RENASYS Negative Pressure Wound Therapy (NPWT) clinical guidelines
Smith & Nephew has an extensive portfolio of wound care products and therapies that cover all major aspects of managing a wide range of wound types. It is a well-established principle that wounds are managed across a continuum of healing and require different therapies at each step in the continuum. Smith & Nephew offers negative pressure wound therapy (NPWT) as part of a complete range of wound care products to use along a patient’s journey towards healing. The key to deciding which product to use at each stage of the continuum is to identify the barriers to healing along with a treatment goal to combat those issues.\textsuperscript{1,2}

NPWT is widely adopted as a standard treatment for patients with both acute and chronic wounds.\textsuperscript{3} A variety of formats are now available, and, as the wound progresses along the continuum, a switch from one format to another may be the most appropriate course. NPWT has been shown to be cost effective when used appropriately.\textsuperscript{4,5} Knowledge of when NPWT is most appropriate and when alternative therapies may be more appropriate is vitally important to maintain the efficient use of resources while not negatively affecting wound outcomes.\textsuperscript{3,6,7}

Negative pressure wound therapy involves the application of controlled levels of sub-atmospheric (negative) pressure to a wound. The systems described in these guidelines consist of a suction pump to generate negative pressure and a variety of wound dressing kits to deliver the therapy to the wound site. The benefits of NPWT in progression towards wound healing go well beyond drainage management. Studies have shown that NPWT improves granulation tissue formation, may decrease bacterial burden, protects from the outside environment, promotes moisture balance within the wound bed, and may decrease the frequency of dressing changes.\textsuperscript{3}

The following Clinical Guidelines should be used as a reference for treating wounds with RENASYS® NPWT products. The Guidelines do not constitute and are not a substitute for medical advice or medical judgement. The Guidelines do not guarantee positive outcomes, wound healing or proper function of the RENASYS NPWT Device. As with any medical device, consult the physician/clinician concerning the patient’s individual condition and prescribed treatment. Always consult and follow all applicable user’s manuals, product inserts, instructions for use, safety information and reference guides for product use, operation and application.
Wound bed preparation

Wound bed preparation has been defined as the process of removing the barriers to healing. Removal of these barriers is thought to allow the wound repair process to progress.\(^1,2\)

The Tissue, Infection, Moisture and Edge (epithelial margin) “TIME” scheme is a useful way of identifying and removing barriers to healing.

Wound bed preparation represents a combination of both scientific knowledge and practical skill; its application can help correct abnormalities in acute and chronic wounds and stimulate or progress the healing process.\(^1\) To optimize the use of negative pressure wound therapy, it is essential that clinicians ensure wound bed preparation is achieved prior to, during and after therapy.\(^7\)

**TIME principles of wound bed preparation**

<table>
<thead>
<tr>
<th>Barrier</th>
<th>Intervention</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tissue nonviable or deficient</td>
<td>Infection or inflammation</td>
<td>Moisture imbalance</td>
</tr>
<tr>
<td>Defective matrix and cell debris</td>
<td>High bacterial counts or prolonged inflammation</td>
<td>Desiccation or excess fluid</td>
</tr>
<tr>
<td>Debridement</td>
<td>Antimicrobials</td>
<td>Dressings Compression</td>
</tr>
<tr>
<td>Restore wound base and ECM proteins</td>
<td>Low bacterial counts and controlled inflammation</td>
<td>Restore cell migration, maceration avoided</td>
</tr>
</tbody>
</table>
Optimization of NPWT

The effective use of NPWT relies on thorough assessment of the patient, the wound, and development of a plan for how the wound might be closed. When to debride and when to start and stop NPWT are keys to an effective treatment plan.8,9

Debride wound

Effective debridement may:
- Reveal extent of tissue damage
- Reduce biochemical imbalance, senescent cells10
- Reduce bacterial burden10
- Reduce odor
- Optimize healing potential10

Consequences of ineffective debridement are:
- Potential for delayed healing
- Potential for infection
- Physical barrier preventing accurate assessment
- Reduced patient Quality of Life (QoL)
- Psychological aspects

Optimize healing – mechanisms of action3

- Remove exudate
- Assist in wound contraction
- Stimulate granulation tissue
- Protect from outside contaminants
- Increase vascular perfusion

- May reduce wound bioburden
- Remodel connective tissue matrix
- Encourage maturation of epithelial cells
- Maintain a moist wound environment

Know when to stop or change treatment

- Established goal of therapy has been met3,8
- No improvement or reduction in wound volume has been documented consecutively for 2 weeks8
- Individual patient characteristics and wound considerations may vary clinical decisions in regards to whether to continue or discontinue NPWT8
General therapy considerations

Wound assessment

NPWT treatment depends heavily upon the quality of the clinical wound assessment. The wound should have a detailed assessment at the initiation of the NPWT treatment regime and with every dressing change thereafter. The following areas should be addressed with every wound assessment:

Wound size: length, width, depth
- NPWT has the ability to assist with removal of interstitial fluid and sloughy necrosis.\textsuperscript{11,12} With the removal of the space filling materials, the volume of the wound may increase slightly. This will likely happen within the first few dressing changes, especially if the wound is in the inflammatory phase of wound healing.

Granulation tissue: amount and description
- Healthy granulation tissue should be beefy red and not bleed easily. No trauma should occur to the granulation tissue with dressing removal. A non-adherent dressing or a contact layer may be used to reduce pain or where the risk of tissue ingrowth is present.\textsuperscript{3}

Epithelialization: amount and description
- Epithelialization is thin and often noted to be shiny or silver in appearance and may be hard to see. The new cells are very fragile. If undermining is present, it is important to fill the undermined areas with gauze or foam to prevent the edges from rolling under.

Necrotic tissue: type and amount
- The use of NPWT in wounds with necrotic tissue with eschar present is contraindicated.
- Necrotic tissue is devitalized tissue and often appears black or brown, hard and dry. Soft or boggy necrotic tissue should be assessed for infection.
- NPWT, along with the autolytic environment established by the Transparent Film, may result in a decrease in necrotic slough.\textsuperscript{11,13}

Slough
- Slough is necrotic or devitalized tissue that is yellow in appearance and can be dry or moist.

Exudate: type, amount and consistency
- Assess wound exudate for type, amount, color and consistency. Evaluate the wound exudate for consistent characteristics with the wound type and the anticipated exudate. Significant changes in exudate warrant a reassessment of the wound.

Odor: present/absent, description
- It is important to note that body fluids that have been contained in a sealed system for an extended period of time may likely have an unpleasant odor. This odor is not a direct indication of wound infection. Remove dressing and cleanse wound per facility protocol. If odor persists, assess for wound infection, and if required, treat and increase frequency of dressing until odor is under control. The use of an antimicrobial wound contact layer may be used to reduce bacterial burden.\textsuperscript{14} If odor persists, contact your Smith & Nephew representative for possible pump replacement or service.

Pain: use facility approved tool for rating pain
- There should not be pain with the RENASYS-G Gauze Dressing Kit. If the patient experiences pain, decrease the amount of pressure. The pressure range is 40-120mmHg which should allow for pressure adjustments.
- When using the RENASYS-F Foam Dressing Kit, tissue adherence may be reduced by use of a non-adherent wound contact layer, decreasing the pressure, and/or increasing the frequency of the dressing changes to decrease tissue ingrowth.\textsuperscript{3}
- Consider utilizing RENASYS-G Gauze Dressing Kit. See choosing a wound filler/interface.
RENASYS™ introduction
RENASYS® Negative Pressure Wound Therapy

RENASYS TOUCH
RENASYS-F Foam Dressing Kit with Soft Port
RENASYS-G Gauze Dressing Kit with Soft Port

NOTE: Full device operation is found in the Clinician User Manual for the RENASYS TOUCH Device

Description

RENASYS NPWT Devices are designed to provide NPWT to a closed environment over a wound, in order to evacuate exudate from the wound site to a disposable canister, which may promote wound healing via removal of fluids, including irrigation and body fluids, wound exudate and infectious materials.

Important information – monitoring NPWT

Carefully and frequently monitor the patient, device, and dressing frequently to determine if there are any signs of bleeding, exudate accumulation (pooling), infection, maceration, or loss of negative pressure wound therapy. The frequency should be determined by the clinician based on individual characteristics of the patient and wound.

Warning: Carefully monitor patients for signs of bleeding, which may lead to interruption in therapy and hemodynamic instability. If such symptoms are observed, immediately discontinue therapy, take appropriate measures to control bleeding, and contact treating clinician

NPWT may be impacted by various conditions related to system configuration, set-up and individual characteristics of the patient and wound (eg exudate characteristics, patient anatomy). Alignment of the port to the opening in the drape, use of a bridging technique and choice of dressing configuration based on wound characteristics may impact NPWT vacuum delivery over the course of therapy. Exudate volume, viscosity and consistency may influence fluid removal or occlusion formation. A full canister, incorrect canister orientation and device/tubing height relative to the wound can contribute to loss of NPWT and the accumulation of exudate within the wound, which could lead to maceration, infection, or unrecognized bleeding.

Monitor the wound for infection and ensure that all wound filler is removed at each dressing change to reduce the risk of infection.

Skin grafts should be closely monitored to ensure NPWT is being delivered.

Review indications, contraindications, warnings and precautions before use.

Indications for use

The RENASYS System is indicated for patients who would benefit from a suction device (negative pressure) as it may promote wound healing via removal of fluids, body fluids, wound exudate and infectious materials.

Appropriate wound types include:

- Chronic
- Acute
- Traumatic
- Sub-acute and dehisced wounds
- Ulcers (such as pressure or diabetic)
- Flaps and grafts
- Partial thickness burns
Contraindications

The use of the RENASYS® System is contraindicated in the presence of:

- Necrotic tissue with eschar
- Untreated osteomyelitis
- Malignancy in wound (with exception of palliative care to enhance quality of life)
- Exposed arteries, veins, organs or nerves
- Non-enteric and unexplored fistulas
- Anastomotic sites

Warnings

**NOTE:** Full device operation is found in the User Manual for the RENASYS TOUCH Device

1. Carefully monitor patients for signs of bleeding, which may lead to interruption in therapy and hemodynamic instability. If such symptoms are observed, immediately discontinue therapy, take appropriate measures to control bleeding, and contact treating clinician.

2. Patients suffering from difficult hemostasis or who are receiving anticoagulant therapy have an increased risk of bleeding. During therapy, avoid using hemostatic products that, if disrupted, may increase the risk of bleeding.

3. Do not use directly on exposed blood vessels or organs. Sharp edges such as bone fragments must be covered or removed prior to initiating therapy, due to risk of puncturing organs or blood vessels drawn closer under the action of negative pressure.

4. NPWT has not been studied on pediatric patients. Patient size and weight should be considered when prescribing the device.

5. Foam or gauze must not be tightly packed or forced into any wound area. Over-packing may interfere with distribution of NPWT evenly across the wound. This may decrease the ability of the wound to properly contract and permit exudate to remain in wound. Do not place foam into blind or unexplored tunnels.

6. In the event defibrillation is required, disconnect device from wound dressing prior to defibrillation. Remove wound dressing only if its location will interfere with defibrillation.

7. Device is not MRI compatible. Do not bring device into MRI suite. Prior to entering MRI suite, disconnect device from dressing. Dressing can remain intact on patient.

8. Device is unsuitable for use in areas where there is danger of explosion (eg, hyperbaric oxygen unit).

9. When operating, transporting or disposing of device and accessories, there is risk of infectious liquids being aspirated or contamination of device assembly through incorrect use. Universal precautions should be observed whenever working with potentially contaminated components or equipment.

10. Device and canister kits are provided non-sterile and should not be placed within a sterile field.

Precautions

**NOTE:** Full device operation is found in the User Manual for each RENASYS TOUCH Device.

1. More frequent device and wound dressing monitoring, should be taken for patients who are or may be:
   - Suffering from infected blood vessels
   - Receiving anticoagulant therapy or platelet aggregation inhibitors, in addition to patients with intrinsic coagulation problems such as low platelet counts
   - Actively bleeding or have friable blood vessels or organs
   - Suffering from abnormal wound hemostasis
   - Untreated for malnutrition
   - Noncompliant or combative
   - Suffering from wounds in close proximity to blood vessels or friable fascia

   When monitoring patients for delivery of therapy, ensure wound dressing is free of air leaks, fully compressed and firm to the touch.

2. As a condition of use, device should only be used by qualified and authorized personnel. User must have necessary knowledge of the specific medical application for which NPWT is being used.
3. The dressing seal may be lost or pooling may occur, without alarm activation, when an occlusion forms on
the wound side of the dressing. Viscous, purulent or serosanguineous drainage may contribute to occlusion
of the dressing. Regular monitoring of device and dressing is required to ensure full delivery of therapy and
exudate removal. Ensure the wound dressing is free of air leaks, fully compressed and firm to the touch
whenever therapy is active.

4. Underlying structures, such as bone, tendons, ligaments and nerves should be covered with natural tissue
or a non-adherent dressing layer prior to applying the NPWT dressing to ensure protection and minimize the
risk of damage from direct contact with the dressing.

5. To minimize the risk of bradycardia, do not place NPWT in proximity to the vagus nerve.

6. In the event a patient with spinal cord injury experiences autonomic dysreflexia, discontinue use of NPWT
and immediately seek medical assistance.

7. When treating enteric fistulas, do not place NPWT dressing in direct contact with exposed bowel. Cover the
wound bed, including fistula opening, with non-adherent gauze or with one layer of saline moistened gauze.
During the course of treatment patient’s fluid levels must be closely monitored.

8. Avoid use of circumferential dressings except in cases of edema or heavily exuding extremities, where
this technique may be necessary to maintain a seal. Consider using multiple drapes to minimize risk of
decreased distal circulation. Regularly assess distal pulses, and discontinue therapy if changes in circulation
are detected.

9. As NPWT is not intended to directly treat infection, if there are any signs of systemic infection or advancing
infection at wound area, contact treating clinician immediately.

10. If multiple pieces of foam or gauze are needed to fill the wound profile, count and record how many pieces
are present to ensure all pieces are removed at a dressing change to minimize the risk of retention and
possible infection.

11. NPWT should remain on for duration of treatment. The length of time a patient may be disconnected from
device is a clinical decision based on individual characteristics of patient and wound. Factors to consider
include location of wound, volume of drainage, integrity of dressing seal, assessment of bacterial burden and
patient’s risk of infection.

12. Do not use a dressing kit with breached or damaged packaging.

13. Use of NPWT presents a risk of tissue ingrowth. Tissue ingrowth may be reduced by reducing therapy
pressure, using a wound contact layer or increasing the frequency of dressing changes.

14. NPWT should not be painful. If patient reports discomfort, consider reducing pressure setting and use of a
wound contact layer. Pressure setting is a clinical decision based on individual characteristics of patient and
wound. Factors to consider include location of wound, volume of drainage and integrity of dressing seal.

15. Maintain regular monitoring of device and wound site during therapy to ensure therapeutic treatment and
patient comfort.

16. When bathing or showering patient must disconnect from device, protecting the end of the RENASYS® Soft
Port tubing using a tethered cap. Ensure aeration disc located near Quick Click Connector is free of moisture
before reactivation of therapy to ensure proper alarm functionality and prevent interruption in therapy.

17. If any liquids penetrate device, discontinue use and return to your Smith & Nephew authorized provider for service.

18. CT scans and x-ray have the potential to interfere with some electronic medical devices. Where possible,
move device out of x-ray or scanner range.

19. Use caution if device is used in the presence of a flammable anesthetic mixture with air or with oxygen or nitrous oxide.

Additional precautions:

20. Electrical power can only be removed by disconnecting power cord or AC power adaptor. Take care in
positioning the device to allow access to cord receptacle.

21. If power cord or power source is damaged, wires are frayed or exposed, do not use power cord. Contact
your Smith & Nephew representative for a replacement cord or power source.

22. Canister kits are single use devices. Do not reuse.

23. Do not apply NO-STING SKIN-PREP™ Wipes directly to open wounds. NO-STING SKIN-PREP is flammable.
Use in a well ventilated area. Avoid using around flames and sources of ignition. Keep out of reach of
children. For external use only.
24. As with all adhesive products, apply and remove dressing carefully from sensitive or fragile skin to avoid blistering and skin stripping, especially after frequent dressing changes. Use of skin sealant may assist with protection of periwound skin.

25. If patient must be disconnected, the end of the RENASYS® Soft Port and canister tubing should be protected using tethered caps to avoid leakage of fluid and cross contamination.

Precautions specific to RENASYS TOUCH Device

1. RENASYS TOUCH Pump is only to be used with Smith & Nephew authorized components. Use of any other products has not been proven safe and effective with RENASYS TOUCH.

2. In the event of heavy or viscous drainage with sediment or when blood is present, regular monitoring and more frequent dressing changes may be required to reduce the risk of interruption of therapy, maceration, infection, and ensure proper exudate removal.

3. For patients with high risk of bleeding, use 300mL canister. Ensure the 300mL canister viewing window is checked frequently for signs of bleeding.

For detailed product information, including indications for use, contraindications, effects, precautions and warnings, please consult the product’s Instructions for Use (IFU) prior to use. For further information please contact us at 1-800-876-1261.
RENASYS® general therapy considerations
Choosing a wound filler and interface

Smith & Nephew offers the clinician flexibility with a choice of dressing kits for use with NPWT. The following dressing kits are available: RENASYS™-F Foam with Soft Port, RENASYS-G Gauze with Soft Port and RENASYS AB Abdominal Dressing Kit with Soft Port.

The factors to consider when choosing a dressing kit are based on the patient, the wound characteristics and clinical judgment of the healthcare professional (HCP). Clinical studies have demonstrated that the overall healing rates, defined as percent reduction in wound volume/surface area per week, are similar with both gauze and foam. This validates that the HCP can expect similar efficacy from either type of filler.

The following guidelines have been developed based on feedback and insights from HCPs who have used all RENASYS Dressing Kit options.

Factors to consider include:

- Wound size and volume
- Contour of wound bed
- Appearance of wound bed/tissue type
- Amount and type of exudate
- Anatomical location of wound, eg, weight bearing area
- Patient comfort and preference
- Caregiver skills

NOTE: It is important that a holistic assessment is made of the patient and wound characteristics and that a decision is not just made on only one factor alone. The above list is not exhaustive and local clinical judgment must always be used. Always consult the IFU and safety information.

Wound characteristics

Wound size and volume

- Small to moderate size wounds with shallow depth: both foam and gauze may be used with similar ease of application
- Moderate to large surface area wounds with shallow depth: gauze is generally considered easier to apply
- Moderate to large surface area wounds with deep depth: foam may be considered easier to use

WARNING: Do not tightly pack or force foam into any areas of the wound. Do not place foam into blind or unexplored tunnels.

Precaution: The use of negative pressure presents a risk of tissue ingrowth into the foam. Tissue ingrowth may be reduced by reducing therapy pressure, using a wound contact layer or by increasing the frequency of dressing changes.
Wound contour

- Wound bed contour

Gauze wound filler easily maintains contact with an irregular surface. Foam wound filler may not intimately contact irregular shape spaces in wound bed. In this case, gauze and foam may be used in combination. See combination therapy page 44.

The choice of wound filler will be influenced by the amount and consistency of wound exudate

<table>
<thead>
<tr>
<th>Wound exudate level</th>
<th>Low</th>
<th>High</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Gauze</td>
</tr>
</tbody>
</table>

Precautions specific to gauze

1. Use of gauze as a filler in wounds that are in a weight bearing location or have moderate to heavy drainage may challenge the transfer of fluid and vacuum. Foam is recommended in these wounds.

RENASYS® Foam and Gauze Fillers may be combined within the same wound when tunneling or undermining is present. Gauze may be used in the areas of undermining or tunneling, with foam placed in the remainder of the wound cavity. In wounds with large amounts of exudate a wound interface (non-adherent layer) is generally not recommended.

- Ensure gauze is placed into the contours of the wound rather than tightly packed into the wound. This will aid fluid transference.

Patient comfort

- Pain is a very subjective experience and will vary with each patient. Research has shown that patients report less pain with gauze.
Considerations for device

The RENASYS® TOUCH pump can be used on a variety of wounds. RENASYS TOUCH has an intuitive touchscreen display which is easy to navigate and has adjustable volume, compression rates and therapy modes. The device is able to deliver therapy from -25 to -200mmHg and Intermittent therapy from 0 to -200mmHg with adjustable cycle times. RENASYS TOUCH is able to provide comprehensive data on the device and provides access to quick reference guides to provide assistance. Refer to specific quick reference guides, Instructions for Use (IFU) or specific product user manuals for additional instructions. Please see the appendix for product components and ordering.

The RENASYS TOUCH:
- Small to large volume complex wounds
- Awkward anatomy and difficult to seal locations
- Multiple wounds bridged
- High exudate levels
- Large surface area wounds
- Open abdominal wounds
- RENASYS AB Abdominal Dressing Kit with Soft Port
- 16 hour battery life

Overview of NPWT modes

NPWT can be delivered to the wound bed using 3 modes of delivery; Continuous, Intermittent or Variable.
- Continuous: Pressure is applied constantly
- Intermittent: Pressure is repeatedly switched on and off alternating between 0 and set pressure
- Variable: Pressure is varied between two levels (set pressure and low pressure) maintaining a negative pressure environment throughout the therapy.

NOTE: The RENASYS TOUCH is able to deliver Intermittent and Variable intermittent NPWT using tailored time settings defined by the clinician.

Experimental studies have shown improvements in the rate of granulation tissue formation, wound contraction and blood flow with Intermittent and Variable NPWT compared with continuous NPWT.23-26 Some reports suggest that Intermittent NPWT may be painful in susceptible patients.27

Patients being treated with Variable NPWT have been shown to report less pain26 compared with Intermittent pressure. The choice to use Continuous or Intermittent therapy should be based on clinical judgment and the therapy objective of the wound being treated.

INTERMITTENT therapy is not recommended for:
- Highly exuding wounds
- Wounds with tunnels or undermining
- Wounds in difficult areas where maintaining a seal is problematic
- Patients who experience pain during intermittent therapy
CAUTIONS:

1. Canister kits are single use non-sterile.

2. Always use the smallest canister volume possible. DO NOT use the 800mL canisters on patients with high risk of bleeding.

3. Canisters should be changed at least once a week, whenever there is a change of patient or in the event that the canister contents reach maximum volume indication. Do not wait for canister over-capacity alarm activation to change canister.

See page 73 of appendix for product components and ordering.
Pump/canister optimization

**RENASYS® TOUCH**

1. Device and canister should remain in an upright orientation to maximize canister volume and optimize complete blockage/canister over capacity alarm

**Canisters**

Ref to instructions for use provided with canisters for additional information on canister Installation and Use.

1. Canisters are non-sterile and should not be used in the sterile field
2. Canisters are single use devices. DO NOT REUSE
3. Canisters should be changed at least once a week, whenever there is a change in patient or in the event the canister contents reach maximum volume indication (300mL or 800mL)

**NOTE:** Do not wait for the canister over capacity alarm assertion to change the canister.
Dressing changes

Refer to Instructions for Use provided with the RENASYS™ Dressing Kits for additional information on dressing use and maintenance.

1. Foam dressings should be changed every 48 to 72 hours after initial application of therapy. If no leak is present and the patient is comfortable, dressing changes should occur no less than 3 times per week.

2. Gauze dressings should be changed 48 hours after initial application of therapy. If no leak is present and patient is comfortable, dressing changes should occur 2-3 times per week.

3. In event of heavy or viscous drainage, drainage with sediment, or when blood is present, regular monitoring and more frequent dressing changes may be required.

4. When dressing a wound involving difficult to seal anatomy or exposure to external moisture, frequent inspection of dressing is recommended to ensure a seal is maintained. Ensure wound dressing is fully compressed and firm to the touch.

5. Ensure all wound filler material placed in wound has been removed before redressing wound. If foam dressing adheres to wound, apply normal saline into wound dressing and let it set for 15-30 minutes before gently removing foam. Appropriately discard used wound dressings observing your institution's protocol for medical waste handling.

6. As with all adhesive products, apply and remove dressing carefully from sensitive or fragile skin to avoid skin stripping, especially after frequent dressing changes. Use of skin sealant may assist with protection of periwound skin.

7. Monitor patient for any signs of local or systemic infection. Infected wounds may require more frequent dressing changes. If there are any signs of systemic infection or advancing infection at wounded area, contact treating clinician immediately.

8. If the RENASYS Device activates a complete blockage alarm, inspect the dressing and canister tubing for any blockage. If a blockage cannot be identified or resolved replace the device canister first, then remove the dressing and RENASYS Soft Port, replacing as necessary.

NOTE: Negative pressure wound therapy should remain on for duration of treatment. If patient must be disconnected, the ends of the RENASYS Soft Port and canister tubing should be protected using tethered cap. The length of time a patient may be disconnected from device is a clinical decision based on individual characteristics of patient and wound. Factors to consider include location of wound, volume of drainage, integrity of the dressing seal, assessment of bacterial burden and patient's risk of infection.

NPWT pressure settings

General guidelines:
The guidelines on therapy settings in this booklet are general recommendations. Vary the pressure settings to optimize NPWT therapy based the treatment goals for the patient and clinical judgment.

NOTE: Recommended pressure range for the RENASYS NPWT Systems is 40mmHg to 120mmHg.

• If a patient experiences discomfort, it may help to reduce the pressure level.

• An increase in the pressure may be necessary according to size of wound, viscosity of exudate, amount of exudate and clinical judgment of desired wound outcomes.

• Anatomical location and tissue pliability may also influence pressure level utilized.

• Outside the recommended optimal therapeutic pressure range of 40–120mmHg, the broader operating range of 25–200mmHg is provided to support clinical discretion on pressure set-point. The device will display the therapy set point.
Delivering the right pressure level

With respect to pressure levels, an independent International Negative Pressure Wound Therapy Expert Panel recently convened to develop evidence based recommendations describing the use of NPWT.\(^3\)

They recommend that NPWT be used within a therapeutic range of -40mHg to -150mmHg. The recommended pressure settings for RENASYS® NPWT devices fall within this range.\(^3\)

Impact of varying negative pressure on mode of action of NPWT\(^5\)

Orange bars indicate pressure where no effect or detrimental effects have been observed.

Blue bars indicate where beneficial effects have been observed.

The shaded area demonstrates the therapeutic range of negative pressure levels based on the majority of studies. Studies on intact volunteer skin excluded.

*Although higher levels of negative pressure may be effective (denoted by arrows), no further benefit observed.

Continuous versus Intermittent therapy:

An additional aspect of pressure setting is the choice between Continuous and Intermittent delivery of pressure. Intermittent therapy involves the cyclical release and reaplication of pressure. The RENASYS TOUCH delivers Intermittent/variable therapy at: High therapy -25 to -200mmHg at high cycle times of 3, 5, 8, 10 minutes. Low therapy 0 to -180mmHg at low cycle times: 3, 5, 8, 10 minutes. The NPWT setting should be determined by prescribing clinician and tailored to the individual wound for optimal effects.
**Considerations for use of Intermittent or Variable therapy**

- It is recommended that all patients remain on Continuous therapy for the first 48 hours.
- Intermittent therapy is not recommended for:
  - Highly exudating wounds
  - Wounds with tunnels or undermining
  - Wounds in difficult areas where maintaining a seal is problematic

During the off period, if the wound has large volumes of exudate, there may be tendency for exudate leak out and break the adhesive film seal.

**NOTE:** In patients who would benefit from Intermittent or Variable therapy but who experience wound pain, please select the Variable option.

Pain during the application of NPWT may be experienced more frequently during the on and off cycle of Intermittent therapy. Less pain is experienced with Variable therapy.  

**NOTE:** Most effective delivery of Variable pressure is thought to occur when pressure cycles between a “high” level of pressure within the therapeutic range of -40mmHg to -120mmHg) to a “low” pressure of below the therapeutic range of NPWT (ie below -40mmHg).

**Consideration for use of Continuous therapy**

- Continuous therapy is generally recommended for the first 48 hours, with patients at increased risk of bleeding, highly exudating wounds, fresh flaps and grafts, and wounds with acute enteric fistulae.
- Continuous therapy is also recommended in wounds with tunneling and undermining.

**RENASYS° Soft Port – considerations for use**

- It is important to align the opening of the RENASYS Soft Port with the cut hole in the Transparent Film to ensure a good seal and decrease the risk for a false blockage alarm.
- The RENASYS Soft Port opening is 1.5cm in diameter. It is important that the cut hole in the Transparent Film is no less than 2cm in diameter.
- When cutting the hole in the Transparent Film remove any loose edges from the film to prevent aspiration into the RENASYS Soft Port, possibly causing a false blockage alarm.
- Under normal circumstances, it should not be necessary to bridge away from the wound. If there is a concern that the RENASYS Soft Port may create pressure at the wound, due to the wounds location and condition, or if the wound is smaller than the RENASYS Soft Port opening (1.5cm), utilize the bridge technique on page 42.

**Physician orders**

Prior to placement of the RENASYS Device, the healthcare professional treating the wound must assess how best to use the system for an individual wound. It is important to carefully assess the wound and the patient to ensure clinical indications for NPWT are met.

All treatment orders should include:

- Size and/or wound measurements
- Smith & Nephew wound dressing kit type
- Vacuum settings (recommended therapeutic range is 40-120mmHg)
- Frequency of dressing changes
- Adjunctive dressings
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RENASYS®-G Gauze Dressing with Soft Port application technique

Refer to the RENASYS-G Gauze Dressing Kit Instructions for Use for further information. Use clean or sterile/aseptic techniques protocol. Only use RENASYS Dressing Kits approved for use with the RENASYS System. See page 73 of the appendix for kit sizes and components.

Precautions

1. More frequent device and wound dressing monitoring, should be taken for patients who are or may be:
   - Suffering from infected blood vessels
   - Receiving anticoagulant therapy or platelet aggregation inhibitors, in addition to patients with intrinsic coagulation problems such as low platelet counts
   - Actively bleeding or have friable blood vessels or organs
   - Suffering from difficult wound hemostasis
   - Untreated for malnutrition
   - Noncompliant or combative
   - Suffering from wounds in close proximity to blood vessels or delicate fascia
   
   When monitoring patients for delivery of therapy, ensure wound dressing is free of air leaks, fully compressed and firm to the touch.

2. As a condition of use, device should only be used by qualified and authorized personnel. User must have necessary knowledge of the specific medical application for which NPWT is being used.

3. For patients with high risk of bleeding use RENASYS TOUCH 300mL. Ensure the RENASYS TOUCH 300mL canister viewing window is checked frequently for signs of bleeding.

4. The dressing seal may be lost or pooling may occur, without alarm activation, when an occlusion forms on the wound side of the dressing. Viscous, purulent or serosanguineous drainage may contribute to occlusion of the dressing. Regular monitoring of device and dressing is required to ensure full delivery of therapy and exudate removal. Ensure the wound dressing is free of air leaks, fully compressed and firm to the touch whenever therapy is active.

5. Underlying structures, such as bone, tendons, ligaments and nerves should be covered with natural tissue or a non-adherent dressing layer prior to applying the NPWT dressing to ensure protection and minimize the risk of damage from direct contact with the dressing.

6. To minimize risk of bradycardia, do not place NPWT in proximity to the vagus nerve.

7. In the event a patient with spinal cord injury experiences autonomic dysreflexia, discontinue use of NPWT and immediately seek medical assistance.

8. When treating enteric fistulas, do not place NPWT dressing in direct contact with exposed bowel. Cover wound bed, including fistula opening, with non-adherent gauze or with one layer of saline moistened gauze. During the course of treatment, patient's fluid levels must be closely monitored.

9. Avoid use of circumferential dressings except in cases of edema or heavily exuding extremities, where this technique may be necessary to maintain a seal. Consider using multiple drapes to minimize risk of decreased distal circulation. Regularly assess distal pulses, and discontinue therapy if changes in circulation are detected.
10. Monitor patient for any signs of local or systemic infection. Infected wounds may require more frequent dressing changes. As NPWT is not intended to directly treat infection, if there are any signs of systemic infection or advancing infection at wound area, contact treating clinician immediately.

11. If multiple pieces of gauze are needed to fill the wound profile, count and record how many pieces are present to ensure all pieces are removed at a dressing change to minimize the risk of retention and possible infection.

12. NPWT should remain on for duration of treatment. The length of time a patient may be disconnected from device is a clinical decision based on individual characteristics of patient and wound. Factors to consider include location of wound, volume of drainage, integrity of dressing seal, assessment of bacterial burden and patient's risk of infection.

13. Do not use a dressing kit with breached or damaged packaging.

14. Use of NPWT presents risk of tissue ingrowth. Tissue ingrowth may be reduced by decreasing therapy pressure, using a wound contact layer or increasing the frequency of dressing changes.

15. NPWT should not be painful. If patient reports discomfort, consider reducing pressure setting and use of a wound contact layer. Pressure setting is a clinical decision based on individual characteristics of patient and wound. Factors to consider include location of wound, volume of drainage and integrity of dressing seal.

16. Maintain regular monitoring of device and wound site during therapy to ensure therapeutic treatment and patient comfort.

17. Device is only to be used with Smith & Nephew authorized components. Use of any other products has not been proven safe and effective with RENASYS® Devices. Device and system tubing should be positioned level with or below the wound for the RENASYS TOUCH Device and no more than 19in or 50cm higher than the wound to ensure optimization of therapy and prevent therapy interruption.

18. Ensure canister tubing and RENASYS Soft Port are installed completely and without any kinks to avoid leaks or blockages in vacuum circuit. Position device and tubing appropriately to avoid risk of a trip hazard.

19. When bathing or showering, the patient must disconnect from device, protecting both ends of the RENASYS Soft Port tubing using tethered caps. Ensure aeration disc located near orange Quick Click Connector is free of moisture before reactivation of therapy to ensure proper alarm functionality and prevent interruption in therapy.

20. If any liquids penetrate device, discontinue use and return to your Smith & Nephew authorized provider for service.

21. CT scans and x-ray have the potential to interfere with some electronic medical devices. Keep device out of x-ray or scanner range.

22. Use caution if device is used in presence of a flammable anesthetic mixture with air or with oxygen or nitrous oxide.

23. Ensure the RENASYS TOUCH Device is placed on a stable level surface. When placed on an uneven surface, device can become unbalanced as exudate fills canister.

24. Electrical power can only be removed by disconnecting power source cord. Take care in positioning device to allow access to cord receptacle.

25. If power cord or power source are damaged, wires are frayed or exposed, do not use. Contact your Smith & Nephew representative for a replacement cord and/or power source.

26. Canisters should be changed at least once a week, whenever there is a change in patient or in the event that canister contents reach maximum volume indication (300mL or 800mL fill line). Do not wait for the canister over capacity alarm assertion to change canister.
Considerations specific to gauze

1. Use of gauze as a filler in wounds that are in a weight bearing location or have moderate to heavy drainage may challenge the transfer of fluid and vacuum. Foam is recommended in these wounds.

2. RENASYS Foam and Gauze Fillers may be combined within the same wound when tunneling or undermining is present. Gauze may be used in the areas of undermining or tunneling, with foam placed in the remainder of the wound cavity.

Clean and debride

Use clean or aseptic techniques for application, according to your institutional protocol. Thorough wound cleansing should occur with each dressing change.

1. Debride any devitalized or necrotic eschar tissue. Cleanse the wound bed and pat dry.

2. If desired, protect the periwound skin from exposure to moisture and adhesive through the use of a skin sealant. Allow the skin sealant to dry fully prior to placement of the Transparent Film.

3. If desired, a non-adherent dressing may be applied. Trim a single layer of non-adherent gauze and lay across wound bed.
Dress wound with gauze

Review precautions specific to foam and gauze before continuing. It is critical that gauze is not forced into any wound, or placed within an unexplored tunnel.

1. Apply a layer of saline-moistened antimicrobial gauze to wound bed. [Saline not included in RENASYS™-G Sterile OR Kit.]

2. Unfold remaining saline-moistened gauze and loosely fill the entire wound cavity.

**CAUTION:** If multiple pieces of wound filler are needed to fill the wound profile, count and record how many pieces are present to ensure all wound filler pieces are removed at a dressing change to minimize the risk of retention and possible infection.

Seal the wound

1. While holding the Transparent Film, expose one side of the adhesive backing by removing a single panel, and apply over the wound.

2. Cover wound filler with Transparent Film, removing remaining adhesive panels to seal, then remove the top stabilization panel.

**NOTE:** Avoid stretching or pulling the Transparent Film to minimize tension or trauma to the periwound skin.

**Recommendations:**
- Film should extend at least 5cm/1.97in beyond wound margin and be securely anchored to periwound area to maintain a good seal.
- Overlap the edges of the Transparent Film by a minimum of 7.5cm/2.95in when using multiple pieces of Transparent Film.
Apply RENASYS® Soft Port

1. Cut a circular opening (no less than 2cm/0.97in in diameter) in the center of the film, over the wound filler. Remove any loose Transparent Film and dispose of away from the wound.

2. Remove the adhesive panel from the RENASYS Soft Port Dressing, and align the port opening directly over the hole in the Transparent Film.

3. Align the RENASYS Soft Port opening directly over the hole in the Transparent Film. Use gentle pressure to anchor the RENASYS Soft Port to the Transparent Film.

4. Smooth the dressing down while removing the top stabilization frame of the RENASYS Soft Port.

5. Secure the RENASYS Soft Port to the patient according to your institutional protocol. Ensure the aeration disc, located near the Quick Click Connector, is not covered or otherwise occluded by the method used to secure the Soft Port.

6. Connect the RENASYS Soft Port to the canister tubing by pushing the Quick Click Connectors together.

7. Turn on the RENASYS Device, adjust to the prescribed therapy level and start therapy.

8. Finished dressing should be firm to the touch and leak free.

Precaution: The use of negative pressure presents a risk of tissue ingrowth into the foam/gauze. Tissue ingrowth may be reduced by lowering therapy pressure, using a wound contact layer or by increasing the frequency of dressing changes.

Dressing removal

When disconnecting the Quick Click Connector, protect the tube ends by inserting the tethered caps immediately before turning the device off.

As with all adhesive products, apply and remove the dressing carefully from sensitive skin to avoid skin stripping, especially after frequent dressing changes. NO-STING SKIN-PREP® barrier film may be used on the surrounding skin to protect and improve wear time.

Ensure all wound filler material placed in wound has been removed before dressing wound. If dressing adheres to wound, apply normal saline onto wound dressing and let set for 15-30 minutes before gently removing. Appropriately discard used wound dressings observing facility protocol for medical waste handling.
RENASYS°-F Foam Dressing Kit with Soft Port application technique

Refer to the RENASYS-F Foam Dressing Kit Instructions for Use for further information. Use clean or sterile/aseptic techniques protocol. Only use RENASYS Dressing Kits approved for use with the RENASYS System.

See page 73 of the appendix for kits sizes and components.

Precautions

1. More frequent device and wound dressing monitoring, should be taken for patients who are or may be:
   • Suffering from infected blood vessels
   • Receiving anticoagulant therapy or platelet aggregation inhibitors, in addition to patients with intrinsic coagulation problems such as low platelet counts
   • Actively bleeding or have friable blood vessels or organs
   • Suffering from difficult wound hemostasis
   • Untreated for malnutrition
   • Noncompliant or combative
   • Suffering from wounds in close proximity to blood vessels or delicate fascia

   When monitoring patients for delivery of therapy, ensure wound dressing is free of air leaks, fully compressed and firm to the touch.

2. As a condition of use, device should only be used by qualified and authorized personnel. User must have necessary knowledge of the specific medical application for which NPWT is being used.

3. For patients with high risk of bleeding use RENASYS TOUCH 300mL canisters. Ensure the RENASYS TOUCH 300mL canister viewing window is checked frequently for signs of bleeding.

4. The dressing seal may be lost or pooling may occur, without alarm activation, when an occlusion forms on the wound side of the dressing. Viscous, purulent or serosanguineous drainage may contribute to occlusion of the dressing. Regular monitoring of device and dressing is required to ensure full delivery of therapy and exudate removal. Ensure the wound dressing is free of air leaks, fully compressed and firm to the touch whenever therapy is active.

5. Underlying structures, such as bone, tendons, ligaments and nerves should be covered with natural tissue or a non-adherent dressing layer prior to applying the NPWT dressing to ensure protection and minimize the risk of damage from direct contact with the dressing.

6. To minimize risk of bradycardia, do not place NPWT in proximity to the vagus nerve.

7. In the event a patient with spinal cord injury experiences autonomic dysreflexia, discontinue use of NPWT and immediately seek medical assistance.

8. When treating enteric fistulas, do not place NPWT dressing in direct contact with exposed bowel. Cover wound bed, including fistula opening, with non-adherent gauze or with one layer of saline moistened gauze. During the course of treatment, patient’s fluid levels must be closely monitored.

9. Avoid use of circumferential dressings except in cases of edema or heavily exuding extremities, where this technique may be necessary to maintain a seal. Consider using multiple drapes to minimize risk of decreased distal circulation. Regularly assess distal pulses, and discontinue therapy if changes in circulation are detected.
10. Monitor patient for any signs of local or systemic infection. Infected wounds may require more frequent dressing changes. As NPWT is not intended to directly treat infection, if there are any signs of systemic infection or advancing infection at wound area, contact treating clinician immediately.

11. If multiple pieces of foam are needed to fill the wound profile, count and record how many pieces are present to ensure all pieces are removed at a dressing change to minimize the risk of retention and possible infection.

12. NPWT should remain on for duration of treatment. The length of time a patient may be disconnected from device is a clinical decision based on individual characteristics of patient and wound. Factors to consider include location of wound, volume of drainage, integrity of dressing seal, assessment of bacterial burden and patient’s risk of infection.

13. Do not use a dressing kit with breached or damaged packaging.

14. Use of NPWT presents risk of tissue ingrowth. Tissue ingrowth may be reduced by decreasing therapy pressure, using a wound contact layer or increasing the frequency of dressing changes.

15. NPWT should not be painful. If patient reports discomfort, consider reducing pressure setting and use of a wound contact layer. Pressure setting is a clinical decision based on individual characteristics of patient and wound. Factors to consider include location of wound, volume of drainage and integrity of dressing seal.

16. Maintain regular monitoring of device and wound site during therapy to ensure therapeutic treatment and patient comfort.

17. Device is only to be used with Smith & Nephew authorized components. Use of any other products have not been proven safe and effective with RENASYS™ Devices.

18. Ensure canister tubing and RENASYS Soft Port are installed completely and without any kinks to avoid leaks or blockages in vacuum circuit. Position device and tubing appropriately to avoid risk of a trip hazard. Device and system tubing should be positioned level with or below the wound and no more than 19in or 50cm higher than the wound for RENASYS TOUCH Device to ensure optimization of therapy and prevent therapy interruption.

19. When bathing or showering patient must disconnect from device, protecting both ends of RENASYS Soft Port tubing using tethered caps. Ensure aeration disc located near orange Quick Click Connector is free of moisture before reactivation of therapy to ensure proper alarm functionality and prevent interruption in therapy.

20. If any liquids penetrate device, discontinue use and return to your Smith & Nephew authorized provider for service.

21. CT scans and x-ray have the potential to interfere with some electronic medical devices. Keep device out of x-ray or scanner range.

22. Use caution if device is used in presence of a flammable anesthetic mixture with air or with oxygen or nitrous oxide.

23. Ensure the RENASYS TOUCH Device is placed on a stable level surface. When placed on an uneven surface, device can become unbalanced as exudate fills canister.

24. Electrical power can only be removed by disconnecting power cord. Take care in positioning device to allow access to cord receptacle.

25. If power cord or power source is damaged, wires are frayed or exposed, do not use. Contact your Smith & Nephew representative for a replacement cord or power source.

26. Canisters should be changed at least once a week, whenever there is a change in patient or in the event that canister contents reach maximum volume indication (300mL or 800mL fill line). Do not wait for the canister over capacity alarm assertion to change canister.

27. Canisters are single use devices. Do not reuse.
28. Do not apply NO-STING SKIN-PREP™ directly to open wounds. NO-STING SKIN-PREP is flammable. Use in a well ventilated area. Avoid using around flames and sources of ignition. Keep out of reach of children. For external use only.

29. As with all adhesive products, apply and remove dressing carefully from sensitive or fragile skin to avoid blistering and skin stripping, especially after frequent dressing changes. Use of skin sealant may assist with protection of periwound skin.

30. If patient must be disconnected, the ends of the RENASYS™ Soft Port and canister tubing should be protected using tethered caps to avoid leakage of fluid and cross contamination.

31. This device is single use only. Use of any part of this system on more than one patient may result in cross contamination that may lead to infection.

Considerations specific to foam

1. Foam should be cut to fit loosely into wound bed. Never force or tightly pack foam into any areas of the wound, to avoid damaging underlying tissue.

2. Never place foam into blind or unexplored tunnels. If a tunnel of known depth presents, cut the foam longer than the tunnel, to ensure direct contact is made with the foam in the primary wound cavity.

3. Do not cut the foam directly over the wound cavity to avoid foam fragments from falling into the wound. Rub the edges of the foam, away from the open wound, to remove loose fragments after cutting.

Clean and debride

Use clean or aseptic techniques for application, according to your institutional protocol. Thorough wound cleansing should occur with each dressing change.

1. Debride any devitalized or necrotic eschar tissue. Cleanse the wound bed and pat dry.

2. If desired, protect the periwound skin from exposure to moisture and adhesive through the use of a skin sealant. Allow the skin sealant to dry fully prior to placement of the Transparent Film.

3. If desired, a non-adherent dressing may be applied. Trim a single layer of non-adherent gauze and lay across wound bed.
Dress wound with foam

Review precautions specific to foam and gauze before continuing. It is critical that foam is not forced into any wound, or placed within an unexplored tunnel.

1. Cut the foam dressing to fit the size and shape of the wound and place the cut foam into the wound.

2. Avoid over packing. Foam should completely fill the wound cavity. It may be necessary to stack pieces of foam in deep wounds.

CAUTION: If multiple pieces of wound filler are needed to fill the wound profile, count and record how many pieces are present to ensure all wound filler pieces are removed at a dressing change to minimize the risk of retention and possible infection.

Seal the wound

1. While holding the Transparent Film, expose one side of the adhesive backing by removing a single panel, and apply over the wound.

2. Cover wound filler with Transparent Film, removing remaining adhesive panels to seal, then the top stabilization panel.

NOTE: Avoid stretching or pulling the Transparent Film to minimize tension or trauma to the periwound skin.

Recommendations:

- Film should extend at least 5cm/1.97in beyond wound margin and be securely anchored to periwound area to maintain a good seal.
- Overlap the edges of the Transparent Film by a minimum of 7.5cm/2.95in when using multiple pieces of Transparent Film.
Apply RENASYS® Soft Port

1. Cut a circular opening (no less than 2cm/0.97in in diameter) in the center of the film, over the wound filler. Remove any loose Transparent Film and dispose of away from the wound.

2. Remove the adhesive panel from the RENASYS Soft Port Dressing, and align the port opening directly over the hole in the Transparent Film.

3. Align the RENASYS Soft Port opening directly over the hole in the Transparent Film. Use gentle pressure to anchor the RENASYS Soft Port to the Transparent Film.

4. Smooth the dressing down while removing the top stabilization frame of the RENASYS Soft Port.

5. Secure the RENASYS Soft Port to the patient according to your institutional protocol. Ensure the aeration disc, located near the Quick Click Connector, is not covered or otherwise occluded by the method used to secure the RENASYS Soft Port.

6. Connect the RENASYS Soft Port to the canister tubing by pushing the Quick Click Connectors together.

7. Turn on the RENASYS Device, adjust to the prescribed therapy level and start therapy.

8. Finished dressing should be firm to the touch and leak free.

**Precaution:** The use of negative pressure presents a risk of tissue ingrowth into the foam/gauze. Tissue ingrowth may be reduced by lowering therapy pressure, using a wound contact layer or by increasing the frequency of dressing changes.

**Dressing removal**

When disconnecting the Quick Click Connector, protect the tube ends by inserting the tethered caps immediately before turning the device off.

As with all adhesive products, apply and remove the dressing carefully from sensitive skin to avoid skin stripping, especially after frequent dressing changes. NO-STING SKIN-PREP™ barrier film may be used on the surrounding skin to protect and improve wear time.

Ensure all wound filler material placed in wound has been removed before dressing wound. If dressing adheres to wound, apply normal saline onto wound dressing and let set for 15-30 minutes before gently removing. Appropriately discard used wound dressings observing facility protocol for medical waste handling.
### RENASYS® Dressing Kit options

<table>
<thead>
<tr>
<th>Wound characteristics</th>
<th>RENASYS-F Foam with Soft Port</th>
<th>RENASYS-G Gauze with Soft Port</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large wound with regular contours</td>
<td>✅</td>
<td></td>
</tr>
<tr>
<td>Presence of undermining</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>Patient has pain on dressing removal</td>
<td></td>
<td>✅</td>
</tr>
<tr>
<td>Weight bearing area</td>
<td>✅</td>
<td></td>
</tr>
<tr>
<td>Heavy exudate levels</td>
<td>✅</td>
<td></td>
</tr>
<tr>
<td>Moderate exudate levels</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>Viscous exudate</td>
<td>✅</td>
<td></td>
</tr>
<tr>
<td>Serous exudate</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>Static chronic wound</td>
<td>✅</td>
<td></td>
</tr>
<tr>
<td>Skin grafts</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>Sinus wound or wound with narrow opening</td>
<td></td>
<td>✅</td>
</tr>
<tr>
<td>Combination wounds cavity plus sinus</td>
<td>✅</td>
<td>✅</td>
</tr>
</tbody>
</table>

(see advanced dressing techniques page 39)
Optimization of therapy/enhancing dressing wear time

- Ensure that intact skin is dry prior to applying adhesive dressing.
- Skin sealant such as NO-STING SKIN-PREP® should be routinely used to protect the periwound area. Allow to fully dry prior to applying film dressing.
- If skin in the periwound area is damaged or fragile, a hydrocolloid or adhesive film may be used to protect the area prior to applying the cover Transparent Film.
- Apply skin sealant such as NO-STING SKIN-PREP barrier over the edges of Transparent Film to prevent rolling.
- Apply the RENASYS® Adhesive Gel Patch and/or ostomy strip paste to skin irregularities such as abdominal skin folds or cleft at sacrococcygeal juncture. This will help to decrease depth of the skin irregularity. See RENASYS Accessory – Gel Patch section for more information on application technique.
- Film should extend at least 5cm/1.97in beyond wound margin and be securely anchored to periwound area to maintain a good seal.
- Overlap the edges of the Transparent Film by a minimum of 7.5cm/2.95in when using multiple pieces of Transparent Film.
- If it is necessary to add more foam or gauze to the wound after dressing application, the clinician may great an opening in the film, apply filler, and reseal the dressing as indicated. It is not necessary to restart dressing application.
- It is important to secure the tubing to the patient using extra film or tape to prevent pulling on the dressing which may compromise the dressing seal.
- When a leak is identified or located, utilize film dressing to patch the areas without having to replace the dressing.
- If skin irritation is noted underneath the film dressing, discontinue therapy and notify prescribing physician or clinician.
- It is important when applying the film dressing not to pull tightly or stretch the film to avoid trauma to surrounding skin.
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RENASYS® advanced and complex dressing applications
Advanced and complex dressing techniques

Bridging – managing multiple wounds with the RENASYS™-G Gauze Dressing Kit or the RENASYS-F Foam Dressing Kit with the Soft Port Dressing

Bridging technique – this technique is used to join two wounds that are close in proximity and/or to position the RENASYS Soft Port in an area away from the wound.

1. Protect intact skin in area under bridge and between the wounds with Transparent Film.

   Consider bridging two wounds together using wound filler for wounds separated by a distance less than 25cm. If the wounds are greater than 25cm consider using two RENASYS Pumps.

   Cut additional foam or gauze and place on top of Transparent Film to form the bridge.

   **IMPORTANT:** Contact must be made between the wound filler in the wound bed (overlap).

2. Complete NPWT dressing application technique for the RENASYS-F Foam or RENASYS-G Gauze Dressings – covering both the wound and bridge with Transparent Film.

3. Initiate negative pressure.

Bridging away from the wound

**NOTE:** To optimize transfer of fluid and vacuum through the bridge, the foam dressing is recommended. In the instance where gauze is used, particularly for large volume and surface area wounds with moderate to heavy drainage, more frequent inspection of the dressing and dressing changes may be required.

- Under normal circumstances using RENASYS Soft Port, it should not be necessary to bridge away from wounds. If this is the case, please refer to dressing application section. If there is still concern that the RENASYS Soft Port may create pressure at the wound, due to the wound’s location and conditions, or if the wound is smaller than the RENASYS Soft Port opening (1.5cm), utilize the bridge technique. This technique will allow the RENASYS Soft Port to be redirected to a non-weight bearing area.

**Optimization of therapy: Bridging**

- When using a bridging technique, choose a location where the bridge is least likely to be weight bearing. This will support the bridge remaining open to optimize transfer of fluid and vacuum.

- To optimize transfer of fluid and vacuum through a bridge, foam is recommended. In the instance that gauze is used, particularly for wounds with moderate to heavy drainage, more frequent inspection of the dressing and dressing changes may be required.

**Precaution:** The use of negative pressure presents a risk of tissue ingrowth into the foam/gauze. Tissue ingrowth may be reduced by lowering therapy pressure, using a wound contact layer or by increasing the frequency of dressing changes.
Undermining and/or tunneling

**Undermining**

Undermining is a lateral tissue defect or pocket under the edges of the wound. The surface opening is smaller than the base of the wound.

**Ways to address undermined wounds:**

- Utilizing saline moistened gauze, loosely fill the undermined areas and any dead space of the wound.
- Once the undermined areas have been filled with moistened gauze, gauze or foam may be used to fill the remainder of the wound making sure that all areas of the wound are in contact with wound filler.
- Cover with Transparent Film as indicated.
- Continue with RENASYS™ Dressing application technique, seal the wound (see page 31).

**Tunneling or sinus tracts**

A tunnel or sinus tract is a narrow opening in the wound bed that extends into adjacent tissue.

**Ways to address tunnels or sinus tracts**

- Fill tunnels or sinus tract with moistened gauze, sterile packing strips, or ACTICOAT™ Flex; pulling out/back 0.5 to 1cm to allow for healing distal to proximal.
- Make sure the tunnel filler material is visible and accessible in the wound bed to assure complete removal upon dressing change.
- Filler material in tunnels may contract when compressed, it is important to leave a tail to facilitate removal.
- Continue with RENASYS Dressing application technique utilizing gauze or foam assuring that all areas of the wound are in contact with the wound filler. (See dressing application, Gauze page 30 or Foam page 33)

**Precaution:** The use of negative pressure presents a risk of tissue ingrowth into the foam/gauze. Tissue ingrowth may be reduced by lowering therapy pressure, using a wound contact layer or by increasing the frequency of dressing changes.
Combination therapy

Gauze/foam combination therapy:

RENASYS® Foam and Gauze Fillers may be combined within the same wound when tunneling or undermining is present. Gauze may be used in the areas of undermining or tunneling, with foam placed in the remainder of the wound cavity.

Combination use:

1. When using gauze in a tunnel or undermining area, ensure a tail is exposed for ease of removal and/or sufficient contact with the foam layer.

2. Visual representation of gauze placed into undermined area.

3. Visual representation of the foam/gauze combination outside the wound.
   **Note:** contact must be maintained between the two materials.

4. Place foam on top of wound and gauze ensuring contact is maintained for fluid removal and negative pressure delivery to the wound bed.

**Warning:** Do not tightly pack or force foam into any areas of the wound. Do not place foam into blind or unexplored tunnels.

**Precaution:** The use of negative pressure presents a risk of tissue ingrowth into the foam. Tissue ingrowth may be reduced by reducing therapy pressure, using a wound contact layer or by increasing the frequency of dressing changes.
Combination therapy and NPWT for infected wounds:

If the wound is infected, or if there is a risk of high bioburden, consider using one of Smith & Nephew's ACTICOAT® Antimicrobial Barrier Dressings to address the infection. ACTICOAT Flex 3 and ACTICOAT Flex 7 may be used in combination with NPWT treatment for up to three days.22

CAUTION: Infected wounds may require more frequent dressing changes. Regular monitoring of the wound should be maintained to check for signs of infection.
Skin grafts

Treatment goal

• Bolster the graft in place to prevent shearing and minimize movement of the graft.
• Eliminate accumulation of wound fluid beneath the graft that could lead to the graft lifting and impact upon graft take.

Suggested pressure setting and dressing change frequency

• Pressure setting recommendation is 40-120mmHg in Continuous mode.
• Ultimately, the pressure setting is a decision to be determined by the physician/clinician. Generally, lower pressure setting are utilized (60-80mmHg) for skin grafts.
• Foam dressings should be changed every 48-72 hours after the initial application of therapy. If no leak is present and the patient is comfortable, dressing changes should occur no less than 3 times per week.
• Gauze dressings should be changed 48 hours after the initial application of therapy. If no leak is present and the patient is comfortable, dressing changes should occur 2-3 times per week.
• Exudate level should decrease after the first 24-48 hours.
• Duration of therapy is also a physician/clinician decision (generally 3-10 days).
• NPWT should remain on continuously to ensure the graft remains bolstered at all times.
• When utilizing foam dressing kit it is important to apply a wound contact layer between the graft and the foam to avoid adherence to the foam.  

Dressing application of skin graft with RENASYS™ Soft Port

1. Cover the entire graft with a non-adherent layer, such as ACTICOAT™ Flex. Extend the contact layer at least 1 in (2.54cm) past the suture/staple line.
2. Cut foam or gauze to the size and shape of the contact layer, not to extend past the wound contact layer or come in contact with healthy skin to avoid damage to surrounding tissue.
3. Place cut foam or gauze on top of the contact layer.

Continue with RENASYS Dressing application technique seal the wound (see dressing application, Gauze page 30 or Foam page 33).

Precaution: The use of negative pressure presents a risk of tissue ingrowth into the foam/gauze. Tissue ingrowth may be reduced by lowering therapy pressure, using a wound contact layer or by increasing the frequency of dressing changes.
RENASYS® Adhesive Gel Patch

The RENASYS Adhesive Gel Patch is intended for fixation of drainage tubing and is a useful accessory to help improve seals, especially in challenging anatomical areas or with challenging wound and skin conditions. The RENASYS Adhesive Gel Patch is made of a double sided adhesive hydrogel sheet. The RENASYS Adhesive Gel Patch can be used as an alternative to ostomy paste.

The wear time is up to 72 hours.

Application tips

- The RENASYS Adhesive Gel Patch is intended to be used on intact skin. It is primarily used to improve seals and avoid leaks.
- Used under the RENASYS Transparent Film, the RENASYS Adhesive Gel Patch can be cut and placed around the periwound area prior to sealing with the RENASYS Transparent Film.
- It may be easier to cut or shape the RENASYS Gel Patch prior to removing the adhesive backing.
- When using gloves, remove one side of the adhesive backing and apply to the skin. Remove the remaining panel once placed.
- The RENASYS Adhesive Gel Patch has absorbent properties, which means it has the ability to absorb reasonable amounts of fluid. Depending on the wound output and conditions, it is possible to overwhelm the dressing if enough fluid comes in contact. More frequent dressing changes may be needed as directed in the Instructions for Use for RENASYS-G Gauze or RENASYS-F Foam Dressing Kits.
- The adhesive is designed to release off the skin with little or no adhesive remaining. If some adhesive remains utilize Smith & Nephew's REMOVE™ or another appropriate adhesive remover.

Product application areas

- Protection around wound margins
- Challenging anatomical areas, such as skin folds
- Areas with moist skin
- External fixation pins
Creating a seal in challenging anatomical areas

1. Cut the RENASYS™ Adhesive Gel Patch into strips in a direction with backing removal ends accessible.
2. Remove the backing on one side only and apply to skin with gentle pressure. Ensure the fold is addressed first.
3. Remove the backing. Apply Transparent Film over the foam or gauze interface and the RENASYS Adhesive Gel Patch to create a seal and finish the dressing.

Creating a seal around wound margins

1. Cut RENASYS Adhesive Gel Patch into several strips. Remove the backing on one side only and apply to skin with gentle pressure. Remove the backing.
2. Continue to apply Gel Strips around wound margins ensuring that the strips overlap to create a good seal. Continue with normal dressing application.
Creating a seal in challenging areas of the foot

1. Cut the RENASYS™ Adhesive Gel Patch into strips in a direction with backing removal ends accessible.

2. Remove the backing on one side only and apply to skin with gentle pressure. Remove the backing. Apply Transparent Film over the foam or gauze interface and the Gel Patch to create a seal and finish the dressing.

Creating a seal around external fixation pins

1. Cut RENASYS Adhesive Gel Patch into strips and to a length that will cover the pin circumference. Remove the backing on one side only. Apply the lead end of the Gel Strip to the base of the pin. Gently apply pressure to the backing to ensure initial adhesion to the pin. Wrap the Gel Strip around the pin while simultaneously removing the backing.

2. Apply Transparent Film over the foam or gauze interface and the Gel Patch. Pinch the film at the Gel Patch/pin interface to create a seal and finish the dressing.
Protecting vessels and organs

**WARNING:** The use of negative pressure wound therapy is contraindicated and should never be placed in direct contact with exposed vessels and organs.

Directions:

Caution should be taken to ensure that all organs and/or vessels are completely covered prior to initiating NPWT. It is the responsibility of the treating clinician to determine the appropriate natural tissue and/or non-adherent wound contact layer to be utilized to protect and prevent organs or vessels from having direct contact with NPWT.

When using a non-adherent wound contact layer, the treating clinician should consider utilizing multiple layers and securing to prevent movement during NPWT.
RENASYS™ AB Abdominal Dressing Kit with Soft Port
Introduction

In the past decade there has been increasing evidence to suggest that using Temporary Abdominal Closure (TAC) techniques can help to reduce mortality in patients with Intra-Abdominal Hypertension (IAH) and help prevent development of Abdominal Compartment Syndrome (ACS). Negative pressure dressings have been used for a number of years to help facilitate TAC and have been proven to be a reliable treatment due to excellent clinical benefits.

The primary aim of Temporary Abdominal Closure is to reduce pressure within the abdominal cavity. Reducing the Intra-Abdominal Pressure (IAP), can prevent or reduce the risk of the patient developing Abdominal Compartment Syndrome.

Reducing the pressure in the abdominal cavity also reduces the likelihood of respiratory, renal and cardiac complications.

The RENASYS™ AB Abdominal Dressing Kit with Soft Port used in conjunction with the RENASYS TOUCH Device helps facilitate temporary abdominal closure using negative pressure wound therapy.
Indications for use
The RENASYS® AB Abdominal Dressing Kit with Soft Port is intended for use in conjunction with the RENASYS TOUCH Device and canisters as a complete negative pressure wound therapy system for managing open abdominal wounds with NPWT.

- RENASYS AB is indicated for temporary bridging of abdominal wall openings where primary closure is not possible and/or repeat abdominal entries are necessary.
- It is intended to be used in open abdominal wounds with exposed viscera, including but not limited to abdominal compartment syndrome.
- The use of RENASYS AB is intended for use in acute hospital care settings (trauma, general and plastic surgery wards) and should ideally be applied in the operating room.

Contraindications
The use of RENASYS AB is contraindicated

- For non-enteric, unexplored fistula
- For untreated osteomyelitis
- For malignancy in the wound (with exception of palliative care to enhance quality of life)
- When vital organs and structures are not covered with the Organ Protection Layer (OPL)
- For presence of necrotic tissue with eschar
- For use in patients with ongoing or high potential for hemorrhage and/or enteric leak
- Foam should never be placed in contact with exposed bowel, arteries, veins, organs, or nerves. Utilize the OPL at all times when using the RENASYS AB with the RENASYS NPWT System

Warnings
1. Hemostasis must be achieved prior to dressing application. Carefully monitor patients undergoing treatment with RENASYS AB for signs of sudden or increased bleeding. If such symptoms are observed, immediately discontinue therapy, take appropriate measures to control the bleeding, and contact the treating clinician.
2. Patients suffering from difficult hemostasis or who are receiving anticoagulant therapy have an increased risk of bleeding. During therapy, avoid using hemostatic products that, if disrupted, may increase the risk of bleeding.
3. Do not use directly on exposed blood vessels or organs. Sharp edges such as bone fragments must be covered or removed prior to initiating therapy, due to risk of puncturing organs or blood vessels drawn closer under the action of negative pressure.
4. NPWT has not been studied on pediatric patients. Patient size and weight should be considered when prescribing the device.
5. Foam must not be tightly packed or forced into any wound area. Foam must only be placed in the wound defect once the OPL has been placed. Over-packing may interfere with distribution of NPWT evenly across the wound. This may decrease the ability of the wound to properly contract and permit fluid to remain in the wound.
6. In the event defibrillation is required, disconnect the RENASYS Device from the wound dressing prior to defibrillation.
7. The RENASYS Device is not MRI compatible. Do not bring the device into the MRI suite. Prior to entering MRI suite, disconnect device from dressing. The dressing can remain intact on patient.
8. Device is unsuitable for use in areas where there is danger of explosion (eg, hyperbaric oxygen unit).
9. When operating, transporting or disposing of device and accessories, there is risk of infectious liquids being aspirated or contamination of device assembly through incorrect use. Universal precautions should be observed whenever working with potentially contaminated components or equipment.

10. NPWT has not been studied on pediatric patients. Patient size and weight should be considered when prescribing RENASYS® Devices.

11. The RENASYS Device is unsuitable for use in areas where there is danger of explosion (e.g., hyperbaric oxygen unit).

12. The RENASYS Device and canister kits are provided non-sterile and should not be placed within a sterile field.

Precautions

NOTE: Full device operation is found in the Clinicians User Manual for the RENASYS TOUCH Device.

1. More frequent device and wound dressing monitoring, should be taken for patients who are or may be:
   • Suffering from infected blood vessels
   • Receiving anticoagulant therapy or platelet aggregation inhibitors, in addition to patients with intrinsic coagulation problems such as low platelet counts
   • Actively bleeding or have friable blood vessels or organs
   • Suffering from difficult wound hemostasis
   • Untreated for malnutrition
   • Noncompliant or combative
   • Suffering from wounds in close proximity to blood vessels or delicate fascia

   When monitoring patients for delivery of therapy, ensure wound dressing is free of air leaks, fully compressed and firm to the touch. Ensure that pressure indicated on pressure gauge reflects set pressure on pressure selector knob.

2. As a condition of use, device should only be used by qualified and authorized personnel. User must have necessary knowledge of the specific medical application for which NPWT is being used.

3. The dressing seal may be lost or pooling may occur, without alarm activation, when an occlusion forms on the wound side of the dressing. Viscous, purulent or serosanguineous drainage may contribute to occlusion of the dressing. Regular monitoring of device and dressing is required to ensure full delivery of therapy and exudate/transudate removal. Ensure the wound dressing is free of air leaks, fully compressed and firm to the touch whenever therapy is active.

4. For patients with high risk of bleeding use 300mL canister. Ensure the 300mL canister viewing window is checked frequently for signs of bleeding.

5. To minimize risk of bradycardia, do not place RENASYS® AB Kit System in proximity to the vagus nerve.

6. In the event a patient with spinal cord injury experiences autonomic dysreflexia, discontinue use of NPWT and immediately seek medical assistance.

7. Monitor patient for any signs of local or systemic infection. Infected wounds may require more frequent dressing changes. If there are any signs of systemic infection or advancing infection at wound area, contact treating clinician immediately.

8. If multiple pieces of foam are needed to fill the wound profile, count and record how many pieces are present to ensure all pieces are removed at a dressing change to minimize the risk of retention and possible infection.
9. NPWT should remain on for duration of treatment. The length of time a patient may be disconnected from device is a clinical decision based on individual characteristics of patient and wound. Factors to consider include location of wound, volume of drainage, integrity of dressing seal, assessment of bacterial burden and patient's risk of infection.

10. Do not use a dressing kit with breached or damaged packaging.

11. Use of NPWT presents risk of tissue ingrowth. Tissue ingrowth may be reduced by using the provided wound contact layer or increasing the frequency of dressing changes.

12. Maintain regular monitoring of device and wound site during therapy to ensure therapeutic treatment and patient comfort.

13. RENASYS® AB is only to be used with Smith & Nephew authorized components.

14. Ensure canister tubing and RENASYS Soft Port are installed completely and without any kinks to avoid leaks or blockages in vacuum circuit. Position device and tubing appropriately to avoid risk of a trip hazard. Device and system tubing should be positioned level with or below wound to ensure optimization of therapy and prevent therapy interruption.

15. Sponge bathing is allowable with the kit in place so long the aeration disc remains free of moisture.

16. If any liquids penetrate device, discontinue use and return to your Smith & Nephew authorized provider for service.

17. CT scans and x-ray have the potential to interfere with some electronic medical devices. Keep device out of x-ray or scanner range.

18. Use caution if device is used in presence of a flammable anesthetic mixture with air or with oxygen or nitrous oxide.

19. Ensure device is placed on a stable level surface. When placed on an uneven surface, device can become unbalanced as exudate fills canister.

20. Electrical power can only be removed by disconnecting power cord. Take care in positioning device to allow access to cord receptacle.

21. If power cord or power source is damaged, wires are frayed or exposed, do not use power cord. Contact your Smith & Nephew representative for a replacement cord or power source.

22. Canisters should be changed at least once a week, whenever there is a change in patient or in the event that canister contents reach maximum volume indication (300mL or 800mL fill line) Do not wait for the canister over capacity alarm assertion to change canister.

23. Canisters are single use devices. Do not reuse.

24. Do not apply NO-STING SKIN-PREP™ directly to open wounds. NO-STING SKIN-PREP is flammable. Use in a well ventilated area. Avoid using around flames and sources of ignition. Keep out of reach of children. For external use only.

25. As with all adhesive products, apply and remove dressing carefully from sensitive or fragile skin to avoid blistering and skin stripping, especially after frequent dressing changes. Use of skin sealant may assist with protection of periwound skin.

26. If patient must be disconnected, the ends of the RENASYS Soft Port and canister tubing should be protected using tethered caps to avoid leakage of fluid and cross contamination.

27. This device is single use only. Use of any part of this system on more than one patient may result in cross contamination that may lead to infection.
Precautions specific to RENASYS® AB

**NOTE:** Ensure aseptic technique is used during the application of all components of RENASYS AB. Ensure the abdomen and its contents are adequately visualized, controlled and protected throughout application of the dressing.

- Surgical intervention with RENASYS AB should only be undertaken as part of a holistic medical management strategy.
- Frequent, standardized measurements of intra-abdominal pressure (IAP) and/or abdominal perfusion pressure (APP) are recommended before, during and after treatment with RENASYS AB, as a means of guiding clinical decisions concerning management of the open abdomen.
- RENASYS AB is not intended to provide primary treatment for infection in the open abdomen. RENASYS AB may, however, be used on septic open abdomens, which are being managed in accordance with institutional clinical protocols for infection abatement, as an adjunct to the standard treatment regimen, and/or to provide a barrier to bacterial penetration.
- Use of the OPL is necessary to protect exposed organs from the with foam and extraperitoneal tissues to which adhesion may form. Preventing adhesions or obstructions that may otherwise form during open abdominal wound management is a critical parameter in achieving timely primary facial closure and reducing the chance of fistula development. The OPL must completely cover all exposed viscera, prior to application of wound filler and subsequent activation of the NPWT system.
- Use caution when utilizing RENASYS AB with patients suffering from obstruction in the small or large intestine, which may include (but is not limited to) hernias, adhesions from previous abdominal surgery, or from underlying pathologies such as Crohn's Disease or Irritable Bowel Syndrome (IBS).
- Patients with vascular or intestinal anastomoses (including, but not limited to arterial grafts or gastric bypass) require careful consideration while using RENASYS AB. Patients with enteric fistula have an increased risk of abdominal contamination if output is not carefully managed during the course of treatment with RENASYS AB.
- During the course of treatment, the RENASYS AB Dressing and NPWT system will remove third space fluid in the abdominal compartment. Large volumes of fluid can be collected during the course of treatment. The volume and appearance of the fluid in both canister and tubing should be checked and recorded frequently while patient is receiving therapy. The canister should be replaced when contents reach maximum volume indication (300mL or 800mL fill line). Viscous exudates increase the risk of blockage in the system; monitor closely.
- The fluid level in the canister may be used as an approximate guide when considering the necessity of fluid resuscitation. Planning for fluid replacement should be a clinical consideration in all patients undergoing therapy with RENASYS AB.
- Protection of the periwound skin area from moisture and adhesive irritation may be accomplished through the use of a skin-sealant. Allow the skin-sealant to dry fully prior to placement of the Transparent Film. Because of the risk of further damage to the periwound area, foam should never overlap onto intact skin without first protecting the skin with additional Transparent Film or a hydrocolloid dressing.
- The lowest recommended therapy pressure for using RENASYS AB with the RENASYS TOUCH Device is 80mmHg.
- While using RENASYS AB, apply universal precautions according to your institution's protocols, to minimize the risk of contact with any blood-borne pathogens.
Dressing application technique

Preparation of open abdominal wound

**WARNING:** Review all RENASYS® Negative Pressure Wound Therapy System safety information prior to beginning wound preparation. Ensure that sufficient hemostasis has been achieved prior to applying the RENASYS AB dressing (refer to Warnings section).

1. Eliminate any sharp edges or bone fragments from wound area (refer to Precautions section).
2. Ensure any areas of necrosis are appropriately debrided.
3. Irrigate abdominal wound as needed.
4. Clean and dry the periwound area.

Organ Protection Layer (OPL) application

**WARNING:** Protect vital structures such as bowel and abdominal organs at all times with the Organ Protection Layer (OPL) during therapy. Foam should never be placed in contact with exposed bowel, arteries, veins, organs, or nerves (refer to Contraindications section).

**NOTE:** Either side of the OPL may be applied to exposed organs. The OPL may be cut or folded to accommodate the specific needs of the patient. Moistening the gloves may aid in application of the OPL.

1. Remove kit contents from pouch and prepare the OPL on a sterile field. If cutting the OPL to a different size, ensure that each piece removed has been disposed of properly, away from the open wound.
2. Gently position the OPL dressing evenly into the abdominal cavity, distributing the sides into both of the lateral paracolic gutters. Any excess material on the sides of the OPL may be folded back onto itself.
3. Ensure complete coverage of all exposed bowel in the abdominal cavity with the OPL prior to filling the wound defect with foam.
Perforated foam application

1. Size the provided foam to the desired proportions along pre-scored perforations. Cutting the wound filler may be performed if desired. Do not cut the foam wound filler directly over the wound bed to avoid foam fragments from falling into the wound. Rub the edges of any cut foam, away from wound, to remove any loose fragments which may result. The foam should be placed directly over the Organ Protection Layer (OPL) while maintaining contact with the margins of the wound.

2. Gently place perforated foam in the wound cavity over the OPL. Ensure that foam is sized to fit loosely into the wound defect and there is sufficient material up to the top surface of the abdominal wound (do not under fill the wound).

NOTE: Do not allow foam to contact intact skin without use of appropriate barrier, such as Transparent Film or a hydrocolloid. It may be necessary to stack pieces of foam in deep wounds depending on the wound profile. If multiple pieces of foam are needed, count and record the number of foam pieces used.

WARNING: Do not tightly pack or force foam into any areas of the wound.

Transparent Film application

While holding the Transparent Film, expose one side of the adhesive backing by removing a single panel and apply it to the foam.

Cover foam with Transparent Film, removing remaining adhesive panels to seal, as well as the remaining carrier panel. Film should extend at least 5cm/1.97in beyond wound margin and be securely anchored to periwound area to maintain a good seal.

NOTE: Overlap the edges of the Transparent Film by a minimum of 7.5cm/2.95in when using multiple pieces of Transparent Film.

NOTE: Avoid stretching or pulling the Transparent Film to minimize tension or trauma to the periwound skin.
Apply RENASYS® Soft Port

1. Cut a circular opening (no less than 2cm/0.97in in diameter) in the center of the film, over the wound filler. Remove any loose Transparent Film and dispose of away from the wound.

2. Remove the adhesive panel from the RENASYS Soft Port dressing, and align the port opening directly over the hole in the Transparent Film.

3. Align the RENASYS Soft Port opening directly over the hole in the Transparent Film. Use gentle pressure to anchor the RENASYS Soft Port to the Transparent Film.

4. Smooth the dressing down while removing the top stabilization frame of the RENASYS Soft Port.

5. Secure the RENASYS Soft Port to the patient according to your institutional protocol. Ensure the aeration disc, located near the Quick Click Connector, is not covered or otherwise occluded by the method used to secure the RENASYS Soft Port.

6. Connect the RENASYS Soft Port to the canister tubing by pushing the Quick Click Connectors together.

7. Finished dressing should be firm to the touch and leak free.

See next page for dressing removal instructions.

Warning: Carefully monitor patients for signs of bleeding, which may lead to interruption in therapy and hemodynamic instability. If such symptoms are observed, immediately discontinue therapy, take appropriate measures to control bleeding, and contact treating clinician.
Dressing removal

When disconnecting the Quick Click Connector, protect the tube ends by inserting the tethered caps immediately before turning the device off.

As with all adhesive products, apply and remove the dressing carefully from sensitive skin to avoid skin stripping, especially after frequent dressing changes. NO-STING SKIN-PREP™ barrier film may be used on the surrounding skin to protect and improve wear time.

Ensure all perforated foam fillers and Organ Protection Layer (OPL) are removed. If multiple pieces of foam are needed to fill the wound profile, count and record how many pieces are present to ensure all pieces are removed at a dressing change to minimize the risk of retention and possible infection.

If dressing adheres to wound, apply normal saline onto wound dressing and let set for 15-30 minutes before gently removing. Appropriately discard used wound dressings observing facility protocol for medical waste handling.

Note: When negative pressure is switched off, ensure the abdomen is adequately supported.

Dressings should be changed every 48 hours, or more frequently, based on continual monitoring of patient condition. In the event of heavy or viscous drainage, drainage with sediment, infection or when blood is present, more frequent changes may be needed. Check dressings regularly and monitor the wound to check for signs of infection, bleeding or abdominal contamination. If there are any signs of systemic infection or advancing infection at the wound site, contact the treating clinician immediately.
RENASYS™ TOUCH troubleshooting

The RENASYS TOUCH device is equipped with alarms to indicate an error in the system. All alarms are determined to be “Low Priority” and require user awareness (IEC 60601-1:2005, 3rd edition and IEC 60601-1-8:2006). In the event of an alarm, an audible tone sounds, an alarm screen will display and the status indicator illuminates yellow. The device stops delivering therapy in the occurrence of an Over Vacuum, High Vacuum, unattended Critical Battery, unattended Battery Failed or Device Failed alarm.

**Caution:** Alarms are not intended to replace physical inspection and monitoring of system operation by health care providers. There are scenarios that may occur during therapy that can impact alarm functionality. Therefore, it is important that the patient, device and wound dressing are monitored regularly to ensure therapy is being delivered.

Some alarms allow the audible alarm to be paused for approximately 2 minutes. The Low Battery alarm allows the audible alarm to be paused for 15 minutes. If the cause of the alarm is not resolved within this time the alarm will recommence. If the audible alarm has been paused and a new alarm state occurs, the audible alarm sounds, and the touchscreen will display the new alarm. When multiple alarm states are present, the device will alternate between alarm screens every 5 seconds.

### Alarm screen (Leak alarm shown)

**Note:** Alarm screen icons and features display only when applicable

<table>
<thead>
<tr>
<th>Alarm status with display screen</th>
<th>Cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Low vacuum alarm</strong>&lt;br&gt;- Status indicator illuminates yellow.&lt;br&gt;- Audible alarm sounds every 20 seconds.&lt;br&gt;- Audible alarm may be paused for approximately 2 minutes by pressing the Pause Alarm icon on the screen.</td>
<td>The vacuum level is lower than the therapy set point by &gt;15mmHg for longer than 60 seconds.&lt;br&gt;The device continues to operate but may not provide prescribed therapy.</td>
<td>Do not pause therapy or power Off the device while performing the following steps. Assess the device after each step. Continue to next step only if alarm remains unresolved.&lt;br&gt;1. Check the wound dressing for air leaks. Look for loose or decompressed dressing appearance, listen for air movement around the dressing and feel for areas less compressed or cooler in temperature. Address any identified leaks with transparent film or adhesive gel patches.&lt;br&gt;2. Ensure all connections are secure.&lt;br&gt;• Dressing and canister tubing Quick Click Connectors.</td>
</tr>
</tbody>
</table>
### Alarm status with display screen

<table>
<thead>
<tr>
<th>Cause</th>
<th>Remedy</th>
</tr>
</thead>
</table>
| 3. Disconnect the canister tubing from the dressing tubing by applying pressure to the canister tubing Quick Click Connector and gently pulling the connectors apart. Close the tethered caps of both connectors.  
- If the alarm continues, a leak exists within the canister or at the canister to device connection. Replace the canister. Refer to “Removing/changing canister” section of manual for more details. Contact your Smith & Nephew authorized representative if the alarm continues after restarting therapy.  
- If the alarm resolves, a leak exists within the wound dressing or tubing. Reassess and replace as needed.  
**Note:** If Low Vacuum alarm is due to a leak in system, the Leak alarm may also be triggered while the Low Vacuum alarm is active. | |

### High vacuum alarm
- Status indicator illuminates yellow.  
- Audible alarm sounds every 20 seconds.  
- Audible alarm cannot be paused.  
- The system has detected a high vacuum condition (>15mmHg above the therapy set point), potentially due to device malfunction.  
  Device stops delivering therapy.  
1. Power Off and restart the device.  
2. If the alarm recurs there is a potential malfunction of the device. Contact your Smith & Nephew authorized representative. |

### Over vacuum alarm
- Status indicator illuminates yellow.  
- Audible alarm sounds every 20 seconds.  
- Audible alarm cannot be paused.  
- The system has detected an excessively high vacuum (>235mmHg), potentially due to device malfunction  
  Device stops delivering therapy.  
1. Power Off and restart the device.  
2. If the alarm recurs there is a potential malfunction of the device. Contact your Smith & Nephew authorized representative. |
## Alarm status with display screen

<table>
<thead>
<tr>
<th>Cause</th>
<th>Remedy</th>
</tr>
</thead>
</table>
| The system has detected a blockage within the canister, or the tubing or the internal canister filter is covered with exudate, which may occur even if canister does not appear visibly full. | Do not pause therapy or power Off the device while performing the following troubleshooting steps. Assess the device after each step. Continue to the next step only if the alarm remains unresolved.  
1. If one dressing is connected to the device, press the Home icon to navigate to the Home screen and ensure that the Y-Connect toggle icon is set to Y-Connect OFF.  
2. Ensure all tubing and connections are free of any obstructions or kinks.  
3. Disconnect the canister tubing from the dressing tubing by applying pressure to the canister Quick Click Connector and gently pulling the connectors apart. Leave open the tethered cap of the canister Quick Click Connector and close the tethered cap of the dressing connector.  
   - If the alarm continues, the blockage exists within the canister. Replace the canister. Refer to “Removing/changing canister” section of manual for more details. Contact your Smith & Nephew authorized representative if the alarm continues after restarting therapy.  
   - If the alarm resolves, the blockage exists within tubing of the dressing. Reassess and replace as needed. |
| Device continues to operate but may not provide the prescribed therapy. |                                                                          |

- Status indicator illuminates yellow.  
- Audible alarm sounds every 20 seconds.  
- Audible alarm may be paused for approximately 2 minutes by pressing the Pause Alarm icon on the screen.

---

**Note:** Device orientation, rate at which fluid enters the canister and how exudate solidifies can impact filter occlusion. To optimize canister volume and alarm functionality, keep the device in the upright position.
Alarm status with display screen | Cause | Remedy
--- | --- | ---

**Caution – Lack of alarms**

- The blockage alarm will occur when the system detects a blockage between the canister and where the dressing tubing interfaces with the Transparent Film. A blockage within the wound dressing will not be detected by the system.
- If a blockage is present in the system but an air leak occurs between the blockage and the device, the alarm may not assert. Ensure that all connections are secure and there are no air leaks present in the system. Potential sources of air leaks include:
  - Cracked or damaged canister.
  - Misplaced or worn O-ring within the Quick Click Connector.
  - Misplaced or worn O-ring on the device inlet port.
  - Damaged or tear in the dressing tubing or Quick Click Connector.

**IMPORTANT**
This guide is intended as a technical troubleshooting guide only. It does not constitute medical advice and appropriate medical attention must always be sought in the event that a clinical issue is suspected.
### Alarm status with display screen

<table>
<thead>
<tr>
<th>Canister Full</th>
<th>Cause</th>
<th>Remedy</th>
</tr>
</thead>
</table>
| *Status indicator illuminates yellow.*  
*Audible alarm sounds every 20 seconds.*  
*Audible alarm may be paused for approximately 2 minutes by pressing the Pause Alarm icon on the screen.* | The system has detected the canister is nearly full or the internal canister filter is covered with exudate, which may occur even if canister does not appear visibly full. Device continues to operate but may not provide the prescribed therapy. | Pause therapy before performing the following troubleshooting steps. Assess the device after each step. Continue to the next step only if the alarm remains unresolved.  
1. Replace canister and start therapy. Refer to “Removing/Changing canister” section of manual for more details.  
2. Inspect all tubing and connections for any obstructions or kinks. If alarm continues, contact your Smith & Nephew authorized representative for assistance.  
*Note:* Device orientation, rate at which fluid enters the canister and how exudate solidifies can impact filter occlusion. To optimize canister volume and alarm functionality, keep the device in the upright position. |
## Alarm status with display screen

<table>
<thead>
<tr>
<th>Cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>The system leak is greater than the allowable maximum leak threshold for &gt;45 seconds.</td>
<td>Do not pause therapy or power Off the device while performing the following troubleshooting steps. Use the onscreen flow meter to help find and correct sources of the leak. Assess the device after each step. Continue to next step only if alarm remains unresolved.</td>
</tr>
<tr>
<td>The device continues to operate but may not provide prescribed therapy.</td>
<td>1. Check the wound dressing for air leaks. Look for loose or decompressed dressing appearance, listen for air movement around the dressing and feel for areas less compressed or cooler in temperature. Address any identified leaks with transparent film or adhesive gel patches.</td>
</tr>
<tr>
<td></td>
<td>2. Ensure all connections are secure.</td>
</tr>
<tr>
<td></td>
<td>• Dressing and canister tubing Quick Click Connectors.</td>
</tr>
<tr>
<td></td>
<td>3. Disconnect the canister tubing from the dressing tubing by applying pressure to the canister Quick Click Connector and gently pulling the connectors apart. Close the tethered caps of both connectors.</td>
</tr>
<tr>
<td></td>
<td>• If the alarm continues, a leak exists within the canister or at the canister to device connection. Replace the canister. Refer to “Removing/Changing canister” section of manual for more details. Contact your Smith &amp; Nephew authorized representative if the alarm continues after restarting therapy.</td>
</tr>
<tr>
<td></td>
<td>• If the alarm resolves, a leak exists within the wound dressing or tubing. Reassess and replace as needed.</td>
</tr>
</tbody>
</table>

### Caution – lack of alarms

When a significant air leak is present in system, the Leak alarm will assert. However, if a blockage is present within system it may prohibit detection of a significant leak by the device, resulting in no alarm assertion. Potential sources of a blockage include:

- Physical occlusion in wound dressing (clot in filler, compacted gauze, high volume viscous fluid).
- Physical occlusion in tubing (kink in canister tubing, clot in tubing).
- Misaligned dressing opening to RENASYS’ Soft Port aperture. Check dressing regularly to ensure therapy is being delivered.
### Alarm status with display screen

<table>
<thead>
<tr>
<th>Cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Low Battery</strong></td>
<td>1. Plug device into an electrical (AC) outlet as soon as possible.</td>
</tr>
<tr>
<td>• Status indicator illuminates yellow.</td>
<td>The device can be plugged into an electrical (AC) outlet to charge</td>
</tr>
<tr>
<td>• Audible alarm sounds every</td>
<td>the battery without causing</td>
</tr>
<tr>
<td>20 seconds.</td>
<td>interruption to active therapy.</td>
</tr>
<tr>
<td>• Audible alarm may be paused</td>
<td></td>
</tr>
<tr>
<td>for approximately 15 minutes</td>
<td></td>
</tr>
<tr>
<td>by pressing the Pause Alarm icon</td>
<td></td>
</tr>
<tr>
<td>on the screen.</td>
<td></td>
</tr>
<tr>
<td>• The touchscreen dims to conserve</td>
<td></td>
</tr>
<tr>
<td>battery life.</td>
<td></td>
</tr>
</tbody>
</table>

**IMPORTANT**

This guide is intended as a technical troubleshooting guide only. It does not constitute medical advice and appropriate medical attention must always be sought in the event that a clinical issue is suspected.
### Alarm status with display screen

<table>
<thead>
<tr>
<th>Cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Critical Battery</strong>&lt;br&gt;• Status indicator illuminates yellow.&lt;br&gt;• Audible alarm sounds every 20 seconds.&lt;br&gt;• Audible alarm may be paused for approximately 2 minutes by pressing the Pause Alarm icon on the screen.&lt;br&gt;• The touchscreen dims to conserve battery life.&lt;br&gt;The battery has only 3 minutes of therapy time remaining.&lt;br&gt;Upon battery depletion the device will stop delivering therapy and power Off.</td>
<td>1. Plug device into an electrical (AC) outlet as soon as possible. The device can be plugged into an electrical (AC) outlet to charge the battery without causing interruption to active therapy.</td>
</tr>
</tbody>
</table>

| **Battery Failed**<br>• Status indicator light illuminates yellow when the device is powered On.<br>• There is no audible alarm.<br>**NOTE:** Battery Failure alarm only displays when device is connected to electrical (AC) power and powered On.<br>Battery within device has failed to charge. Therapy can be continued only by keeping the device plugged into electrical (AC) power. Device stops delivering therapy and powers Off. It will not power On again unless plugged into an electrical (AC) outlet. | 1. If the device has been exposed to temperatures outside its recommended temperature range, let the device return to room temperature.<br>2. Plug device into an electrical (AC) outlet; the device will not operate on battery power. Contact your Smith & Nephew authorized representative to obtain a replacement device. |

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**Alarm status with display screen**

<table>
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<tr>
<th>Alarm status with display screen</th>
<th>Cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Device Failed</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| • Status indicator illuminates yellow. | The device has an unrecoverable error, potentially due to an internal hardware or software error. | 1. Power Off and restart device.  
2. If alarm recurs note the failure code and contact your Smith & Nephew authorized representative. |
| • Audible alarm sounds every 20 seconds. | Device stops delivering therapy. | |
| • Audible alarm cannot be paused. |       |        |
| **Inactive**                   |       |        |
| • Status indicator illuminates yellow. | The device is powered On and has been left without user interaction for longer than 15 minutes. | 1. Touch anywhere on the screen to resolve alarm.  
2. Select vacuum setting and start therapy or power Off device until therapy is required. |
| • Audible alarm sounds every 20 seconds. | Device continues to operate. | |
| **Annual Maintenance**         |       |        |
| • Status indicator illuminates yellow. | The device is nearing time for the annual maintenance check. Therapy can be continued. The annual maintenance notification will display every time the device is powered On. | 1. Press the Accept icon to close this notification screen and continue to the Home screen. Continue therapy as planned.  
2. At the conclusion of the patient’s therapy, notify your authorized service provider that annual maintenance is required. The authorized service provider will verify the device is in proper working order and reset the alarm timer. |
| • Audible alarm sounds every 20 seconds. | Device continues to operate. | |

**IMPORTANT**

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RENASYS® FAQ

Frequently asked questions and answers

What is the suction pressure of the RENASYS TOUCH Device or the range of pressure that the device achieves?
RENASYS TOUCH, -25mmHg to -200mmHg

Is the pressure pre-set?
The pressure on RENASYS TOUCH is pre-set to -80mmHg. It may then be adjusted to the desired level.

Can it be changed?
The pressure setting on the RENASYS Device can be changed. The pressure setting should be determined by the prescribing clinician based on an individual assessment of the patient and wound.

Is there an Intermittent feature and when should I use it?
The RENASYS TOUCH is able to deliver Intermittent and Variable Intermittent NPWT using tailored time settings defined by the clinician. Experimental studies have shown improvements in the rate of granulation tissue formation, wound contraction and blood flow with Intermittent and Variable NPWT compared with continuous NPWT.23-26 Some reports suggest that Intermittent NPWT may be painful in susceptible patients.27 Patients being treated with Variable NPWT have been shown to report less pain25 compared with Intermittent pressure. The choice to use Continuous or Intermittent therapy should be based on clinical judgment and the therapy objective of the wound being treated.

Should I change the canister only when the canister full alarm is initiated?
Canisters should be changed at least once a week, whenever there is a change in patient or in the event that canister contents reach maximum volume indication (300mL or 800mL fill line). Do not wait for canister over-capacity alarm activation to change canister. A thorough assessment of the device and wound should be performed regularly.

How long does the battery last?
RENASYS TOUCH: up to 16 hours

How much does the machine weigh? (How portable is it?)
RENASYS TOUCH is 2.13lbs. (0.967kg). This may come with a shoulder strap and carry bag, which may also be ordered separately. The device can also be mounted on an IV pole and bed rail with attachments.

What is the interface with the wound?
For the RENASYS Systems, the wound interfaces are foam or gauze.
How often do you recommend changing the dressing?
1. Foam dressings should be changed every 48 to 72 hours after initial application of therapy. If no leak is present and the patient is comfortable, dressing changes should occur no less than 3 times per week.
2. Gauze dressings should be changed 48 hours after initial application of therapy. If no leak is present and patient is comfortable, dressing changes should occur 2–3 times per week.

How do you handle exposed tendon or bone?
Exposed tendons and bone should be covered with natural tissue or a non-adherent dressing layer prior to applying the negative pressure wound therapy dressing.

Do you have any special recommendations for high bioburden or infection?
If available, we recommend the use of ACTICOAT™ Flex Antimicrobial Barrier Dressings as a wound contact layer for wounds with a high bioburden or infection. ACTICOAT Flex is compatible for use with gauze or foam NPWT interface materials for up to three (3) days. Wounds that are infected may require more frequent dressing changes. Wound bed preparation and debridement should be practiced prior to the application of NPWT. If used on infected wounds the infection should be inspected and treated as per local clinical protocol.

How do I know if the RENASYS™ therapy device is working?
While the RENASYS TOUCH therapy device is turned on a green light will illuminate. The illuminated light located at the top of the device tells you the device is on and vacuum is working. Frequent visual monitoring of the therapy by the clinician is recommended to ensure the therapy is active.

Does the dressing have a raisin-like appearance and firm to the touch?

Gauze with RENASYS Soft Port  Foam with RENASYS Soft Port
## RENASYS™ ordering information

<table>
<thead>
<tr>
<th>RENASYS TOUCH NPWT System</th>
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</thead>
<tbody>
<tr>
<td><strong>RENASYS TOUCH Device</strong></td>
<td><strong>RENASYS TOUCH canisters</strong></td>
</tr>
<tr>
<td><strong>Product description</strong></td>
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<tr>
<td><strong>Product code</strong></td>
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<tr>
<td>RENASYS TOUCH</td>
<td>RENASYS TOUCH 300mL canister with solidifier</td>
</tr>
<tr>
<td>• Pump</td>
<td>• Sealed canister</td>
</tr>
<tr>
<td>• Power source and NA power cord</td>
<td>• Solidifier</td>
</tr>
<tr>
<td>• Clinician User Manual</td>
<td>• Canister tubing</td>
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<td>• Service Manual</td>
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<tr>
<td>• IV pole/bed rail clamp available</td>
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<tr>
<td>66801280</td>
<td>66801273</td>
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</table>

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<tr>
<td>• Canister tubing</td>
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<tr>
<td>RENASYS TOUCH 800mL canister with solidifier</td>
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<tr>
<td>• Sealed canister</td>
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<tr>
<td>• Solidifier</td>
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<tr>
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<tr>
<td><strong>Accessories</strong></td>
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<tr>
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<tr>
<td>RENASYS TOUCH Carry Straps</td>
<td>RENASYS TOUCH Odor Filter</td>
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<td>RENASYS TOUCH Class 2 Power Supply</td>
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<td>North American power cord</td>
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### RENASYS® Dressing Kits

<table>
<thead>
<tr>
<th>Product description</th>
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<tbody>
<tr>
<td><strong>Foam</strong></td>
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<tr>
<td>RENASYS-F Foam Dressing Kit with Soft Port</td>
<td>66020794</td>
</tr>
<tr>
<td>• Small Foam block 4 in x 3 in x 1 in (10cm x 8cm x 3cm) RENASYS Transparent Film 1 Soft Port</td>
<td>668020795</td>
</tr>
<tr>
<td>• Medium Foam block 6 in x 5 in x 1 in (20cm x 13cm x 3cm) 2 RENASYS Transparent Films 1 Soft Port</td>
<td>66020796</td>
</tr>
<tr>
<td>• Large Foam block 10 in x 6 in x 1 in (25cm x 15cm x 3cm) 3 RENASYS Transparent Films 1 Soft Port</td>
<td>66020980</td>
</tr>
<tr>
<td>RENASYS-AB Abdominal Dressing Kit with Soft Port</td>
<td>66020980</td>
</tr>
<tr>
<td>5 kits per case 2 Foam blocks 17 in x 12 in x 1 in (43cm x 30cm x 3cm) Organ protection layer 35 in x 26 in (89cm x 66cm) 6 RENASYS Transparent Films 1 Soft Port</td>
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</tr>
<tr>
<td><strong>Gauze</strong></td>
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<tr>
<td>RENASYS-G Gauze Dressing Kit with Soft Port</td>
<td>66020933</td>
</tr>
<tr>
<td>• Small AMD gauze dressing 6 in x 6.7 in (15cm x 17cm) RENASYS Transparent Films Non-adherent gauze 1 Soft Port</td>
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</tr>
<tr>
<td>• Medium 2 AMD gauze dressings 6 in x 6.7 in (15cm x 17cm) RENASYS Transparent Films Non-adherent gauze 1 Soft Port</td>
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<tr>
<td>• Large 2 AMD gauze rolls 4.5 in x 4.1 yd (11cm x 4m) RENASYS Transparent Films Non-adherent gauze 1 Soft Port</td>
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<tr>
<td>RENASYS-G Sterile Gauze Dressing Kit Sterile with Soft Port</td>
<td>66020961</td>
</tr>
<tr>
<td>Component list; 5 kits per case AMD gauze dressing 6 in x 6.7 in (15cm x 17cm) AMD gauze roll 4.5 in x 4.1 yd (11cm x 4m) 3 RENASYS Transparent Films 1 Soft Port</td>
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# Kit accessories

<table>
<thead>
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<tbody>
<tr>
<td><strong>RENASYS® Soft Port</strong></td>
<td>66020799</td>
</tr>
<tr>
<td>5 kits per case</td>
<td></td>
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<tr>
<td>• 1 Soft Port per kit</td>
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</tr>
<tr>
<td>Length 27in (69cm)</td>
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<tr>
<td>applicator head 6in x 4in (15cm x 10cm)</td>
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<tr>
<td><strong>RENASYS Adhesive Gel Patch</strong></td>
<td>66801082</td>
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<tr>
<td>5 boxes per case</td>
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<tr>
<td>• 10 Gel Patches per box</td>
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<tr>
<td>4in x 2.8in (10cm x 7cm)</td>
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<tr>
<td>• Double sided silicon adhesive hydrogel</td>
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<td><strong>NPWT Antimicrobial Large Gauze Roll</strong></td>
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<tr>
<td>• 5 rolls of gauze individually packaged per kit</td>
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<tr>
<td><strong>RENASYS Transparent Film</strong></td>
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<tr>
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<tr>
<td>• 10 Transparent Films per kit</td>
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<tr>
<td>8in x 12in (20cm x 30cm)</td>
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</tbody>
</table>
References


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23. Malmsjo et al. The effects of variable, intermittent and continuous Negative Pressure Wound Therapy using foam or gauze on wound contraction, granulation tissue formation and ingrowth in the wound filler2012. Eplasty, 12 e5.


Committed to wound care
as a global leader in innovative wound management and treatment,
Smith & Nephew is committed to reducing both the human and the
economic cost of wound care.

NPWT Clinical and Product Support Line
• 1-800-876-1261

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• Classroom to bedside educational programs
• Peer-to-peer learning through our national Science Summit program
• Product manuals, NPWT clinical guidelines and quick reference guides
• Customized clinical in-servicing and product training
• Dedicated team of home care specialists
• Patient education resources