

USING TOPICAL NEGATIVE PRESSURE IN A MILITARY FIELD HOSPITAL

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Topical negative pressure (TNP) dressings are now used at the Role 3 military hospital at Camp Bastion, Afghanistan, to support the management of dynamic and challenging injuries sustained through conflict. A total of 16 pumps are currently available at this hospital for use on patients with a variety of injuries, including open fractures and catastrophic soft tissue deficits. The increasing use of TNP dressings have transformed the management of wounds at this hospital by decreasing the time to wound closure among Afghan civilians and enabling the military aero-medical evacuation teams to transfer their patients back home with dry, intact dressings.

Topical negative pressure (TNP) dressings have been used in the UK to manage both simple and complex wounds for some time. The use of TNP has revolutionised the surgical management of combat injuries by preparing the wound bed to enable uncomplicated sub-acute reconstruction (Hankin and Jeffery, 2010).

In April, 2011, 16 TNP pumps and consumables arrived at the British Military Field Hospital at Camp Bastion in Southern Afghanistan. This coincided with the deployment of a Burns and Plastic Surgery Nurse Specialist to support the staff training requirements and application of the dressings on complex wounds. The use of TNP dressings was embraced early by both nursing and surgical staff who quickly found it to be an asset in managing the large number of ballistic and traumatic injuries treated at the hospital.

BREAKDOWN

In June 2011, TNP was used on 477 wounds on 191 patients, an average of 2.5 wounds per patient and 6.4 patients per day. All 16 pumps were nearly always in continuous use. TNP was mainly used on local patients (74%), with 20% of patients from the US, 5% from the UK and 1% from other coalition forces (*Figure 1*).

The average length of time TNP was used was 4.4 days in local patients (range 1–21 days) and 1.6 days on coalition forces (range 1–4 days). The duration of treatment for local patients reflects the period of time between injury and wound closure. The relatively shorter duration of treatment for the coalition forces reflects the fact that these patients are usually aeromedically evacuated back to the host nation for further treatment, which invariably involves TNP dressings.

TRANSFORMATION

The use of TNP dressings has become commonplace at the field hospital in Camp Bastion and has transformed the nursing care of patients with traumatic injuries. Patients are no longer rolled every couple of hours for the re-padding of their dressings as used to happen with more conventional bandages. The exudate and oozing which occurs is now drawn into a canister which can be measured and disposed of more safely. This is particularly important during the aeromedical transfer of the patient, preventing contamination of the airframe and, therefore, of subsequent patients requiring transfer (Jeffery and Porter, 2011).

It has also been used successfully on patients with infected wounds to prevent

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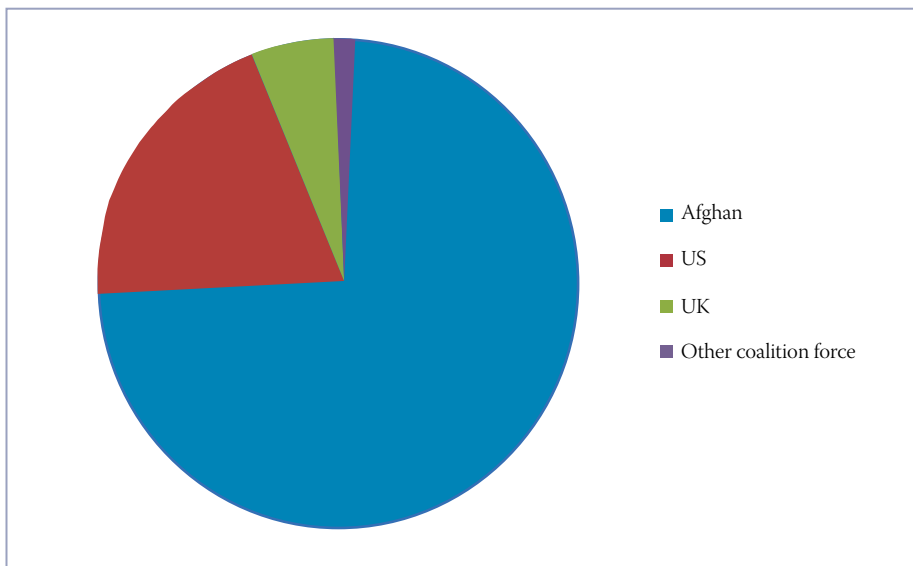


Figure 1: Pie chart showing the proportion of patient nationalities that received TNP.

the spread of infections through the contamination of bed linen, clothing and ward equipment. Irrigation of such infected wounds through the TNP dressing system has led to success on a number of occasions where options would have been limited previously.

One key use of TNP dressings is where a patient requires soft tissue coverage with a skin graft (Jeffery, 2009). The environment in Afghanistan can make the success of such grafts challenging and the use of TNP to anchor the grafts to the wound bed has been very encouraging in the Afghan population.

TNP dressing application is somewhat different to conventional dressings and, therefore, training is required to achieve

a common knowledge base among staff. On this occasion the deployment of the Specialist Burns and Plastic Surgery Nurse has been key in ensuring that training and application are of the highest standard.

CONCLUSION

TNP dressings offer a viable solution to managing complex traumatic and surgical wounds. There is increasing evidence of its use and success in the military hospital environment. With further data, a more comprehensive picture of its role in the military can be established. [WUK](#)

References

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