

## V.A.C.® Therapy™ Clinical Guidelines

**A Reference Source for Clinicians** 



## Index

ratient Selection Criteria	
Indications	4
Contraindications	4
Precautions	
Care and Safety Tips	
Optimizing Therapy	
Wound Healing Progression with Effective V.A.C.® Therapy.	۷
V.A.C.® Therapy Unit and Dressing Application Recommended Guidelines	
Classifies the Court	
Choosing the Foam	/
Recommended Guidelines for Foam Use	
Applying the Dressings	
Applying the VA.C.® Therapy Unit	
Dressing Removal	10
Canister and Y-Connector Change	10
Follow-up on Dressing Integrity	11
Disconnecting from Unit	11
General Dressing Tips	12
Maintaining a Seal	
Circumferential Drape Application	
Treating Multiple Wounds	
"Y" Connecting	
Bridging	
Fecal Incontinence	
Tunnelina	
Wound Undermining	
Dressing Small Wounds	
Optimizing Wound Approximation	1
Wound Observation Between Dressing Changes	
Adjunct Dressing Recommendations	16
V.A.C.® Instill™ Therapy Unit Recommended Guidelines	
V.A.C.® Instill™ Patient Selection Criteria	
Indications	
Contraindications	
Precautions	
Care and Safety Tips	
Optimizing Therapy	
V.A.C.® Instill™ General Therapy Unit and Dressing Instructions	
V.A.C.® Instill™ Pad Aplication	18
Applying the VA.C.® Instill™ Therapy Unit	18
V.A.C.® Instill™ Therapy Settings Adjustment	19
Recommended Guidelines for Treating Different Wound Types	20
Acute/Traumatic Wounds/Partial Thickness Burns	20
Surgical Wound Dehiscences	
Meshed Grafts and Bioengineered Tissues	
Pressure Ulcers	
Chronic Ulcers	
Flaps	
Venous Grafts	
Recommended Guidelines for V.A.C.® Therapy with Enteric Fistula	26
Acute and Chronic Candidate Selection	
Application Directions: Acute Enteric Fistula (Complex)	
Application Directions: Acute Enteric Fistula (Complex)  Application Directions: Acute Enteric Fistula (Simple)	
Application Directions: Chronic Enteric Fistula	
Pouching / Diverting Drainage of a Chronic Fistula	
Troubleshooting Tips	

Additional Recommended Guidelines for Treating Various Wounds	
with V.A.C.® Therapy™	
Infected Wounds	
Wound Odors	
Adjusting V.A.C.® System™ Pressure Settings	
Continuous vs. Intermittent Therapy	
Intensity Feature	
Additional Therapy Recommended Guidelines Chart	
V.A.C.® Therapy and Hyperbaric Oxygen Therapy	
When to Discontinue V.A.C.® Therapy	
Minimal Change in Wound Dimensions	
Deterioration of Wound	
Changes in the Wound	
Ordering The V.A.C.® System™	
Physician Order	
Transitioning Patients Between Care Settings	
KCI Contact Information	
The contact in our colors and the colors are contact and the colors are colors and the colors are colors and the colors are colors are colors are colors and the colors are colors are colors and the colors are colors are colors are colors and the colors are colors are colors and the colors are colors and the colors are colors are colors are colors are colors and the colors are colors and colors are c	

These V.A.C.® Therapy Clinical Guidelines are for use with the V.A.C.® Classic, V.A.C.® and V.A.C.® Therapy systems. Not all systems have the same features nor require the same guidelines. Please refer to the specific Ouick Reference Guide, User Manual, On-Screen User Guide and Disposable Instructions for Use (as appropriate) for specific product instructions.

**Caution:** Federal law restricts this device to sale or rental by or on the order of a physician. Information is subject to change at any time without notice.

Notice to Users: As with any prescription medical device, failure to follow product instructions or adjusting settings and performing therapy applications without the express direction and/or supervision of your trained clinical caregiver may lead to improper product performance and the potential for serious or fatal injury.

NOTE: THESE GUIDELINES ARE NOT INTENDED AS A GUARANTEE AS TO RESULTS, OUTCOME OR PERFORMANCE OF THE V.A.C.® SYSTEM™. THEY ARE RECOMMENDATIONS TO ASSIST THE TREATING PHYSICIAN IN ESTABLISHING PATIENT-SPECIFIC TREATMENT PROTOCOLS. AS WITH ANY APPLICATION, PLEASE CONSULT THE PATIENT'S TREATING PHYSICIAN AS TO INDIVIDUAL CONDITIONS AND TREATMENT AND FOLLOW ALL APPLICABLE MANUALS AND REFERENCE GUIDES AS TO PRODUCT USE AND OPERATION. ALWAYS CONSULT THE INDICATIONS, CONTRAINDICATIONS, PRECAUTIONS AND CARE AND SAFETY TIPS SECTION OF THIS BOOKLET AND ANY OTHER PRODUCT LABELING AND INSTRUCTIONS BEFORE PLACING A V.A.C.® PRODUCT ON A PATIENT. CONTACT YOUR LOCAL KCI REPRESENTATIVE WITH PRODUCT OPERATION USE QUESTIONS.

#### KCI Contact Information:

If you have questions, or for additional information, please contact your local KCI representative or contact KCI directly at 1-800-275-4524. Visit our website at www.woundvac.com. For a medical emergency, contact your local emergency number (i.e. 911).



## V.A.C.® System - PN M8259924 V.A.C.® Disposables

- Non-ambulatory
- Moderately to heavy exudating wounds (>15 cc s/day)
- Multiple wounds



## V.A.C.<sup>®</sup> ATS™ System - PN M8259968 T.R.A.C.<sup>®</sup> Disposables

- Ambulatory or Non-ambulatory
- Moderately to heavy exudating wounds (>15 cc s/day)
- Multiple wounds



## V.A.C. Freedom<sup>®</sup> System - PN 320000 T.R.A.C.<sup>®</sup> Disposables

- Ambulatory
- Moderately to heavy exudating wounds (>15 cc s/day)
- Multiple wounds



#### V.A.C.® Instill™ System - PN 320100

- Use only with T.R.A.C.® System disposables
- Benefit of controlled topical solution treatment in conjunction with V.A.C.® Therapy
- Moderately to heavy exudating wounds (>15 cc s/day)
- Multiple wounds
- Less mobile patient



## V.A.C.® Therapy™ Patient Selection Criteria

#### **Indications:**

The V.A.C.® family of devices\* with woundsite feedback control are negative pressure devices used to help promote wound healing, through means including removal of infectious material or other fluids, under the influence of continuous and/or intermittent negative pressures, particularly for patients with chronic, acute, traumatic, subacute and dehisced wounds, partial-thickness burns, ulcers (such as diabetic or pressure), flaps and grafts. Feedback control is achieved by measuring the level of negative pressure at the wound site.

#### Types of wounds for which V.A.C.® Therapy currently has been indicated include:

chronic
 partial-thickness burns
 pressure ulcers

acutedehisced woundsflapstraumaticdiabetic ulcersgrafts

\*Certain unique indications, contraindications, precautions and safety tips may apply for distinctive products within the V.A.C.® family of devices, such as for the V.A.C.® Instill™ System and for V.A.C.® systems that do not utilize T.R.A.C.® woundsite feedback control. Please refer to the product labeling for each specific product.

#### **Contraindications:**

Contraindicated for patients with:

- malignancy in the wound
- untropted established
- untreated osteomyelitis

- non-enteric and unexplored fistula
- necrotic tissue with eschar present
- Do not place V.A.C.® dressing over exposed blood vessels or organs.

#### **Precautions:**

Precautions should be taken for patients with:

- active bleeding
- difficult wound hemostasis
- anticoagulants
- when placing the V.A.C.® dressing in close proximity to blood vessels or organs, take care to ensure that all vessels are adequately protected with overlying fascia, tissue or other protective barriers
- greater care should be taken with respect to weakened, irradiated or sutured blood vessels or organs
- bone fragments or sharp edges could puncture protective barriers, vessels or organs
- wounds with enteric fistula require special precautions to optimize V.A.C.® Therapy. Refer to pages 27 - 28 of this guide for recommended guidelines.

Follow Universal Precautions.

## **Care and Safety Tips**

#### **Safety Tips:**

- **Keep therapy on:** Never leave subatmospheric pressure off for more than 2 hours per 24 hour period. Remove V.A.C.® dressing if subatmospheric pressure is terminated or is off for more than 2 hours in a 24 hour period.
- Dressing changes: Perform aggressive wound cleaning per physician order prior to dressing application. Routine dressing changes should occur every 48 hours. Dressing changes for infected wounds should be accomplished every 12 24 hours. Always replace with sterile V.A.C.® disposables from unopened packages. Follow established institution protocols regarding clean versus sterile technique. During dressing applications apply skin prep such as Mastisol®, No-Sting®, etc. to periwound tissue to assist with drape's adhesiveness. Note: All components of The V.A.C.® System™ are packaged sterile. The decision to use clean versus sterile/aseptic technique is dependent upon wound pathophysiology and physician/clinician preference. All components of V.A.C.® Therapy including the foam, canister, tubing, and drape are latex free.

- Monitoring the wound: Inspect the dressing frequently to ensure foam is collapsed and negative pressure is being delivered in a consistent manner. Monitor periwound tissue and exudate for signs of infection or other complications. Signs of possible infection may include fever, tenderness, redness, swelling, itching, rash, increased warmth in the wound area, purulent discharge or a strong odor. Nausea, vomiting, diarrhea, headache, dizziness, fainting, sore throat with swelling of the mucous membrane, disorientation, high fever (>102° F, 38.8° C), refractory hypotension, orthostatic hypotension, or erythroderma (a sunburn-like rash) may be added signs of more serious complications of infection. Extra care and attention should be given if there are any signs of possible infection or related complications. Infection can be serious. With or without V.A.C.® Therapy, infection can lead to many adverse complications including pain, discomfort, fever, gangrene, toxic shock, septic shock and various other complications. With signs of more serious complications of infection, discontinue V.A.C.® Therapy until the serious infection is diagnosed and properly treated.
- If dressing adheres to wound: Introduce sterile water or normal saline into the
  dressing and let it set for 15 30 minutes; then gently remove from the wound. Consider
  placing a single layer, wide meshed, non-adherent dressing (Adaptic or Mepitel) prior to
  foam placement.
- **Discomfort:** If patient complains of discomfort **throughout** therapy, consider changing to V.A.C.® Vers-foam (PVA) Dressing. If patient complains of discomfort during the dressing change, consider pre-medication, use of a non-adherent prior to foam placement or instillation of a topical anesthetic agent such as 1% lidocaine prior to dressing removal.
- **Unstable structures:** Over unstable body structures such as unstable chest wall or non-intact fascia, use continuous (not intermittent) therapy to minimize movement and help stabilize the wound bed.
- Spinal cord injury: In the event a patient experiences autonomic hyperreflexia (sudden elevation 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.
- **Body cavity wounds:** Underlying structures must be covered by natural tissues or synthetic materials that form a complete barrier between the underlying structures and the VA.C.® foam.
- V.A.C.® dressing use: All V.A.C.® dressings distributed by KCl are to be used exclusively with V.A.C.® Therapy units, and vice versa.

WARNING: Do not pack the foam into any areas of the wound. Forcing foam dressings in a compressed manner into any wound is contrary to approved KCI guidelines, and KCI questions whether such practice may increase the risks of serious adverse health consequences.

#### **Optimizing Therapy**

To help optimize the benefits of V.A.C.® Therapy, the **patient must**:

- maintain active negative pressure therapy for 22 of 24 hours per day. If therapy is turned off for periods exceeding two hours, the dressing must be removed and replaced with a traditional dressing. Patients with a strong history of non-compliance with other therapies should be monitored throughout V.A.C.® Therapy.
- receive clinical evaluation and guidance on a regular basis. Overall outcomes are improved when KCI trained wound care professionals actively participate in the care of the wound.
- have a nutrition evaluation to ensure adequate nutritional status and appropriate supplementation if required to optimize the healing process.
- be on a pressure relief surface if the wound is over a bony prominence or in areas where weight bearing may exert additional pressure or stress to the underlying tissues.



To help receive maximum benefits from negative pressure therapy, the wound must be:

- debrided of all eschar and hardened slough. Devitalized tissue should be removed as
  thoroughly as possible per physician instruction. Areas of soft or stringy slough
  may remain in the wound at the onset of negative pressure therapy if the patient is not
  a candidate for any debridement procedure. However, the presence of slough may
  slow the healing process.
- free of osteomyelitis, or receiving concurrent antibiotic treatment therapy for the active treatment of osteomyelitis.
- supplied by enough circulation to allow for healing.

### Wound Healing Progression with Effective V.A.C.® Therapy:

- Observations during the first dressing change (approximately 48 hours or 12 hours if infection is present) may include a slight increase in the size of the wound. This increase is due to the active removal of fluids or extracellular debris and decompression of the interstitial spaces. This decompression allows for increased perfusion as well as increased oxygen and nutrient transport to the wound, which aids in the healing process.
- the wound appearance should begin to change color and become a deeper red as perfusion to the wound increases.
- 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 increased blood perfusion and disruption of capillary buds as granulation tissue
  formation increases. A sudden rapid increase in bright, red blood in the
  tubing and/or canister requires immediate assessment.
- initial wound measurements should begin to decrease as the active state of healing continues. Weekly wound measurements should be performed and documented per institution protocol for subsequent comparison and to effectively assess the continuation of the healing state. 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.
- the exudate volume should experience a gradual decrease as the extracellular debris is brought to equilibrium.
- as the wound continues to form granulation tissue, new epithelial growth should be visualized at the wound edges.
- the length of treatment is dependent upon the treating physician's goal of therapy, wound pathology, size and management of patient co-morbidities. The average length of treatment is 4 6 weeks, however many wounds may be ready for surgical closure in as little as one week. 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.

  Note: Refer to Troubleshooting Tips, page 29 for recommendations when progress stalls.



## V.A.C.® Therapy Unit and Dressing Application Recommended Guidelines

#### Choosing the Foam:

KCI provides two types of foam for use with the V.A.C. $^{\circ}$  System $^{\circ}$ . Both are latex free and are packaged sterile in order to optimize patient outcomes.

#### 1. V.A.C.® GranuFoam® Dressing (Black, polyurethane (PU) foam)

The V.A.C.® GranuFoam® Dressing has reticulated or open pores and is considered to be the most effective at stimulating granulation tissue while aiding in wound contraction. It is hydrophobic (or moisture repelling) which enhances exudate removal.

#### 2. V.A.C.® Vers-foam Dressing (White, PVA foam)

The V.A.C.® Vers-foam Dressing is a dense foam with a higher tensile strength. It is hydrophilic (or moisture maintaining) and is pre-moistened with sterile water. It possesses overall non-adherent properties and generally does not require the use of a non-adherent layer for grafts or in wounds with excessive pain or rapid growth of granulation tissue. It is generally recommended for situations where the growth of granulation tissue into the foam needs to be more controlled or when the patient cannot tolerate the V.A.C.® GranuFoam® Dressing due to pain. Due to the higher density of the V.A.C.® Vers-foam Dressing, higher pressures must be utilized in order to provide adequate negative pressure therapy distribution throughout the wound. Minimum pressure setting when using the V.A.C.® Vers-foam Dressing should be 125 mmHg.

All foam dressing kits are packaged sterile. The chart on this page shows the recommended guidelines for when to use each type of foam during V.A.C.® Therapy. Physician guidance should always be followed as individual circumstances may vary.

#### **Recommended Guidelines for Foam Use**

	V.A.C.® GranuFoam® (black)	V.A.C.® Vers-foam (white)	Either
Deep, acute wounds with moderate granulation tissue present	×		
Deep pressure ulcers	×		
Flaps	X		
Extremely painful wounds		×	
Superficial wounds		×	
Tunneling / sinus tracts / undermining		×	
Deep trauma wounds			X
Wounds which require controlled growth of granulation tissue		×	
Diabetic ulcers			×
Dry wounds			X
Post graft placement (including bioengineered tissues)			×
Shallow chronic ulcers			×



#### **Applying the Dressings:**

**Note:** The V.A.C.® dressing should be changed once every 48 hours, or every 12 hours in cases of infection.

**Note:** Use gloves, gown and goggles if splashing or exposure to body fluids is likely. Treat all body fluids as if they are infectious. All steps should be taken under the direction of a physician and in accordance with institutional protocols.

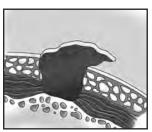
- 1. Gently remove the old V.A.C.® dressing (if applicable) and discard per institution protocol.
- 2. Debride eschar or hardened slough if present.
- 3. Achieve hemostasis (avoid use of bone wax).
- 4. Aggressively clean wound according to institution protocol or physician order.
- Irrigate wound with normal saline or solution per physician order. (Sterile water is recommended in the presence of silver-impregnated adjunct dressings.)
- 6. Clean and dry periwound tissue: If skin is moist due to perspiration, oil or body fluids, a degreasing agent may be required.
- Apply skin prep such as Mastisol®, No-Sting®, etc. to periwound tissue.
   Note: For patients with fragile periwound tissue, a thin-layered dressing such as KCI drape, Duoderm® or Tegaderm® may be applied to the periwound area.
- 8. Note wound dimensions and pathology and select appropriate foam. Cut the foam to the dimensions that will allow the foam to be placed gently into the wound. Note: Do not cut the foam over the wound. Gently rub the freshly cut edges of the foam to remove any loose pieces. Also, do not pack the foam into the wound.
- Gently place the foam into the wound cavity, covering the entire wound base and sides, tunnels and undermined areas. Count the pieces of foam and annotate the total number in patient chart. Also annotate on drape with permanent marker.

**Note:** If the wound is larger than the largest dresssing, more than one dressing may be required. Ensure edges of multiple pieces of foam are in direct contact with each other for even distribution of negative pressure.

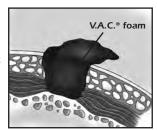
10. Size and trim the drape to cover the foam dressing as well as an additional 3 - 5 cm border of intact periwound tissue. Do not discard excess drape, you may need it later to patch difficult areas.

**TIP:** If skin surrounding wound site is excessively moist or oily, a medical grade liquid adhesive may improve adhesion. Applying a medical grade liquid adhesive may also assist with the integrity of the dressings' seal with repetitive Instillation Therapy™ cycles.

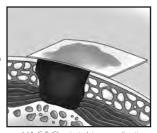
**TIP:** For fragile periwound skin, use a skin prep prior to drape application, or frame the wound with a layer of Duoderm<sup>®</sup>. Cut the drape to a size large enough to cover the foam dressing and the Duoderm<sup>®</sup> layer only.



Wound illustration

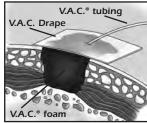


V.A.C.® foam application



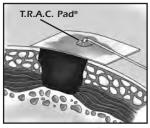
V.A.C.® Classic tubing application





V.A.C.® Classic tubing application

**V.A.C.® Classic System:** Apply the tubing to the dressing. Cut a hole through drape and into the foam. Insert tubing into hole and secure with additional drape. Tubing must be placed away from bony prominences at all times.



**T.R.A.C. Pad®:** V.A.C.® Therapy systems with T.R.A.C.® technology utilizes a T.R.A.C. Pad® for applying the tubing (i.e.: V.A.C.®ATS and V.A.C.Freedom®). Use the following instructions when applying the T.R.A.C. Pad®:

T.R.A.C. Pad® application

Once the wound is filled with the foam dressing, cover the entire wound with drape, including the foam dressing and about 3 - 5 cm of surrounding intact skin. Cut a 2 cm hole in the drape, large enough to allow fluid to pass through the dressing. Lift the drape with your thumb and forefinger and cut the drape. It is not necessary to cut into the foam. Apply the T.R.A.C. Pad® opening directly over the hole in the drape. Apply gentle pressure around the T.R.A.C. Pad® to ensure complete adhesion. Give particular attention to the position of the tubing, avoiding placement over bony prominences, or in creases in the tissue. **TIP:** Always cut a 2 cm hole in the drape. Do not cut a linear "slit" in the drape. When negative pressure is applied a slit may collapse and close, preventing negative pressure from reaching the wound. **Note:** DO NOT cut off the T.R.A.C. Pad® and insert the T.R.A.C.® tubing into the foam. This will cause the therapy unit to alarm.

### Applying the V.A.C. Therapy Unit:

1. Remove canister from the sterile packaging and push it into the V.A.C.® unit until it clicks into place.

**Note:** If the canister is not engaged properly the V.A.C.® alarm will sound.

- 2. Connect the dressing tubing to the canister tubing. Make sure both clamps are open.
- 3. Place the V.A.C.® unit on a level surface. Hang from the foot board or IV pole (some units may not have an IV pole clamp).

**Note:** The V.A.C.® Classic unit will alarm and will discontinue therapy if unit is tilted beyond 45 degrees.

4. Turn on power button. Adjust the V.A.C.® unit settings per the Recommended Guidelines for Treating Various Wound Types, page 30. Press THERAPY ON/OFF button to activate negative pressure therapy. In less than 1 minute of operation, the V.A.C.® dressing should collapse, unless leaks are present. If you hear or suspect a leak (small leaks may create a whistling noise), you can often fix it by gently pressing around the tubing and wrinkles to better seal the drape. You can also use excess drape to patch over leaks.



#### **Dressing Removal:**

- 1. Raise the tubing connectors above the level of the therapy unit.
- 2. Tighten 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 tighten clamp on the canister tubing.
- 5. Press THERAPY ON/OFF to deactivate pump.
- 6. Gently stretch drape horizontally and slowly pull up from skin. Do not peel. Gently remove foam from wound.

**Note:** If dressing adheres to the wound base, you may consider applying a single layer of non-adherent, porous material (e.g. Mepitel®, Adaptic®, N-terface®, or <u>widemeshed</u> vaseline-impregnated gauze) between the dressing and the wound when re-applying the dressing. The non-adherent material must have wide enough pores to allow unrestricted passage of air and fluid. Because tissue growth into the V.A.C.® dressing may cause adherence, also consider using the V.A.C.® Vers-foam or consider more frequent dressing changes.

**Note:** If pain is experienced during dressing change, you may, upon physician order, consider introducing 1% lidocaine solution down the tubing, or injected into the foam with the pump turned on at a lower pressure (50 mmHg). After instilling the lidocaine, clamp the tube and wait 15 - 20 minutes before gently removing the dressing. **Note:** If previous dressings were difficult to remove, introduce 10 - 30 ccs of normal saline into tubing to soak underneath foam (ensure dressing tube is unclamped). For best results, let it set for 15 - 30 minutes. Saline can also be injected directly into the foam while low vacuum (50 mmHg) is applied to the dressing. Clamp the tubing once the saline starts to flow into the dressing tubing. Wait 15 - 30 minutes, then gently remove dressing.

7. Discard disposables in accordance with applicable regulations.

### **Canister and Y-Connector Change**

The V.A.C.® canister should be changed when full (unit will alarm), which averages about once every 3 - 5 days. At a minimum, the canister should be changed weekly to control odor. The Y-connectors should also be changed weekly at a minimum, and more frequently as needed. System may contain body fluids. Follow Universal Precautions.

- 1. Tighten clamps on canister tubing and dressing tubing.
- 2. Disconnect canister tubing from dressing tubing.
- 3. Remove the canister from the unit.
- 4. Dispose of canister according to specified protocol in setting.

**Note:** If the Y-connectors are due to be changed, disconnect with the canister tubing and dispose of per protocol. If the Y-connector is not yet due to be changed, disconnect canister tubing from Y-connector and leave the Y-connector connected to dressing tubing.



#### Follow-up on Dressing Integrity

It is recommended that a clinician or patient (if home) visually check the dressing every 2 hours to make sure that the foam is firm and collapsed in the wound bed while therapy is active. If not, follow the tips below:

- Make sure the display screen reads THERAPY ON. If not, press the THERAPY ON/OFF button.
- Make sure clamps are open and tubing is not kinked.
- Identify air leaks by listening with stethoscope or by moving your hand around the edges of the dressing while applying light pressure.
- If you find that the seal is broken and the transparent dressing has come loose, patch with strips of adhesive drape as needed.

#### **Disconnecting from Unit**

Patients should only be disconnected from the unit for short periods, and no more than a total of two hours per day.

To disconnect for short periods of time:

- 1. Close both clamps on the tubing.
- 2. Turn the unit OFF.
- 3. Disconnect the dressing tubing from canister tubing.
- 4. Cover the ends of the tubing with gauze and secure or, if available, use a tubing cap.

#### To re-connect:

- 1. Remove the gauze from the ends of the tubing.
- 2. Connect the tubing.
- 3. Unclamp the clamps.
- 4. Turn therapy ON. Previous therapy settings will resume.



## **General Dressing Tips**

#### Maintaining a Seal

Maintaining a seal in the dressing is an important key for successful use of V.A.C.® Therapy. Following are some ways to best maintain the integrity of the seal:

- Dry periwound area thoroughly after cleansing. You may use a skin prep or degreasing agent to better prepare the skin for the drape application (e.g. Mastisol®, No-Sting®).
- Frame wound with a skin barrier to enhance the seal for wounds with delicate periwound tissue, or in convoluted areas.
- Reduce the height of the V.A.C.® GranuFoam® dressing by cutting or beveling it to treat areas that are shallower or near the perineal area.
- Try to position the dressing tubing on flat surfaces and away from the perineal area, bony prominences, or pressure areas.
- Secure or anchor tubing with an additional piece of drape or tape several centimeters away from the dressing/wound. This prevents pull on the wound area which can cause leaks.
- Another application option for the V.A.C.® Classic only, is: Seal the drape over the foam with the tubing removed. Then, make a slit in the top of the dressing through the occlusive drape and 1/2 to 1 cm into the foam. Lay tubing inside the shallow slit in the foam so that the foam surrounds holes in tubing. Cut strips of drape, and then patch over drape hole and tubing.

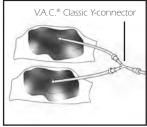
#### **Circumferential Drape Application**

In the presence of anasarca or excessively weeping extremities, a circumferential drape application may be necessary in order to establish and maintain a seal. Extreme care should be taken not to stretch or pull the drape when securing it, but let it attach loosely and stabilize edges with an elastic wrap such as Coban® or ACE®. After initiating therapy, it is crucial to palpate distal pulses to ensure circulatory patency, and to question the patient for presence of numbness and/or tingling sensations. If present, stop therapy and loosen drape. Instruct patient to discontinue therapy and contact their clinician if numbness, tingling or increased pain occurs during therapy. Circumferential drape applications should not be placed on patients with neuropathic etiologies or in the presence of previous numbness or tingling.

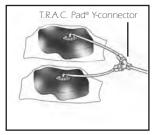
## **Treating Multiple Wounds**

#### "Y" connecting

By applying a Y-connector to the canister tubing, one V.A.C.® Therapy unit may be used to treat multiple wounds on the same patient simultaneously.



V.A.C.® Classic tubing + Y-connector application



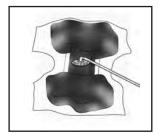
T.R.A.C. Pad® tubing + Y-connector application



#### **Bridging**

Wounds that are in close proximity to one another and of **similar** pathologies may also be treated with one V.A.C.® unit using another technique known as "bridging." The advantage of bridging is that it requires only one tubing, decreasing the possibility of leaks.

- Protect intact skin between the two wounds with a piece of V.A.C.® Drape or another skin barrier (Tegaderm®).
- Fill both wounds with foam, then connect the two wounds with an additional piece of foam, like a bridge.
   All foam pieces must come into contact with each other.
- 3. It is important to apply the tubing or T.R.A.C. Pad® in a central location to ensure exudate from one wound is not being drawn across the other wound.



Bridging

#### **Fecal Incontinence**

Fecal incontinence is not a contraindication for V.A.C.® Therapy. Many incontinent patients with sacral, coccyx, or perineal wounds can benefit from V.A.C.® Therapy. There are many ways to combat or control potential leakage of stool into the wound dressing. Please review the suggestions below:

- 1. Use a rectal collection system (such as a fecal bag).
- 2. Frame the wound with a V.A.C.® Drape or other skin barrier (Stomahesive®, Tegaderm®, skin-prep) that will help prevent the dressing from coming off due to contact with stool. The barrier layer helps create a dam between the anus and the area likely to come into contact with stool.
- 3. Perform temporary or permanent ostomy (if stooling is so severe that further erosion of healthy tissue is likely if stool is not contained).

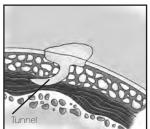
#### **Tunneling:**

Do not place foam into blind or unexplored tunnels.

Determine length and width of the tunnel using a measuring device of your choice. During the initial dressing application, cut the VA.C.® Vers-foam wider at one end and narrow at the other. This specific type of cut ensures the opening to the tunnel remains patent until the distal portion of the tunnel closes. Cut the foam 1 - 2 cm longer than the tunnel measures. Gently place the foam into the tunnel all the way to the distal portion. The additional 1 - 2 cm of foam should remain in the wound bed and must communicate with the foam in the wound bed. Therapy pressure settings should be increased by 25 mmHg with the presence of a tunnel.

Continuous therapy should always be used until the tunnel has completely closed.

2. As the drainage begins to diminish, subsequent dressing changes for the tunnel also change. Determine length and width of the tunnel as above. Cut the V.A.C.® Vers-foam wider at one end and narrow at the other. Cut the foam to the exact wound dimension. Gently place the foam into the tunnel all the way to the distal portion. Pull out 1 - 2 cm leaving some tunnel foam in the wound to communicate with the



Wound Tunnel Fig. 1

V.A.C.® Vers-foam Application Fig. 2



#### Tunneling (cont.):

foam in the wound bed. This specific placement leaves the distal portion of the tunnel clear (see V.A.C.® Vers-foam application diagram) of foam and allows the distribution of higher pressures to collapse the edges together, allowing the wound to granulate together from the distal portion forward. Initiate continuous therapy at previous settings.

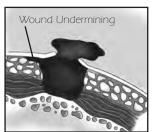
3. Repeat this procedure until the tunnel has closed.

**Note:** Be sure to annotate on the dressing and nursing notes the actual number of pieces of foam that have been placed into all aspects of the wound, as well as the placement of any adjunct dressings such as non-adherents or silver-impregnated dressings.

#### **Wound Undermining**

Wound undermining should be handled as follows:

- 1. Gently fill all undermined areas with V.A.C.® Vers-foam beginning at the distal portion.
- 2. Monitor exudate amounts and presence of granulation tissue at each dressing change.
- 3. Always utilize continuous therapy.
- 4. As exudate amounts decrease and the presence of granulation tissue is noted, gently place the foam into the undermined areas all the way to the distal portion. Pull out 1 2 cm leaving some foam in the wound to communicate with the foam in the wound bed. This specific placement leaves the distal portion of the undermined area clear of foam. This allows the distribution of higher pressures to collapse the free areas of undermining together, allowing the wound to granulate together from the distal portion forward. Initiate continuous therapy at previous settings.



#### **Dressing Small Wounds**

**Foot wounds:** For wounds on the plantar surface or heel of the foot, it is beneficial to utilize a bridge technique for tubing placement to ensure no additional pressure from tubing exists. After placing the dressing into the wound, cut a piece of foam in the shape of a letter "C". Place the drape or another occlusive barrier from the wound site to the anterior aspect of the foot. Place the "C" piece of foam around the lateral aspect of the foot, ensuring the two pieces of foam are touching and apply the drape to obtain a seal. Cut a hole in the drape on the anterior aspect of the foot and either insert the tubing and seal with drape or apply a T.R.A.C. Pad®.

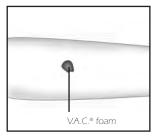


Foot Wound

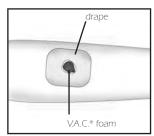




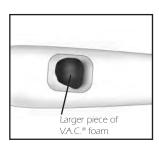
**Small wounds with T.R.A.C. Pad®:** For wounds that are smaller in dimension than the T.R.A.C. Pad®, a special dressing application is required to carefully protect the periwound tissue.



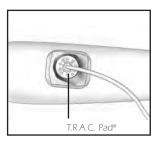
- 1. Prepare the wound per physician orders.
- 2. Cut the foam to fit into the wound cavity



- 3. Cut the drape to fit over the wound cavity as well as 4 5 inches around the wound.
- 4. Cut a 2 cm hole in the center of the drape prior to placement over the foam. Apply the drape with the hole directly over the foam.



5. Cut another piece of foam large enough to extend 1 - 2 cm beyond the T.R.A.C. Pad® and lay directly over the hole in the drape.



6. Apply the T.R.A.C. Pad® to the larger piece of foam. Initiate therapy.

## **Optimizing Wound Approximation**

Acute or traumatic pathologies such as compartment syndromes often require tissue decompression through a fasciotomy procedure, which may ultimately allow for tertiary or delayed primary closure. Initial dressing applications should include gently placing the foam into the wound and utilizing higher pressure settings to encourage removal of excessive debris. Subsequent dressing applications should include cutting the foam 1 - 2 cm smaller to encourage wound contraction allowing controlled re-approximation of the wound edges.



#### **Wound Observation Between Dressing Changes**

If you wish to observe the wound between dressing changes, simply cut the foam into two pieces **prior** to placing in the wound and place three strips of drape horizontally across the top of the foam dressing. To observe the wound, simply remove the middle strip, which should be placed directly over the break between the two pieces of foam, separate the foam and observe the wound. After inspection, realign the two pieces of foam, always ensure they are touching each other, and reseal with an additional strip of drape.

#### **Adjunct Dressing Recommendations:**

- 1. All adjunct dressings utilized with V.A.C.® Therapy must be meshed or pie-crusted to allow for even distribution of negative pressure and effective exudate removal.
- 2. Silver-impregnated dressings can be used in conjunction with the VA.C.® Vers-foam and VA.C.® GranuFoam®. VA.C.® Vers-foam is pre-moistened with sterile water; therefore, no special considerations should be required to ensure bene fits of the silver ion dressing. Special considerations should still be taken to evenly fen estrate across a potentially occlusive silver dressing. This will allow for proper exudate removal and even distribution of negative pressure.
- 3. Small areas of the wound can be covered with absorptive dressings. The majority of the wound surface must be in contact with the V.A.C.® foam dressing. The exudate may pool, forming a viscous or gel-like consistency and block negative pressure distribution to the underlying tissues. Maceration or other tissue damage may occur.
- 4. **In the presence of sutures or staples:** Superficial or retention sutures should be covered with a single layer of non-adherent prior to foam placement. This protects the suture from becoming lodged into the open-cell foam during the delivery of negative pressure.



# V.A.C.® Instill™ System Recommended Guidelines V.A.C.® Instill™ Patient Selection Criteria

#### Indications:

The V.A.C.® Instill™ System is indicated for patients who would benefit from negative pressure wound therapy, drainage and controlled delivery of topical wound treatment solutions over the wound bed.

Types of wounds for which V.A.C.® Therapy has been indicated include:

- chronic
- dehisced wounds
- pressure ulcers
- flaps, grafts

- acute
- traumatic
- diabetic ulcers
- partial thickness burns

**Solutions for use with the V.A.C.® Instill™ System:** Possible topical wound treatment solutions include: topical cleansers, anesthetics, antibiotics, antiseptics, and antifungals.

#### **Contraindications:**

The same Contraindications apply as for V.A.C.® Therapy (see page 4). In addition, the following apply to the V.A.C.® Instill™ System:

V.A.C.® dressing systems are contraindicated for use with hydrogen peroxide due to effervesence of solution upon contact. Solutions that are alcohol based or contain alcohol are also contraindicated due to their potential adverse effects on skin with extended tissue contact.

Fluids should not be delivered to the thoracic cavity due to the potential risk of changes to core body temperature.

#### **Precautions:**

The same Contraindications apply as for V.A.C. $^\circ$  Therapy (see page 4). In addition, the following apply to the V.A.C. $^\circ$  Instill $^\circ$  System:

Additional Precautions:

- The V.A.C.® Instill™ System is intended for use with saline solutions in a physiologic pH range\* that are topical wound treatment solutions.
- Various topical agents such as hydrogen peroxide are not intended for extended tissue contact. If in doubt about the appropriateness of using a solution for the V.A.C.® Instill™ System, contact the solution's manufacturer.
- Use solutions only in accordance with manufacturer's instructions for use and prescribing information.
- During the dwell period of the V.A.C.® Instill™ System, the V.A.C.® dressing system is a closed system and is NOT vented to the atmosphere.
- Do not use where temperature of fluid could cause an adverse reaction, such as a change in patient's core body temperature.
- Application of the V.A.C.® Instill™ System will result in pauses of negative pressure to the wound. Additional consideration and physician discretion is advised when using the V.A.C.® Instill™ System on wounds requiring continuous V.A.C.® Therapy (as opposed to intermittent V.A.C.® Therapy), such as enteric fistulas and fresh flaps and grafts.

## Care and Safety Tips for the V.A.C.® Instill System:

See page 4 for additional Care and Safety Tips for V.A.C.® Therapy.

• Canister changes: Monitor fluid level in canisters frequently during use of the V.A.C.® Instill System to accommodate canister changes resulting from use of topical wound treatment solutions and exudate removal. V.A.C.® canisters should be changed when full. At a minimum, the canister should be changed weekly and disposed of properly, as it may contain body fluids. Follow Universal Precautions.

**Optimizing Therapy** 

The same Optimizing Therapy applies as for V.A.C.® Therapy (see page 5).

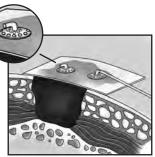


<sup>\*6.0 - 7.4</sup> per Guyton, AC. "Textbook of Medical Physiology" 8th ed, 1991.

## V.A.C.® Instill™ System Therapy Unit and Dressing Instructions

### V.A.C.® Instill Pad Application:

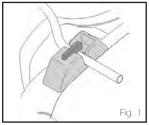
- 1. Choose an appropriate location for the Instill Pad, on the opposite side and above the location the T.R.A.C. Pad®. Cut a 2 cm hole in the drape over the foam.
- Apply the Instill Pad directly over hole in drape. Apply gentle pressure around the Instill Pad to ensure complete adhesion.



Instill Pad® application

#### Setting up the V.A.C.® Instill System:

- Route facility's solution tubing under the V.A.C.® Instill™ unit's solution tubing clamp on left side of unit. (Fig. 1)
   Note: Keep tubing thumb-wheel closed until ready to begin initial manual instillation cycle and record time.
   TIP: Place strip of surgical tape or drape on tubing against face of unit to prevent slippage or dislodging of tubing from unit's clamp.
- Attach VA.C.® Instill™ Pad to solution bag tubing using luer connector to either press fit or thread into facility's tubing for Instillation Therapy™.



Left side unit solution tubing clamp

- Note: Use a macro drip kit for quicker solution delivery to wound site.
- 3. Ensure the canister is engaged properly in the canister port.
- 4. Route the canister tubing under the V.A.C.® Instill™ unit canister tube clamp on right side of unit and then connect to the dressing tubing. (Fig. 2)
- 5. Place the V.A.C.® Instill™therapy unit on a level surface or an IV pole using the IV pole clamp. Ensure the V.A.C.® Instill™ unit is located in a position elevated higher than patient's wound. Always operate the V.A.C.® Instill™ therapy unit in an upright position.



Right side unit canister tubing clamp

- 6. Attach the power cord to the V.A.C.® Instill™ therapy unit and plug into electrical outlet.
- 7. Press the green Power ON Switch to reach the Home Screen.



#### Adjusting Settings on the V.A.C.® Instill™ System

- 1. Press Therapy button to select Therapy Screen.
- 2. Select level of negative pressure, using arrow keys to choose levels between 50 and 200mmHq, as per physician order.
- 3. Select Intensity Level. Use the arrow keys to choose rate of pressure change at the wound site (10 50 mmHg per second). The lower the setting, the slower the target pressure will be reached. This should be adjusted in accordance with varying wound conditions, patient's pain tolerance and at the direction of a physician.
- 4. Press the Instillation button to select Instillation Therapy™ management menu.
- 5. Use arrow keys to set the V.A.C.® Instill™unit's target settings per physician orders:
  - a. VA.C.® Therapy time range: 1 min. 12 hrs.
  - b. Instillation Therapy™ time range: 1 sec. 2 mins.

**Note:** Observe initial instillation cycle and note the amount of time it takes to fill wound site; close thumb wheel to prevent excess solution delivery. Program observed time into unit's "instillation" setting. An indication that a wound may be adequately filled is the observation that the solution reaches the bottom of the Instill Pad or T.R.A.C. Pad®.

**TIP:** It is recommended to begin with a collapsed dressing and deliver solutions manually the first time in order to determine the appropriate instillation time setting.

c. Hold time range: 1 sec. - 1 hr.

**Note:** The combination of Instillation time and Hold time should not exceed 2 hours in a 24-hour period. While operating in Instillation Therapy™ mode, intermittent therapy mode is not available.

#### V.A.C.® Instill™ Therapy Settings Range

Mode:	Available Setting:
V.A.C.® Therapy™ (continuous)	
Instillation Therapy™	1 second - 2 minutes
Hold	1 second - 1 hour

## Turning V.A.C.® Instill™ Therapy On

- Return to Home Screen. Ensure that the V.A.C.® Instill™ unit's solution tube clamp and canister tube clamp are closed. Release the solution tube's thumb wheel to the open position.
- 2. Press ON/OFF button to turn therapy on.
- 3. Select the desired start-up mode:
  - V.A.C.®
  - Instillation
  - Hold

**TIP:** Before beginning Instillation Therapy<sup>™</sup>, be sure there is enough room in the canister for fluids delivered.

4. Once VA.C.® therapy is being delivered, the VA.C.® System dressing should collapse in less than one minute. If the dressing does not collapse, a leak may be present. If a leak (small leaks may create a whistling noise) is suspected, fix it by gently pressing around the T.R.A.C. Pad® or Instill Pad tubing and wrinkles to better seal the drape. Use excess drape to patch over leaks.

**Note:** The Air Flow Meter may be used to help diagnose dressing integrity. The lower the level of the Air Flow Meter, the better the condition of the dressing. If the level of the Air Flow Meter stays above 2 L/min. for 2 minutes, the leak alarm will sound.

**Note:** Once the Instillation Therapy™ treatment is complete, if desired, continuous or intermittent therapy can be chosen to complete the patient's course of therapy if needed.



## Recommended Guidelines for Treating Different Wound Types

Physician-specific orders should always be followed as individual circumstances may vary.

#### **Acute / Traumatic Wounds / Partial-Thickeness Burns**

Initial Cycle	Subsequent Cycle	Target Pressure V.A.C.® GranuFoam®	Target Pressure V.A.C.® Vers-foam	Dressing Change Interval
Continuous first 48 hours	Intermittent (5 min. ON / 2 min. OFF) for rest of therapy	125 mmHg	125-175 mmHg; Titrate up for more drainage	Every 48 hours (every 12 hours with infection)

#### **Clinical Considerations:**

- If you are using the VA.C.® GranuFoam® Dressings, healthy, exposed tendon should be covered by a single layer of a non-adherent dressing to prevent dessication and minimize trauma to the tendon. Subject to physician discretion, VA.C.® Vers-foam Dressings may sometimes be applied directly over the exposed tendon, without a non-adherent dressing.
- You may apply the V.A.C.® foam directly over Vicryl mesh, Prolene mesh, Marlex mesh or intact peritoneum. Do not place the V.A.C.® dressing over exposed blood vessels or organs; cover these structures with natural tissue (membranes, muscle), mesh or multiple layers of a non-adherent dressing.
- For wounds with large amounts of drainage/edema, you may need to increase target pressures by 25 - 75 mmHg until the drainage amount tapers off. (Refer to Adjusting V.A.C.® Pressure Settings, page 30)
- You may maintain settings on Continuous Therapy throughout entire therapy for
  patients who are experiencing discomfort, using VA.C.® Vers-foam, or where the
  wound contains tunneling. (Refer to Continuous vs. Intermittent Therapy, page 31)
- 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.
- In the case of suspected osteomyelitis or wounds that have exposed bone, osteomyelitis should be ruled out according to the local protocols or established practice. Any necrotic bone must be removed to prevent future occurrence.
- Exposed tendon, nerves or blood vessels should be protected by moving available muscle or fascia over them or by a layer of non-adherent dressing if the V.A.C.® GranuFoam® Dressing is used.
- Orthopaedic hardware can be incorporated in the V.A.C.® dressing and may not have to be removed in the presence of an infected wound. Serial quantitative cultures should be taken to monitor the progress.
  - **Note:** Acute traumatic wounds may not require large quantities of granulation tissue formation unless there has been significant loss of soft tissue or extensive debridement.
- In acute wounds with exposed bone or fractures, the V.A.C.® may be used to reduce interstitial fluid and may aid in preventing bacterial contamination secondary to the traumatic wounding. In this case, V.A.C.® Vers-foam can be used without producing large quantities of granulation tissue. Pressures with the V.A.C.® Vers-foam should be at least 125 mmHg and higher if tolerated by the patient. V.A.C.® GranuFoam® would be indicated for traumatic wounds that need large amounts of granulation tissue formed.

## **Compromised Suture Lines**

Patients with multiple co-morbidities 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.

- Protect intact epithelium on both sides of the suture line with KCI Drape or Tegaderm® leaving the suture line exposed.
- Lay a single layer of a wide meshed non-adherent over the exposed sutures.
- Cut a strip of V.A.C.® GranuFoam® and gently place on top of the non-adherent.
- Place drape and tubing.
- Initiate therapy at 75 mmHg continuous.
- Dressing changes should occur every 48 hours (every 12 hours if infected) and therapy is usually required for a short period of time.

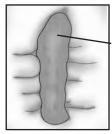
Suture lines that are extremely edematous and weeping may require removal of one or two sutures. V.A.C.® Vers-foam strips may be cut and gently placed into the suture line where the sutures have been removed. The VA.C.® GranuFoam® is still placed on top of the suture line as directed above. Ensure the V.A.C.® Vers-foam and V.A.C.® GranuFoam® directly communicate 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 occured.

#### **Surgical Wound Dehiscences**

Cycle	Target Pressure V.A.C.® GranuFoam®	Target Pressure V.A.C.® Vers-foam	Dressing Change Interval
Continuous	125 mmHg	125-175 mmHg;	Every 48 hours
for duration		Titrate up for	(every 12 hours
of therapy		more drainage	with infection)

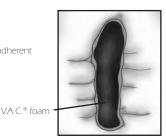


Dehisced wound



Non-adherent

Apply non-adherent laver



V.A.C.® foam application

#### **Clinical Considerations:**

- Select appropriate type of foam dressing based on wound characteristics. (See Recommended Guidelines for Foam Use Chart, page 7) V.A.C.® GranuFoam® is used more often to promote rapid granulation tissue growth. V.A.C.® Vers-foam may be used to help protect more sensitive structures, (i.e., minimally covered vessels, tendons or grafts.) You may want to use a combination of the two types of foams.
- 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. It may be easier to dress and maintain the seal if all or most of the sutures are removed.
- Consider applying drape over adjacent drain (puncture) sites in the event that a properly applied dressing is not collapsing.
- Monitor characteristics of wound drainage and report any significant changes to the physician.
- Applying the V.A.C.® foam to the bowel which is covered by mesh may produce granulation tissue on the bowel resulting in adhesions.



- 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.
- V.A.C.® foam can be placed directly over synthetic mesh (Vicryl® or Marlex®) 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.
- For dehisced sternal wounds, V.A.C.® may be placed over an intact mediastinal membrane. Should the heart and great vessel be exposed, consult with the physician.
- For dehisced abdominal wounds, continuous cycle can be used throughout the entire V.A.C.® treatment period.
- For patients with sternotomies or sternectomies, continuous therapy is recommended throughout the entire treatment period to help stabilize the chest wall. This helps to pull the wound closed, aids in promoting wound contraction, and this "splinting" effect can be more comfortable for the patient.
  - For other than sternal dehisced wounds, you may achieve better results with Intermittent Therapy once exudate levels are stable and where the primary goal is to create granulation tissue.

#### Meshed Grafts and Bioengineered Tissues

Initial Cycle	Target Pressure V.A.C.® GranuFoam®*	Target Pressure V.A.C.® Vers-foam	Dressing Change Interval
Continuous for duration of therapy	75-125 mmHg	125 mmHg; Titrate up for more drainage	Remove dressing after 4-5 days when using either foam (Drainage should taper prior to removal)

<sup>\*75</sup> mmHg can be used if patient has persistent pain with higher pressures, in areas that will not be subjected to shear forces. 125 mmHg can be used in highly contoured areas or areas where shear forces are present. The higher pressure may help hold the graft more firmly in place. In general, the pressure that was used to prepare the recipient bed before grafting should be continued after grafting.

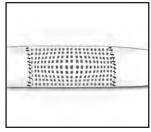
### Recommendations for applying V.A.C.® GranuFoam® Dressing post-graft:

- Apply V.A.C.® dressing immediately after graft placement. Begin therapy as soon as possible.
- Select a single layer of non-adherent, open pore dressing [e.g. Mepitel® (Mölnlycke), Adaptic® (Johnson & Johnson), N-terface® (Winfield Laboratories, Inc)]. Cut the non-adherent dressing to the size of the grafted area, plus a 1 cm border, then place it over the graft. Cut the V.A.C.® GranuFoam® to the same size as the non-adherent dressing so that it extends approximately 1 cm outside the staple line, and lay it on top of the non-adherent layer. Cover with V.A.C.® Drape and apply tubing or T.R.A.C. Pad®. Set negative pressure to desired level as indicated above.
- Look for more drainage in the tubing and canister during the first 8 24 hours of V.A.C.® application post graft. Then, the drainage will usually taper off significantly. This is generally a good sign of graft take. In general, a lot of drainage in the tubing post-graft may indicate that there is a complication underneath the foam.
- If signs of infection are present, remove V.A.C.® dressing and evaluate wound.

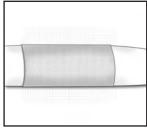


#### Recommendations for applying V.A.C.® Vers-foam post-graft:

- Apply V.A.C.® dressing immediately after graft placement; begin therapy immediately.
- Cut V.A.C.® Vers-foam to the size of the grafted area, plus a 1 cm border. Place the V.A.C.® Vers-foam directly over the graft, extending approximately 1 cm beyond the staple line.
- When using V.A.C.® Classic, tubing can remain embedded in the V.A.C.® Vers-foam, or it can be removed from inside the foam and placed on top of the foam. Place the V.A.C.® Drape over the foam and apply pressure at 125 mmHq.
- If tubing remains embedded into the V.A.C.® Vers-foam, be sure that the tubing doesn't extend all the way to the end of the foam. It is recommended to retract the foam from the distal end of tubing, cut approximately 1 cm off tubing, then replace the foam so that it extends at least 1 cm beyond the tubing.
- When using therapy units with T.R.A.C.® technology, place the V.A.C.® Drape over the foam, cut a 2 cm hole in drape and apply a T.R.A.C. Pad®.
- Upon removal of dressing, foam may be slightly dry around the edges. If this happens, simply apply saline to the dry areas on the foam and gently remove when moist. The foam should not adhere to graft.



Graft



V.A.C.® Vers-foam application

- Look for more drainage in the tubing and canister during the first 8 24 hours of V.A.C.® application post graft. Then, the drainage will usually taper off significantly. This is generally a good sign of graft take. In general, a lot of drainage in the tubing post-graft may hint that there is a complication underneath the foam.
- If signs of infection are present, remove V.A.C.® dressing and evaluate wound.

#### **Pressure Ulcers**

Initial Cycle	Subsequent Cycle	Target Pressure V.A.C.® GranuFoam®	Target Pressure V.A.C.® Vers-foam	Dressing Change Interval
Continuous for first 48 hours	Intermittent (5 min. ON / 2 min. OFF) for rest of therapy	125 mmHg	125-175 mmHg; Titrate up for more drainage	Every 48 hours (every 12 hours with infection)

#### **Clinical Considerations:**

- If patient's skin cannot tolerate frequent dressing changes, cut the drape around the foam, remove foam, clean wound as ordered, then replace foam and drape. Drape in periwound area may be left for one additional dressing change. Never layer more than two drapes at a time. More than two layers may impair the moisture vapor transmission rates of the drape.
- If patient is complaining of pain, the VA.C.® target setting may be decreased by 25 mmHg increments (minimum 75 mmHg) until pain is relieved.
- If patient is elderly, emaciated, or on anticoagulents, start with lower pressure (i.e., 75 or 100 mmHg) and slowly titrate to 125 mmHg.
- If pressure ulcer is in an area where moisture is an issue, consider using continuous therapy for the duration of treatment.



#### **Chronic Ulcers**

Initial Cycle	Subsequent Cycle	Target Pressure V.A.C.® GranuFoam®	Target Pressure V.A.C.® Vers-foam	Dressing Change Interval
Continuous for first 48 hours	Intermittent (5 min. ON / 2 min. OFF) for rest of therapy	50-125 mmHg*	125-175 mmHg; Titrate up for more drainage	Every 48 hours (every 12 hours with infection)

<sup>\*</sup>The higher pressures within the stated target pressure range are preferred. In cases of intolerance, use lower pressure as an option, but ensure that active fluid evacuation occurs.

#### **Clinical Considerations:**

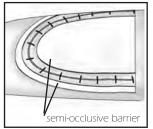
- If patient's skin cannot tolerate frequent dressing changes, cut the drape around the foam, remove foam, clean wound as ordered, then replace foam and drape.
- If patient is experiencing pain, the V.A.C.® target setting may be decreased by 25 mmHg increments (minimum 50 mmHg for V.A.C.® GranuFoam®; 125 for V.A.C.® Vers-foam) until pain is relieved.

#### **Flaps**

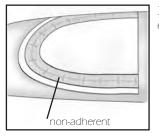
Initial Cycle	Target Pressure V.A.C.® GranuFoam®	Target Pressure V.A.C.® Vers-foam	Dressing Change Interval
Continuous for duration of therapy	125-150 mmHg	125 - 175 mmHg; Titrate up for more drainage	Fresh = every 72 hrs. Complicated = every 48 hrs. (every 12 hours with infection)

#### **Clinical Considerations:**

1. Suture the flap in place using approximately 1/3 less sutures than would normally be used. The greater spacing will allow the VA.C.® to remove fluid through the suture lines.



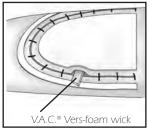
2. Place a single layer of KCl drape, Tegaderm or another semiocclusive barrier over the intact epidermis on the top of the flap and on the opposite side of the suture line (see diagram). Be careful **not** to cover the suture line with the semi-occlusive barrier.



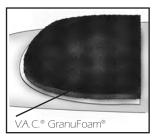
3. Place a single layer of a wide-meshed non-adherent over the exposed suture line.



### Flaps Clinical Considerations (cont.):



4. Placement of V.A.C.® Vers-foam wick is optional: If the recipient bed was previously highly exudating, a thin strip of V.A.C.® Vers-foam may be cut and placed under the flap, between the sutures, to wick fluid from the interior of the flap. Ensure V.A.C.® Vers-foam and V.A.C.® GranuFoam® directly communicate in order to ensure even distribution of pressure.



- 5. Select the appropriate size of V.A.C.® GranuFoam® to cover the entire flap, including the suture line and 2 3 cm beyond the suture line.
- 6. If viewing the flap during therapy is desired, cut the V.A.C.® GranuFoam® in half prior to application and place the drape in strips directly over the area where the foam is approximated. Removal of the strip of drape over the approximated foam allows the clinician to gently separate foam in order to inspect the underlying tissue. After inspection of the flap, simply reapproximate the foam pieces and reseal with an additional strip of drape and continue therapy.
- 7. Place drape over the foam and apply tubing or T.R.A.C. Pad®.
- 8. Higher pressures should be used, especially with large, bulky flaps in order to help bolster the flap.

#### **Venous Grafts**

V.A.C.® Therapy can be used to treat dehisced wounds over venous grafts with small areas of exposed graft. A flap of tissue should be used to cover the graft and act as a barrier between the graft and foam dressing. If a small area of graft is exposed, a thick layer of non-adherent dressing should be used between the V.A.C.® GranuFoam® and graft.



## Recommended Guidelines for V.A.C.® Therapy with Enteric Fistula

V.A.C.® Therapy may assist in promoting the healing of enteric fistulas. The recommended guidelines provide basic technique protocols, this is not a guarantee of results. V.A.C.® Therapy is not recommended or designed for effluent management and containment. It remains an aid in wound healing therapy.

Two primary goals of therapy currently exist:

Acute: Obtaining complete pressure-directed closure of the fistula.

**Chronic:** Segregate the fistula from the abdominal wound in order to obtain sufficient healing and stabilization of the patient's overall health to allow for subsequent surgical repair.

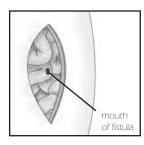
#### **Acute Candidate Selection**

- Enteric fistula
- Acute formation
- Minimal to moderate amounts of effluent
- Effluent is thin to slightly viscous consistency
- NPO (Nothing by mouth)
- TPN (Total Parenteral Nutrition)
- Fistula opening must be easily visualized and accessed
- No evidence of epithelial cells/growth on opening of fistula

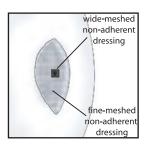
#### **Chronic Candidate Selection**

- Enteric fistula non-surgical candidate
- Chronic formation
- Mouth of fistula must be easily visualized and accessed
- NPO (Nothing by mouth)
- TPN (Total Parenteral Nutrition)

### **Application Directions: Acute Enteric Fistula (Complex)**

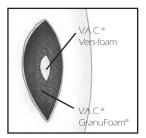


- 1. Cover the mouth of the fistula with several layers of petroleum-based gauze.
- 2. Aggressively irrigate and clean the abdominal wound as directed by the physician.
- 3. Remove the layers of petroleum-based gauze from the mouth of the fistula.

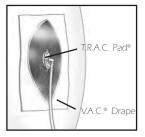


- 4. Cover the mouth of the fistula with a single-layer of widemeshed non-adherent dressing.
- 5. Cover all areas of exposed bowel or other organs with a petroleum-based fine-meshed non-adherent dressing.





- 6. Cut and apply a strip of V.A.C.® Vers-foam directly over the wide-meshed non-adherent dressing on the mouth of the fistula. The foam should extend 1 2 cm beyond the mouth of the fistula.
- 7. Cut and gently place V.A.C.® GranuFoam® dressing into the remaining wound. Ensure the V.A.C.® GranuFoam® is in direct contact with the V.A.C.® Vers-foam. The V.A.C.® GranuFoam® can also be placed directly over the V.A.C.® Vers-foam.

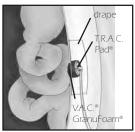


- 8. Apply the drape over the entire abdominal dressing.
- 9. Apply the tubing or T.R.A.C. Pad® directly over the area that houses the fistula.
- 10. Initiate pressure at 150 175 mmHg.
- 11. Use continuous therapy throughout treatment.

#### **Application Directions: Acute Enteric Fistula (Simple)**



- 1. Cover the mouth of the fistula with several layers of petroleum-based gauze.
- 2. Aggressively irrigate and clean the abdominal wound as directed by the physician.
- 3. Remove the layers of petroleum-based gauze from the mouth of the fistula.

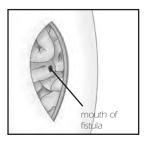


- 4. Cut and gently place V.A.C.® GranuFoam® dressing into the wound. Apply drape.
- 5. Apply the tubing or T.R.A.C. Pad® directly over the area that houses the fistula.

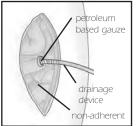


#### **Application Directions: Chronic Enteric Fistula**

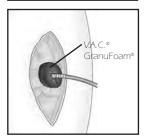
Recommended Guidelines based on current practice. References available upon request.



- 1. Cover the mouth of the fistula with several layers of petroleum-based gauze.
- 2. Aggressively irrigate and clean the abdominal wound.
- 3. Remove the several layers of petroleum-based gauze from the mouth of the fistula.



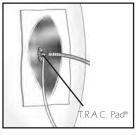
- 4. Place a drainage device (soft, red rubber catheter, foley catheter, etc.), over the mouth of the fistula. Do not enter the lumen of the bowel.
- 5. Take a petroleum-based strip gauze and wrap it around the base of the drainage device at the point of insertion into the mouth of the fistula.
- 6. Cover all areas of exposed bowel or other organs with a petroleum-based fine-meshed non-adherent dressing.



7. Cut a piece of V.A.C.® GranuFoam® in a circle and make a single cut from the edge of the circle to the center of the circle. At the base of the tube, slide the V.A.C.® GranuFoam® circle around the tube.



8. Cut and gently place V.A.C.® GranuFoam® into the wound.



- 9. Apply the drape over the entire abdominal dressing, cutting a hole for the tubing to come through.
- 10. Apply the tubing or T.R.A.C. Pad®.
- 11. Stabilize drainage device on outside of dressing with an additional drape or foam and drape.
- 12. Connect drainage device to collection unit such as foley bag or suction system.



#### Pouching/Diverting Drainage of a Chronic Fistula

Take all precautionary steps per other fistula protocols (NPO, fistulagram, etc)

- 1. Cover the mouth of the fistula with 2-3 layers of petroleum based gauze.
- 2. Aggressively irrigate and clean the abdominal wound.
- 3. Remove the 2-3 layers of petroleum based gauze from the mouth of the fistula.
- 4. Wrap petroleum based gauze around the mouth of the fistula.
- 5. Cover all areas of exposed bowel or other organs with a petroleum based **fine**-meshed non-adherent dressing.
- 6. Cut and gently place V.A.C.® GranuFoam® or V.A.C.® Vers-foam as appropriate into remainder of the wound. **DO NOT** place foam over mouth of fistula. V.A.C.® foam and "collar" should be in contact. Be careful not to have foam overlapping into the mouth of the fistula. A hole may be cut in one piece of foam exposing the chronic fistula in question. **Note:** Do not cut the foam over the wound. Gently rub the freshly cut edges of the foam to remove any loose pieces. Also, do not pack the foam into the wound.

**Note:** Be sure to annotate on the dressing and nursing notes the actual number of pieces of foam that have been placed into all aspects of the wound, as well as the placement of any adjunct dressings such as non-adherents or silver-impregnated dressings.

- 7. Place 2 x 2 gauze over mouth of fistula.
- 8. Apply the drape over the entire abdominal dressing.
- 9. Apply the tubing or T.R.A.C. Pad® away from the 2 x 2 gauze. Initiate negative pressure.
- 10. Ensure seal is airtight.
- 11. Mark the area on the drape where the mouth of fistula is.
- 12. Turn off the negative pressure and allow for the foam to "fluff" back up.
- 13. Carefully cut away the drape that is directly over the 2 x 2 gauze and mouth of fistula. Remove the 2 x 2 gauze exposing chronic fistula.
- 14. Apply Eakins Covalent seal, caulking strip or Ostomy paste in a circle around the chronic fistula on the drape.
- 15. Apply the Ostomy appliance or fecal incontinence bag of your choice as directed over the exposed chronic fistula and the previously placed caulk.
- 16. Make sure appliance is securely in place and the end of the appliance is adequately sealed.
- 17. Initiate NPWT at a pressure of 100 125 mmHg. Observe for dressing draw down.
- 18. As air is evacuated from the appliance, it may start to shrink down onto the mouth of the exposed fistula. Pinch the bag with your fingers and hold away from fistula until desired pressure is obtained.
- 19. For high output fistulas, consider using a higher output bag or following physician's instructions for drainage.
- 20. Use continuous therapy throughout treatment.
- 21. Encourage staff to monitor I & O of fistula.
- 22. Educate patient, when possible, to alert staff when emptying of the device is necessary.

## **Troubleshooting Tips**

- 1. After pressure is initiated, effluent is noted in the tubing.
  - a. Increase pressure in increments of 25 mmHg for 20 to 30 minutes, check for effluent. If present, continue to increase pressures and observe for a maximum of 200 mmHg until there is no effluent being removed. If effluent continues to flow into the tubing after all measures have been tried, discontinue therapy and reapply V.A.C.® dressing.
  - b. Initial approximation of the fistula is evidenced by loss of effluent coming from the wound.
- 2. With the higher pressures required to approximate the fistula, won't it exert too much pressure on the rest of the wound bed?
  - a. No. Application directions include placement of single or multiple layers of a fine mesh non-adherent dressing.
  - b. The fine-mesh non-adherent under the V.A.C.® GranuFoam® provides a protective barrier to the higher pressures.

## Additional Recommended Guidelines for Treating Various Wounds with V.A.C.® Therapy

**NOTE:** THESE GUIDELINES ARE NOT INTENDED AS A GUARANTEE AS TO RESULTS, OUTCOME OR PERFORMANCE OF THE VA.C.® SYSTEM™. THEY ARE RECOMMENDATIONS TO ASSIST THE TREATING PHYSICIAN IN ESTABLISHING PATIENT-SPECIFIC TREATMENT PROTOCOLS. AS WITH ANY APPLICATION, PLEASE CONSULT THE PATIENT'S TREATING PHYSICIAN AS TO INDIVIDUAL CONDITIONS AND TREATMENT AND FOLLOW ALL APPLICABLE MANUALS AND REFERENCE GUIDES AS TO PRODUCT USE AND OPERATION. ALWAYS CONSULT THE **INDICATIONS, CONTRAINDICATIONS, PRECAUTIONS AND CARE AND SAFETY TIPS** SECTION OF THIS BOOKLET AND ANY OTHER PRODUCT LABELING AND INSTRUCTIONS BEFORE PLACING A V.A.C.® PRODUCT ON A PATIENT. CONTACT YOUR LOCAL KCI REPRESENTATIVE WITH PRODUCT OPERATION USE QUESTIONS.

#### **Infected Wounds**

If a wound is chosen for VA.C.® Therapy and is infected (CFUs, colony forming units, greater than 10°), change the dressing every 12 - 24 hours. You may resume regular dressing change intervals (48 hours) when CFUs are decreased to levels lower than 105, or clinical signs of infection have abated. If the patient's skin cannot tolerate frequent dressing changes, cut the drape around the foam, remove foam, irrigate wound as ordered, then place new foam and drape. It is extremely important during the entire course of VA.C.® Therapy to keep the therapy ON continuously and clean the wound thoroughly at each dressing change.

#### **Wound Odors\***

V.A.C.® treated wounds have a unique odor due to the interaction of 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 odors. It is imperative that aggressive wound cleaning be done at each dressing change to decrease bacterial load, and help minimize the odor.

If you determine that the V.A.C.® unit is the source of the odor please contact your KCI representative to replace the unit. Using a canister with Isolyser® can greatly reduce odors.

\*Note: Strong odors may also be a sign of possible infection. (See **Infected Wounds**, page 30 and **Care and Safety Tips**, page 4)

## Adjusting V.A.C.® System™ pressure settings:

The Recommended Guidelines on therapy settings in this booklet are based on the average wound. You may want to vary the pressure settings to optimize V.A.C.® Therapy based on individual conditions and upon physician order.

## The V.A.C.® pressure setting may be titrated up by 25 mmHg increments in situations where there is:

- Excessive drainage
- Large wound volume
- V.A.C.® Vers-foam dressing(s) in the wound or in tunneled areas
- A tenuous seal (refer also to previous section Maintaining a Seal, page 12)

## The V.A.C.® pressure setting may be titrated down by 25 mmHg increments in situations where there is:

- Pain unrelieved by aggressive analgesia
- Bruising in the wound bed
- Elderly and nutritionally compromised patient
- Excessive bleeding (i.e.: anticoagulated patient)
- Compromised circulation (Peripheral Vascular Disease)
- Excessive granulation tissue growth



#### **Continuous vs. Intermittent Therapy**

V.A.C.® Therapy research in porcine models has shown that intermittent therapy (5 min active, 2 min inactive) can stimulate faster granulation tissue formation than continuous negative pressure. This research has helped establish the guidelines for the recommended mode of therapy (Continuous or Intermittent) as well as the amount of negative pressure that should be used on various wounds.

While it is recommended to advance the patient from Continuous to Intermittent Therapy after the first 48 hours on acute wounds and pressure ulcers, the conditions for switching to intermittent therapy may not always be optimal. Patients may be better served on Continuous Therapy for the duration of therapy when:

- They are experiencing significant discomfort during Intermittent therapy mode.
- There is difficulty maintaining an air tight seal during the first 48 hours of therapy in Continuous mode (i.e. perianal or toe wounds.)
- There are tunnels or undermined areas. Continuous therapy helps to hold the wound closed. (See **Tunneling**, page 13).
- There are high levels of drainage from the wound beyond the first 48 hours. It is better to wait until the amount of drainage tapers off before switching to Intermittent.

#### **Intensity Feature:**

The Intensity feature is not available with all V.A.C.® systems. Please refer to the appropriate User's Manual or On-Screen User Guide. Intensity is the rate at which target pressure is reached at the initiation of therapy. The lower the Intensity setting the slower target pressure will be reached. It is recommended that new patients begin therapy at the lowest intensity setting as this allows for slower, gentle increase of negative pressure once the foam is compressed in the wound. The intensity can remain at the minimum setting throughout the entire length of treatment to enhance patient comfort, especially when using Intermittent therapy.

#### **Additional Therapy Recommended Guidelines Chart**

Wound Characteristics	Continuous	Intermittent	Either	Intensity Setting
Difficult dressing application	×			Higher
Flaps	×			Lower
Highly exudating	×			Higher
Meshed grafts	×			Lower
Painful wounds	×			Lower
Tunnels or undermining	×			Higher
Unstable structures	×			Either
Minimally exudating			×	Lower
Large wound			×	Higher
Small wound			×	Lower
Stalled progress			×	Either
V.A.C.® Vers-foam			×	Higher



#### Use of V.A.C.® Therapy and Hyperbaric Oxygen Therapy

There are two potential options to consider when patients treated with V.A.C.® Therapy undergo hyperbaric oxygen therapy treatments (dives).

#### **Option One:**

Remove the V.A.C.® dressing before the dive and cover the wound with a moist (saline) gauze or other dressing described in the facility's Hyperbaric protocol. After dive is completed, clean surface of wound and surrounding tissue. Replace V.A.C.® dressing and initiate V.A.C.® Therapy.

#### **Option Two:**

Since Hyperbaric treatments are usually daily, Monday - Friday and some are twice a day, the removal of the dressing prior to each dive may become overly irritating to the surrounding tissue or uncomfortable for the patient and cause added cost. In such cases, the Medical Director of the Hyperbaric chamber can authorize the following procedure:

Prior to entering the chamber, disconnect the V.A.C.® Therapy unit and canister from the V.A.C.® dressings by clamping the clamps on the dressing and canister tubing. Disconnect the tubing. The V.A.C.® Therapy unit and canister do not enter the chamber. Once the patient is in the chamber, the end of the connector should be covered by a 4 x 4 or other absorbent dressing to contain any secretions in the tubing. Once the gauze is in place, unclamp the tubing to allow pressure changes in the V.A.C.® tube and dressing. Cover the entire V.A.C.® dressing and tubing with a moist towel.

After the dive, reconnect the V.A.C.® Therapy unit to the dressing and turn the therapy ON. Check the dressing for air leaks and seal, if necessary.

#### 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 V.A.C.® Therapy will take the wound to full closure. In other cases, the surgeon may elect to close the wound surgically. Generally, although individual circumstances will vary, therapy should also be stopped if the wound shows no progress for 1 - 2 weeks and potential solutions have failed.

## Minimal change in wound dimensions

When there is minimal to no change in the wound dimensions for 1 - 2 consecutive weeks, and patient compliance and technique are not the cause:

- For shallower wounds, cut foam slightly smaller (1/8 to 3/8 cm) than wound edges to enhance inward epithelial migration.
- Provide a "Therapeutic Pause." Interrupt V.A.C.® Therapy for 1 2 days, then resume.
   This has been effective in reinitiating the healing progress.
- You may also change the therapy settings from Continuous to Intermittent or viceversa. This has also been effective in stimulating further healing.
- Evaluate nutritional status and supplement as needed.
- Make sure the patient is receiving adequate pressure relief. For example, the patient with an ischial pressure ulcer may be sitting up too long.
- Assess wound surface for presence of epithelial cells. If present, removal of epithelial cells may allow granulation to proceed in wound and undermined areas.



#### **Deterioration of wound**

When wound is progressing well from dressing change to dressing change, then suddenly experiences rapid deterioration within 48 hours, use the following interventions:

- Check therapy hour meter for actual number of therapy hours received versus number of recommended therapy hours (22 of 24 hours). If number of therapy hours is lower than 22 of 24 hours each day, explore reason for therapy deficit and remedy situation.
- Check for small leaks with stethoscope. If stethoscope is not available, identify air leaks
  by listening for whistling noise or by moving your hand around the edges of the
  dressing while applying light pressure. Patch as needed.
- Assess for osteomyelitis.
- Change dressing more frequently.
- Clean wound more aggressively during dressing changes.
- Assess for tissue infection.
- Obtain a culture or biopsy and treat accordingly.
- Examine and debride the wound or bone as needed.
- Debride wound edges if they appear non-viable or rolled under, thus inhibiting granulation tissue formation and migration of epithelial cells over an acceptable wound base.
- Make sure dressing changes are being done every 48 hours, if possible. Waiting longer than 48 hours may allow exudate to seal off the foam pores next to the wound.

#### Changes in the wound

If the wound assessment reveals dark discolorations:

- Rule out mechanical trauma. Relieve wound of excessive pressure due to prolonged sitting, excessive foam in the wound or pulling and stretching drape over the foam.
   Roll drape over the foam; do not stretch drape over foam.
- Decrease pressure by 25 mmHq.
- Assess presence of anticoagulant therapy and evaluate recent clotting times of lab values.
- Thin depth of foam prior to dressing application to prevent overpacking.

If the wound appears white, excessively moist or macerated:

- Check therapy hour meter for actual number of therapy hours received versus number of recommended therapy hours (22 of 24 hours). If number of therapy hours is lower than 22 of 24 hours each day, explore reason for therapy deficit and remedy situation.
- Consider increasing target pressure in increments of 25 mmHg to encourage excessive exudate removal.



## Ordering The V.A.C.® System™

#### **Physician Order:**

All V.A.C.® Therapy systems require a physician's order. The following information should be included:

- 1. Product name
- 2. Exact location and type of wound to receive therapy
- 3. Wound dimensions
- 4. Pre-medication instructions
- 5. Wound cleansing instructions (cleanser, normal saline, etc)
- 6. Therapy settings (i.e.: Intermittent or Continuous)
- 7. Pressure settings in mmHg (50 200)
- 8. Dressing change intervals (12, 24 or 48 hours)
- 9. Dressings to be used (i.e.:V.A.C.® GranuFoam® or V.A.C.® Vers-foam Dressings)
- 10. Adjunct dressings to be used (non-adherents, silver-impregnated, etc.)

You may also include additional instructions about pre-medication, wound cleansing, etc. For more information and required authorization forms, call 1-800-275-4524.

#### **Example:**

V.A.C.® Therapy to dehisced abdominal wound. Set therapy on Continuous Therapy at 125 mmHg. Change dressing every 48 hours.

#### **Transitioning Patients Between Care Settings:**

- Contact your KCI representative and the OA/Discharge Planner/Case Manager as soon as you know that you are planning to transfer a patient to a different care setting with V.A.C.® Therapy. Ideally, allow at least 2 - 3 days prior to planned transfer to allow KCI to contact and train Insurance/Medicare/Home Health/Facility and obtain supplies.
- Write a prescription for V.A.C.® Therapy to be continued, and include the recommended length of treatment (usually 30- or 60- day increments).
- Include wound measurements and condition of wound in the discharge record.
- Special paperwork is required for Medicare/Medicaid patients. Contact your local KCI representative or call 1-800-275-4524 for specific instructions.
- Company policy requires delivery of a new therapy unit and pick-up of the used therapy unit when a patient transitions from one care setting to another or to home.
   The new unit cannot be delivered prior to Medicare, private insurance or facility approval.
- Remove V.A.C.® dressing before the patient is discharged. Apply appropriate
  alternative dressing until the new V.A.C.® Therapy unit is approved and personnel
  can be trained to commence therapy.

#### **KCI Contact Information:**

If you have questions, or for additional information, please contact your local KCI representative or contact KCI directly at 1-800-275-4524. Visit our website at www.woundvac.com. For a medical emergency, contact your local emergency number (i.e. 911).





©2005 KCI Licensing, Inc., All rights reserved. GORE-TEX® is a registered trademark of W.L. Gore and Associates. Adaptic®, Mepitel®, Mastisol®, No-Sting®, Duoderm®, Tegaderm®, N-terfacc®, Coban®, ACE®, Stomahesive®, Vicryl®, Prolene®, Marlex®, Isolyser® and Dakins are not trademarks of KCI or its affiliates, but are trademarks of other entities. References to these non-KCI products in this Guide are not intended as an endoresement of one particular brand over another. Other trademarks and service marks designated herein are property of KCI, its affiliates and licensors. VA.C.® Systems (including disposables) are subject to patent and/or pending patent. Information in this Guide is subject to change at any time without notice. Rev. 1/2005 2-B-128