Use of PICO on a chronic venous leg ulcer

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PICO
Single Use
Negative Pressure
Wound Therapy System

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Figure 1. Day 0

Figure 2. Day 0 PICO application

Figure 3. Day 4

Background

This 72-year-old lady is fit, mobile and leads an active life. She drives and regularly looks after her young grandchildren and helps an elderly friend by taking her out to perform her weekly chores.

Medical history

At present she has no underlying medical conditions and is not on regular medication, however she has suffered with recurrent venous ulcers to both lower limbs over the past 10 years.
The most recent episode of ulceration began 2 years ago with ulceration to both the right and left medial malleolus. Unfortunately 1 year passed before an Ankle Brachial Pulse Index (ABPI) and subsequent compression therapy was commenced and the wounds have remained static for the past year.

Initial presentation

The left limb medial wound was the largest and most problematic and required dressings changes 3 times weekly (Figure 1).
The patient's quality of life was affected by the pain caused by the ulceration and the bandages made it impossible to wear regular footwear. Distress was caused when each new dressing commenced had no positive clinical outcome and low morale was beginning to manifest due to the duration and stagnation of the ulcers.
Wound dimensions prior to PICO application were 6.5cm x 2cm and exudate levels were moderate. An antimicrobial alginate gel and an absorbent pad with full compression were being applied and dressing changes were 3 times weekly.

PICO intervention

The left leg ulcer was the largest and most problematic of the two so the decision was made to commence PICO on this limb underneath full compression (Figure 2). Exudate levels were moderate and the surrounding tissues to the whole of the lower limb were prone to dryness if not regularly emulsified. Sensitivity to certain dressings/adhesives was an ongoing issue so a barrier film was applied prior to PICO 20cm x 10cm application.

The first PICO dressing change was performed after 4 days to observe both the ulcer and the surrounding tissues. Dimensions reduced to 5.5cm x 1.7cm after only 4 days of therapy. This is a 28% reduction in size.

Following 1 week of therapy the decision was made to reduce dressing changes to once weekly as exudate levels were easily contained by the PICO dressings (Figure 3).

Compression hosiery was commenced and replaced the bulky bandages enabling the patient to wear her own shoes.

Dressing changes had reduced from 3 times weekly to once weekly and the associated benefits to both the patient and clinic capacity were noted.

PICO had no adverse impact upon everyday activities such as mobilising, going out or showering. The clinician found the application of PICO very easy and time was saved as the bandages were not required.

Figure 4. Day 14

Figure 5. Day 28 (wound received 3 weeks therapy with one week break after week 2)

Progress with PICO◇ NPWT device

At 2 weeks of therapy the exudate levels had reduced, no pain was experienced and wound dimensions were 4.3 cm x 1.5cm. The wound bed was clean, granulating and epithelial cells were evident and advancing (Figure 4). At this point PICO was discontinued for one week to rest and moisturise the sensitive surround tissues.

After a third week of therapy the wound dimensions were 3.7cm x 1cm and it was decided to discontinue PICO as almost a 72% reduction in surface area had been achieved and the surrounding tissues required emulsifying as they were becoming dry and irritated.

Outcomes achieved

The patient's wellbeing improved due to reduced pain levels, fewer clinic visits and the ability to wear normal shoes.

Her mood was lifted as she could see a real shift towards final closure.

The wound of a 2 year duration reduced by 72% after 3 weeks of PICO therapy.

The wound continued to reduce in size to 2.7cm x 1 cm 2 weeks after the discontinuation of PICO and the surrounding tissues returned to their normal integrity (Figure 5). Non adherent pad and hosiery were used after PICO was discontinued. The wound healed completely at 10 weeks post first PICO application.

Cost savings

The provision of wound care that the patient received three times a week over a period of two years equates to approximately £12,902.

The cost of PICO for three weeks therapy equates to £583.65 (excluding clinic visit costs and compression bandages).

This case illustrates the opportunity that PICO creates in healing such a chronic wound. Such a proactive approach not only improves the patient experience and clinical outcome but considerably reduces the associated costs.

Managing chronic wounds can be challenging and costly for the clinician and can cause distress, pain and anxiety for the suffering patient. The estimated costs associated with treating chronic wounds in the UK varies between £2.5 - 3.1 million per year which accounts to 2-3% of the entire NHS budget[1]. This figure is only set to increase with the prediction of a 9.8% increase in people living with a chronic wound[2] so introducing PICO sooner rather than later in such wounds can only help to reduce the predicted challenges.

References

1. Posnett J and Franks PJ. The costs of skin breakdown and ulceration in the UK. In Skin Breakdown the silent epidemic. Hull: The Smith & Nephew Foundation; 2007
2. Dowsett *et al.*, The economic benefits of Negative Pressure Wound Therapy in community-based wound care in the NHS: Int Wound J; 2012.

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