Application of topical negative pressure for traumatic amputations

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BACKGROUND

We describe a method that has been developed to dress traumatic amputation wounds with topical negative pressure (TNP) dressings. This has been borne out of ten years of experience managing these injuries at the Royal Centre for Defence Medicine, Birmingham,¹⁻⁵ and in Afghanistan. One of the main differences in the management of combat wounds nowadays compared with previously is the use of TNP. It is such a useful adjunct in managing these wounds that it is now standard practice in the US and UK military medical services.⁵

TECHNIQUE

After meticulous debridement, our method uses dry gauze that is impregnated with polyhexamethylene biguanide (Kerlix AMD, Tyco Healthcare, Gosport, UK) and laid directly onto the wound bed (Fig 1). The manufacturers recommend that the gauze be applied after moistening with saline, but this is not necessary as the dressing soon becomes saturated, and to do so would reduce the chance of a successful seal being developed. A drain is placed on the gauze and more gauze is placed over the drain (Figs 2 and 3). Tincture of benzoin is applied to the surrounding dry skin. This is then covered with of a semipermeable film and the exiting drain is sealed with a "mesentery" seal (Figs 4-6).

DISCUSSION

This technique has made a significant impact on the management of traumatic amputees and has facilitated the development of using TNP as a temporising method to maintain maximum stump length while serial debridement and reconstruction procedures take place.⁵

Figure 2 Silicone drain inserted

Figure 3 Silicone drain covered by antimicrobial gauze

Figure 1 Traumatic amputation dressed with antimicrobial gauze

Figure 4 Tincture of benzoin applied proximally and stump covered by semipermeable film

Figure 5 Exiting drain is sealed with a 'mesentery' by the semipermeable film

Figure 6 Completed Application of Topical Negative Pressure for Traumatic Above Knee Amputation

References

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