



A Brief Note on Debridement and its Classification

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Description

Debridement is the surgical removal of dead, damaged, or contaminated tissue to help the remaining good tissue heal more quickly. Surgical, mechanical, chemical, autolytic (self-digestion), and maggot therapy are among options for removal. Practitioners in podiatry, such as chiropodists, podiatrists, and foot health practitioners, remove calluses and verrucas. Debridement is a crucial element of the healing process for burns and other major wounds, as well as some snake and spider bites. There is a scarcity of high-quality research to compare the effectiveness of different debridement treatments in terms of debridement time or wound healing time.

Surgical debridement

Surgical or “sharp” debridement and laser debridement under anaesthetic are the fastest methods of debridement. They are extremely selective, meaning the person performing the debridement has complete control over which tissues are eliminated and which are not. Surgical debridement can be performed in the operating room or at the patient’s bedside, depending on the degree of necrosis and the patient’s tolerance. The surgeon will usually debride the tissue back to viability, as evidenced by the appearance of the tissue and the presence of blood flow in healthy tissue.

Autolytic debridement

Autolysis uses the body’s own enzymes and moisture to de-hydrate, soften and finally liquefy hard eschar and slough. Autolytic debridement is selective; only necrotic tissue is liquefied. It also causes the patient little discomfort. Using occlusive or semi-occlusive dressings that keep wound fluid in touch with

necrotic tissue, autolytic debridement can be performed. Hydrocolloids, hydrogels, and transparent films can all be used for autolytic debridement. It is appropriate for wounds with a small quantity of dead tissue and no infection.

Enzymatic debridement

Chemical enzymes are fast acting products that slough off necrotic tissue. Collagenase, varidase, papain, and bromelain are examples of enzymes generated from microorganisms such as *Clostridium histolyticum* or plants. Selective enzyme debriders exist, while others do not. This method works well on wounds that have a lot of necrotic tissue or eschar formation (particularly burns). However, the results are mixed, and the efficiency is varied. As a result, this type of debridement is only used for burn treatments when absolutely necessary and is not considered standard of care.

Mechanical debridement

Hydrotherapy, which involves selective mechanical debridement, can be utilised when tissue removal is required for wound treatment. Therapeutic irrigation with suction and focused wound irrigation are two examples. Whirlpool baths should not be used to treat wounds since the whirlpool will not specifically target the tissue to be removed and may injure all tissue. Whirlpools also provide a risk of bacterial infection, can harm delicate human tissue, and, in the event of treating the arms and legs, can result in edoema issues. Hydrosurgery is a high-pressure, water-based jet technology to remove burnt skin.

Maggot therapy

Maggot therapy involves introducing a number of

miniature maggots to a lesion in order for them to consume necrotic tissue more accurately than a typical surgical operation. Green bottle fly (*Lucilia sericata*) larvae are used, which feed largely on necrotic (dead) tissue of the living host while avoiding living tissue. In one or two days, maggots can debride a wound. The maggots obtain nutrition through an extracorporeal digesting process in which they secrete a wide range

of proteolytic enzymes that liquefy necrotic tissue and absorb the semi-liquid product within a few days. Maggots moult twice in an ideal wound environment, expanding in length from 1–2 mm to 8–10 mm and in girth from 1–2 mm to 8–10 mm, all within a period of 3–4 days by ingesting necrotic tissue, leaving a clean wound free of necrotic tissue when they are removed.