

TREATING AN ELDERLY PATIENT'S LEG WOUND WITH TOPICAL NEGATIVE PRESSURE

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In 2005 it was estimated that 354,500 households were receiving home help and/or home care (Department of Health, 2005). This figure only reveals those individuals who have sought help and does not include the thousands of older people who live alone at home and struggle to maintain their independence. Often people will only come to the attention of the NHS following an accident or incident. In this case the patient was 86 years old and was living alone and had no close relatives. She maintained her independence with the assistance of a neighbour who helped with shopping.

The patient injured her left leg while she was in her garden. She bandaged her leg firmly, but did not seek help from her local GP or A&E. She subsequently developed an infection. She became acutely unwell and collapsed. She was found unconscious by her neighbour and was taken to hospital. On admission she was dehydrated and had acute confusion due to her dehydration and a urinary tract infection in addition to her leg infection. The patient was treated with intravenous antibiotics and was rehydrated

with intravenous and oral fluids. It appeared that the patient had applied the bandage so tightly that it had caused a tourniquet effect and so the skin and tissue had necrosed (*Figure 1*). She underwent a surgical debridement of all necrotic tissue which revealed a circumferential wound at the distal tibia. She was referred to the tissue viability service for management of her left lower leg.

On examination the skin on the patient's leg was in a poor condition and was dirty with thick scale (hyperkeratosis). She required good skin care involving regular washing with warm water and the use of an emollient to restore skin health. In addition, the anterior tibial tendon and the fascia covering the tibial bone was exposed (*Figure 2*).

The decision was taken to treat her leg wounds with a topical negative pressure wound therapy (TNP) dressing with the aim of encouraging granulation tissue to cover the tendon and tibial fascia.

The application of a TNP dressing using either foam or Kerlix® gauze (Covidien, Mansfield) with a drain inserted, covered by an occlusive film dressing produces a closed



Figure 1. Posterior view of left leg.

wound environment which on application of pressure has the benefit of:

- ▶▶ Removing large volumes of exudate from the wound (Argenta and Morykwas, 1997)
- ▶▶ Reducing local swelling caused by oedema
- ▶▶ Removing bacteria and chronic inflammatory cells from the wound bed (Morykwas and Argenta, 1993)
- ▶▶ Contracting the wound
- ▶▶ Stimulating the production of granulation tissue due to increased blood flow to the wound bed (Morykwas et al, 2001).



Figure 2. Anterior view left leg. The tendon and the tibial fascia are exposed.

The patient underwent twice-weekly changes of the dressing using the Chariker-Jeter method (Chariker et al, 1989) (see pp. 96–98 of this publication), wrapping the wound drain in Kerlix® gauze and sealing the wound area with a film dressing before attaching the drain to the Exsudex™ wound drainage pump (The Wound Care Company UK Ltd, Manchester).

After eight days of topical negative pressure dressing, the patient's wounds were healthy, filling with robust granulation tissue and beginning to contract in size as epithelial tissue was flourishing (Figure 3).

After a total of 19 days of TNP therapy using the Chariker-Jeter method and an Exsudex wound drainage pump, the wounds were smaller, flush with the surrounding skin and epithelialising at the edges (Figure 5). The TNP therapy was then replaced with Versiva XC® gelling foam dressing (ConvaTec, Ickenham) to minimise dressing changes by providing an absorbent dressing which required changing twice-weekly. The patient was then discharged to a nursing home. Her mobility had improved to allow her some independent

movement using a Zimmer frame and her wounds had greatly reduced in size (Figure 6) and were considered manageable by nursing home staff. **WE**

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Figure 3. Eight days after commencing TNP therapy the wounds are granulating and contracting in size.



Figure 4. Wound to distal anterior tibial at eight days post TNP therapy.



Figure 5. Following 19 days of TNP therapy the tibial fascia and tendon were covered with granulation tissue.



Figure 6. The area of pressure damage to the plantar aspect of foot caused by tight bandaging by the patient has almost resolved.