

V.A.C.[®] Therapy
for veterinary use

V.A.C.[®] Therapy for Veterinary Use

USER MANUAL



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V.A.C.® THERAPY RECOMMENDED GUIDELINES

This User Manual includes **Safety information**, **Dressing Applications** and **Clinical Guidelines** for veterinary use.

These guidelines are only general recommendations. Consult treating veterinarian as individual patient circumstances may vary. Always consult device specific instructions provided with the V.A.C.® Therapy Unit and important safety information prior to use.

NOTE: *The word “patient” as used within this guide refers to the animals associated with veterinary practice.*

INTRODUCTION

Vacuum Assisted Closure® (V.A.C.®) Therapy is an advanced wound healing therapy that can be readily integrated into the veterinarian’s wound healing practice, to help optimize patient care. It is a flexible therapy that, with appropriate precautions in place, may be used in the veterinary hospital. This advanced wound healing technology includes microprocessor-controlled therapy units, specialized dressings, and 24 hours a day, 7 days a week technical support.

The V.A.C.® Therapy System is a wound management system for use in the veterinary hospital, clinic or other suitable care setting as determined by a licensed veterinarian. It is intended to create an environment that promotes wound healing by secondary or tertiary (delayed primary) intention by preparing the wound bed for closure, reducing edema, promoting granulation tissue formation and perfusion, and by removing exudate and infectious material. It is indicated for patients with chronic, acute, traumatic, subacute and dehisced wounds, partial-thickness burns, ulcers, incisions, flaps and grafts.

The components of the V.A.C.® Therapy System work as an integrated product to optimize both the delivery and the benefits of negative pressure wound therapy. An open pore reticulated polyurethane foam (V.A.C.® GranuFoam™) is cut to fit the wound, then covered with an adhesive drape. The open cells of the foam enable equal distribution of the negative pressure across the surface of the wound, while tubing transfers accumulated fluids to the V.A.C.® Canister. The software-controlled therapy unit applies negative pressure to the wound bed. The user can select Continuous or Intermittent therapy, depending upon wound type and the needs of each patient. SensaT.R.A.C.™ / T.R.A.C.™ (Therapeutic Regulated Accurate Care) technology delivers, monitors and helps to maintain target pressure and relays signals to the therapy unit. The safety features of the V.A.C.® Therapy System include alarms that signal tubing blockages, a full or missing canister, inactive therapy, low battery and leaks in the seal of the dressing.

POINTS TO REMEMBER WHEN USING V.A.C.® THERAPY

- Ensure that the patient/wound is a suitable candidate for V.A.C.® Therapy.
- Read and follow all user instructions and safety information that accompany KCI products.
- Ensure accuracy of diagnosis and address all underlying and associated co-morbidities.
- Ensure appropriate V.A.C.® Dressing selection and suitable indication-specific V.A.C.® Dressings are used.
- Do not place V.A.C.® GranuFoam™ Dressing directly over exposed organs, blood vessels, anastomotic sites, nerves and/or unprotected intact skin.
- Ensure appropriate debridement prior to treatment. Do not tightly pack V.A.C.® Dressings into the wound; place dressings gently into the wound.
- Ensure a good drape seal has been achieved.
- Always count the total number of pieces of foam used in the wound. Document the foam quantity and dressing change date on the drape or Foam Quantity Label if available, and in the patient’s medical record.
- Keep V.A.C.® Therapy on for at least 22 hours in a 24 hour period. Do not leave the V.A.C.® Dressing in place if the therapy unit is switched off for more than 2 hours in 24.
- Monitor continuously and check and respond to alarms.
- When dressing is removed, count the number of foam pieces removed, correlate the count with the number of pieces previously placed in the wound and verify the complete removal of all V.A.C.® Foam dressing pieces.
- If no response or improvement in the wound is observed within two weeks, reassess the treatment plan.
- Seek advice/support from local KCI representative as needed.
- **Follow Standard Precautions**

V.A.C.® THERAPY SYSTEM SAFETY INFORMATION FOR VETERINARY USE

Disposable components of the V.A.C.® (Vacuum Assisted Closure®) Therapy System (including the V.A.C.® GranuFoam® Dressing, tubing and drape) are packaged sterile and are latex-free. V.A.C.® Therapy Unit canisters are packaged sterile or fluid path sterile and are latex-free. All disposable components of the V.A.C.® Therapy System are for single use only. To help ensure safe and effective use, use only V.A.C.® GranuFoam® Dressings with V.A.C.® Therapy Units. The decision to use clean versus sterile aseptic technique is dependent upon wound pathophysiology, veterinarian preference, and institutional protocol.

IMPORTANT: As with any prescription medical device, failure to consult a veterinarian and carefully read and follow all therapy unit and dressing instructions and safety information prior to each use may lead to improper product performance and the potential for serious or fatal injury. Do not adjust therapy unit settings or perform therapy application without directions from or supervision of the attending veterinarian.

INDICATIONS FOR USE

The V.A.C.® Therapy System is an integrated wound management system for use in the veterinary hospital, clinic or other suitable care setting as determined by a licensed veterinarian. It is intended to create an environment that promotes wound healing by secondary or tertiary (delayed primary) intention by preparing the wound bed for closure, reducing edema, promoting granulation tissue formation and perfusion, and by removing exudate and infectious material. It is indicated for patients with chronic, acute, traumatic, subacute and dehisced wounds, pressure ulcers, flaps, grafts and closed surgical incisions.

CONTRAINDICATIONS

- Do not place foam dressings of the V.A.C.® Therapy System directly in contact with exposed blood vessels, anastomotic sites, organs, nerves and/or unprotected intact skin.

NOTE: Refer to Warnings section for additional information concerning bleeding.

- V.A.C.® Therapy is contraindicated for patients with:
 - Malignancy in the wound
 - Untreated osteomyelitis

NOTE: Refer to Warnings section for Osteomyelitis information.

- Necrotic tissue with eschar present

NOTE: After debridement of necrotic tissue and complete removal of eschar, V.A.C.® Therapy may be used.

WARNINGS

Bleeding: With or without using V.A.C.® Therapy, certain patients are at high risk of bleeding complications. The following types of patients are at increased risk of bleeding, which, if uncontrolled, could be potentially fatal.

- Patients who have weakened or friable blood vessels or organs in or around the wound as a result of, but not limited to:
 - Infection
 - Trauma
 - Radiation
- Patients without adequate wound hemostasis
- Patients who have been administered anticoagulants or platelet aggregation inhibitors
- Patients who do not have adequate tissue coverage over vascular structures

If V.A.C.® Therapy is prescribed for patients who have an increased risk of bleeding complications, they should be treated and monitored in a care setting deemed appropriate by the treating veterinarian.

If active bleeding develops suddenly or in large amounts during V.A.C.® Therapy, or if frank (bright red) blood is seen in the tubing or in the canister, immediately stop V.A.C.® Therapy, leave dressing in place, take measures to stop the bleeding, and seek immediate medical assistance. The V.A.C.® Therapy Units and dressings should not be used to prevent, minimize or stop vascular bleeding.

- **Protect Vessels and Organs:** All exposed or superficial vessels and organs in or around the wound must be completely covered and protected prior to the administration of V.A.C.® Therapy.

Always ensure that V.A.C.® Foam Dressings do not come in direct contact with vessels or organs. Use of a thick layer of natural tissue should provide the most effective protection. If a thick layer of natural tissue is not available or is not surgically possible, multiple layers of fine meshed, non-adherent material, (Adaptec® or Mepitel®) may be considered as an alternative, if deemed by the treating veterinarian to provide a complete protective barrier. If using non-adherent materials, ensure that they are secured in a manner as to maintain their protective position throughout therapy. Consideration should also be given to the negative pressure setting and therapy mode used when initiating therapy. Caution should be taken when treating large wounds that may contain hidden vessels, which may not be readily apparent. The patient should be closely monitored for bleeding in a care setting deemed appropriate by the treating veterinarian.

- **Infected Blood Vessels:** Infection may erode blood vessels and weaken the vascular wall which may increase susceptibility to vessel damage through abrasion or manipulation. Infected blood vessels are at risk of complications, including bleeding, which, if uncontrolled, could be potentially fatal. Extreme caution should be used when V.A.C.® Therapy is applied in close proximity to infected or potentially infected blood vessels. (Refer to Protect Vessels and Organs section above.)
- **Hemostasis and Anticoagulants:** Patients without adequate wound hemostasis have an increased risk of bleeding, which, if uncontrolled, could be potentially fatal. These patients should be treated and monitored in a care setting deemed appropriate by the treating veterinarian. Caution should be used in treating patients on doses of anticoagulants thought to increase their risk for bleeding (relative to the type and complexity of the wound). Consideration should be given to the negative pressure setting and therapy mode used when initiating therapy.
- **Hemostatic Agents Applied at the Wound Site:** Non-sutured hemostatic agents (for example, bone wax, absorbable gelatin sponge, or spray wound sealant) may, if disrupted, increase the risk of bleeding, which, if uncontrolled, could be potentially fatal. Protect against dislodging such agents. Consideration should be given to the negative pressure setting and therapy mode used when initiating therapy.
- **Sharp Edges:** Bone fragments or sharp edges could puncture protective barriers, vessels, or organs causing injury. Any injury could cause bleeding, which, if uncontrolled, could be potentially fatal. Beware of possible shifting in the relative position of tissues, vessels or organs within the wound that might increase the possibility of contact with sharp edges. Sharp edges or bone fragments must be eliminated from the wound area or covered to prevent them from puncturing blood vessels or organs before the application of V.A.C.® Therapy. Where possible, completely smooth and cover any residual edges to decrease the risk of serious or fatal injury, should shifting of structures occur. Use caution when removing dressing components from the wound so that wound tissue is not damaged by unprotected sharp edges.
- **Patient Size:** Consider the size and weight of the patient, patient's condition, wound type and size, and the monitoring capabilities of the veterinary hospital or care setting. In small patients (less than 10 kg) or patients with large wounds, loss of significant fluid volume through V.A.C.® Therapy could be life threatening. Monitor fluid loss, hydration, blood loss, blood pressure and serum protein levels with greater vigilance in patients weighing less than 10 kg or patients with large wounds. When assessing fluid loss consider the volume of fluid in the tubing and the V.A.C.® canister.

WARNING: Veterinarian should evaluate placing negative pressure therapy over large portion of truncal surface area for patients of smaller size and weight.

Restraints: Ensure patient is restrained (physical/chemical) during dressing application/change and at initiation of therapy.

Infected Wounds: Infected wounds should be monitored closely and may require more frequent dressing changes than non-infected wounds, dependent upon factors such as wound conditions and treatment goals. Refer to dressing application instructions for details regarding dressing change frequency. As with any wound treatment, veterinarian/caregivers should frequently monitor the patient's wound, periwound tissue and exudate for signs of infection, worsening infection, or other complications. Some signs of infection are fever, tenderness, redness, swelling, itching, rash, increased warmth in the wound or periwound area, purulent discharge, or strong odor. Infection can be serious, and can lead to complications such as pain, discomfort, fever, necrosis, septic shock and/or fatal injury. Some signs or complications of systemic infection are depressed attitude, lethargy, vomiting, diarrhea, pale mucous membrane, decreased capillary refill time, high fever and hypotension. If there are any signs of the onset of systemic infection or advancing infection at the wound site, contact the attending veterinarian immediately to determine if V.A.C.® Therapy should be discontinued. For wound infections relating to blood vessels, please also refer to the section titled Infected Blood Vessels.

Clinical Infection and V.A.C.® Therapy: In the event of clinical infection, V.A.C.® Therapy is not intended to replace the use of systemic therapy or other infection treatment regimens. V.A.C.® Therapy may be used on infected wounds as an adjunct to the standard treatment regimen.

Osteomyelitis: The V.A.C.® System should NOT be initiated on a wound with untreated osteomyelitis. Consideration should be given to thorough debridement of all necrotic, non-viable tissue, including infected bone (if necessary), and appropriate antibiotic therapy. Protect intact bone with a single layer of non-adherent material.

Protect Tendons, Ligaments and Nerves: Tendons, ligaments and nerves should be protected to avoid direct contact with V.A.C.® Foam Dressings. These structures may be covered with natural tissue, meshed non-adherent material, or bio-engineered tissue to help minimize risk of desiccation or injury.

Foam Placement: Always use V.A.C.® Dressings from sterile packages that have not been opened or damaged. Do not force foam dressings into any area of the wound, as this may damage tissue, alter the delivery of negative pressure, or hinder exudate and foam removal. Always count the total number of pieces of foam used in the wound and document that number on the drape and in the patient's chart. Also document the dressing change date on the drape.

Foam Removal: V.A.C.® Foam Dressings are not bioabsorbable. Always count the total number of pieces of foam removed from the wound and ensure the same number of foam pieces was removed as placed. Foam left in the wound for greater than the recommended time period may foster ingrowth of tissue into the foam, create difficulty in removing foam from the wound, or lead to infection or other adverse events. **If significant bleeding develops, immediately discontinue the use of the V.A.C.® Therapy System, take measures to stop the bleeding, and do not remove the foam dressing until the treating veterinarian is consulted. Do not resume the use of the V.A.C.® Therapy System until adequate hemostasis has been achieved, and the patient is not at risk for continued bleeding.**

Keep V.A.C.® Therapy On: Never leave a V.A.C.® Dressing in place without active V.A.C.® Therapy for more than 2 hours. If therapy is off for more than 2 hours, remove the old dressing and irrigate the wound. Either apply a new V.A.C.® Dressing from an unopened sterile package and restart V.A.C.® Therapy; or apply an alternative dressing at the direction of the treating veterinarian.

Acrylic Adhesive: The V.A.C.® Drape has an acrylic adhesive coating, which may present a risk of an adverse reaction in patients who are allergic or hypersensitive to acrylic adhesives. If a patient has a known allergy or hypersensitivity to such adhesives, do not use the V.A.C.® Therapy System. If any signs of allergic reaction or hypersensitivity develop, such as redness, swelling, rash, urticaria, or significant pruritus, discontinue use and consult the attending veterinarian immediately. If bronchospasm or more serious signs of allergic reaction appear, seek immediate medical assistance.

Defibrillation: Remove the V.A.C.® Dressing if defibrillation is required in the area of dressing placement. Failure to remove the dressing may inhibit transmission of electrical energy and/or patient resuscitation.

Magnetic Resonance Imaging (MRI) – Therapy Unit: The V.A.C.® Therapy Unit is MR Unsafe. Do not take the V.A.C.® Therapy Unit into the MR environment.

Magnetic Resonance Imaging (MRI) – V.A.C.® Dressings: V.A.C.® Dressings can typically remain on the patient with minimal risk in an MR environment, assuming that use of the V.A.C.® Therapy System is not interrupted for more than 2 hours (refer to **Keep V.A.C.® Therapy On** above).

Hyperbaric Oxygen Therapy (HBO): Do not take the V.A.C.® Therapy Unit into a hyperbaric oxygen chamber. The V.A.C.® Therapy Unit is not designed for this environment, and should be considered a fire hazard. After disconnecting the V.A.C.® Therapy Unit, either (i) replace the V.A.C.® Dressing with another HBO compatible material during the hyperbaric treatment, or (ii) cover the unclamped end of the V.A.C.® Tubing with moist cotton gauze and completely cover the V.A.C.® Dressing (including tubing) with a moist towel throughout the treatment in the chamber. For HBO therapy, the V.A.C.® Tubing must not be clamped. **Never leave a V.A.C.® Dressing in place without active V.A.C.® Therapy** for more than 2 hours; please refer to the **Keep V.A.C.® Therapy On** section above.

PRECAUTIONS

Standard Precautions: To reduce the risk of transmission of bloodborne pathogens, apply standard precautions for infection control with all patients, per institutional protocol, regardless of their diagnosis or presumed infection status. In addition to gloves, use gown and goggles if exposure to body fluids is likely.

Continuous versus Intermittent V.A.C.® Therapy: Continuous, rather than intermittent, V.A.C.® Therapy is recommended over unstable structures, such as an unstable chest wall or non-intact fascia, in order to help minimize movement and stabilize the wound bed. Continuous therapy is also generally recommended for patients at increased risk of bleeding, highly exudative wounds and fresh flaps and grafts.

Patient Size and Weight: Consider the size and weight of the patient, patient's condition, wound type and size, and the monitoring capabilities of the veterinary hospital or care setting. In small patients (less than 10 kg) or in patients with large wounds, loss of significant fluid volume through V.A.C.® Therapy could be life threatening. Monitor fluid loss, hydration, blood loss, blood pressure and serum protein levels with greater vigilance in patients weighing less than 10 kg or patients with large wounds. When assessing fluid loss consider the volume of fluid in the tubing and the V.A.C.® canister.

Spinal Cord Injury: In the event a patient experiences autonomic dysreflexia (sudden changes in blood pressure or heart rate in response to stimulation of the sympathetic nervous system), discontinue V.A.C.® Therapy to help minimize sensory stimulation and seek immediate medical assistance.

Bradycardia: To minimize the risk of bradycardia, V.A.C.® Therapy must not be placed in proximity to the vagus nerve.

Protect Periwound Skin: Consider use of a skin preparation product to protect periwound skin. Do not allow foam to overlap onto intact skin. Protect fragile/friable periwound skin with additional V.A.C.® Drape, or other transparent film.

- Multiple layers of the V.A.C.® Drape may decrease the moisture vapor transmission rate, which may increase the risk of maceration.
- If any signs of irritation or sensitivity to the drape, foam, or tubing assembly appear, discontinue use and consult a veterinarian.
- To avoid trauma to the periwound skin, do not pull or stretch the drape over the foam dressing during drape application.
- Extra caution should be used for patients with neuropathic etiologies or circulatory compromise.

Circumferential Dressing Application: Avoid use of circumferential dressings except where a circumferential drape technique may be necessary to establish and maintain a seal. Consider using multiple small pieces of V.A.C.® Drape rather than one continuous piece to minimize the risk of decreased distal circulation. Extreme care should be taken not to stretch or pull the drape when securing it, but let it attach loosely and stabilize the edges with an elastic wrap, if necessary. When using circumferential drape applications, it is crucial to systematically and recurrently palpate distal pulses, and assess distal circulatory status. If circulatory compromise is suspected or distal edema is observed, discontinue therapy, remove dressing, and contact the attending veterinarian.

Do not apply circumferential dressings to patients in the thoracic or cranial abdominal region. Application in these areas may inhibit chest excursions and ventilation with potentially fatal consequences.

V.A.C.® Therapy Unit Pressure Excursions: In rare instances, tubing blockages with the V.A.C.® Therapy Unit may result in brief vacuum excursions to more than 250 mmHg negative pressure. Resolve alarm conditions immediately. Refer to the Therapy Unit User's Guide or contact your KCI representative for additional information.

CONSIDERATIONS FOR V.A.C.® THERAPY FOR VETERINARY USE

WARNING: Patients having an increased risk of bleeding complications should be treated and monitored in a care setting deemed appropriate by the treating veterinarian.

In addition to the contraindications, warnings and precautions for use of V.A.C.® Therapy, consider the following before prescribing V.A.C.® Therapy for veterinary use.

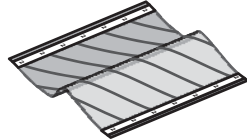
- **The Patient's Situation:**
 - Clinical condition (adequate hemostasis, and a low risk of active and/or large amounts of bleeding at the wound site)
 - Caregiver/staff able to read and understand safety labeling, respond to alarms, able to follow instructions for use
 - Ability to control patient self trauma to V.A.C.® Therapy Unit, V.A.C.® Dressings, or wound
 - Ability to limit/restrict patient activity as advised by attending veterinarian
- **The Patient's Wound:**
 - Must be assessed for exposed vessels, anastomotic sites, organs, and nerves. Adequate protection must be present without the need for a protective, non-adherent layer placed between the V.A.C.® Dressing and the exposed structure for the sole purpose of protection of these structures (refer to Protect Vessels and Organs in the Warnings section).
- **Labeling:**
 - The prescribing veterinarian should be familiar with the V.A.C.® Therapy labeling materials that accompany the therapy unit and dressing.
 - An information folder is provided with the therapy unit. The prescribing veterinarian should carefully review these materials with the caregiver/staff or veterinary technician.
 - KCI offers in-service and training programs for use of V.A.C.® Therapy for veterinarians. Contact your local KCI representative or in the US call 1-877-524-4838 (877-KCI-4VET).

If there are any questions regarding the proper placement or usage of V.A.C.® Therapy, please refer to the Clinical Guidelines section in this manual for more detailed instructions, or contact your local KCI representative. For additional and most current information, please see KCI's website at www.kcianimalhealth.com.

CAUTION: U.S. Federal law restricts this device to sale/rental by or on the order of a veterinarian.

V.A.C.® THERAPY GENERAL DRESSING APPLICATION INSTRUCTIONS

BASIC V.A.C.® THERAPY SYSTEM COMPONENTS



DRESSING APPLICATION INTERVAL

Wounds being treated with the V.A.C.® Therapy System should be monitored on a regular basis. In a monitored, non-infected wound, V.A.C.® Dressings should be changed every 48 to 72 hours maximum, but no less than 3 times per week, with frequency adjusted by the veterinarian as appropriate. **First dressing application should be maximum 48 hours to assess granulation rate.** Subsequent dressing applications should be at the veterinarian's discretion but no longer than 72 hours. Infected wounds must be monitored often and very closely. For these wounds, dressings may need to be changed more often than 48 hours; the dressing change intervals should be based on a continuing evaluation of wound condition and the patients clinical presentation, rather than a fixed schedule.

For details regarding the various V.A.C.® Dressing options, contact your local KCI representative or refer to KCI's website at www.kci1animalhealth.com.

WOUND AND PERIWOUND SKIN PREPARATION

WARNING: Review all V.A.C.® Therapy System Safety Information before beginning wound preparation.

WARNING: Refer to **Warnings, Patient Restraint**.

1. The patient's hair must be closely clipped using a #40 clipper blade to provide a minimum 5-7 cm margin of skin around the wound. This periwound skin should be surgically prepped to decrease bacterial load, and dried completely.
2. Debride all necrotic, non-viable tissue, including bone, eschar, or hardened slough, as prescribed by veterinarian.
3. Perform thorough wound and periwound area cleaning per veterinarian order or institution protocol prior to each dressing application.
4. Ensure adequate hemostasis has been achieved (refer to **Warnings, Bleeding section, Hemostasis and Anticoagulants**).
5. Protect vessels and organs (refer to **Warnings, Bleeding section, Protect Vessels and Organs**).

DRESSING APPLICATION FOR SINGLE WOUNDS USING V.A.C.® GRANUFOAM™ SMALL MEDIUM, LARGE AND THIN DRESSINGS

Refer to Clinical Guidelines Section of this manual for detailed instructions regarding other dressing types, for treating different wound types, and for multiple wound applications.

WARNING: Refer to Restraints sections under **Warnings**, and Patient Size and Weight and Circumferential Dressing Applications sections under **Precautions**.

1. Assess wound dimensions and pathology, including the presence of undermined areas. V.A.C.® GranuFoam® Dressing may be used for wounds with shallow undermining where the distal aspect is visible. Always leave 1-2 cm between the reflection of skin onto subcutaneous tissue and V.A.C.® Dressing.

NOTE: *If a non-adherent interfacial layer is utilized under the V.A.C.® Dressing, ensure material is meshed or fenestrated to allow for effective exudate removal.*

2. Cut V.A.C.® Foam Dressing to dimensions that will allow the foam to fit the wound size without overlapping onto intact skin (Fig. 1).

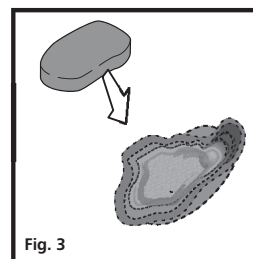
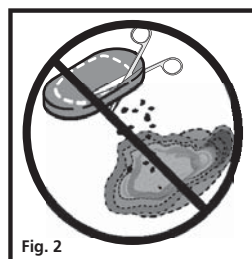
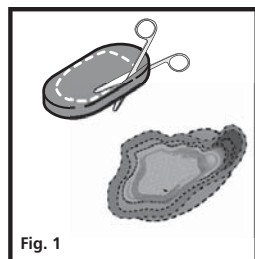
CAUTION: Do not cut the foam over the wound, as fragments may fall into the wound (Fig. 2). Away from wound site, rub cut foam edges to dislodge any fragments or loose particles that may fall into or be left in the wound upon dressing removal.

3. Gently place foam into wound cavity, ensuring contact with all wound surfaces (Fig. 3). Do not force V.A.C.® Foam Dressing into any area of the wound.

NOTE: *Ensure foam-to-foam contact between adjacent pieces of foam for even distribution of negative pressure.*

NOTE: *Always note the total number of pieces of foam used in the dressing and document on the drape and in the patient's chart.*

NOTE: *Superficial or retention sutures should be covered with a single layer of non-adherent material placed between the sutures and the V.A.C.® Drape.*

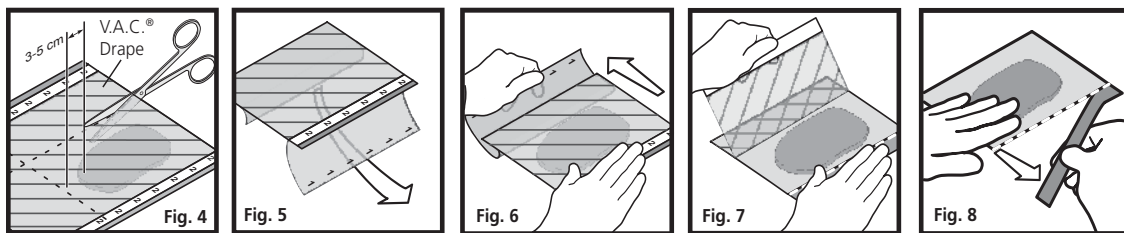


V.A.C.[®] DRAPE APPLICATION

CAUTION: Patient's skin condition should be carefully monitored (refer to Precautions, Protect Periwound Skin section).

NOTE: Do not attempt to apply V.A.C.[®] Drape to wet or moist skin as it will not achieve adequate seal.

1. Apply an adhesive (Benzoin Tincture or Hollister Medical Adhesive Spray) to the clipped periwound skin from the wound edge outward 5-7 cm to improve drape adhesion.
2. Wait until adhesive becomes tacky before applying drape.
3. Trim and place the V.A.C.[®] Drape to cover the V.A.C.[®] Foam Dressing and the clipped 5-7 cm border of intact periwound skin (Fig. 4). Do not place drape over unclipped fur. Drape may be cut into multiple pieces for easier handling, retaining a portion of the Blue Handling Tab on each piece. Use any excess drape to seal difficult areas, if needed.
4. Partially pull back one side of Layer 1 to expose drape adhesive (Fig. 5). Be sure to hold Layer 1 flap back to prevent re-adherence to drape.
5. Place the adhesive face down over foam and apply drape to cover foam and intact skin, ensuring drape covers at least a 5-7 cm border of intact periwound tissue (Fig. 6).
6. Remove remaining Layer 1 backing material and pat drape to ensure an occlusive seal.
7. Remove green-striped stabilization Layer 2 (Fig. 7).
8. Remove perforated Blue Handling Tabs from drape (Fig. 8).



SENSAT.R.A.C.[™] / T.R.A.C.[™] PAD APPLICATION

NOTE: Do not cut off the pad or insert the tubing into the foam dressing. This may occlude the tubing and cause the V.A.C.[®] Therapy Unit to alarm.

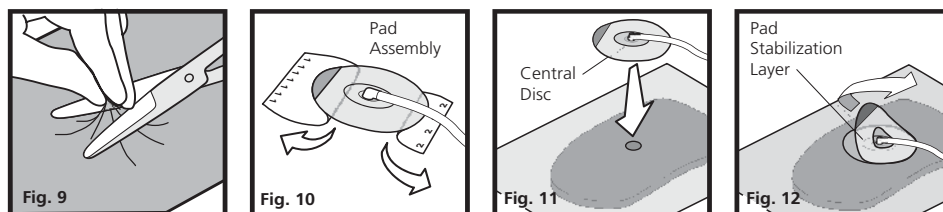
1. Choose pad application site. Give particular consideration when positioning the pad to allow for optimal fluid flow and to reduce chances of kinking the tubing. Avoid placement of pad over bony prominences or within creases in the tissue.

NOTE: Consider a light soft bandage over SensaT.R.A.C.[™] / T.R.A.C.[™] pad to alleviate stress to the underlying tissue.

2. Pinch drape and cut a 2.5 cm hole (approximately the diameter of a US quarter) through the drape (Fig. 9). The hole should be large enough to allow for removal of fluid and/or exudate. It is not necessary to cut into the foam.

NOTE: Cut a hole rather than a slit, as a slit may self-seal during therapy.

3. Apply pad, which has a central disc and a surrounding outer adhesive skirt.
 - a. Remove both backing Layers 1 and 2 to expose adhesive (Fig. 10).
 - b. Place pad opening in central disc directly over hole in drape (Fig. 11).
 - c. Apply gentle pressure on the central disc and outer skirt to ensure complete adhesion of the pad.
 - d. Pull back on blue tab to remove pad stabilization layer (Fig. 12).



NOTE: To prevent periwound maceration with wounds that are smaller than the central disc of the pad, it is very important that the central disc lay on top of foam only. It may be necessary to augment the V.A.C.[®] Dressing with an additional piece of V.A.C.[®] Foam cut 1-2 cm larger than the diameter of the central disc. Please refer to the Clinical Guidelines Section of this manual for a specialized technique regarding Small Wounds and SensaT.R.A.C.[™] / T.R.A.C.[™] pad application (pg. 16).

V.A.C.[®] THERAPY INITIATION

WARNING: Review all V.A.C.[®] Therapy System Safety Information and the V.A.C.[®] Therapy Unit user guide before initiating V.A.C.[®] Therapy.

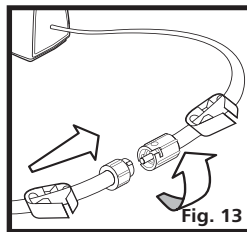
WARNING: Refer to **Restraints** section under **Warnings**.

1. Remove V.A.C.[®] Canister from packaging and insert into the V.A.C.[®] Therapy Unit until it locks into place.

NOTE: *If the canister is not fully engaged, the V.A.C.[®] Therapy Unit will alarm.*

2. Connect SensaT.R.A.C.[™] / T.R.A.C.[™] Pad tubing to canister tubing and ensure clamp on each tube is open (Fig. 13). Position clamps away from patient.
3. Turn on power to the V.A.C.[®] Therapy Unit and select the prescribed therapy setting. Refer to the V.A.C.[®] Therapy Unit user guide for detailed information on how to operate the therapy unit.
4. Initiate V.A.C.[®] Therapy. Assess dressing to ensure seal integrity. The dressing should be collapsed and have a wrinkled appearance. There should be no hissing sounds. If there is any evidence of non-integrity, check SensaT.R.A.C.[™] / T.R.A.C.[™] Pad and drape seals, tubing connections, and canister insertion, and ensure clamps are open.
5. Secure excess tubing to prevent interference with patient mobility.

NOTE: *If a leak source is identified, patch with additional drape to ensure seal integrity.*



ENSURING DRESSING INTEGRITY

It is recommended that the dressing be checked every two hours to ensure that the foam is firm and collapsed in the wound bed while therapy is active. If it is not:

- Make sure the therapy unit display screen reads THERAPY ON. If not, press the THERAPY ON/OFF button.
- Confirm the clamps are open and the tubing is not kinked.
- Identify air leaks by listening with a stethoscope or moving your hand around the edges of the dressing while applying light pressure.
- If the seal is broken and the V.A.C.[®] Drape has become loose, trim away any loose or moist edges, ensure the skin is dry and then patch with additional drape to ensure seal integrity.

CAUTION: Use as few layers of drape as possible. Multiple layers of the V.A.C.[®] Drape may decrease the moisture vapor transmission rate, which may increase the risk of maceration, especially in small wounds, lower extremities, or load-bearing areas.

NOTE: *If the wound is over a bony prominence or in an area where weight bearing may exert additional pressure or stress to the underlying tissues, a pressure-relief surface or technique should be used to optimize patient wound protection.*

MAINTAINING A SEAL

Maintaining a seal around the dressing is key to successful V.A.C.[®] Therapy. Recommendations to maintain the integrity of the seal:

- Use Benzoin Tincture or Hollister Medical Adhesive Spray.
- Dry the periwound area thoroughly after cleansing. A protective skin barrier preparation may be used to prepare the skin for drape application.
- For delicate periwound tissue or in areas that are difficult to dress, apply protective skin preparation and frame the wound with V.A.C.[®] Drape or other transparent film.
- Ensure V.A.C.[®] GranuFoam™ is appropriate for the depth of the wound by either cutting or beveling it, or use specific thinner V.A.C.[®] GranuFoam™ Dressings where indicated.
- Position the dressing tubing on flat surfaces and away from the perineal area, bony prominences or pressure areas.
- Secure or anchor the tubing with an additional piece of drape or tape, positioning the anchor several centimeters away from the dressing or wound. This prevents tension on the tubing from pulling on the dressing. If secured directly to the dressing, tension on the tubing may interrupt the dressing seal.

CHANGING THE CANISTER

The V.A.C.[®] Canister should be changed when full (the alarm will sound), or at least once a week to control odor:

1. Follow standard precautions as the system may contain body fluids.
2. Close the clamps on both the canister and dressing tubing.
3. Turn therapy off.
4. Disconnect the canister tubing from the dressing tubing.
5. Remove the canister from the unit.
6. Dispose of the canister according to specified institution protocol or state and local regulations.
7. Install a new canister as described in therapy unit's labeling and instructional materials.
8. Connect the new canister to the dressing tubing and initiate therapy as ordered.

DISCONNECTING FROM THE V.A.C.[®] THERAPY UNIT

WARNING: Never leave a V.A.C.[®] Dressing in place without active V.A.C.[®] Therapy for more than 2 hours. If therapy is off for more than 2 hours, remove the old dressing and irrigate the wound. Either apply a new V.A.C.[®] Dressing from an unopened sterile package and restart V.A.C.[®] Therapy; or apply an alternative dressing, such as wet to moist gauze, as approved during times of extreme need, by treating clinician.

To disconnect for short periods of time:

1. Close the clamps on the canister and dressing tubing.
2. Turn the therapy unit OFF.
3. Disconnect the dressing tubing from the canister tubing.
4. Cover the ends of the tubing and secure. Use canister tubing cap if available.

To re-connect:

1. Remove tubing cap or protective covering from the end of the tubing.
2. Reconnect the dressing tubing and the canister tubing.
3. Open both clamps.
4. Turn the therapy unit ON. Confirm that previous therapy settings resume.

V.A.C.® DRESSING REMOVAL

Remove an existing V.A.C.® Dressing according to the following procedure:

1. Raise the tubing connectors above the level of the therapy unit.
2. Close clamp on the dressing tubing.
3. Separate canister tubing and dressing tubing by disconnecting the connector.
4. Allow the therapy unit to pull the exudate in the canister tube into the canister, then close the clamp on the canister tubing.
5. Press THERAPY ON/OFF to deactivate the V.A.C.® Therapy Unit. Wait for 15 - 30 seconds to allow for foam to decompress.
6. To remove the drape from the skin, gently stretch the drape horizontally to release adhesive from the skin. Do not peel vertically.
7. Gently remove foam from the wound.

WARNING: Refer to Foam Removal section under Warnings.

8. Discard disposables according to institutional or state regulations.

NOTE: *If dressing adheres to wound, consider introducing sterile water or normal saline into the dressing, waiting 15 - 30 minutes, then gently removing the dressing from the wound. Consider placing a single layer, wide-meshed, non-adherent material prior to placement of the V.A.C.® Foam Dressing to potentially reduce future adherence, or consider more frequent dressing changes.*

If the patient indicates discomfort during the dressing change, consider premedication, the use of a non-adherent interposed layer before foam placement, or managing the discomfort as prescribed by the treating veterinarian. Refer to Pain Management section (pg. 24) for specific recommendations.

SPECIFIC DRESSING TECHNIQUES AND SPECIALTY DRESSINGS

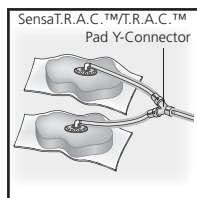
TECHNIQUES FOR TREATING MULTIPLE WOUNDS

When using any of these specialty dressing techniques first review the following sections of this manual:

- The **Wound and Periwound Skin Preparation** section (pg. 8)
- The **V.A.C.® Drape Application** section (pg. 10)
- The **SensaT.R.A.C.™ / T.R.A.C.™ PAD Application** section (pg. 10)
- The **V.A.C.® Therapy Initiation** section (pg. 11)

Y-CONNECTOR TECHNIQUE

By applying a Y-connector to the canister tubing, one V.A.C.® Therapy Unit may be used to simultaneously treat multiple wounds on the same patient. If this technique is used, all dressed wound sites must be assessed for seal integrity. The dressing should be collapsed. V.A.C.® GranuFoam™ Dressings should have a wrinkled appearance. There should be no hissing sounds.



- Do not connect infected wounds with non-infected wounds through a Y-connector.
- Do not connect wounds with different etiology in which cross contamination may occur.
- Avoid using a Y-connector to connect wounds that would be optimally treated with differing pressure settings.
- Consider the Y-connector as an extension of canister tubing.
- It is not recommended to Y-connect grafts and/or flaps.

Change the Y-connector at least once a week or more frequently, as needed, when the canister is changed. Dispose of the Y-connector, the canister tubing and the canister in accordance with specific institution protocols or state and local regulations.

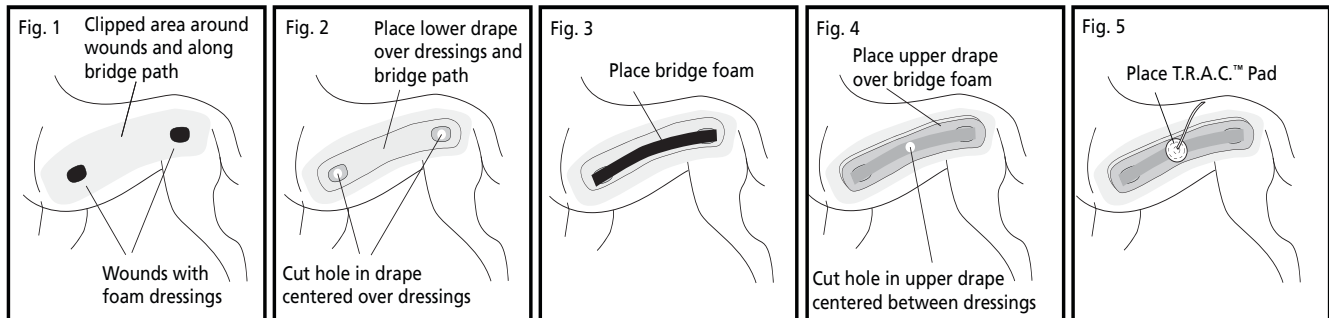
BRIDGING TECHNIQUE

Wounds that are in close proximity to one another on the same patient and of similar pathologies may also be treated with one V.A.C.[®] Therapy Unit using a technique known as bridging.

The advantages of bridging include:

- The ability to join multiple wounds of like origin with one V.A.C.[®] Therapy unit.
- Allowing placement of the SensaT.R.A.C.[™] / T.R.A.C.[™] Pad and tubing in an appropriate location based on wound size, wound type and wound location.

Step-by-Step Bridging Guidelines:



1. Refer to **Wound and Periwound Skin Preparation** section (pg. 8).
2. Place foam dressing in both wounds (Fig. 1).
3. Cover both wounds and intact skin between the two wounds with a piece of V.A.C.[®] Drape or other transparent film or a vapor-permeable adhesive film dressing (Fig. 2).
4. Cut holes in drape (approximately the diameter of a US quarter) centered over each dressing (Fig. 2).
5. With an additional piece of foam, form the bridge. All foam pieces must be in direct contact with each other (Fig. 3).
6. Apply upper drape over bridge foam (Fig. 4).
7. Cut hole in upper drape centered between dressings (Fig. 4). It is important to place the hole in a central location to ensure that exudate from one wound is not drawn across the other wound.
8. Place the SensaT.R.A.C.[™] / T.R.A.C.[™] Pad (Fig. 5). Consider orientation of the tubing in regards to location of therapy unit or patient mobility.
9. It is not recommended to bridge wounds of different etiologies or to bridge an infected wound to a non-infected wound.
10. Refer to **V.A.C.[®] Therapy Initiation** (pg. 11).

UNDERMINING

It is recommended that Continuous therapy be used in the presence of wound undermining.

Initial Dressing Application

1. Gently place V.A.C.® GranuFoam™ Dressing in all undermined areas, beginning at the distal portion. Do not pack foam into undermined areas.
2. Pull foam back out 1 - 2 cm, leaving some foam in the wound to contact with the foam in the wound bed. This specific placement leaves the distal portion of the undermined area clear of foam, allowing the distribution of higher pressures to collapse the free areas of undermining together, encouraging the wound cavity edges to granulate together from the distal portion outward.
3. Monitor the amount of exudate and presence of granulation tissue at each dressing change.

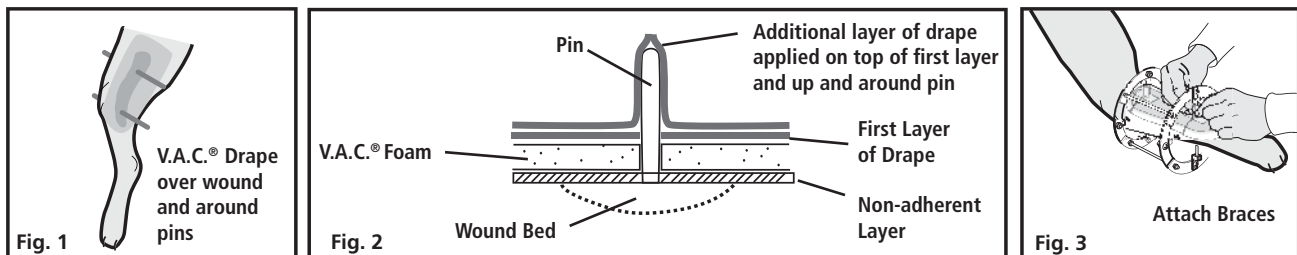
Subsequent Dressing Changes

When the exudate volume decreases and the presence of granulation tissue is noted, subsequent dressing changes must be altered in the following way:

1. Gently place the foam into the undermined areas all the way to the distal portion. Do not firmly pack foam into undermined areas.
2. Pull foam back out 1 - 2 cm, leaving some foam in the wound to contact with the foam in the wound bed. This specific placement leaves the distal portion of the undermined area clear of foam, allowing the distribution of higher pressures to collapse the free areas of undermining together, encouraging the wound cavity edges to granulate together from the distal portion.
3. Initiate Continuous therapy at previous settings.
4. Monitor the amount of exudate and presence of granulation tissue at each dressing change.

ORTHOPEDIC HARDWARE

The V.A.C.® Dressing can be placed on wounds with orthopedic hardware, such as pin sites.



Application Technique

1. Place appropriate V.A.C.® Dressing in the wound.
2. Cut V.A.C.® Drape or other transparent film to appropriate size and place over wound and around pins (Fig. 1). Wrap the V.A.C.® Drape around pins approximately 1-2 cm above the level of the wound, ensuring a snug fit.
3. Apply additional V.A.C.® Drape vertically up and around pins and onto V.A.C.® Drape surrounding the pin. Do this from both sides of the pin. Pinch drape together to form airtight seal as V.A.C.® Therapy is initiated (Fig. 2).
4. Complete installation of orthopedic hardware (Fig. 3).

WOUND EDGE REAPPROXIMATION AND DRESSING TECHNIQUE

In open wounds without significant tissue loss, such as open abdominal wounds, V.A.C.[®] Therapy may be used to encourage reapproximation of the wound edges.

1. Initial dressing application should include gently placing the V.A.C.[®] GranuFoam™ Dressing into the wound (Fig. 1).
2. Pressures should be adjusted appropriately to encourage the removal of excessive debris and fluid.
3. For subsequent dressing applications, the foam should be cut progressively smaller to allow controlled reapproximation of the wound edges (Fig. 2 and 3).

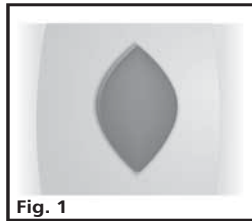


Fig. 1
Initial foam application after which progressively smaller pieces of foam are used

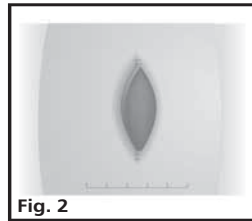


Fig. 2
Controlled reapproximation of the wound edges allows for gradual closure

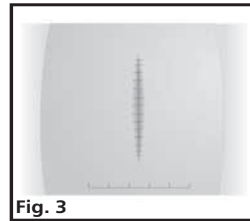
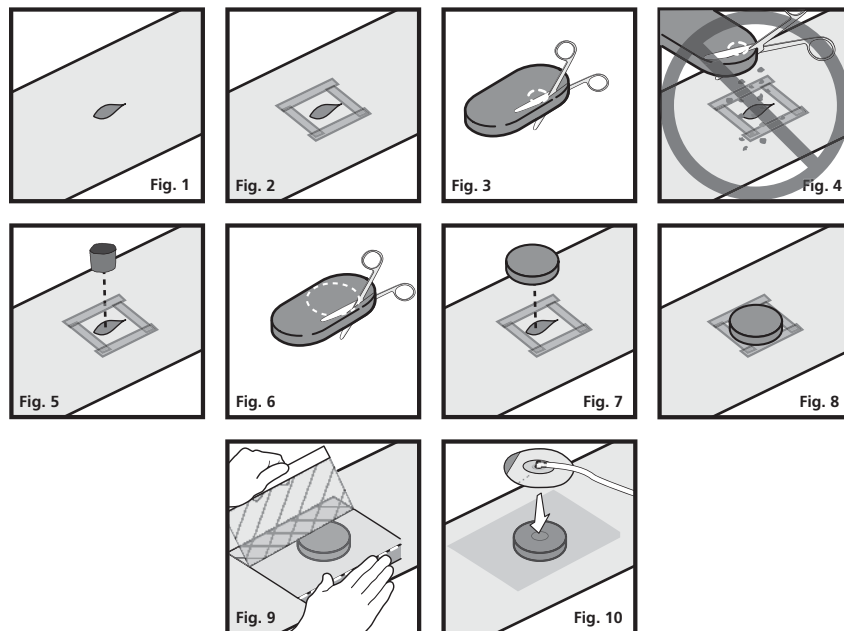


Fig. 3
Complete closure is achieved

DRESSING SMALL WOUNDS AND SENSAT.R.A.C.™ / T.R.A.C.™ PAD APPLICATION

For wounds that are smaller in dimensions (< 4 cm) than the SensaT.R.A.C.™ / T.R.A.C.™ Pad, the following dressing application is recommended to protect the periwound tissue and prevent maceration:



1. Refer to **Wound and Periwound Skin Preparation** section (pg. 8).
2. Assess wound dimensions and pathology, including the presence of undermining or tunnels (Fig. 1). Do not place any foam dressing into blind/unexplored tunnels. V.A.C.[®] GranuFoam™ and V.A.C.[®] Simplace™ Dressings may be used for wounds with shallow undermining or tunnel areas where the distal aspect is visible and noted to ensure removal with subsequent dressing changes.

NOTE: *If adjunct materials are utilized under the foam, they must be meshed or fenestrated to allow for effective exudate removal. Document on the drape or Foam Quantity Label if available, and in the patient's medical record to ensure removal with subsequent dressing changes.*

3. Prepare the periwound area by applying protective skin barrier preparation and frame the wound with transparent film (Fig. 2).

4. Cut foam dressing to dimensions that will allow the foam to be placed gently into the wound, but not overlap onto intact skin (Fig. 3).

NOTE: *Do not cut the foam over the wound, as fragments may fall into the wound (Fig. 4). Away from the wound site, rub or trim foam, removing any fragments to ensure loose particles will not fall into or be left in the wound upon dressing removal.*
5. Gently place foam into wound cavity, ensuring contact with all wound surfaces (Fig. 5). Do not force foam dressing into any area of the wound.
6. To accommodate the size of the SensaT.R.A.C.™ / T.R.A.C.™ Pad, cut another piece of foam large enough to extend 2 - 3 cm beyond the SensaT.R.A.C.™ / T.R.A.C.™ Pad (Fig. 6) and lay on the foam in the wound (Fig. 7). Assure the foam does not extend onto intact skin, that it is positioned on the product used to 'frame' the wound and protects the intact skin (Fig. 8).
7. Trim and place the V.A.C.® Drape to cover the foam dressing and an additional 3 - 5 cm border (Fig. 9).
8. Pinch drape and cut a 2.5 cm hole through the drape (not a slit). The hole should be large enough to allow for removal of fluid and/or exudate. It is not necessary to cut into the foam.
9. Apply the SensaT.R.A.C.™ / T.R.A.C.™ Pad to the larger piece of foam (Fig. 10).
10. Seal the drape of the SensaT.R.A.C.™ / T.R.A.C.™ Pad with additional drape, if necessary.
11. Refer to **V.A.C.® Therapy Initiation** (pg. 11).

SURGICAL INCISIONS/COMPROMISED SUTURE LINES

Patients with multiple comorbidities such as diabetes, end stage renal disease or heart disease have a high incidence of surgical wound dehiscence. Patients with excessive edema and fluid accumulation are also at risk for wound dehiscence. V.A.C.® Therapy placed over potentially compromised suture lines may assist with healing and maintenance of wound stability.

- Refer to **Wound and Periwound Skin Preparation** section (pg. 8).
- Protect intact epithelium on both sides of the suture line with V.A.C.® Drape or other transparent film ('picture frame' the suture or staple line), leaving the suture line exposed. Ensure adhesive does not contact the surgical closure.
- Lay a single layer of a wide meshed non-adherent material over the exposed sutures or staples (Adaptec® or Mepitel®) may be considered as an alternative.
- Cut a strip of V.A.C.® GranuFoam™ Dressing and gently place on top of the non-adherent material.
- Cover the foam with V.A.C.® Drape, ensuring drape covers at least a 3 - 5 cm border of periwound tissue.
- Initiate therapy at 75 to 125 mmHg Continuous.
- Dressing changes should occur every 48 - 72 hours, no less than three times per week.
- Therapy is usually required for a short period of time.

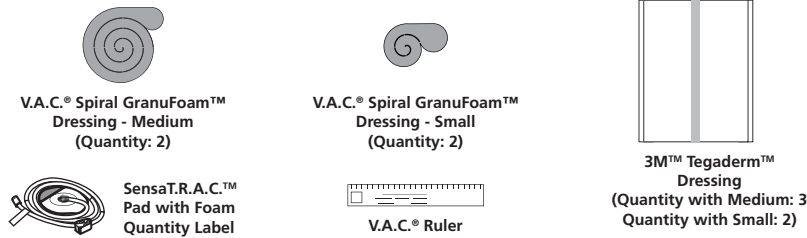
Suture lines that are extremely edematous and weeping may require removal of one or two sutures.

- V.A.C.® GranuFoam™ Dressing strips may be cut and gently placed into the suture line where the sutures have been removed.
- Then place V.A.C.® GranuFoam™ on top of the suture line as directed above.
- Ensure the V.A.C.® GranuFoam™ Dressing directly contact in order to provide adequate distribution of negative pressure and "wick" fluid from within the suture line.
- Tertiary closure may be obtained after adequate tissue decompression has occurred.

SPECIALTY DRESSINGS

V.A.C.® SIMPLACE™ DRESSING

V.A.C.® SIMPLACE™ DRESSING COMPONENT IDENTIFICATION



V.A.C.® SPIRAL GRANUFOAM™ DRESSING APPLICATION

1. Refer to **Wound and Periwound Skin Preparation** section (pg. 8).
2. Assess wound dimensions and pathology, including the presence of undermining or tunnels (Fig. 1). Do not place any foam dressing into blind/unexplored tunnels. V.A.C.® Simplace™ Dressing may be used for wounds with shallow undermining or tunnel areas where the distal aspect is visible.

NOTE: If adjunct materials are utilized under the V.A.C.® Dressing, they must be meshed or fenestrated to allow for effective exudate removal and negative pressure delivery. Document on the drape, on the supplied Foam Quantity Label (attached to the SensaT.R.A.C.™ Pad tubing) and in the patient's chart to ensure removal with subsequent dressing changes.

3. Carefully tear the V.A.C.® Spiral GranuFoam™ Dressing along the perforation to a size that will allow the foam to be placed gently into the wound without overlapping onto intact skin (Fig. 2).

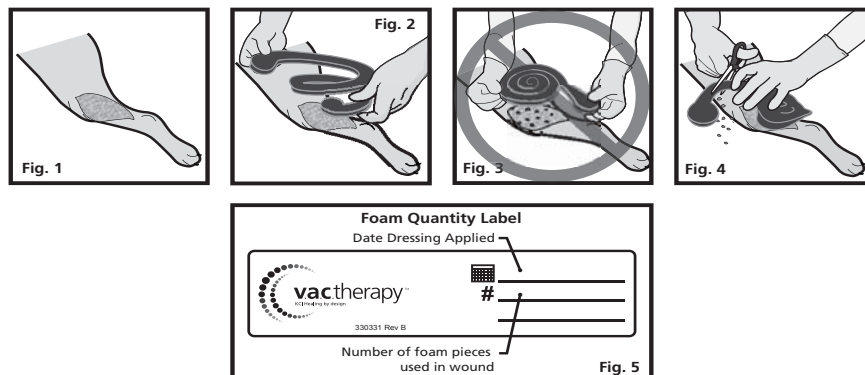
CAUTION: Do not cut or tear the foam over the wound, as fragments may fall into the wound (Fig. 3). Away from wound site, rub foam edges to remove any fragments or loose particles that may fall into or be left in the wound upon dressing removal.

4. Gently place foam into wound cavity, ensuring contact with all wound surfaces (Fig. 4). Do not force the V.A.C.® Spiral GranuFoam™ Dressing into any areas of the wound.

NOTE: Ensure foam-to-foam contact between adjacent pieces of foam for even distribution of negative pressure.

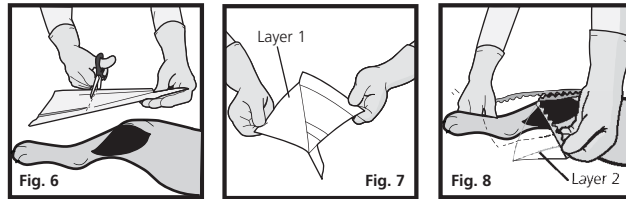
NOTE: Always note the total number of pieces of foam used in the wound and document on the supplied Foam Quantity Label (attached to the SensaT.R.A.C.™ Pad tubing) (Fig. 5) and in the patient's chart.

NOTE: Superficial or retention sutures should be covered with a single layer of non-adherent material placed between the sutures and the 3M™ Tegaderm™ Dressing.



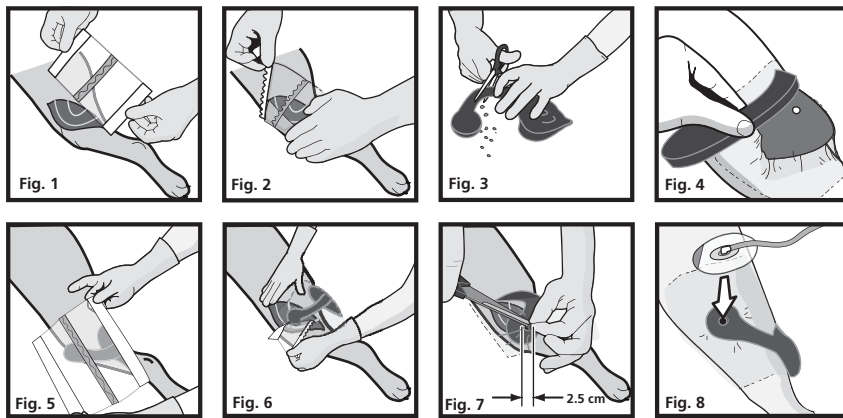
3M™ TEGADERM™ APPLICATION

CAUTION: Patient's skin condition should be carefully monitored (refer to **Precautions, Protect Periwound Skin** section).



1. Apply an adhesive (Benzoin Tincture or Hollister Medical Adhesive Spray) to the clipped periwound skin from the wound edge outward for 5-7cm to improve adhesion.
2. Wait until adhesive becomes tacky before applying 3M™ Tegaderm™ Dressing (drape).
3. Trim the 3M™ Tegaderm™ Dressing to cover the V.A.C.® Spiral GranuFoam™ Dressing and an additional 3 - 5 cm border of intact periwound tissue (Fig. 6). The 3M™ Tegaderm™ Dressing may be cut into multiple pieces for easier handling. Excess 3M™ Tegaderm™ Dressing may be kept to seal difficult areas, if needed.
4. Carefully remove Layer 1 to expose adhesive (Fig. 7). The 3M™ Tegaderm™ Dressing may be held by the Ruler/Handling Bars.
5. Place the adhesive face down over foam and apply 3M™ Tegaderm™ Dressing to cover foam and intact skin, ensuring 3M™ Tegaderm™ Dressing covers at least a 3 - 5 cm border of intact periwound tissue.
6. Remove Layer 2 and pat 3M™ Tegaderm™ Dressing to ensure an occlusive seal (Fig. 8).
7. Refer to **SensaT.R.A.C.™ / T.R.A.C.™ PAD Application** section (pg.10).
8. Refer to **V.A.C.® Therapy Initiation** section (pg. 11).

BRIDGE APPLICATION WITH V.A.C.® SIMPLACE™ DRESSING



CAUTION: Patient's skin condition should be carefully monitored (refer to **Precautions, Protect Periwound Skin** section).

1. Refer to **Wound and Periwound Skin Preparation** section (pg. 8).
2. Apply V.A.C.® Spiral GranuFoam™ Dressing and 3M™ Tegaderm™ Dressing to wound as described in the **V.A.C.® Spiral Granufoam™ Dressing Application** section. Carefully cut a 2.5 cm hole in the 3M™ Tegaderm™ Dressing (not a slit) as described in the SensaT.R.A.C.™ Pad Application section (pg. 10).

NOTE: Always note the total number of pieces of foam used in the wound and document on the supplied Foam Quantity Label (attached to the SensaT.R.A.C.™ Pad tubing) (Fig. 5) and in the patient's chart.

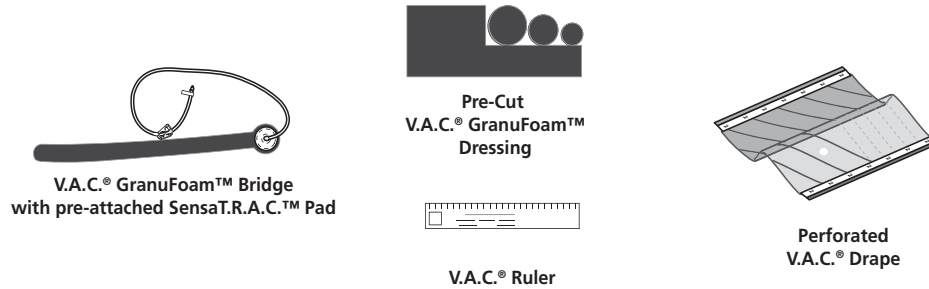
3. Apply additional 3M™ Tegaderm™ Dressing over intact skin where the bridge will be applied (Fig. 1, Fig. 2).
4. Cut or tear an appropriately sized piece of V.A.C.® Spiral GranuFoam™ Dressing for the bridge (Fig. 3).
5. Place small end of the V.A.C.® Spiral GranuFoam™ Dressing bridge over the hole in the 3M™ Tegaderm™ Dressing at wound site (Fig. 4) and position the larger end of the V.A.C.® Spiral GranuFoam™ Dressing bridge where the SensaT.R.A.C.™ Pad will be placed.
6. Using additional 3M™ Tegaderm™ Dressing, cover the Bridge (Fig. 5, Fig. 6). Apply 3M™ Tegaderm™ Dressing as described in the 3M™ Tegaderm™ Dressing Application section.
7. Pinch 3M™ Tegaderm™ Dressing and carefully cut an approximately 2.5 cm hole through the 3M™ Tegaderm™ Dressing (not a slit) (Fig. 7). The hole should be large enough to allow for removal of fluid and/or exudate. It is not necessary to cut into the foam.

NOTE: Cut a hole rather than a slit, as a slit may self-seal during therapy.

8. Apply SensaT.R.A.C.™ Pad (Fig. 8) as described in the SensaT.R.A.C.™ Pad Application section.
9. Refer to **V.A.C.® Therapy Initiation** section (pg.11).

V.A.C.® GRANUFOAM™ BRIDGE DRESSING APPLICATION INSTRUCTIONS

V.A.C.® GRANUFOAM™ BRIDGE DRESSING COMPONENT IDENTIFICATION



Product Description

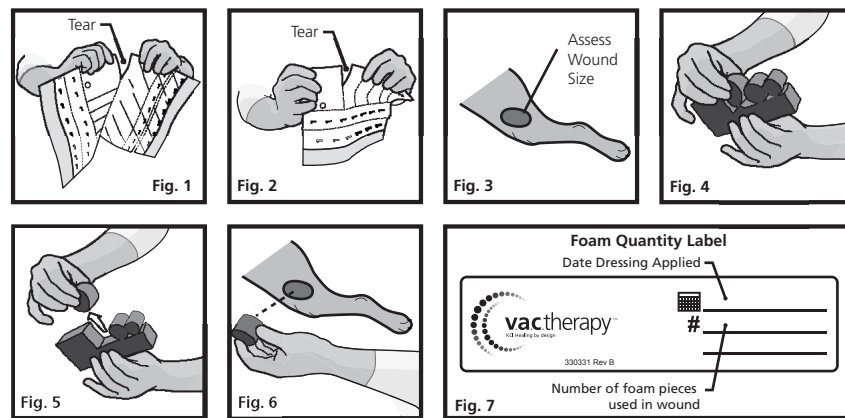
The V.A.C.® GranuFoam™ Bridge Dressing is a component of the V.A.C.® Therapy System and provides for the application of negative pressure wound therapy to those wounds, which because of their anatomical location, require that the SensaT.R.A.C.™ Pad be placed at a remote location, such as with sacral wounds, or wounds requiring off-loading or compression therapy.

Vertical Bridge Placement and Moderately to Highly Exudating Wounds

PRECAUTION: For vertical bridge placement on moderately to highly exudating wounds, the V.A.C.® GranuFoam™ Bridge Dressing should not be used for prescribed pressure settings below 125 mmHg if using V.A.C.® GranuFoam™ dressings at the wound site.

In order to provide adequate therapy and minimize risk of maceration due to a decrease in negative pressure (up to 50 mmHg), do not use a prescribed pressure setting below 125 mmHg.

PRE-CUT V.A.C.® GRANUFOAM™ DRESSING APPLICATION



1. Refer to **Wound and Periwound Skin Preparation** section (pg. 8).
2. Carefully tear the Perforated V.A.C.® Drape in half along perforation (Fig. 1).
3. Carefully tear off the Perforated V.A.C.® Drape section with pre-cut hole (Fig. 2).
4. Assess wound dimensions and pathology, including the presence of undermining or tunnels (Fig 3). Do not place any foam dressing into blind/unexplored tunnels. Pre-cut V.A.C.® GranuFoam™ Dressing may be used for wounds with shallow undermining or tunnel areas where the distal aspect is visible.
NOTE: If adjunct materials are utilized under the V.A.C.® GranuFoam™ Bridge Dressing, they must be meshed or fenestrated to allow for effective exudate removal. Document on the drape, on the supplied Foam Quantity Label on the V.A.C.® GranuFoam™ Bridge Tubing and in the patient's chart to ensure removal with subsequent dressing changes.
5. Select an appropriately sized Pre-cut V.A.C.® GranuFoam™ Dressing and tear away from foam block (Fig. 4, Fig. 5).

NOTE: Pre-cut V.A.C.[®] GranuFoam™ Dressing may be further trimmed as necessary.

CAUTION: Do not tear or trim the foam over the wound, as fragments may fall into the wound. Away from wound site, rub foam edges to remove any fragments or loose particles that may fall into or be left in the wound upon dressing removal.

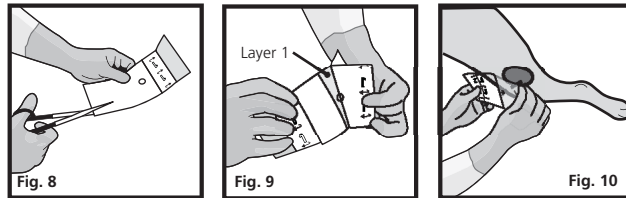
6. Gently place foam into wound cavity, ensuring contact with all wound surfaces (Fig. 6). Do not force the Pre-Cut V.A.C.[®] GranuFoam™ Dressing into any area of the wound.

NOTE: Ensure foam-to-foam contact between adjacent pieces of foam for even distribution of negative pressure.

NOTE: Always note the total number of pieces of foam used and document on the supplied Foam Quantity Label (Fig. 7) on the V.A.C.[®] GranuFoam™ Bridge Tubing and in the patient's chart.

NOTE: Superficial or retention sutures should be covered with a single layer of non-adherent material placed between the sutures and the V.A.C.[®] Drape.

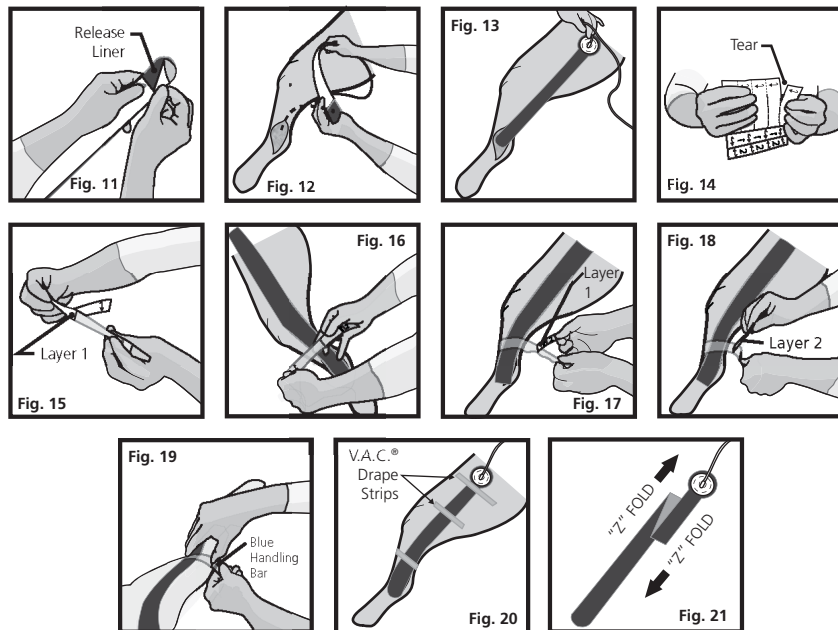
PERFORATED V.A.C.[®] DRAPE APPLICATION



CAUTION: Patient's skin condition should be carefully monitored (refer to **Precautions, Protect Periwound Skin** section).

1. Trim as necessary (Fig. 8) and place the Perforated V.A.C.[®] Drape with pre-cut hole to cover the Pre-Cut V.A.C.[®] GranuFoam™ Dressing and an additional 3 - 5 cm border of intact periwound tissue. Additional Perforated V.A.C.[®] Drape may be used to seal difficult areas, if needed.
2. Carefully remove Layer 1 to expose adhesive (Fig. 9). The Perforated V.A.C.[®] Drape may be held by the Blue Handling Bar.
3. Place the adhesive face down with pre-cut hole centered over foam and apply additional Perforated V.A.C.[®] Drape to cover foam and intact skin, ensuring drape covers at least a 3 - 5 cm border of intact periwound tissue (Fig. 10).
4. Remove second Layer 1 and Layer 2 and pat drape to ensure an occlusive seal.
5. Remove Blue Handling Bar.

V.A.C.® GRANUFOAM™ BRIDGE APPLICATION



1. Refer to **Wound and Periwound Skin Preparation** section (pg. 8).
2. Remove the release liner from the V.A.C.® GranuFoam™ Bridge (Fig. 11).
3. Align the pre-cut hole on the underside of the V.A.C.® GranuFoam™ Bridge with the pre-cut hole on the Perforated V.A.C.® Drape at the wound site (Fig. 12). Apply firm even pressure to the adhesive end of the V.A.C.® GranuFoam™ Bridge Dressing to ensure proper adhesion to wound site.
4. Route the V.A.C.® GranuFoam™ Bridge to a location away from bony prominences that will minimize pressure or stress to underlying tissue. Minimize wrinkles and creases when applying the V.A.C.® GranuFoam™ Bridge Dressing.
5. If the V.A.C.® GranuFoam™ Bridge Dressing is applied on the foot, route the V.A.C.® GranuFoam™ Bridge through the instep and up the leg (Fig. 13).
6. Secure the V.A.C.® GranuFoam™ Bridge to the patient's skin.
 - a. Carefully tear Perforated V.A.C.® Drape strips along perforations (Fig. 14).
 - b. Pull back Layer 1 to expose adhesive (Fig. 15).
 - c. Secure V.A.C.® GranuFoam™ Bridge (Fig. 16).

NOTE: Secure the dressing to ensure that range of motion of the foot is not limited.
 - d. Remove second Layer 1 (Fig. 17)
 - e. Remove Layer 2 and pat drape to ensure an occlusive seal (Fig. 18).
 - f. Remove Blue Handling Bar (Fig. 19)
7. Repeat Step 4 as necessary to fully secure V.A.C.® GranuFoam™ Bridge to patient (Fig. 20).

NOTE: Secure the V.A.C.® GranuFoam™ Bridge Dressing with additional V.A.C.® Drape strips (as required) to avoid migration of the bridge dressing and to minimize additional pressure points.

NOTE: If adjustment to the length of V.A.C.® GranuFoam™ Bridge Dressing is desired, a "Z" fold may be used. Fold V.A.C.® GranuFoam™ Bridge Dressing as shown in Fig. 21 and secure to patient with additional V.A.C.® Drape strips.
8. Refer to **V.A.C.® Therapy Initiation** section (pg.11).

CLINICAL GUIDELINES - V.A.C.® THERAPY FOR VETERINARY USE

NOTE: *Selectable pressure settings and therapy options vary by device. All products allow for continuous 125 mmHg – which is commonly prescribed by clinicians for many wound types. Should individual patient conditions or circumstances, in the judgment of the treating clinician, require a different pressure setting or mode of therapy options, please contact your supplier to discuss the availability of other options that may be appropriate.*

V.A.C.® THERAPY MONITORING

PAIN MANAGEMENT

Patients receiving V.A.C.® Therapy may experience a reduction in pain as the wound begins to heal. However, some patients experience discomfort during treatment or dressing changes. Appropriate analgesic sedation or anesthetic protocol should be considered.

In addition, the following strategies should be considered:

- If the patient experiences discomfort during dressing change, consider premedication, the use of a non-adherent interposed layer before foam placement, or managing the discomfort as prescribed by the treating veterinarian.
- Ensure the patient receives adequate analgesia during treatment.
- A sudden increase or change in the character of the pain requires investigation.

LENGTH OF TREATMENT

The length of treatment depends on the treating veterinarian's goal of therapy, wound pathology, wound size and management of patient co-morbidities. If a patient is not a surgical candidate, V.A.C.® Therapy may be utilized for an extended period of time as long as satisfactory progress continues.

When to discontinue V.A.C.® Therapy

V.A.C.® Therapy should be discontinued when:

- The goal of therapy has been met. In some cases this will be full closure of the wound, in others the wound may be closed surgically.
- The wound shows no progress for one to two consecutive weeks and potential solutions to encourage wound healing have failed. Individual circumstances may vary.

INDICATORS OF EFFECTIVE V.A.C.® THERAPY

- The exudate volume should gradually decrease over time.
- The wound appearance may change color and become a deeper red as V.A.C.® Therapy helps promote perfusion to the wound.
- The exudate color may change from serous to serosanguineous and some sanguineous or bloody drainage may also be noted during negative pressure therapy. This is due to the mechanism of action of V.A.C.® Therapy to help promote perfusion. The change in wound drainage characteristics may be related to disruption of capillary buds of granulation tissue.
If active bleeding develops suddenly or in large amounts during V.A.C.® Therapy, or if frank (bright red) blood is seen in the tubing or in the canister, immediately stop V.A.C.® Therapy, take measures to stop the bleeding, and seek immediate medical assistance.
- Observations during the first dressing change may include a slight increase in the size of the wound. This is related to the mechanism of action of V.A.C.® Therapy.
- Wound measurements should begin to decrease as the active state of healing continues. Weekly wound measurements should be performed and documented. A steady decrease in wound dimensions should be noted every week. If this does not occur, comprehensive assessment and troubleshooting interventions should be implemented immediately (See Minimal Changes in Wound Size section as follows).
- As the wound continues to form granulation tissue, new epithelial growth should be seen at the wound edges.

INDICATORS OF INEFFECTIVE THERAPY

A steady decrease in wound dimensions should be noted every week. If this does not occur, comprehensive assessment and troubleshooting interventions should be implemented immediately (see below).

Minimal Changes in Wound Size

When there is little or no change in the wound for one to two consecutive weeks, technique, and underlying co-morbidities are not the cause, the following may be useful:

- Ensure the patient is receiving adequate pressure relief. For example, a patient with pressure ulcer may be sitting on it for too long.
- Cut the foam slightly smaller than the wound edges for wounds with little depth, to enhance inward epithelial migration. Do not allow the wound edges to roll downward during V.A.C.® Therapy.
- Provide a 'therapeutic pause' by interrupting V.A.C.® Therapy for 1 - 2 days, then resume.
- Change the therapy settings from Continuous to Intermittent, or vice versa.
- Adjust pressure settings (as can be tolerated), for wounds that are inappropriate for Intermittent therapy, such as tunnels or wounds with high amounts of exudate.
- Evaluate nutritional status and supplement as necessary.
- Check the therapy hour meter to ensure that the actual number of therapy hours received matches the number of recommended therapy hours (22 hours a day). If the number of therapy hours is less than 22 each day, find out why there is a therapy deficit and remedy the situation.
- Assess for wound infection. With veterinarian order, obtain a microbiology culture or biopsy and treat accordingly.

DETERIORATION OF THE WOUND

If a wound has been progressing well from dressing change to dressing change but then deteriorates rapidly, consider the following interventions and, where necessary, seek the guidance/expertise of a specialist:

- Check the therapy hour meter to ensure that the actual number of therapy hours received matches the number of recommended therapy hours (22 hours a day). If the number of therapy hours is less than 22 each day, find out why there is a therapy deficit and remedy the situation.
- Check for small leaks with a stethoscope, or by listening for a whistling noise or moving your hand around the edges of the dressing while applying light pressure. Patch if necessary. However, avoid applying more than two layers of drape.
- Clean wound more thoroughly during dressing changes.
- Assess for wound infection. With veterinarian order, obtain a microbiology culture or biopsy and treat accordingly.
- Change dressing often, ensuring that it is being changed at least every 48 hours.
- Examine the wound and debride as necessary. Debride the wound edges if they appear non-viable or rolled under as this may inhibit the formation of granulation tissue and migration of epithelial cells over an acceptable wound base.
- Assess for osteomyelitis and, if present, treat accordingly.

CHANGES IN WOUND COLOR

If the wound assessment reveals dark discoloration:

- Rule out mechanical trauma. Relieve wound of excessive pressure, excess foam in the wound, or a pulled or stretched drape over the foam. Remember to roll the drape over the foam; do not stretch it over foam.
- Decrease pressure by 25 mmHg increments.
- If patient is taking anticoagulant medication, evaluate recent coagulation laboratory values.
- Thin the depth of the foam before applying the dressing to prevent overpacking.

If the wound appears white, excessively moist or macerated:

- Check the therapy hour meter to ensure that the actual number of therapy hours received matches the number of recommended therapy hours. Find out why there is a therapy deficit and remedy the situation.
- The exudate volume should experience a gradual decrease as the extracellular debris is brought to equilibrium. Persistent large volumes of exudate may signal infection or other complications and should be evaluated by the prescribing veterinarian.
- Determine if occult infection is present.
- Increase pressure settings by 25 mmHg increments if drainage increases.
- Determine if there is a positional seal leak, which may be preventing effective exudate removal.
- Evaluate dressing technique.
- Assess for the need to bridge SensaT.R.A.C.™ / T.R.A.C.™ Pad away from the wound.
- Protect the surrounding tissue with V.A.C.® Drape or other transparent film.
- Isolate wound drainage from periwound skin (see pg. 14) for specific dressing technique information).
- Check for potential for external pressure on the wound/dressing, which may cause the wound exudate to be forced onto the periwound skin.

WOUND ODORS

Wounds treated with V.A.C.® Therapy may have an odor due to the foam and wound fluids, which contain bacteria and proteins. The type of bacteria and proteins present may be responsible for the type and strength of the odor.

- It is imperative that the wound be thoroughly cleaned during each dressing change to decrease bacterial load and minimize odor.
- If malodor remains after thorough cleaning of the wound, this may be a sign of possible infection.
- V.A.C.® Canister with Isolyser® gel can greatly reduce odors.
- Canister may need to be changed more often to control odor.
- If you determine that the V.A.C.® Therapy Unit is the source of odor, discontinue use of that therapy unit and contact your KCI representative for replacement.
- Assess for wound infection. With veterinarian order, obtain a microbiology culture or biopsy and treat accordingly.

WOUND SPECIFIC INFORMATION

This section details specific complex technical interventions for which veterinarians must be appropriately qualified to carry out.

ACUTE/TRAUMATIC WOUNDS/PARTIAL-THICKNESS BURNS

V.A.C.® Therapy may be used in the care of patients with acute traumatic wounds, including partial thickness burns and orthopedic wounds.

The following recommended therapy ranges are a guide, based on common settings for each wound type. Individual patient conditions may vary. Consult treating veterinarian to verify settings for each patient.

Goals and Objectives:

- Promote granulation tissue formation
- Promote perfusion
- Remove fluids, exudate and infectious materials
- Assist take of flap or skin tissue

Table 5.1: Recommended settings for acute/traumatic wounds/partial-thickness wounds

Initial cycle	Subsequent cycle	Target pressure V.A.C.® GranuFoam™ Dressing
Continuous first 48 hours	Consider Intermittent (5 min ON/ 2 min OFF) for rest of therapy	125 mmHg

Clinical Considerations

- V.A.C.® Therapy may be used after debridement to help remove infectious material and assist granulation tissue formation.
- The presence of orthopedic hardware is not a contraindication to the use of V.A.C.® Therapy (see Orthopedic Hardware, (pg. 15). Veterinarians should exercise judgement when observing the quality of granulation tissue and remain alert to any sign of infection that may indicate underlying osteomyelitis. In such cases, consult the treating veterinarian.
- Tendons, ligaments, blood vessels, organs and nerves (vital structures) must be completely covered and protected prior to the administration of V.A.C.® Therapy. Coverage with a muscle flap or other thick layer of natural tissue provides the most effective protection. If not available, consider using non-adherent porous material (i.e. fine mesh gauze) or tissue.
- V.A.C.® Foam may be applied directly over absorbable or nonabsorbable mesh, or intact fascia. Do not place the V.A.C.® Dressing over exposed blood vessels or organs.

If active bleeding develops suddenly or in large amounts during V.A.C.® Therapy, or if frank (bright red) blood is seen in the tubing or in the canister, immediately stop V.A.C.® Therapy, take measures to stop the bleeding, and seek immediate medical assistance.

- For wounds with large amounts of exudate, consider increasing target pressures by 25 - 75 mmHg until the drainage amount tapers off. This will ensure adequate fluid removal and maintain integrity of the V.A.C.® Dressing seal.
- Continuous Therapy is recommended throughout entire therapy for patients who are experiencing discomfort, where the wound contains tunneling/undermining, or with flaps and grafts.
- V.A.C.® Therapy should not be initiated on a wound with osteomyelitis until the wound has been thoroughly debrided of all necrotic, non-viable tissue, including infected bone (if necessary), and appropriate antibiotic therapy has been initiated.
- In acute wounds with exposed bone or fractures, the V.A.C.® System may be used to help remove fluid and may remove infectious material secondary to the traumatic wound.
- V.A.C.® GranuFoam™ Dressing is recommended for traumatic wounds with large tissue deficits.

DEHISCED WOUNDS

V.A.C.® Therapy is suitable for the treatment of a variety of large and small wounds arising from postoperative complications. In such cases, the principles of wound management are adequate surgical debridement and antibiotic as necessary, followed by the immediate application of V.A.C.® Therapy.

The following recommended therapy ranges are a guide, based on common settings for each wound type. Individual patient conditions may vary. Consult treating veterinarian to verify settings for each patient.

Goals and Objectives

- Apply controlled, localized negative pressure to help draw wound edges
- Provide a closed moist wound healing environment
- Promote perfusion
- Remove fluids, exudate and infectious materials

Table 5.2: Recommended settings for surgical wound dehiscences

Initial cycle	Target pressure V.A.C.® GranuFoam™ Dressing
Continuous for duration of therapy	125 mmHg

CLINICAL CONSIDERATIONS FOR DEHISCED WOUNDS

- V.A.C.® Therapy may be used with retention sutures in place, but it is generally important to access and dress all of the wound under and between the sutures.
- Consider applying V.A.C.® Drape over adjacent drain (puncture) sites in the event that a properly applied V.A.C.® Dressing is not collapsing.
- Monitor characteristics of wound exudate and volume and report any significant changes to treating veterinarian.
- The placement and size of the foam is critical for optimal results and to achieve reverse tissue expansion. See wound edge reapproximation and dressing technique, (pg. 16).
- If bowel is visible in the wound base, it is best when possible to pull the greater omentum down over the visible bowel then proceed with V.A.C.® Therapy as usual. If the greater omentum is not available, then the surgeon may want to consider placing mesh over the bowel. However, applying the V.A.C.® Foam to bowel covered by mesh may produce granulation tissue on the bowel, and result in adhesions.
- V.A.C.® Foam can be placed directly over synthetic mesh in abdominal wounds and can facilitate the growth of granulation tissue from the structures beneath the mesh, extending up through the mesh into the wound base.
- V.A.C.® Therapy can be an important tool in the management of thoracic wounds. Due to the vital structures located in the thoracic cavity, V.A.C.® Therapy should be applied with the utmost care and vigilance.
- Patients with deep thoracic wounds (i.e. patients with mediastinitis or sternal wound infection) should have dressing changes supervised or performed by the attending specialist surgeon.
 - For sternal wounds, the lowest negative pressure setting is recommended initially. Monitor closely while progressing to target treatment pressure, as tolerated.
 - For patients with an unstable thoracic wall, Continuous Therapy is recommended throughout the treatment period to help stabilize the chest wall. This helps pull the wound edges together and provides a “splinting” effect, which may allow the patient to be more mobile and more comfortable.
- For other than dehisced sternal or abdominal wounds, better results may be achieved with Intermittent Therapy, once exudate levels are stable and where the primary goal is to create granulation tissue.

MESHED GRAFTS

Apply V.A.C.® Dressing immediately after graft placement and begin therapy as soon as possible. In general, the pressure setting used to prepare the recipient bed before grafting should be continued after grafting. Continuous therapy should be used to provide a constant bolster.

The following recommended therapy ranges are a guide based on common settings for each wound type. Individual patient conditions may vary. Consult treating veterinarian to verify settings for each patient.

Goals and Objectives

- Remove fluid
- Help protect wound environment; (e.g. minimize shearing forces)
- Provide bolster and stability for skin grafts (split and full thickness)
- Assist flap and skin graft take

Table 5.3: Recommended settings for meshed grafts

Initial cycle	Target pressure V.A.C.® GranuFoam™* Dressing
Continuous for duration of therapy	75 - 125 mmHg

Recommended V.A.C.® Dressing Application Post-Graft Procedure:

1. Select a single layer of wide-meshed, non-adherent material.
2. Cut the non-adherent material to the size of the grafted area plus a 1 cm border, (i.e., so it extends about 1 cm outside the staple line), and place over the graft.
3. Cut the V.A.C.® GranuFoam™ Dressing to the same size as the non-adherent material and place it gently on top of the non-adherent layer.
4. Apply V.A.C.® Drape according to the dressing application technique (pg. 10).
5. Apply the SensaT.R.A.C.™ / T.R.A.C.™ Pad or tubing according to dressing application technique (pg. 10).
6. Set negative pressure to the desired level as indicated in Table 5.3.
7. Expect more drainage in the tubing and canister in the first 24 hours of V.A.C.® Therapy post-graft, after which the drainage usually tapers off significantly. Significant drainage in the tubing post-graft may indicate a complication underneath the foam. If there is any sign of infection, remove the V.A.C.® Dressing and assess the wound.

PRESSURE ULCERS

In the management of full-thickness pressure ulcers (stages 3 and 4), V.A.C.® Therapy can be used either as a definitive treatment or to optimize the wound bed prior to surgical closure.

The following recommended therapy ranges are a guide based on common settings for each wound type. Individual patient conditions may vary. Consult treating veterinarian to verify settings for each patient.

Goals and objectives

- Promote granulation tissue formation
- Promote perfusion
- Provide a closed, moist wound healing environment
- Help manage wound environment

Table 5.4: Recommended settings for pressure ulcers

Initial cycle	Subsequent cycle	Target pressure V.A.C.® GranuFoam™ Dressing	Target pressure V.A.C.® WhiteFoam Dressing
Continuous first 48 hours	Consider Intermittent (5 min ON/ 2 min OFF) for rest of therapy	125 mmHg	125 - 175 mmHg Titrate up for more drainage

Clinical Considerations

- All patients require a detailed medical and nutritional assessment and any factors that might influence etiology and/or healing must be addressed, particularly the provision of adequate nutrition and appropriate pressure relief.
- V.A.C.® Therapy is not a debriding tool and is not a substitute for effective surgical and/or other forms of debridement.
- If the patient's skin cannot tolerate frequent dressing changes, it may not be necessary to remove the entire drape. Instead, cut the drape around the foam, remove the foam, irrigate the wound as directed by the clinician, then replace the foam and reseal with an additional piece of drape. V.A.C.® Drape around periwound area may be left on for one additional dressing change.
- Multiple layers of the V.A.C.® Drape may decrease the moisture vapor transmission rate, which may increase the risk of maceration, especially in small wounds, lower extremities, or load-bearing areas.
- Care must be taken to prevent trauma and/or pressure when placing V.A.C.® tubing, particularly over bony prominences; consider bridging (pg. 14).

CHRONIC WOUNDS

V.A.C.® Therapy can be used either as a definitive treatment or to optimize the wound bed prior to surgical closure.

The following recommended therapy ranges are a guide based on common settings for each wound type. Individual patient conditions may vary. Consult treating veterinarian to verify settings for each patient.

Goals and objectives

- Promote granulation tissue formation
- Promote perfusion
- Provide a closed, moist wound healing environment
- Help manage wound environment

Table 5.5: Recommended settings for chronic wounds

Initial cycle	Subsequent cycle	Target pressure V.A.C.® GranuFoam™ Dressing
Continuous first 48 hours	Consider Intermittent (5 min ON/ 2 min OFF) for rest of therapy	50 - 125 mmHg

Clinical Considerations

- In chronic wounds where a diagnosis is uncertain, tissue biopsy for histological evaluation or other definitive testing is recommended.
- It is important to identify any underlying etiology and use relevant measures to address underlying disease processes.
- Chronic wounds may benefit from aggressive debridement of the soft tissue to remove any epithelial cells that may have migrated over the wound surface, sinus tract or tunnel.
- Care must be taken to prevent further trauma and or pressure when placing V.A.C.® tubing, particularly over bony prominences.
- If a patient's skin cannot tolerate frequent dressing changes, and the drape around the wound is intact, you may cut the drape around the foam, remove foam, clean wound as ordered, then replace foam and drape. Drape in periwound area may be left on for one additional dressing change.

NOTE: *Multiple layers of the V.A.C.® Drape may decrease the moisture vapor transmission rate, which may increase the risk of maceration, especially in small wounds, lower extremities, or load-bearing areas.*

FLAPS

V.A.C.® Therapy is used in the immediate postoperative flap patient as a bolster to maintain the position of the tissues.

The following recommended therapy ranges are a guide based on common settings for each wound type. Individual patient conditions may vary. Consult treating veterinarian to verify settings for each patient.

Goals and Objectives

- Provides bolster and stability for flap
- Help protect the wound environment
- Remove fluids and exudate
- Assist flap take

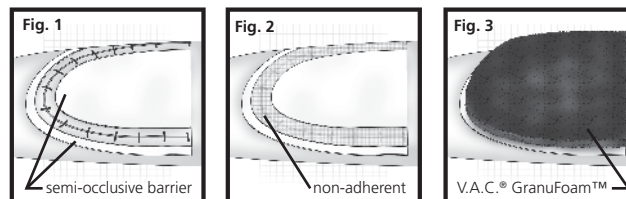
Table 5.6: Recommended settings for flaps

Initial cycle	Target pressure V.A.C.® GranuFoam™ Dressing
Continuous for duration of therapy	125 - 150 mmHg

Clinical Considerations

- Higher pressures may be considered with large, bulky flaps to help bolster the flap.
- When there is a need to assess flap for sign of ischemia or infection and the flap needs to be inspected during therapy, cut the V.A.C.® GranuFoam™ Dressing in half before applying it and place the drape in strips, with one strip directly over the area where the two halves of foam meet. Removing this strip of drape allows the clinician to gently separate the foam to inspect the underlying tissue. After inspecting the flap, place the foam pieces back together, reseal with an additional strip of drape and continue therapy.

Flap Dressing Application with V.A.C.® Therapy



1. Suture the flap in place using about a third fewer sutures than usual. The greater spacing will allow V.A.C.® Therapy to remove fluid through the suture line.
2. Place a single layer of V.A.C.® Drape or other semi-occlusive barrier, dressing or vapor-permeable adhesive film dressing, over the intact epidermis on top of the flap and on the opposite side of the suture line (Fig. 1). Place a single layer of wide-meshed, non-adherent dressing over the exposed suture line (Fig. 2).
3. Select an appropriate size of V.A.C.® GranuFoam™ Dressing to cover the entire flap (Fig. 4), including the suture line and 2 - 3cm beyond the flap. Ensure the area covered by the foam is protected intact skin (Step 2 above).
4. Prepare and apply the V.A.C.® Drape over the foam. Refer to V.A.C.® Therapy General Dressing Application Instructions (pg. 8). Apply a SensaT.R.A.C.™ / T.R.A.C.™ Pad and connect to canister tubing. Refer to SensaT.R.A.C.™ / T.R.A.C.™ Pad Application (pg. 10).
5. Initiate therapy on Continuous setting, as indicated in Table 5.6.
6. Removal of the V.A.C.® Drape requires lateral stretch (pull) on the drape to prevent lifting of the flap.

ADDITIONAL INFORMATION FOR V.A.C.® THERAPY

V.A.C.® THERAPY AND HYPERBARIC OXYGEN THERAPY

When patients treated with V.A.C.® Therapy are receiving regular hyperbaric oxygen treatments, disconnect the V.A.C.® Therapy unit and canister from the tubing so that pressure changes in the chamber enter the tubing and the dressing. In such cases the following procedure is recommended:

NOTE: *The V.A.C.® GranuFoam™ Bridge Dressing contains additional synthetic materials and may pose a risk during Hyperbaric Oxygen Therapy.*

1. Do not take the V.A.C.® Therapy Unit into a hyperbaric oxygen chamber. The V.A.C.® Therapy Unit is not designed for this environment and **should be considered a fire hazard in that environment**. See Hyperbaric Oxygen Therapy Section (pg. 6).
2. After disconnecting the V.A.C.® Therapy Unit from the dressing/canister either a) replace the V.A.C.® Dressing with another HBO-compatible material during the hyperbaric treatment or b) follow the steps below.
3. Disconnect the dressing tubing from the canister tubing. Close the dressing tubing and canister tubing clamps before disconnecting.
4. Open the clamp on the dressing tubing and cover with cotton gauze. The tubing on the SensaT.R.A.C.™ / T.R.A.C.™ Pad is not to be clamped or capped during hyperbaric treatment.

WARNING: Never leave a V.A.C.® Dressing in place without active V.A.C.® Therapy for more than 2 hours. If therapy is off for more than 2 hours, remove the old dressing and irrigate the wound. Either apply a new V.A.C.® Dressing from an unopened sterile package and restart V.A.C.® Therapy; or apply an alternative dressing, such as wet to moist gauze, as approved during times of extreme need, by treating veterinarian.

5. After hyperbaric oxygen treatment, reconnect the V.A.C.® Therapy Unit and resume therapy. Check the dressing for air leaks and ensure that the seal is intact.

V.A.C.® DRESSINGS AND DIAGNOSTIC IMAGING

- When undergoing X-ray, MRI, fluoroscopy or dye tests the decision to remove the dressing is to be made by the treating veterinarian.

NOTE: *FDA informed healthcare professionals of the possibility that x-rays used during CT examinations may cause some implanted and external electronic medical devices to malfunction. Most patients with electronic medical devices undergo CT scans without any adverse consequences. However, the agency has received a small number of reports of adverse events in which CT scans may have interfered with electronic medical devices, including pacemakers, defibrillators, neurostimulators, and implanted or externally worn drug infusion pumps. FDA is continuing to investigate the issue and is working with the manufacturer to raise awareness in the healthcare community.*

- In diagnostic procedures there is a possibility of shadow casting in the area of the wound.
- The dressings and attached tubing can be safely left in place for all of these procedures.

V.A.C.® THERAPY AND MAGNETIC RESONANCE IMAGING (MRI)

When patients treated with V.A.C.® Therapy require MRI, the following special considerations should be used:

1. **The V.A.C.® Therapy Unit is MR unsafe.** Do not take the V.A.C.® Therapy Unit into the MR environment. (see pg. 6 Magnetic Resonance Imaging section).
2. Taking the V.A.C.® Therapy Unit into the active MR environment could cause injury to the patient or caregiver or damage the equipment.
3. The V.A.C.® Dressing can typically remain on the patient with minimal risk in an MR environment, assuming that use of V.A.C.® Therapy is not interrupted for more than two hours.
4. The V.A.C.® GranuFoam™ Dressings, the SensaT.R.A.C.™ / T.R.A.C.™ Pad and tubing contain no metallic components that would require removal prior to MRI.
5. The veterinarian may choose to remove the V.A.C.® Dressing prior to imaging in an area where the wound is located due to potential shadowing.

MANUFACTURER INFORMATION



KCI USA, Inc.
San Antonio, TX
78219 USA

CONTACT INFORMATION

For additional information concerning V.A.C.[®] Therapy for Veterinary Use, contact your local KCI representative or call 1-877-524-4838 (877-KCI-4VET). For additional and most current information, please see KCI's website at www.kcianimalhealth.com.

