

A case series demonstrating the use of a traditional negative pressure wound therapy (tNPWT) system for the management of complex and challenging wounds within an acute care setting

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Aim

This case series describes the use of tNPWT*, in conjunction with fillers, in the management of a range of challenging and complex wounds within the acute care setting. The cases demonstrate how NPWT can be used effectively to achieve short term goals and accelerate healing trajectories, with care continuing after discharge.

Method

Five, retrospective anonymised case studies of varying wound indications are presented from a large trauma hospital in the UK. The primary objective was to demonstrate how tNPWT may facilitate earlier discharge to community services for continuation of care, support patients at end of life (when a wound is present) and manage challenging wound symptoms.

Large Hematoma caused by trauma

A 75-year-old female presented with a large, very painful hematoma to her left lower leg following a fall at home.

History: The patient had lymphedema, an elevated Body Mass Index (BMI), Heart Failure and was receiving long term anticoagulation therapy through medication.

Wound Challenges: High risk of bleeding and delayed healing due to lymphedema. The patient would require compression therapy to support healing with an open wound. Assessment for compression and ongoing management is accessed through local community services. The aim was to discharge as soon as possible for the patient to continue treatment at home. The Tissue Viability Nurse (TVN) team advised surgical debridement of the large area of eschar and necrotic tissue.

Plan of Care: Following debridement tNPWT was commenced in theatre using a wound contact layer (WCL) under a foam filler. tNPWT was set at a continuous pressure of -100mmHg and the treatment plan continued for a total of six dressing changes over 21 days in hospital. During therapy, the patient reported that their comfort had improved as pain was effectively managed with oral analgesia alongside the application of a WCL before foam application at each dressing change.

Outcome: The wound reduced in depth and width; demonstrating that tNPWT was used effectively to accelerate the promotion of granulation tissue, preventing the risk of infection, and managing exudate until the patient was ready to go home. An assessment of compression therapy to support continued wound healing and her lymphedema was conducted by the NHS Community Trust.

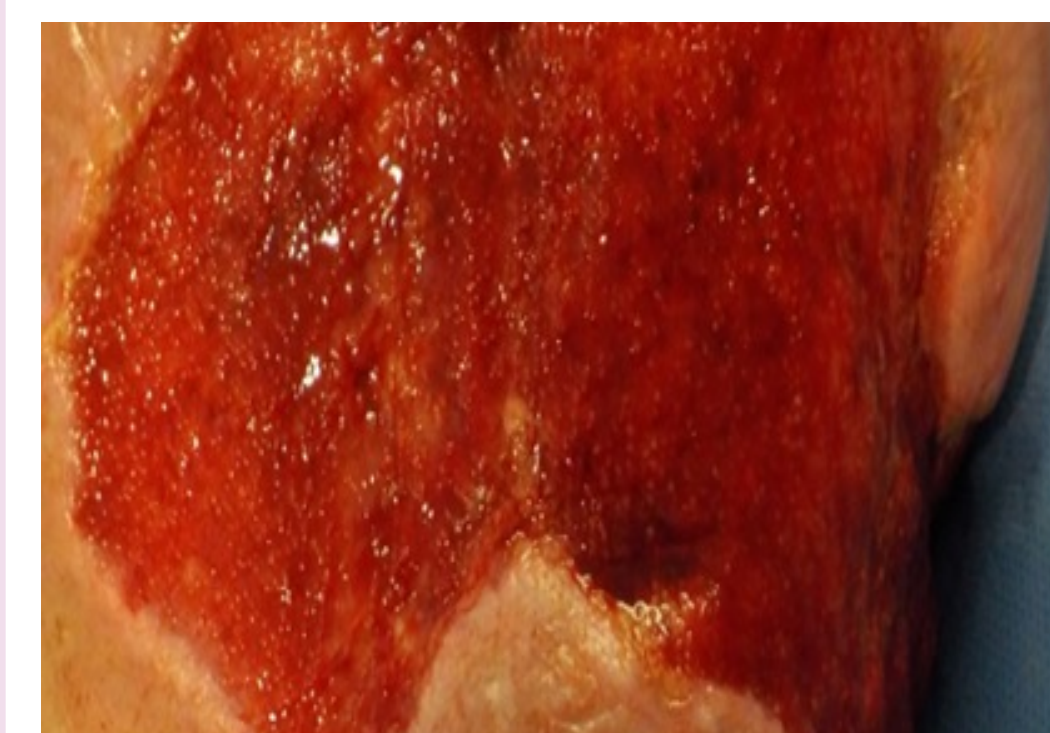
Hematoma at Presentation to TVN Team



Review following 14 days of tNPWT



Review prior to discharge following 28 days of tNPWT



Dehisced Surgical Wound

A 36-year-old female was referred to the TVN team for assessment and management of a surgical incision four days after gynaecological surgery for a subtotal hysterectomy and bilateral salpingectomy. The incision exhibited signs of dehiscence and had begun to exude high volumes of serous fluid.

History: The patient had a past medical history of multiple previous abdominal surgeries following a road traffic accident 20 years prior which had left her with a stoma near the incision. The presence of the abdominal stoma was an important consideration in the management of the wound, due to the potential risk of faecal contamination near the adjacent closed incision. The patient was low in mood, tearful, and worried about her recovery post operatively.

Wound Challenges: To manage the fragile incision which was now showing signs of dehiscence, producing high volumes of exudate, while the surrounding skin was tight, fragile and bruised. To prevent potential contamination from the stoma situated near to the incision.

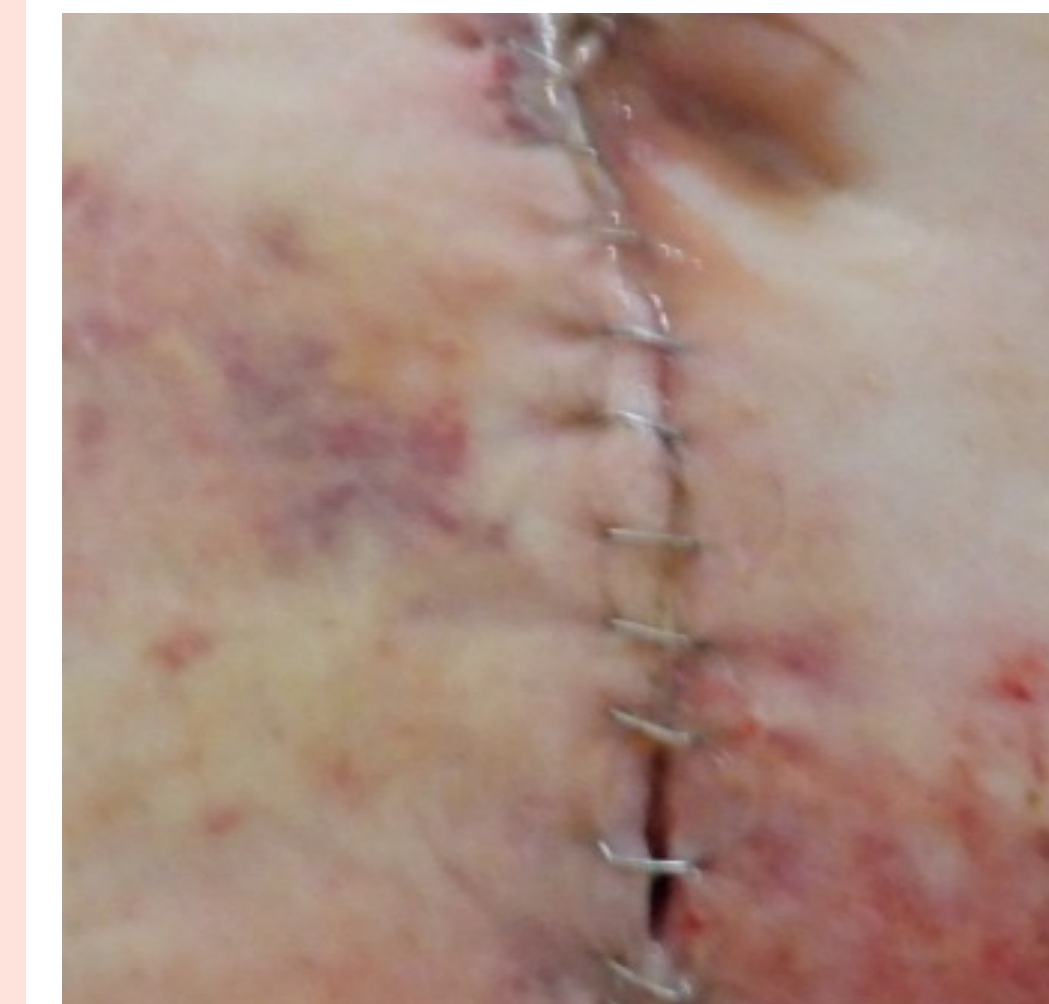
Plan of Care: The decision was made to apply tNPWT set at a continuous pressure -80mmHg with a WCL and foam along the dehisced incisional line. Two days later, the incision had dehisced further in several areas, some of the original clips were removed. tNPWT continued and negative pressure was reduced to -60mmHg due to pain. At the fifth review, the deep sutures were removed, as they were loose and causing an inflammatory response. The use of tNPWT continued and negative pressure was increased back to -80mmHg for another two dressing changes as the patient's pain was now better managed with analgesia.

Outcome: The patient was keen to return home and back to independent life, therefore at the last in-patient review, a plan was made to discharge on tNPWT and for community services to continue therapy. Without the timely intervention of tNPWT, the incision may have completely dehisced resulting in an increased length of stay, a possible need for further surgery and potentially a poorer outcome for the patient.

Initial presentation to TVN Team



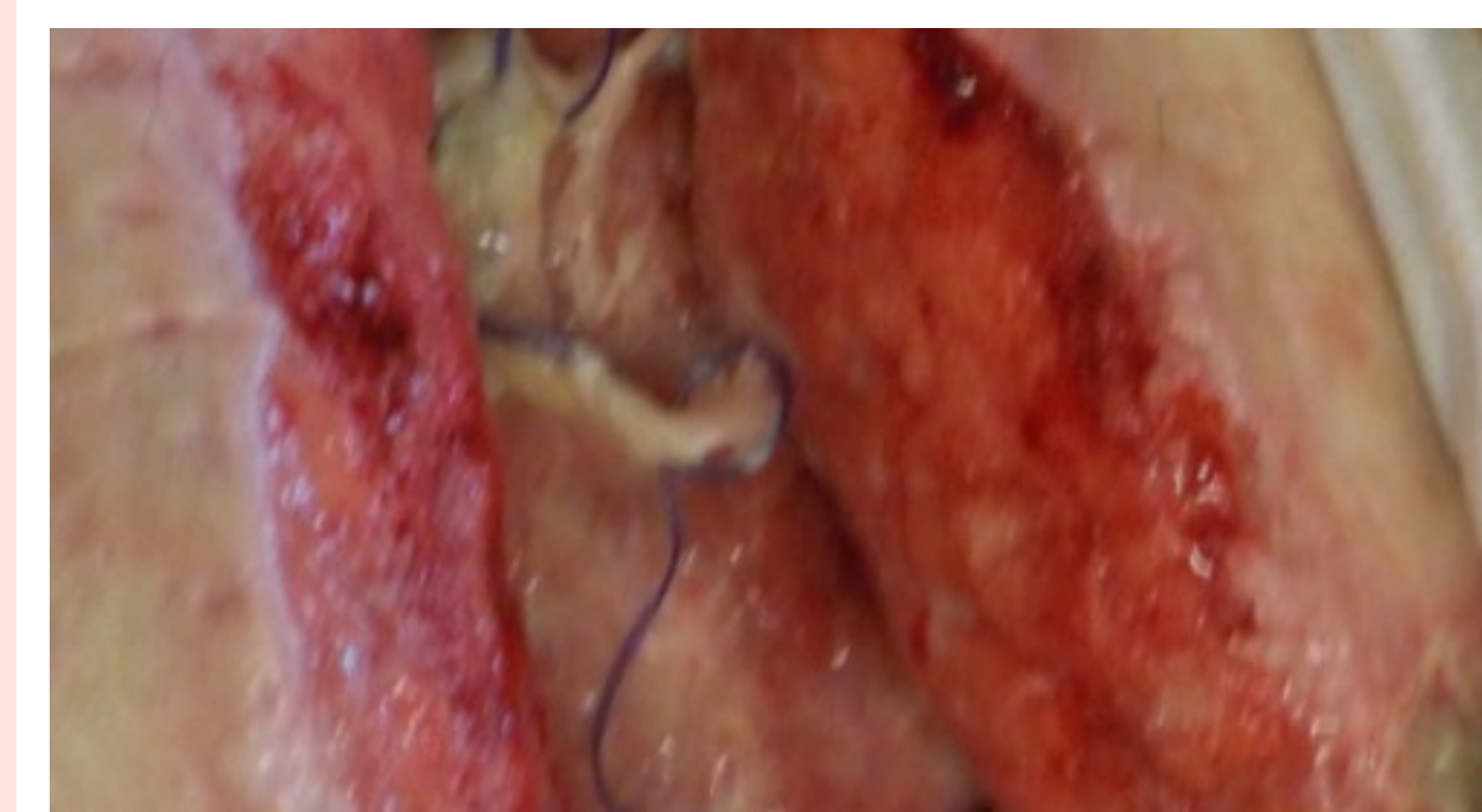
Review following 5 days of tNPWT



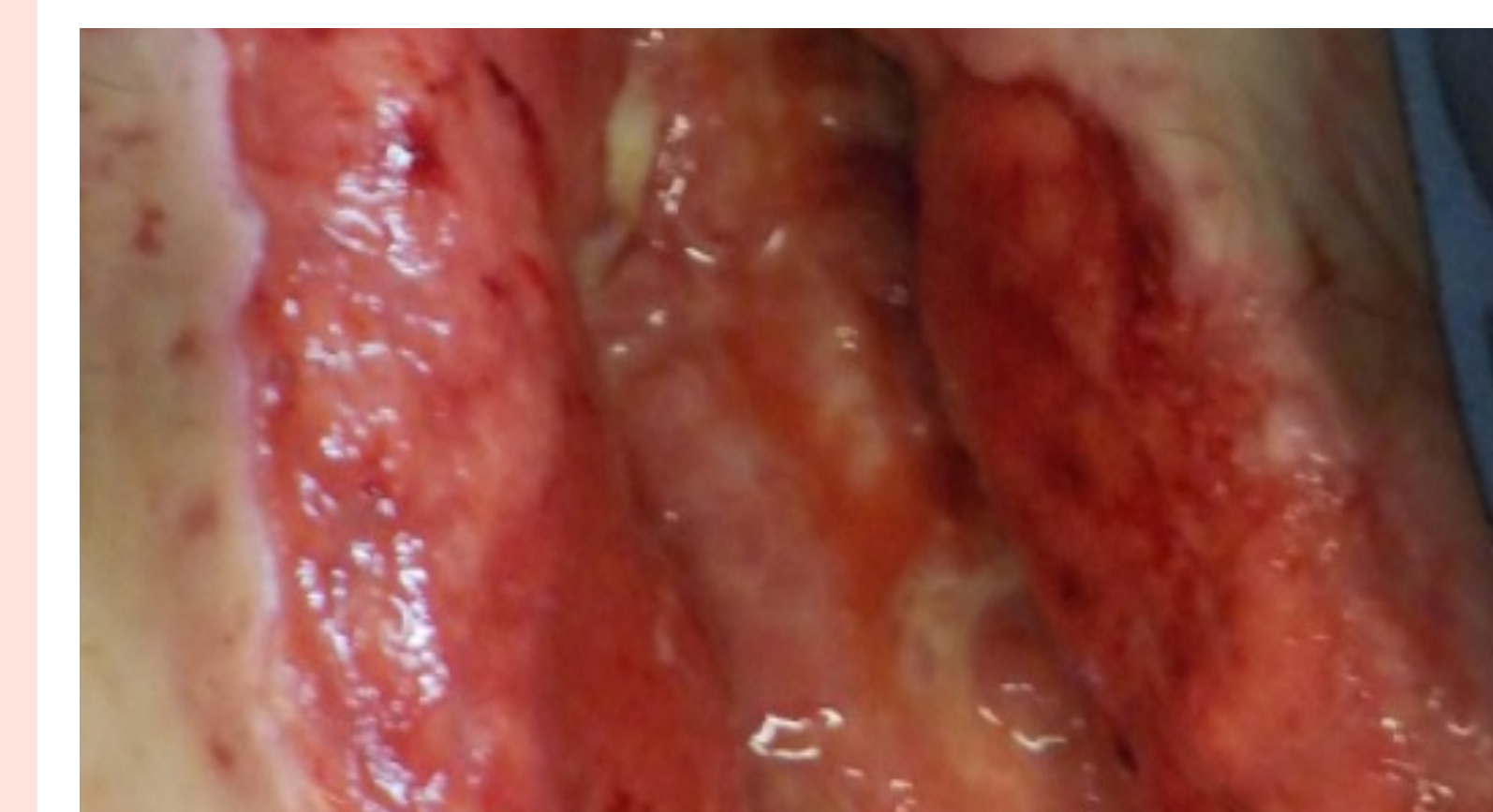
Post clip removal



Review following 17 days of tNPWT (Close up imaging of dehisced area)



Review prior to discharge following 24 days of tNPWT (Close up imaging of dehisced area)



Infected Abscess

A 65-year-old female presented with an infected, highly exuding abscess on her mons pubis. The patient had attempted to manage this at home independently with simple dressings, however the abscess had deteriorated and was very painful.

History: The patient had metastatic breast cancer with lung, liver and bone involvement and was also a Type 2 Diabetic. The patient was admitted for intravenous antibiotics and drainage of her abscess.

Wound Challenges: To manage the high levels of exudate in a difficult anatomical location, protect the surrounding skin, reduce the risk of further infection, and arrange discharge as soon as possible, as the patient wished to return home for her ongoing oncology care.

Plan of Care: Following a surgical procedure for debridement of the necrotic, devitalised tissue and washout, tNPWT was applied at continuous -80mmHg using gauze and foam as wound fillers. The dressing was bridged onto the abdomen. The patient spent seven days in hospital and had two further dressing changes until discharge. A referral was made to community services to continue care at home.

Outcome: The use of tNPWT accelerated the healing process and formation of granulation tissue in this complex and challenging wound and allowed the patient to return home with her family, maximising her quality of life.

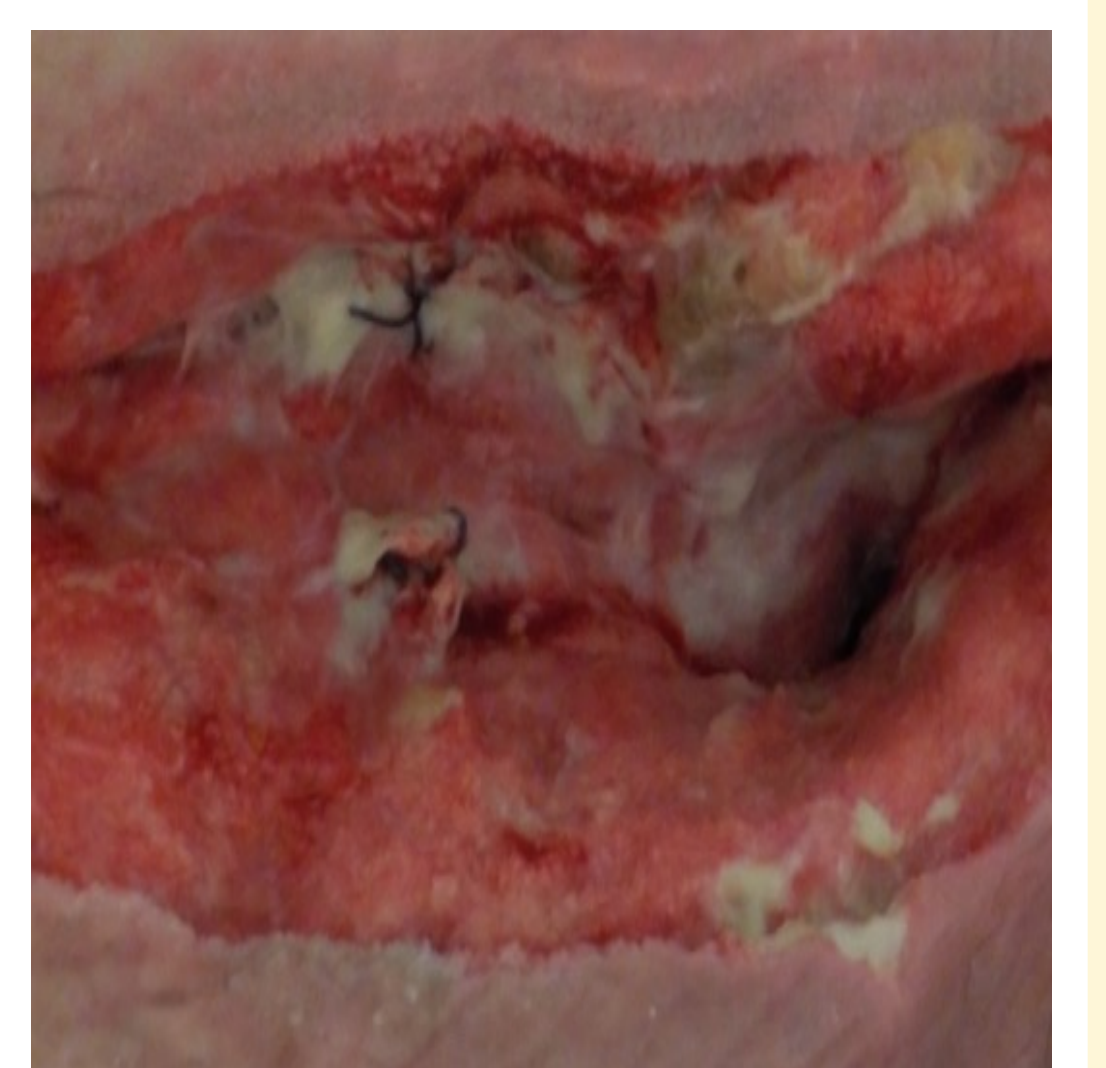
Abscess at presentation



Review 1 tNPWT applied immediately post-surgical debridement



Review 3 following 7 days of tNPWT



Conclusion

Across all five cases, tNPWT was reported as being efficient and effective in managing highly challenging wounds and supporting complex patient management within an acute care setting. The case presentations demonstrate effective management of high volumes of exudate; meaning fewer dressing changes and reduction in unnecessary interventions which may reduce the risk of further complications if tNPWT was not used. These case studies validate how versatile tNPWT is when treating challenging wound indications. Without the intervention of NPWT, these wounds could potentially become more challenging to manage in terms of time and resources, and possibly have a detrimental effect to the patients' quality of life.