Advanced wound therapies in the management of severe military lower limb trauma: a new perspective.

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Objective: The purpose of this article is to describe the treatment of injuries resulting from land mine explosions using a holistic approach that includes gauze-based negative pressure wound therapy (NPWT) and encompasses wound bed preparation, exudate management, and infection control.

Method: In the treatment of 3 traumatic injuries, each requiring limb amputation, we describe the application of NPWT using the Chariker-Jeter system, which uses a single layer of saline-moistened antimicrobial gauze laid directly onto the wound bed. A silicone drain is placed on the gauze and then more gauze is placed over the drain to fill the wound. This is then covered with a clear semipermeable film, cut so that there is a 2- to 3-cm border around the wound allowing it to be sealed onto healthy skin.

Results: In each of the cases described, we were able to achieve wound closure prior to successful skin grafting, and the patients have recovered well despite the severity of their injuries.

Conclusion: We discuss the potential advantages of the Chariker-Jeter system over polyurethane foam as a method of delivering NPWT in highly extensive and irregular-shaped wounds created by land mine explosions while stressing the importance of thorough and effective wound bed preparation.