APPLICATION DOS AND DON'TS

✓ Ensure the surrounding skin is clean and dry
✓ Determine whether the wound requires a filler material and choose the appropriate material (e.g. gauze, foam)
✓ If appropriate, apply a contact layer for the wound (e.g. ACTICOAT™ Flex in event of wound infection)
✓ Ensure adequate seal around the dressing
✓ Change the pump every seven days
✓ Change the dressing only when indicated. Infected wounds may require more frequent dressing changes
✗ Do not drape over the dressing pad, which can decrease moisture vapour escape and fluid-handling capabilities
✗ Do not position the port over anatomical areas of high-pressure shear or friction, to help prevent pressure damage
✗ Do not cut dressings, as doing so will result in loss of suction

QUALITIES OF AN IDEAL PORTABLE SYSTEM

Features of a portable, single-use, canister-free system (e.g. PICO™) to bring advanced wound care to the home environment

- No need for canister, as the dressing manages exudate, even if the seal is lost
- Small, lightweight, disposable
- Quiet and discrete
- Easy to apply
- Able to be used with appropriate wound filler
- Pump operates for 7 days after first application
- Transparent, occlusive film that creates a seal over the wound, filler and suction dressings

APPLICATION DOS AND DON'TS

✓ Ensure the surrounding skin is clean and dry
✓ Determine whether the wound requires a filler material and choose the appropriate material (e.g. gauze, foam)
✓ If appropriate, apply a contact layer for the wound (e.g. ACTICOAT™ Flex in event of wound infection)
✓ Ensure adequate seal around the dressing
✓ Change the pump every seven days
✓ Change the dressing only when indicated. Infected wounds may require more frequent dressing changes
✗ Do not drape over the dressing pad, which can decrease moisture vapour escape and fluid-handling capabilities
✗ Do not position the port over anatomical areas of high-pressure shear or friction, to help prevent pressure damage
✗ Do not cut dressings, as doing so will result in loss of suction

SETTING TREATMENT GOALS

Before initiating use of NPWT, consider the treatment goals and discuss them with the patient/carer as part of wound management education, and to promote concordance

✓ Decrease wound size/progress wound towards healing
✓ Manage exudate
✓ Remove desiccated tissue
✓ Promote granulation tissue formation
✓ Protect against external contamination
✓ Promote quality of life
✓ Implement advanced wound care in a cost-effective manner
✓ Easy to visualise when changes are required, e.g. (A) dressing needs to be changed or (B) dressing needs to be changed

PIcO™ IN PRACTICE

- Silicone wound contact layer is easy to apply and remove
- All-in-one device — no need for additional components

PIcO™ IN PRACTICE

- Easy to visualise when changes are required, e.g. (A) dressing needs to be changed or (B) dressing needs to be changed

© Wounds UK 2014
This publication was supported by an unrestricted medical grant from Smith & Nephew (49935)
www.smith-nephew.com
EVIDENCE OF MECHANISMS OF ACTION

Pressure gradient (~75mmHg to ~125mmHg) removes excess exudate, which contains elevated pro-inflammatory mediators, which degrade the extracellular matrix and decrease production of growth factors, delaying wound healing. Removal can, therefore, accelerate healing.

Negative pressure stimulates cell generation, encouraging growth and resulting in the formation of granulation tissue.

Filler material does not dry out as moisture is pulled through the wound, which helps maintain a moist wound-healing environment (Figure 1). Where a wound has been adequately debrided before application of NPWT, autolytic debridement will be facilitated and epithelialisation promoted.

Occlusive film creates a physical barrier between the wound and external contaminants, preventing microbial colonisation that could impede wound healing.

The negative pressure gradient created by the action of an NPWT system decreases interstitial oedema, which decreases the direct pressure on capillaries and increases local perfusion. The result is improved delivery of nutrients and oxygen to the wound.

GUIDE TO CHOOSING AND USING PORTABLE NPWT (PICO™) IN AMBULATORY PATIENTS

Pressure gradient (~75mmHg to ~125mmHg) removes excess exudate, which contains elevated pro-inflammatory mediators, which degrade the extracellular matrix and decrease production of growth factors, delaying wound healing. Removal can, therefore, accelerate healing.

Negative pressure stimulates cell generation, encouraging growth and resulting in the formation of granulation tissue.

Filler material does not dry out as moisture is pulled through the wound, which helps maintain a moist wound-healing environment (Figure 1). Where a wound has been adequately debrided before application of NPWT, autolytic debridement will be facilitated and epithelialisation promoted.

Occlusive film creates a physical barrier between the wound and external contaminants, preventing microbial colonisation that could impede wound healing.

The negative pressure gradient created by the action of an NPWT system decreases interstitial oedema, which decreases the direct pressure on capillaries and increases local perfusion. The result is improved delivery of nutrients and oxygen to the wound.

1. PATIENT
- Has appropriate home environment
- Does not have psychosocial issues that would impede understanding or management of therapy

2. WOUND
- Appropriate type for management with NPWT: pressure, venous and diabetic foot ulcers; post-surgical wounds; pre- and postoperative flaps and grafts; traumatic wounds
- Stalled healing (>6 weeks)
- Low to moderate levels of exudate (less than 300ml per week)

3. FURTHER CONSIDERATIONS BEFORE INITIATION
- Depth: If the wound is deep, apply gauze or foam filler before applying NPWT
- Infection: If the wound is infected, consider antimicrobial barrier dressing (e.g. ACTICOAT™ Flex) in conjunction with NPWT
- Compression: If the wound is being treated with compression therapy, continue NPWT under compression

- Consider alternative treatment

4-STEP NPWT APPLICATION AND ACTIVATION

1. CLEAN AND PREPARE WOUND PER LOCAL PROTOCOL
- Peel off the central release handle and place the dressing centrally over the wound. The port should be placed at the uppermost point of the wound
- Remove the other two handles and smooth the dressing around the wound to prevent creasing

2. PREPARE THE DRESSING
- Insert two AA lithium batteries into the device
- Join the device to the dressing by twisting together the tubing connectors
- Press the orange button to start the application of negative pressure. The green light will start to flash, to indicate the system is working correctly (see diagram on back cover)
- Apply the fixation strips to each of the four sides of the dressing

3. PREPARE AND ACTIVATE THE NPWT UNIT (PICO™)
- Insert two AA lithium batteries into the device
- Join the device to the dressing by twisting together the tubing connectors
- Press the orange button to start the application of negative pressure. The green light will start to flash, to indicate the system is working correctly (see diagram on back cover)
- Apply the fixation strips to each of the four sides of the dressing

4. REVIEW AND REASSESS
- The device has a 7-day life, and the dressing may be left in place for up to seven days, depending on the level of exudate
- When a filler has been used, both the filler and dressing should be changed together
- Review use of NPWT at first dressing change. Discontinue if the patient or wound no longer meets the criteria for use
- After first dressing change, schedule regular review and reassessment of NPWT use to determine whether to continue using it
- When treatment goals have been reached, step down to advanced wound management dressing (e.g. ALLEVYN™ Life)

Figure 1. How the components of portable, single-use NPWT work together

2. Smith & Nephew data on file report 1102010 (in vitro)