

Skin Necrosis

Luc Téot
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Sebastian Probst
Editors

Second Edition



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 Springer

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In recent years, a range of wound care courses, study days, and conferences have been developed in an attempt to update health care professionals about advances in wound management. One of the knowledge and skills that have to be acquired are the techniques of the debridement. Debridement is an important element of the wound bed preparation paradigm [1] and describes any method by which devitalized tissues/necrosis are removed [2]. In addition, tissue necrosis in the wound bed serves as an area ideal for bacterial overgrowth and infection; it can contribute to protein losses in wound exudate and often delays healing [3]. They also form a barrier to prevent angiogenesis, the formation of granulation tissue or the extracellular matrix, as well as the re-epithelialization [4]. Necrotic tissue may inhibit the direct contact of agents applied in the wound bed and hamper the clinician from making a proper assessment, for example, in masking a possible underlying infection [2]. There is a growing body of evi-

dence and agreement among wound clinicians and scientists that debridement represents a necessary process in reducing bacteria, infection, and a biofilm within a wound and promotes a stimulatory environment for healing [5].

The main methods of debridement are autolytic, chemical/enzymatic, mechanical/sharp/hydro-surgery, and bio-surgery. In the following, the different methods are outlined:

- **Autolytic debridement** is widely used in clinical practice. Wound dressings such as hydrogels, alginates, or hydrocolloids support the maintenance of moisture and provide optimal conditions to activate the wound debridement [6].
- When using a **chemical debridement**, exogenous enzymes such as fibrinolytic enzymes or collagenase are applied the wound bed. Enzymatic debridement is part of the chemical debridement and is a selective method for debridement of necrotic tissue [7].
- **Mechanical debridement** method includes wet-to-dry dressing, irrigation (high-pressure irrigation and pulsatile high-pressure lavage), whirlpool, and wound scrubbing [6]. **Sharp debridement** is considered as a surgical wound debridement. It is the most aggressive type of debridement [2], but is generally considered to be the most rapid and effective method even though there is a risk of injury of the healthy tissue [7]. **Hydro-surgery**

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debridement is a debridement where devitalized tissue is removed with a jet of water used as a dissecting tool [8, 9].

- **Bio-surgery** called also larval or maggot therapy is a debridement where live *Lucilia sericata* larvae are applied to the wound either directly or contained within a sealed bag [10]. *Lucilia sericata* larvae ingest necrotic tissue and kill ingested bacteria [2].

This chapter will highlight the different aspects of debridement taught and regulatory facts.

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