Clinical experience of a new negative pressure dressing in two acute patients

Introduction
The use of traditional Negative Pressure Wound Therapy in the care of chronic wounds is well established as are the perceived clinical benefits of fast granulation and wound closure. Less is known about the impact of negative pressure on wounds which have been closed surgically. The risk of wound breakdown in patients with incisional wounds or flaps and grafts can lead to increased suffering for the patient and may prove costly to the Health Service. These costs may be related to increased length of stay and prolonged treatment costs when wounds require healing by secondary intention. A new single use negative pressure therapy system (PICO) has been developed by Smith & Nephew Healthcare which is indicated for the treatment of patients with incisions and skin grafts and flaps as well as chronic wounds. The device is small, lightweight and consists of super absorbers and high MVTR film to help manage wound exudate. PICO does not have a cannister, as is present in other negative pressure systems, which helps reduce costs and helps improve the overall portability of the product. The dressing also has a silicon wound contact layer which allowsatraumatic removal.

Patient A
A 40-year-old patient with a clinical history of diabetes, acute pancreatitis, peritoneal sepsis and an ischiorectal abscess.

The patient had drainage of the abscess in theatre and excision of necrotising fasciitis of the anterior abdominal wall.

Temporary abdominal closure was achieved using the Smith & Nephew Abdominal dressing and the RENASYS EZ PLUS device. Temporary abdominal closure is recognised technique for use in patients where there is a risk of developing abdominal compartment syndrome.

The patient developed a ruptured diverticulum and required further surgery and a Hartmann’s procedure was performed. Following surgery a further period of negative pressure was used to manage the open abdomen.

Following treatment with the Abdominal dressing, the wound was treated with gauze based negative pressure until the wound was ready for primary closure. Given the potential risks of wound breakdown, due to the patient’s condition and clinical history, PICO was applied to help reduce the risk of wound breakdown in the post operative phase.

In theatre the surgeon prepared the wound for closure and the wound was then sutured. PICO was applied at this point, with a small area of the wound covered by hydrofibre and hydrocolloid dressing due to not having a large enough dressing. At closure the wound was fairly uneven and the suture line was not good cosmetically.

Results
Figure 6 shows the wound following removal of the PICO product after one week of therapy. The wound has healed and the suture line is better cosmically, more importantly the wound edges are apposed and there were no signs of infection.

Patient B
A 30-year-old male with recurring pilonidal sinus infection was admitted to the surgical unit and treated using a gluteal flap in an attempt to prevent recurrence. The problem of pilonidal sinus disease has been associated 2 with a reduction in recurrence rates.

Method
The role of negative pressure in the maintenance of skin flaps is not fully understood, however, the ability of negative pressure dressings to manage wound exudate is well documented, as is the splitting effect of negative pressure dressings on wounds where movement can be problematic.

The patient had the flap carried out in theatre and once in the ward, it was decided to apply the PICO dressing to the wound. Despite two suction drains, there was significant haemoserous leakage, PICO was used to help manage this fluid and potentially to help splint the flap.

Figure 7 shows the wound prior to application of the PICO dressing. Note the haemoserous leakage, PICO was used to help manage this fluid and potentially to help splint the flap.

Results
The gluteal flap wound initially leaked a large amount of blood and the PICO dressing was changed after two days. After one week the wound was healing well and the flap appeared to be well perfused.

References