment	TIME Recommended solution and procedure	Recommended product
POLISEPT® VET WOUND GEL	T loss, lack of tissue, contaminants	T removal of dead tissue, mechanical and biological contaminants	POLISEPT® VET WOUND IRRIGATION
	I inflammation and/or infection	I prevention and control of infections and inflammatory processes	
	M violation of moisture balance in the wound	M control of the appropriate hydration of wounds	POLISEPT® VET WOUND GEL
	E non-healing wound edges	E stimulation of repair processes in the wound - intent, epidermal, angiogenesis	

The modern method of wound treatment & care in the veterinary practice.

T I M E

POLISEPT® VET WOUND IRRIGATION 250 ml

POLISEPT® VET WOUND GEL 30 ml

Isotonic solution for rinsing all kinds of wounds, and the preparation of the wound bed for further therapeutic procedures.

Polisept® Vet Wound Irrigation is used in supportive therapy for:

- Surgical wounds
- Acute, traumatic wounds both sterile and infected
- Chronic wounds (decubitus ulcers), including infected wounds
- Superficial and deep wounds (bites or tugged with intertrabecular recesses and pockets)
- Local burns (I and II degree)

and

- Intraoperative protection of wounds
- Removal of old dressings

Polisept® Vet Wound Irrigation contains two synergistically acting active substances contained in an iso-osmotic **Ringer's solution**:

Polyhexanide – a biguanide antimicrobial agent with a broad spectrum of activity

Betaine – a tenside, mild, surface active, effectively functioning agent that removes contaminants, mechanical and biological, including **the bacterial biofilm**

Polisept® Vet Wound Irrigation:

- ✓ Effectively removes mechanical and biological contaminants
- ✓ Effectively removes formed bacterial biofilm
- ✓ Effectively prevents biofilm formation
- ✓ Demonstrates excellent tissue tolerance (very low cellular toxicity, non allergenic)
- ✓ Accelerates wound healing, has a wide range of applications (TIME, Lavaseptics)
- ✓ Conforms to into the TIME wounds workflow
- ✓ Allows for the effective and non-invasive removal of dressings

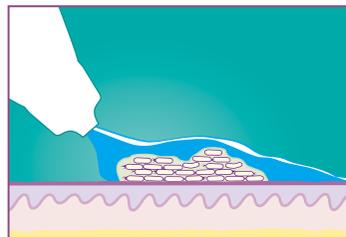


Fig.1 The traditional rinsing of wounds (biofilm is not washed off).

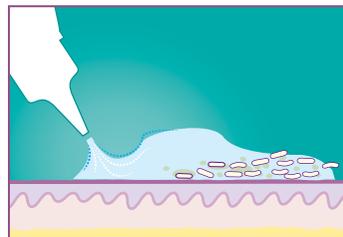
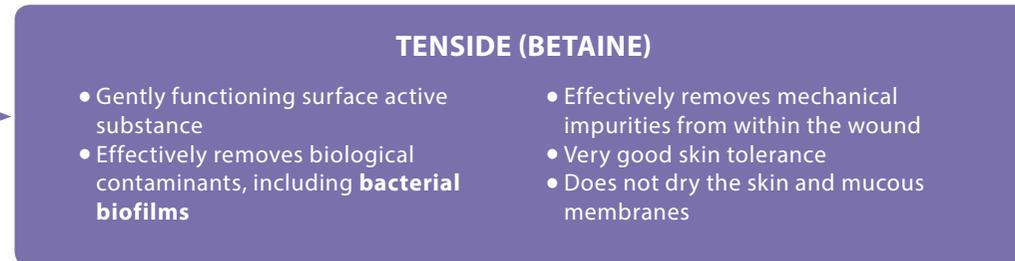
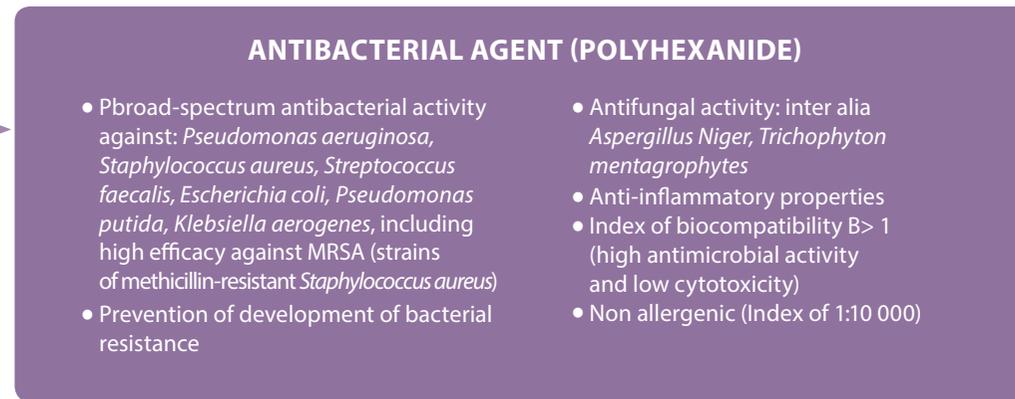
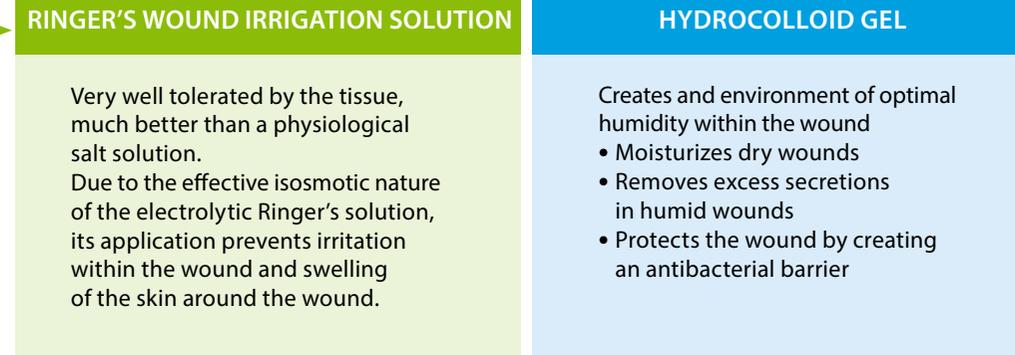


Fig.2 Polisept® Vet Wound Irrigation (destruction of the structure and rinsing away of biofilm).



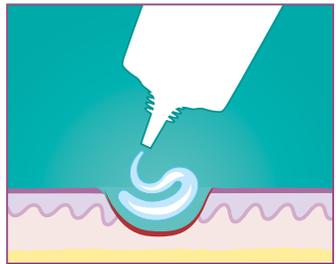
The unique properties of **Polisept® Vet Wound Irrigation** and **Polisept® Vet Wound Gel** result from the synergistic action of one of the main active substances.



Active dressing in the form of a hydrocolloid gel to be used in all kinds of wounds.

Polisept® Vet Wound Gel is used in supportive therapy for:

- Surgical wounds
- Acute sterile and infected wounds
- Chronic wounds (decubitus ulcers, ulcers of various origin)
- Superficial and deep wounds (lacerations, bites with intertrabecular recesses and pockets)
- I and II degree burns



Polisept® Vet Wound Gel comprises two synergistically acting substances contained in **the hydrocolloid gel** phase:

Polyhexanide – biguanide antimicrobial agent with a broad spectrum of activity

Betaine – tenside, active mild surfactant capable of removing mechanical and biological contaminants, including the **bacterial biofilm**

Polisept® Vet Wound Gel :

- ✓ Speeds up and improves the process of wound healing
- ✓ Provides optimal balance of water within the wound
- ✓ Cleans the wounds of the biological contamination generated during wound healing (waste products, toxins, etc.).
- ✓ Protects the wound from external infection, while ensuring optimal gas exchange
- ✓ Prevents the formation of a biofilm
- ✓ Accelerates the process of angiogenesis within the wound
- ✓ Conforms to the TIME workflow

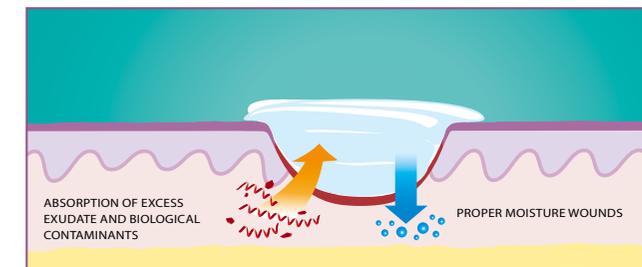


Fig.3 Optimal water balance.

