# The management of a cavity wound using topical negative pressure and AquaFiber

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This case study follows the care of a 45-year-old patient who had undergone a major cardiac event which resulted in a long stay in an intensive care unit. During his treatment a cannula was placed into his femoral vein to facilitate the delivery of inotropic medication. On removal of the cannula a wound developed with a soft tissue infection resulting in necrosis and the development of a cavity. This wound acted as a conduit for lymph fluid to escape. Very high volumes of fluid were being produced (650ml every 24 hours).

Odour and exudate are often cited as the most disturbing issues for patients with chronic wounds (Jones, 2008). Exudate management is a challenge for the healthcare team as well as for the patient. Despite a number of products being available, many patients still feel that exudate management is a significant problem (Jones, 2008). Assessment of the wound will help establish causation, tissue types and exudate level, and will assist in addressing the patient's concerns. The choice of dressing to apply will depend not only on the condition of the patient and the wound, but also on the reliability and cost-effectiveness of the treatment regimen. In this case negative pressure wound therapy was used to control the exudate and promote granulation. Once the volume of exudate had reduced a decision was made to apply AquaFiber dressing (Medlogic Global Ltd, Plymouth) and an adhesive foam.

The cavity was managed using the Venturi pump (Talley Group, Hampshire) which drained the fluid and encouraged the development of granulation tissue using topical negative pressure. At this stage the wound was 8cm in length, 3cm wide and 3cm deep and the wound was a mixture of granulation and slough with no infection present (*Figure 1*). The Venturi pump was changed every three days and was set at a pressure of 100mmHg. After three weeks of therapy the wound was 5cm in length, 2cm in width and 1cm deep with 100% granulation with no infection present (*Figure 2*). At this point the wound exudate had returned to normal limits (less than 100ml over three days) and the decision was taken to change the treatment to AquaFiber. This was chosen because an absorbent dressing was required which could manage the exudate while preventing peri-wound maceration and providing an ideal moist wound environment which supports the wound healing process.

AquaFiber is made of natural fibre and incorporates all the benefits of alginate dressings. It can be used as a haemostat and is biodegradable (Barnett and Varley, 1987) while offering a high wet strength and absorbency. It is also designed to vertically wick exudate away from the wound, which helps to reduce the risk of maceration and damage to the peri-wound area. AquaFiber gels upon contact with wound exudate. AquaFiber is super absorbent and is, therefore, ideal for use on moderate to heavily exuding wounds.

The wound was loosely packed with AquaFiber and covered with an adhesive foam. This dressing was changed every third day. While the primary dressing could have remained in place for longer, the secondary dressing tended to lose its adhesion due to the location of the wound. During this final phase of healing the wound continued to granulate from the wound bed up, with epithelisation of the wound margins and contraction of the wound bed.

Figure 1. The patient's wound at the initial assessment.

Figure 2. After three weeks of treatment with topical negative pressure.

Figure 3. After two weeks of treatment with AquaFiber, the wound is on the way towards healing.

## Conclusion

In this case the primary issue was the management of exudate which required different strategies at different stages of healing based upon accurate assessment of the patient's needs. Once the initial issues relating to the excessive levels of exudate had passed, the wound was effectively managed using a natural fibre dressing which promoted gelling at the wound surface and effective management of the wound exudate. WUK

## References

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Barnett S, Varley S (1987) The effects of calcium alginate on wound healing. *Ann R Coll Surg Engl* 69(4): 153–5