Prescribing Guidance:

Single use Negative Pressure Wound Therapy (sNPWT) for Wound Management

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Contents: Page No

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INTRODUCTION

This prescribing guideline has been developed by a Short Life Working Group on behalf of the NHSGGC Therapeutics Sub Committee of ADTC 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 (sNPWT)** should be competent in assessing, applying and ongoing management of the patient, in their care.

SNPWT is used as an alternative to standard dressings and is complementary to 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 or mechanical NPWT device. Choice between mechanical and sNPWT is based on wound size, exudate level, depth and location of wound. Choice should be kept as simple as possible and individualised to the patient.

In order to maximize the benefit of negative pressure wound therapy and ensure there is best use of resources and reduce risk of waste, ensure that the wound bed has been prepared for healing and the treatment is not continued for longer than is likely to be of value. For this reason only prescribe required volume for intended treatment duration and reassess for suitability to meet patient needs. If there is no progression following two dressing changes reconsider care plan.

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

This guideline should be used in conjunction with NHS GGC Wound Product Formularies and additional Wound Product Prescribing Information HERE

If clinicians wish to evaluate a particular sNPWT they should contact the ADTC therapeutics group to support future resource management and sharing of best practice HERE

BACKGROUND

- The **sNPWT** works on the same principals as the *mechanical* powered devices promoting granulation, perfusion, contraction and exudate management at the wound bed. HERE
- Single use device battery power packs are significantly smaller, “pocket sized” and portable and can be more acceptable for patients in primary care.
- SNPWT devices currently available can accommodate varying volumes of exudate, with shaped dressings of various sizes to accommodate varying wound sizes and sites (appendices one and two). It has a different mechanism of achieving therapeutic levels at the wound bed compared to mechanical NPWT. This must be considered prior to initiation to minimise number of dressing changes over course of treatment and ensure cost effectiveness.
- As with all advanced therapies the evidence to support when to start, duration of use and when to stop is often limited, the guidance provided is based on the best available evidence.
- The guidance in this document should be used with clinical judgement based on the best available evidence to reduce risk of harm, waste and variations in practice.

CONTRAINDICATIONS

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

Wound bed:

- 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
- Circumferential dressings - risk of restricting blood flow
- Active bleeding or difficult wound haemostasis - risk of haemorrhage

CAUTIONS/CONSIDERATIONS

In presence of cautions/further considerations, address underlying cause and reassess to establish whether sNPWT is still preferred treatment choice or seek medical advice prior to commencing therapy

- Presence of slough and necrosis - debridement required to allow maximum exposure of wound bed
- Wounds with overt signs of infection - increased pain, increased exudate, cellulites etc
- Untreated osteomyelitis - patient may require systemic antibiotics
- Malignant wound (medical advice only) - can exacerbate division of malignant cells but may be necessary if timely wound healing is required prior to radiotherapy
- Patients prescribed anti coagulation medication e.g. Warfarin, Direct Oral Anticoagulants, Aspirin or taking Over the Counter medication which may affect coagulation
- Patients with a bleeding disorder e.g.haemophilia
- MRI, hyperbaric chamber, defibrillation - disconnect battery pack during procedure and check if device choice can be disconnected without risk of leakage during procedure
- Patients with implantable medical devices such as cardiac rhythm management devices e.g. pacemaker, implantable cardiovertor defibrillator should be advised to position sNPWT battery pack at least 10cm from device (similar to advice to patients with regard to mobile phones etc). https://www.nhs.uk/conditions/pacemaker-implantation/recovery/

  Further information for patients and clinicians on safety when using batteries with magnets with current formulary choice (courtesy of Smith and Nephew)

18750 PICO 7
Customer Magnet Brc

Patient considerations prior to initiation of sNPWT

- The treatment goal should be defined and agreed with the patient
- Following discussion, patient expresses sNPWT in preference to standard dressing choices or mechanical NPWT
- 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/carer should be able to report that:

- dressing is comfortable, conformable and remains in place.
- there has been minimal need to check and reset negative pressure between dressing changes
- dressing changes are minimised compared to previous treatment choices if relevant
- they can demonstrate ability to troubleshoot
- they have ability to detach and reattach powered pack for showering

MOST COMMON WOUND TYPES FOR sNPWT (Table one)

The most common wound types which may benefit from sNPWT are those which are perceived as hard to heal or complex, with wound areas which have reduced in size less than 10% per week over previous four weeks. It may also be considered for post operative wound closure in patients at high risk of post op dehiscence or as preparation for further surgical intervention.

Table one: wound types suitable for sNPWT

Common wound types	**Additional considerations/rationale for use on specific wound types following wound bed preparation**
Diabetic foot ulcer	To promote granulation and wound closure following surgery or wounds healing by secondary intention, when wound bed has been prepared for healing.
Dehisced surgical or trauma wounds	To promote wound closure Can be considered under medical guidance if wound closure is required prior to commencement of radiotherapy/chemotherapy treatment.
Closed incision NPWT (ciNPWT)	Applied in theatre on incision wounds or skin grafts in high risk patients e.g. high BMI, poor perfusion, reduce risk of infection, seroma, haematoma, local skin ischaemia. Left in situ for seven days following application and then discontinued. Clear evidence and recommendations are still required for ciNPWT (Wounds International, 2019).
Pressure ulcer grade 3 or 4 (EPUAP)	Patient discharged from in-patient care with powered NPWT and exudate level < 300mls per week allowing for switch to sNPWT.
Venous leg ulcer	Can be considered under compression therapy for complex leg ulcers due to chronic venous insufficiency to promote wound progression.
Palliative management of symptoms at end of life	Can be considered if patient, carer and palliative care team, agree that the device may reduce need for frequent dressing changes and/or relieve symptoms e.g. exudate, odour, pain.

WOUND BED PREPARATION PRIOR TO INITIATION of sNPWT

Prior to initiation of sNPWT consider some of the factors at the wound bed which may result in barriers to healing or prevent maximum interaction between wound interface and NPWT (table two)

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**
1. All wounds should be debrided to remove slough and necrosis from wound bed.	1. sNPWT is not a recognised debridement tool. To use as such may prolong time to expose granulating wound bed; and delay therapeutic action of sNPWT
2. Treat infection/biofilm formation prior to use	2. Presence of infection/biofilm will increase the need for frequent dressing changes to assess and cleanse wound bed
3. Exposed tendon or bone. There is a risk of dehydrating exposed tendon or bone if used on a wound bed with minimal exudate.	3. To reduce risk the addition of a silicone dressing layer on the wound bed has been used to protect wound bed. However, this provides an additional layer between the wound bed and reduces efficacy of sNPWT by up to 30%. Clinical judgement is required to ensure that perceived benefits of adding additional contact layer outweighs any undesirable "side effects". Consider this against other treatment modalities.
4. Cavity wounds	4. If cavity dressings are used; ensure these are compatible with the therapeutic surface of negative pressure pad. Kerlix™ gauze or specially designed foam insert dressings for this purpose are the only products compatible with NPWT to fill larger cavities. (Appendix one). These 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.
Best practice with all wound products is to maximize coverage with the wound bed, to ensure optimum interaction between the wound bed and the contact dressing layer, with even distribution of negative pressure.	

RESPONSIBILITY and CONSIDERATIONS TO BE MADE BY THE CLINICIAN PRESCRIBING/ADMINISTERING SNPWT

Patient safety/Realistic Medicine

"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 sNPWT, the HCP should be satisfied that this will provide the safest most cost effective method of treatment; that all members of the multi-disciplinary care of the patient have been included in care plan; which support the principles of "Personalising Realistic Medicine"

(https://www.gov.scot/publications/personalising-realistic-medicine-chief-medical-officer-scotland-annual-report-2017-2018/). .

The clinician should address the following considerations prior to and during use (generic considerations):

Device power pack

- Is there evidence to support use of device and ability to sustain therapeutic levels of negative pressure across 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 life span of the power pack?

Dressing characteristics

- Does the dressing pad conform to area you wish to treat?
- Are there a 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? Wound dressing changes should not exceed x 2 weekly
- Will there be a need for additional accessories e.g. silicone strips. Are accessories provided in the pack or do they have to be prescribed separately?

Prescribing to support patient centred care and reduce risk of waste

- Prescribe appropriate amount of products f or 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 NPW T 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 f or a standard dressing or below 20-30mls a day.
- Frank pus and/or blood evident within the dressing or canister – reassess wound
- 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 sNPWT

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 NPW T

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 sNPWT 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 sNPWT

SIMPLE	**Product suitability:**
Safe	Have you checked cautions and contraindications? Have you reviewed manufacturers' evidence to ensure appropriate use to meet
Indicated	Check wound type and assess wound bed, patient circumstances: In your clinical opinion is sNPWT the most effective choice of treatment to progress the wound to healing?
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 compared to alternative wound products, taking into account wound progression and number of interventions required? Prescribing activity is monitored via Prisms data
Patient advantage	Does the patient finds the device, comfortable, stays in place conformable and user friendly? Can the patient report ability to carry out activities of daily living, work and socialise. Does it promote patient well being and they report that they can manage the device and are in control.
Longevity	The dressing should stay in place for anticipated length of time. ; If there a need for frequent dressing changes outwith expected time; review wound, product choice and patient issues.
End Point	When treatment goals are met (time to stop) 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).

APPENDIX ONE:

Prescribing information (Drug Tariff)

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

PICO 7™ KITS (Smith and Nephew)

PICO 7 dressing kit		
Two dressings per kit	**New PICO 7 PIP code**	**DT Price[1] (£) (correct at time of print)**
10cm x 20cm	407-4514	£129.49
10cm x 30cm	407-4506	£128.84
15cm x 15cm	407-4100	£128.84
10cm x 40cm	407-4522	£148.46
15cm x 20cm	407-4530	£128.84
15cm x 30cm	407-4480	£148.84
20cm x 20cm	407-4498	£148.46
25cm x 25cm	407-5123	£148.46
Small 15cm x 20cm Multisite	407-5214	£128.26
Large 20cm x 25cm Multisite	406-5206	£147.07

- 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

Accessories

Filler for cavity wounds	Size	Cost (Drug Tariff)
Gauze filler (Kerlix AMD	11.4cm x 3.7m	(pack of 5) £1.64
Gauze Filler (Kerlix AMD	15.2cm x 17.1 cm	(pack of 2) £1.78
Gauze Filler (Kerlix AMD)	15.2cm x 17.1cm	(pack of 5) £4.99
Foam wound dressing	10 x 12.5 x 1.5cm	£7.91

https://www.isdscotland.org/Health-Topics/Prescribing-and-Medicines/Scottish-Drug-Tariff/Docs/August-2019/2019-08-SDT-PART2.pdf

For further information refer to Smith and Nephew:

- Pico 7 System: Quick Reference Guide https://cms.possiblewithpico.com/files/pdfs/PCEE2-14182-0818PICO7QuickReferenceGuide.pdf
- Patient Home Care Information https://www.smith-nephew.com/global/sn11612%20-%20pico%20patient%20information%20booklet.pdf

APPENDIX TWO:

Ordering information (Procurement PECOS route)

	PICO 7 1 Dressing kit		PICO 7 2 Dressing kits		PICO 7 Dressing Multipack (5 pack)	
Dressing size	**S&N code**	**NHSSC Code**	**S&N code**	**NHSSC Code**	**S&N code**	**NHSSC Code**
10cm x 20cm	66802012	ELZ889	66802002	ELZ899	66802022	ELZ909
10cm x 30cm	66802013	ELZ890	66802003	ELZ900	66802023	ELZ910
10cm x 40cm	66802014	ELZ892	66802004	ELZ902	66802024	ELZ912
15cm x 15cm	66802015	ELZ891	66802005	ELZ901	66802025	ELZ911
15cm x 20cm	66802016	ELZ893	66802006	ELZ903	66802026	ELZ913
15cm x 30cm	66802017	ELZ894	66802007	ELZ904	66802027	ELZ914
20cm x 20cm	66802018	ELZ895	66802008	ELZ905	66802028	ELZ915
25cm x 25cm	66802019	ELZ896	66802009	ELZ906	66802029	ELZ916
Small 15cm x 20cm	66802010	ELZ897	66802000	ELZ907	66802020	ELZ917
Large 20cm x 25cm	66802011	ELZ898	66802001	ELZ908	66802021	ELZ918
Foam filler 10cm x 12.5cm	66802011	ELZ427	-		-	-

Further reading

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National Prescribing Centre (2012) A single competency framework for all prescribers. https://www.associationforprescribers.org.uk/images/Single_Competency_Framework.pdf

NICE (2019) PICO negative pressure wound dressings for closed surgical incisions Medical technologies guidance Published: 9 May 2019 https://www.nice.org.uk/guidance/mtg43/resources/pico-negative-pressure-wound-dressings-for-closed-surgical-incisions-pdf-64372054098373

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Vig S, Dowsett C, Berg L, et al.(2011) Evidence-based recommendations for the use of Negative Pressure Wound Therapy in chronic wounds: steps towards an international consensus. J Tissue Viability.; 20 Supplement 1:S1-18