



## SECTION 9: WOUND CARE

### 9.3 Dressings

#### 9.3.2 Changing a Vacuum Assisted Closure (VAC<sup>®</sup>) Dressing

##### 9.3.2.1 *Changing a Gauze Negative Pressure Wound Therapy Dressing (NPWT)*

#### Aim

To promote wound healing by using continuous negative pressure to actively drain excess fluid(s) from the wound and increase vascular perfusion.<sup>1,1</sup>

#### Background Information<sup>1, 2</sup>

Controlled levels of negative pressure, to the base of some types of wound have been shown to accelerate debridement and promote healing<sup>1, 2</sup> by:

1. Removing excess fluid<sup>2</sup> to prevent maceration, decrease oedema and the bacterial count.<sup>1</sup>
2. Mechanical stretching of the wound to enhance blood flow and speed up cellular reproduction.<sup>1</sup>

#### Indications<sup>1-3</sup>

- Chronic wounds
- Acute/sub-acute wounds
- Traumatic wounds
- Dehisced wounds
- Pressure injury (full thickness)
- Grafts
- Diabetic/neuropathic ulcers

#### Contraindications<sup>1-3</sup>

- Malignant wounds
- Untreated osteomyelitis
- Non enteric and unexplored fistula
- Necrotic tissue with eschar present/dry wounds
- Wounds with blood vessels or major organs exposed
- Severe peripheral arterial disease
- Any cavity /sinus of which the origin is not clearly visible or cannot be probed to identify origin

#### Key points

- This procedure requires an aseptic non touch technique ([A&NTT](#)).
- NPWT must be ordered by the treating clinician and documented in the patient's medical notes.
- Devices should be set on continuous therapy in all children unless specified otherwise by the clinician.

## Dressings – Changing a Gauze Negative Pressure Wound Therapy Dressing (NPWT)

- If sedation is required for the procedure, refer to [Clinical Guideline for Oral Conscious Sedation of children by Non anaesthetic Personnel](#). Refer to [PNPM 1.11 Clinical Holding](#), if assistance is required to hold a child during the procedure.
- When the therapy unit is turned off, never leave dressing in place for more than 2 hours. Either apply a new NPWT dressing or an alternative dressing at the direction of the treating clinician.<sup>3</sup>
- Timing of NPWT dressing changes are to be determined by the type of wound, amount of exudate and the treating clinicians order. It is generally recommended that dressings be changed every 48 hours after initial application and then twice weekly as a minimum.
- A 300mL canister is used with the RENASYS GO NPWT system.
- Due to fluid losses and/or dehydration, electrolyte imbalance can occur. This is of particular importance in neonates/infants and younger children. Observe the patient for such complications and report concerns to the treating clinician's team.
- Patients with bleeding disorders will require close monitoring.
- **Do not use the 750/800mL canister for children.**<sup>4</sup>
- Use of NPWT should be reviewed if no progress in wound healing is noted in a 1-2 week period.<sup>3</sup>
- Do not take therapy unit into the MRI environment.<sup>4</sup>
- A wound contact layer must be used on all wounds in children.
- Do not allow port to overlap onto intact skin.

### Equipment

Dressing trolley

Sporacidal wipes or 70% Alcohol wipe (for decontaminating trolley)

RENASYS-G Gauze dressing kit

Sterile swabbing solution (sodium chloride 0.9%<sup>5, 6</sup> is normally used to clean wounds)

Disposable gloves

Sterile gloves

Sterile scissors

RENASYS GO – therapy unit

### Additional Equipment which may be required:

Extra sterile swabs

Sterile cotton tip applicators

Measuring guide (Visitrak Depth)

Lignocaine 1%

Sodium Chloride 0.9%

Duoderm (thin) dressing

## Dressings – Changing a Gauze Negative Pressure Wound Therapy Dressing (NPWT)

### RENASYS GO canister kit 300mL

Steps	Additional Information
30 minutes prior to dressing removal, consider administering appropriate comfort measures, pain relief or sedation to patient.	Removal of the dressing +/- debridement may be painful and cause the patient distress. <sup>1,3</sup>
Raise the tubing connectors above the level of the RENASYS GO – therapy unit. Close off tubing using the quick click connectors with the attached cap. <sup>3</sup>	
Switch the therapy unit off.	Press the POWER button.
Separate the canister and dressing via the Soft Port by disconnecting them at the connector.	
Wait for 5 mins prior to removal of gauze from wound bed.	Dressing must be attended with the therapy unit turned off and the gauze allowed time to decompress. <sup>3</sup>
Perform hand hygiene Don clean gloves. Stretch drape horizontally and slowly remove from skin. Gently remove gauze from the wound bed.	
Measure wound size and depth.	Use wound assessment tool to observe wound for signs and symptoms of deterioration +/- infection.  Document the findings on the Wound Management Tool. (Refer to <a href="#">PNPM 9.1.1 Wound Assessment, Dressing Selection and Cleansing Solutions</a> ).
Dealing with the cleaner parts of the wound first, swab the wound until it is clean. Work from the inside to the outside of the area. Use each swab once only. The wound may also be irrigated gently using sterile saline solution.	If using hands and not forceps to hold the gauze swabs, don sterile gloves.

## Dressings – Changing a Gauze Negative Pressure Wound Therapy Dressing (NPWT)

Steps	Additional Information
Dry area with a dry gauze swab.	Do not use cotton wool as this can deposit strands that will stick to the cleaned area.  The area must be dried in order to ensure drape adhesion.
Apply skin protection product to protect peri wound skin.	Fragile skin is protected by using protective barrier which is supplied with the dressing kit.
Perform hand hygiene Don sterile gloves. Moisten gauze with saline, squeeze out excess.	
Line base of wound with non adherent interface dressing (supplied in kit).	This prevents tissue granulating into gauze.
Fill the wound cavity with moistened gauze covering the entire wound base, sides and any areas of undermining or tunnelling.  Ensure gauze stands above skin level as a 'mushroom.'	Do not force gauze into the wound cavity.  Level of gauze will reduce once negative pressure is applied.
Cover the gauze with transparent film.	The film should extend 5cm beyond wound margins.
Cut a circular hole approx. 1.5cm in centre of the film over the gauze.  Remove the backing from the Soft Port, align the opening of port over the pre-cut hole in the film, and anchor port to the film.	The Soft Port can be positioned at an angle to accommodate patient comfort.
Connect the Port to the RENASYS Go therapy unit, start therapy.	Set level of desired negative pressure prior to starting the therapy.
Monitor for leakage.	
Monitor drainage fluid.	
Refer to the Clinical guidelines NPWT using gauze filler provided by the manufacturer for trouble shooting tips and general dressing tips.	Available on each ward from Smith & Nephew.

## Dressings – Changing a Gauze Negative Pressure Wound Therapy Dressing (NPWT)

Steps	Additional Information
Alternatively call 1800 068 840 NPWT 24hr Clinical Support Line.	S&N rep is on call 24 hours to replace faulty machine or to help with troubleshooting.
<p><b>Monitoring the wound</b> <sup>3</sup></p> <p>Closely monitor patients with an increased risk of bleeding eg:</p> <ul style="list-style-type: none"> <li>• inadequate wound haemostasis</li> <li>• those receiving anticoagulants</li> </ul> <p>If active bleeding occurs immediately</p> <ul style="list-style-type: none"> <li>• stop the NPWT</li> <li>• seek medical assistance <sup>3</sup></li> </ul> <p>Consider a medical review, MET call, CODE Blue as indicated by the patient's clinical condition (<a href="#">PNPM 4.1 Code Blue (55)</a> and Emergency Resuscitation).</p>	
<p>Inspect the dressing hourly to ensure</p> <ul style="list-style-type: none"> <li>• there are no leakages</li> <li>• negative pressure is being delivered as prescribed <sup>3</sup></li> </ul>	Document on the fluid balance chart.
<p>Inspect the wound at each dressing change for:</p> <ul style="list-style-type: none"> <li>• signs and symptoms of deterioration, pain/discomfort</li> <li>• infection – document the findings in the patient progress notes <sup>3</sup></li> </ul>	<p>Deterioration may indicate dehydration and/or electrolyte imbalance.</p> <p>Document findings on the Wound Management Plan.</p>
Report any concerns to the treating clinician's team promptly.	

### Changing the NPWT RENASYS Go Canister<sup>3</sup>

Steps	Additional Information
Don clean gloves.	
Switch the RENASYS Go device off.	Press POWER button.
Separate canister tubing from Soft Port tube at quick click connector site, close caps.	The canister should be changed when full (machine will alarm) <sup>3</sup> or at least weekly.
Remove canister from the machine and dispose of in clinical waste.	
Connect new canister tubing to dressing tubing at the quick click connector site.	
Turn RENASYS Go therapy unit on.	

### Temporary Disconnection from the RENASYS Go therapy unit

#### Key point

- Patients should not be disconnected from the unit for more than 2 hours at any time.


Steps	Additional Information
Close of tubing using the quick connector with attached cap.	
Switch the RENASYS Go therapy unit off.	Press POWER button.
Separate the canister tubing and dressing via the Soft Port by disconnecting at the connector.	
Cap the ends of tubing using attached caps.	
<b>Note:</b> When reconnecting and turning therapy back on, confirm previous therapy settings resume.	

*Adapted from: Clinical guidelines NPWT using a gauze filler.*

## Dressings – Changing a Gauze Negative Pressure Wound Therapy Dressing (NPWT)

### References:

1. Brown N et al (editors). Nursing Care of the Pediatric Surgical Patient. 2nd ed. USA: Jones & Barlett Publishers; 2007.
2. Thomas S. An introduction to the use of vacuum assisted closure [Expert opinion]. 2001. Available from: <http://www.worldwidewounds.com/2001/may/Thomas/Vacuum-Assisted-Closure.html>. Accessed: 5 September 2014
3. Kinetic Concepts Incorporated. V.A.C. Therapy Clinical Data. KCI Clinical Evidence 2007. Available from: <http://www.kci-medical.com.au/AU-ENG/vacclinicalevidence>. Accessed: 24 April 2014
4. Kinetic Concepts Incorporated. VAC<sup>®</sup> Therapy Indications and Safety Information. 2012. Available from: <http://www.kci-medical.com.au/AU-ENG/indicationsandsafetyinformation>. Accessed: 5 May 2014
5. Hom D. Incision Placement. 2008. Available from: <http://www.emedicine.com/ent/topic34.htm>. Accessed:
6. Brown P. Surgical wounds and radiation burns. In: Quick reference to wound care Ch.12 2nd ed. Sudbury MA: Jones and Bartlett; 2005.

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<b>All protocols should be read in conjunction with the <a href="#">Disclaimer</a> in the Preface of this manual. The accuracy of this document is not guaranteed when printed.</b>			

## Dressings – Changing a Gauze Negative Pressure Wound Therapy Dressing (NPWT)

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Appendix 1



## RENASYS Gauze with Soft Port Application



### Clean and debride

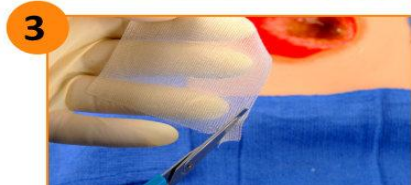
**1**

Debride any devitalized or necrotic eschar tissue. Cleanse the wound and pat dry as per local protocol.



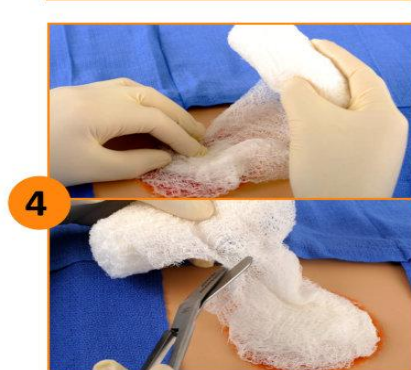
**2**

If required, protect the peri-wound skin from exposure to moisture and adhesive through the use of a skin sealant.



**3**

If desired, a non-adherent wound contact layer may be applied. Trim a single layer of non-adherent gauze to fit the wound dimensions and lay across the wound bed.



### Dress wound with gauze

**4**

Apply a layer of saline-moistened antimicrobial gauze to wound bed. Continue to apply in layers, until the gauze loosely fills the entire wound. Avoid over packing the wound.

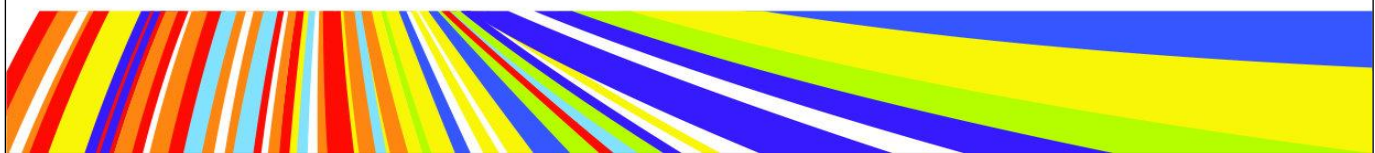
*If multiple pieces of gauze are needed to fill the wound, count and record how many pieces are present to ensure all pieces are removed at a dressing change.*

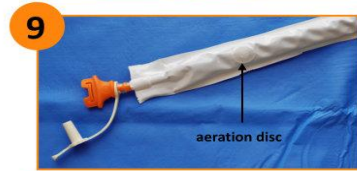


### Seal the wound

**5**

Remove panel #1 of the transparent film, exposing the adhesive. Apply over the wound and remove the remaining panel #2 to seal. Once placed, remove the top panel #3. Continue to apply until the gauze is completely covered and the wound is sealed.





### Apply RENASYS™ Soft Port

**6** Cut a hole no smaller than 2cm in the centre of the transparent film, over the gauze. Remove any loose transparent film and dispose.

**7** Remove the adhesive backing panel from the RENASYS Soft Port dressing, and align directly over the hole in the transparent film. Use gentle pressure to anchor it to the transparent film.

**8** Smooth the dressing down while removing the RENASYS Soft Port stabilization frame.

**9** Secure the RENASYS Soft Port to the patient as needed taking care not to cover the aeration disc.

**10** Connect the RENASYS Soft Port tubing to the canister tubing by pushing the quick click connectors together. An audible click indicates connection is secure. Switch on the RENASYS device, set desired pressure setting and start therapy. The finished dressing should be firm to the touch and leak-free.

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