



Prescribing Guidance:

Single use Negative Pressure Wound Therapy (NPWT) Systems for Wound Management in Primary Care

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INTRODUCTION

This prescribing guideline has been developed by a Short Life Working Group on behalf of the Therapeutics Branch of the Area Drugs and Therapeutic Group to support safe and cost effective prescribing in primary care.

The clinician prescribing and/or managing the patient treated with **Single Use Negative Pressure Wound Therapy (Single Use NPWT)** should be competent in identifying, assessing, applying and ongoing management of the patients, in their care.

Single use NPWT is used as an alternative to standard dressings or as progression from mechanical NPWT. It is therefore essential when initiating therapy to consider if its use demonstrates safe, cost effective and positive patient outcomes, compared to standard treatment.

In order to maximize the benefit of negative pressure wound therapy and ensure there is best use of resources, that treatment is not continued for longer than is likely to be of value, by only prescribing required volume for intended treatment duration and using the product which is best suited to meet patients needs.

Depending on wound type and status, the duration of use of single use NPWT does not in general exceed 14 days.

BACKGROUND

- The **single use NPWT** works on the same principals as the *mechanical* powered device, promoting granulation, perfusion, contraction and exudate management at the wound bed.
- Single use devices are significantly smaller, more portable and can be more acceptable for patients in primary care.
- Single use NPWT devices currently available can accommodate varying volumes of exudate and have different mechanisms of achieving therapeutic levels at the wound bed. This must be considered prior to initiation to minimise number of dressing changes over course of treatment.
- As with all advanced therapies the evidence to support when to start, duration of use and when to stop is often limited.
- The most robust evidence available to date for use of NPWT is for the management of diabetic foot ulcers.
- The guidance in this document should be used with clinical judgment based on the best available evidence.

<p>IT IS IMPORTANT TO NOTE THAT CAUTIONS AND CONTRAINDICATIONS ARE THE SAME REGARDLESS IF THE DELIVERY OF NPWT IS BY A SINGLE USE OR MECHANICAL POWERED DEVICE</p>

CONTRAINDICATIONS/CAUTIONS/CONSIDERATIONS

Wound bed:

- Presence of slough and necrosis - debride and reassess
- Do not apply circumferential dressings - risk of restricting blood flow
- Wounds with overt signs of infection - increased pain, levels of exudate, cellulites etc
- Active bleeding or difficult wound haemostasis - risk of haemorrhage.
- Patients who are prescribed anti coagulation medication e.g. Warfarin, Direct Oral Anticoagulants, Aspirin check if patient is taking Over The Counter medication which may affect coagulation
- Untreated osteomyelitis - patient may require systemic antibiotics
- Malignant wound (medical advice only) - can exacerbate division of malignant cells
- Non-enteric and unexplored fistulas - risk of bowel perforation
- Direct placement over exposed vital structures e.g. blood vessels organs, anastomotic sites, nerves - risk of damage to underlying structures
- MRI, hyperbaric chamber, defibrillation - disconnect battery pack during procedure and check if device choice can be disconnected without risk of leakage during procedure

Patient's considerations prior to use of Single Use NPWT

- The treatment goal should be defined and agreed with the patient
- Following discussion, patient expresses single use NPWT in preference to standard dressing choices
- Patient is motivated and wishes to be involved in care plan
- Patient can troubleshoot (e.g. know how to check for leaks, reset, remove and apply standard dressing if necessary), and/or;
- Carers are able to support patient if required

Following application the patient should:

- Find the device comfortable, conformable and remains in place.
- Report that there has been minimal need to check and reset negative pressure between dressing changes
- That dressing changes are minimised compared to previous standard dressing alternatives
- Be able to demonstrate ability to troubleshoot
- Be able to detach and reattach powered pack for showering

MOST COMMON WOUND TYPES FOR SINGLE USE NPWT (Table one)

The most common wound types which may benefit from single use NPWT are those which are perceived as hard to heal or complex: identified as greater than 6 week duration; with wound areas reduction in size less than 10% per week over previous four weeks. It may also be considered for post operative wound closure or as preparation for further surgical intervention.

Table one: wound types

Common wound types	Additional considerations/rationale for use on specific wound types
Diabetic foot ulcer	"negative pressure wound therapy should be considered in patients with active diabetic foot ulcers or postoperative wounds" Strength of evidence" Grade B evidence SIGN 116
Dehisced surgical	To promote wound closure. Can be considered under medical guidance if wound closure is required prior to commencement of radiotherapy/chemotherapy treatment
Trauma wound	For skin graft or closed surgical incision to optimise perfusion, reduce surgical site infection, haematomas
Post op surgical incision	Applied in theatre on incision wounds and left in situ for seven days following application and then discontinue. (nb no further NPWT prescribing will be required)
Pressure ulcer grade 3 or 4 (EPUAP)	Patient discharged from acute with powered NPWT and exudate level < 300mls per week allowing for switch to single use NPWT
Venous leg ulcer	Medical advice required for application in the presence of clinical infection with adjunctive antibiotic therapy. Take into account number of dressing changes required to assess ulcer in presence of infection and volume of exudate when considering use of single use NPWT under compression therapy.
Palliative management of symptoms at end of life	Can be considered if patient, carer and palliative care team, agree that the device may relieve symptoms.

WOUND BED PREPARATION PRIOR TO INITIATION of NPWT

Table two considers some of the factors at the wound bed which may result in barriers to healing or prevent maximum interaction between wound interface and NPWT

Wound bed preparation prior to use of therapy will promote safe, cost effective use of device which should support timely and positive patient and wound outcomes.

Table 2: wound bed preparation prior to commencement

Preparation of wound bed prior to and during therapy	Rationale for preparation of wound bed to ensure safe, cost effective use of device
<ol style="list-style-type: none"> 1. All wounds should be debrided to remove slough and necrosis from wound bed. 2. Treat infection/biofilm formation prior to use 3. Exposed tendon or bone. There is a risk of dehydrating exposed tendon or bone if used on a wound bed with minimal exudate. 4. Cavity wounds 	<ol style="list-style-type: none"> 1. NPWT is not a recognized debridement tool. To use as such may prolong time to expose granulating wound bed; and delay therapeutic action of NPWT 2. Presence of infection/biofilm will increase the need for frequent dressing changes to assess and cleanse wound bed 3. To reduce risk the addition of a silicone dressing layer on the wound bed has been used to protect the wound bed. However, this provides an additional layer between the wound bed and reduces efficacy of NPWT by up to 30%. Clinical judgment is required to determine whether the use of an additional contact layer will be the most effective method of treatment compared to other treatment modalities. 4. If cavity dressings are used; ensure these are compatible with the therapeutic surface of negative pressure pad. <p>Kerlix™ gauze dressing is usually used with mechanical device to fill larger cavities. Gauze dressings will not be required with surface and shallow wounds. In deeper wounds with narrow channels filler may act as a “splint” and hinder closure and should be used with caution.</p>
<ol style="list-style-type: none"> 5. Best practice with all wound products is to maximize coverage with the wound bed, to ensure optimum interaction between wound bed and the contact dressing layer. 6. Clinical judgment is required to ensure that perceived benefits of adding additional contact layer products outweighs any undesirable “side effects” 	

RESPONSIBILITY and CONSIDERATIONS TO BE MADE BY THE CLINICIAN PRESCRIBING/ADMINISTERING SINGLE USE NPWT:

Cost effectiveness and patient safety

“All healthcare professionals (HCP) who can prescribe or are administering prescribed products are subject to: their individual clinical competence; the professional codes and ethics of their statutory bodies; and the prescribing policies of their employers.” (MHRA, 2009). .Prior to initiating single use NPWT, the HCP should be satisfied that an alternative, cost effective standard therapy would not meet the patient’s needs. The clinician will take responsibility for the provision of a plan of care. If other clinicians are involved in the patient care this should be communicated by the prescribing clinician prior to administration to those involved.

The clinician must therefore have the knowledge and skills to address the following considerations prior to and during use:

Device power pack

- Is there evidence to support use of device and ability to sustain therapeutic levels of negative pressure at wound bed?
- What type of alarm function does the device have and will it suit the individual patient sensory needs, if there is leakage or undetected loss of pressure i.e. is alarm function: visual/ auditory/vibratory or all three?
- What is the lifespan of the power pack?

Dressing characteristics

- Does the dressing pad conform to area you wish to treat?
- What are the range of sizes and shapes of dressings to provide therapy over course of treatment?
- How much exudate does a single dressing manage – this will indicate number of dressing changes required per week?
- Will there be a need for additional accessories e.g. silicone strips and are these provided in the packs or do they have to be prescribed separately

Prescribing to reduce risk of waste

- Prescribe appropriate amount of products for two week use in first instance (kits, dressing packs etc). If longer required, only prescribe sufficient for two week challenges at a time with review (refer to time to stop below).
- Refer to appropriate specialists if further consultation for support or advice is required or if prolonged use is indicated.
- Ensure therapy is not continued for prolonged period of time which exceeds therapeutic potential (refer to Time to stop below).

Time to stop therapy (edited from Dowsett et al 2017, Pico Pathway)

- Wound progression: when the wound has granulated level with surrounding skin; contraction of the wound bed and epithelialisation is evident; and/or the initial goals defined at the outset of single use NPWT have been met.
- Wounds reduced in area by greater than 40% i.e. “good responder” may have therapy discontinued (can reinstate if wound healing rate stalls if appropriate)
- A “non responder” wound reduced in area <5% at week two; 7.5% at week three; 10% by week four – wound requires further investigation.
- Exudate has diminished sufficiently to allow for a standard dressing or below 20-30mls a day.
- Frank pus and/or blood is evident within the dressing or canister
- Incision wounds – therapy will be commenced in theatre and dressing left undisturbed for one week and thereafter discontinued. There should not be a need to prescribe additional single use NPWT

Additional reasons to stop therapy

- Patient is returning to theatre for further surgical intervention (tertiary closure of wound) or medical intervention (radio or chemotherapy)
- Risk factors increased e.g. bleeding, infection, exposed tendon or bone is dehydrating (should be pearly white shiny in appearance)
- Patient choice and withdraws consent
- Patient is not physically or psychologically tolerant of NPWT

Any adverse effects should be reported on datix and MHRA (yellow card)

<https://yellowcard.mhra.gov.uk/>

SIMPLE Summary considerations:

When managing a patient with single use NPWT it is essential to provide regular ongoing review to ensure treatment goals are being met and patient centred care is achieved (Table three)

Table three: SIMPLE acronym considerations for single use NPWT

SIMPLE	Is product:
Safe	Have you checked cautions and contraindications? Have you reviewed manufacturers' evidence to ensure appropriate use to meet individual patient use?
Indicated	Check wound type: In your clinical opinion are there any standard dressings which would achieve similar outcomes; has wound bed preparation been addressed and wound is free of slough/necrosis and infection? The choice of device can manage volume of exudate produced by wound without need for frequent dressing changes
Measurable	Considered effective if the wound progressing to healing and reducing in size and exudate as expected. Wear time is optimised; Over a two week period is the product proving cost effective? Does the patient report that they do not need to re-prime or reset device to maintain negative pressure? Does the clinician report that patient interventions are reduced due to use of therapy if standard dressings previously used?
Patient advantage	If the patient finds the device, comfortable, stays in place conformable and user friendly? If the patient reports ability to carry out activities of daily living, work and socialise. If the patient reports that they can manage the device without feeling anxious and therefore in control.
Longevity	The dressing should stay in place for anticipated length of time i.e. volume product can manage will reflect number of days expected between changes; If there a need for frequent dressing changes outwith expected time; review wound and product choice. Indicator dressing is achieving expected longevity is when there is no requirement for out of hour or weekend visits to change dressing.
End Point	When treatment goals are met (see time to stop above) Including the wound has contracted and reduced in size, level with surrounding skin, and/or exudate is below 30mls per day; Or. Any adverse effects, patient choice, limited wound progression which will require treatment choice review. (See time to stop section).

Ongoing review

- Monitoring will include regular review of prescribing information systems (PRISMS) to identify volume and types of single use NPWT prescribed
- **If clinicians wish to evaluate a particular single use NPWT they should contact the ADTC therapeutics group via NMP team to support future resource management and sharing of best practice**
- This document will be reviewed as required or at a minimum of three years

APPENDIX ONE:

Current NHS GGC formulary choice for Single Use Negative Pressure Wound Therapy

Preferred choice: Pico™ – Smith and Nephew

Sizes, Drug Tariff and Pecos information

If Pico prescribed for individual named patient (GP10) there is no VAT charge incurred
Pecos/Procurement route will incur additional VAT 20% on undernoted cost

Dressing Size	Pad Size	Price £	DT PIP Codes	NDC CODES PECOS codes	NDC/Pecos cost
10cmx20cm	5.6cmx15cm	£127.06	366-8571	193134	108.00
10cmx30cm	5.6cmx25cm	126.43	366-0032	193141	108.00
10cmx40cm	5.6cmx35cm	145.68	337-7646	193158	108.00
15cmx15cm	10cm x 10cm	126.43	366-0024	193165	108.00
15cm x 20cm	10cmx15cm	126.43	366-0016	193172	108.00
15cmx30cm	10cmx25cm	145.68	337-7653	193189	108.00
20cmx20cm	15cmx15cm	145.68	337-7679	193196	108.00
25cmx25cm		145.68	337-7661	193202	108.00
Multisite shaped 15 x 20cm	Small 5.5 x 15cm	125.86	397-7188	No code	No code
Multisite shaped 20 x 25cm	9 x 20 cm	144.31	397-7196	No code	No code
Each kit contains: two dressings, adhesive retention strips and battery pack Dressing can be left in situ for one week Battery pack longevity: 7 days 7 hours Gauze (Kerlix) filler if required NDC/Pecos £10.63 for 5 (plus VAT) Drug Tariff :Gauze filler- 15cm x 17cm (pack of 5) £11.10 Gauze filler (Kerlix AMD) 11.4cm x 3.7m (pack of 5) £1.62 Gauze Filler (Kerlix AMD) 15.2cm x 17.1 cm (pack of 2) £0.71 Gauze Filler (Kerlix AMD) 15.2cm x 17.1cm (pack of 5) £1.78					



PICO Quick Ref
Guide Updated.pdf



PICO Patient
Information Leaflet.p

It is the responsibility of the clinician to keep up to date and work within their level of competence
For further support contact relevant specialty: Burns/plastics, podiatry, tissue viability, vascular etc for support if required.

For prescribing support contact non medical prescribing team

Further reading

For information on availability of therapeutic formularies refer to <http://www.gccprescribing.org.uk/non-medicines-formularies/> Consent Policy on Healthcare Assessment, Care & Treatment. NHSGGC, March 2011

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