

## Corporate Medical Policy

# Topical Negative Pressure Therapy for Wounds

**File Name:** topical\_negative\_pressure\_therapy\_for\_wounds  
**Origination:** 12/1998  
**Last CAP Review:** 4/2021  
**Next CAP Review:** 4/2022  
**Last Review:** 4/2021

### Description of Procedure or Service

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The management and treatment of chronic wounds, including decubitus ulcers, remain a treatment challenge. Most chronic wounds will heal only if the underlying cause, i.e., venous stasis, pressure, infection, is addressed. In addition, cleaning the wound to remove non-viable tissue, microorganisms, and foreign bodies is essential to create the optimal conditions for either re-epithelialization (i.e., healing by secondary intention) or preparation for wound closure with skin grafts or flaps (i.e., healing by primary intention). Therefore, debridement, irrigation, whirlpool treatments, and wet-to-dry dressings are common components of chronic wound care.

Negative pressure wound therapy (NPWT) consists of the use of a negative pressure therapy or suction device to aspirate and remove fluids, debris, and infectious materials from the wound bed to promote the formation of granulation tissue. The devices may be used as an adjunct to surgical therapy, or as an alternative to surgery in a debilitated patient. Although the exact mechanism has not been elucidated, it is hypothesized that negative pressure contributes to wound healing by removing excess interstitial fluid, increasing the vascularity of the wound, reducing edema and/or creating beneficial mechanical forces that lead to cell growth and expansion.

A non-powered (mechanical) NPWT system has also been developed; one device is the Smart Negative Pressure (SNaP) Wound Care System. This device is portable and lightweight (3 oz) and can be worn underneath clothing. This system consists of a cartridge, dressing, and strap; the cartridge acts as the negative pressure source. The system is reported to generate negative pressure levels similar to other NPWT systems. This system is fully disposable.

The focus of this document is on use of NPWT in the outpatient setting.

#### Regulatory Status

Negative pressure therapy or suction devices cleared by the U.S. Food and Drug Administration (FDA) for the purpose of treating chronic wounds include, but are not limited to:

Vacuum Assisted Closure® (V.A.C., also known as negative pressure wound therapy; KCI); Versatile 1™ (V1)Wound Vacuum System (Blue Sky Medical), RENASYS™ EZ PLUS (Smith-Nephew), Foryou NPWT NP32 Device (Foryou Medical Electronics), SVED® (Cardinal Health), and PICO Single Use Negative Pressure Wound Therapy System (Smith and Nephew).

Portable systems include the RENASYS™ GO (Smith & Nephew), XLR8 PLUS (Genadyne Biotechnologies), extriCARE® 2400 NPWT System (Devon Medical Inc.), the V.A.C. Via™ (KCI), NPWT PRO to GO (Cardinal Health), and the PICO™ Single-Use Negative Pressure Wound Therapy System (Smith & Nephew). The Prevena™ Incision Management System (KCI) is designed specifically for closed surgical incisions.

A non-powered NPWT device, the SNaP® Wound Care System (Spiracur, acquired by Acelyty in 2015), is a Class II device requiring notification to market but not having FDA premarket approval. It received 510(k) marketing clearance from the FDA in 2009 (K081406) and is designed to remove small

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amounts of exudate from chronic, traumatic, dehisced, acute, or subacute wounds and diabetic and pressure ulcers.

NPWT devices with instillation include the V.A.C. VERAFLOR<sup>TM</sup> Therapy device (KCI/Acelity). It was cleared for marketing in 2011 by the FDA through the 510(k) pathway (K103156) and is designed to allow for controlled delivery and drainage of topical antiseptic and antimicrobial wound treatment solutions and suspensions. It is to be used with the V.A.C. Ultra unit, which is commercially marketed for use in the hospital setting. Instillation is also available with Simultaneous Irrigation<sup>TM</sup> Technology tubing sets (Cardinal Health) for use with Cardinal Health SVED<sup>®</sup> and PRO NPWT devices, however, its use is not indicated for use in a home care setting (K161418).

No NPWT device has been cleared for use in infants and children.

In November 2009, the FDA issued an alert concerning complications and deaths that had been associated with negative pressure wound therapy systems. An updated alert was issued in February, 2011. (<http://www.fda.gov/MedicalDevices/Safety/AlertsandNotices/ucm244211.htm>.)

## Related Policies

Growth Factors in Wound Healing

Skin and Soft Tissue Substitutes

Electrostimulation and Electromagnetic Therapy for Wounds

Non-Contact Ultrasound Treatment for Wounds

**\*\*\*Note: This Medical Policy is complex and technical. For questions concerning the technical language and/or specific clinical indications for its use, please consult your physician.**

## Policy

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**BCBSNC will provide coverage for Topical Negative Pressure Therapy for Wounds when it is determined to be medically necessary because the medical criteria and guidelines shown below are met.**

## Benefits Application

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This medical policy relates only to the services or supplies described herein. Please refer to the Member's Benefit Booklet for availability of benefits. Member's benefits may vary according to benefit design; therefore member benefit language should be reviewed before applying the terms of this medical policy.

See Other Services for Durable Medical Equipment (DME). Depending on specific contracts, coverage for the components (pump, canisters, dressings) of a topical negative pressure therapy system for wounds is processed under DME.

DME Supplier must meet eligibility and/or credentialing requirements as defined by the Plan in order to be eligible for reimbursement.

The individual certificate should be reviewed to verify eligibility requirements and any prior review necessary for the rental/purchase of equipment.

## When Topical Negative Pressure Therapy for Wounds is covered

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### **Initiation of a Powered Negative Pressure Wound Therapy (NPWT):**

An initial 2-week therapeutic trial using a powered negative pressure wound therapy (NPWT) system, as part of a comprehensive wound care program that includes controlling factors such as diabetes, nutrition, relief of pressure, etc., may be considered medically necessary in the following indications:

- Chronic (> 90 days) stage III or IV pressure ulcers that have failed to heal despite optimal wound care when:

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- high-volume drainage interferes with healing; and/or
  - standard dressings cannot be maintained due to anatomic factors.
- Non-healing wounds in patients with underlying clinical conditions which are known to negatively impact wound healing. Wound must have failed to heal despite optimal wound care for at least 30 days. Examples of underlying conditions include, but are not limited to diabetes, malnutrition, small vessel disease, and morbid obesity. Malnutrition, while a risk factor, must be addressed simultaneously with the negative pressure wound therapy.
- Traumatic or surgical wounds with:
  - failure of immediate or delayed primary closure; AND
  - exposed bone, cartilage, tendon, or foreign material within the wound; AND
  - no contraindications to negative pressure wound therapy (see Policy Guidelines).
- Enterocutaneous fistulas.

One week of negative pressure wound therapy (NPWT) is considered medically necessary as part of the post-operative care for patients who receive split thickness skin grafting (STSG).

## **Continuation of a Powered NPWT:**

Continuation of the powered NPWT system, as part of a comprehensive wound care program, may be considered medically necessary following an initial 2-week therapeutic trial or a subsequent treatment period if the treatment has resulted in documented objective improvements in the wound. Objective improvements in the wound should include the development and presence of healthy granulation tissue, progressive wound contracture and decreasing depth, and/or the commencement of epithelial spread from the wound margins.

Use of a non-powered (mechanical) NPWT system for the treatment of acute or chronic wounds may be considered medically necessary when:

- the criteria are met for a powered NPWT, AND
- the wound size surface area is <100 cm<sup>2</sup>, but larger than 1 cm<sup>2</sup>; and < 10 cm in widest diameter, AND
- the exudate is not expected to exceed more than 150 mL total in 3 days.

## **When Topical Negative Pressure Therapy for Wounds is not covered**

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Continuation of the powered NPWT system is considered **not medically necessary** when any of the following occurs:

- The therapeutic trial or subsequent treatment period has not resulted in documented objective improvement in the wound, OR
- The wound has developed evidence of wound complications contraindicating continued NPWT, OR
- The wound has healed to an extent that either grafting can be performed or the wound can be anticipated to heal completely with other wound care treatments.

Therapeutic trials of powered NPWT systems for the treatment of other acute or chronic wounds except as noted above are considered **not medically necessary**.

Use of a non-powered (mechanical) NPWT for the treatment of wounds is considered not medically necessary when there is a contraindication as listed in the Policy Guidelines or in actively infected or bleeding wounds or exposed tendons, or when the criteria in the When Covered section are not met.

## **Policy Guidelines**

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Contraindications to the use of NPWT systems include the following conditions as noted by a November 2009 FDA alert: necrotic tissue with eschar, untreated osteomyelitis, nonenteric and

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unexplored fistulas, malignancy in the wound, exposed nerve, exposed anastomotic site, and exposed organ.

In a 2011 update, the FDA noted additional deaths and injury reports with NPWT since 2009.

Although rare, these complications can occur wherever NPWT systems are used, including hospitals, long-term care facilities, and at home. Bleeding was the cause of the most serious adverse events, including deaths. The majority of reports of wound infection were related to the retention of dressing pieces in the wounds. FDA recommendations for healthcare providers include the following: select patients for NPWT carefully knowing that NPWT systems are contraindicated for certain wound types, and patient risk factors must be thoroughly considered before use; assure that the patient is monitored frequently in an appropriate care setting by a trained practitioner; be aware of complications associated with dressing changes such as infection and bleeding; be vigilant for potentially life-threatening complications, such as bleeding, and be prepared to take prompt action if they occur. The FDA reported that the safety and effectiveness of NPWT systems in newborns, infants and children has not been established at this time and currently, there are no NPWT systems cleared for use in these populations.

NPWT systems should be used with caution in the following:

- Active bleeding or at high risk for bleeding and hemorrhage
- Patients on anticoagulants or platelet aggregation inhibitors
- Difficult wound hemostasis
- When placing the dressing in proximity to blood vessels, care should be taken to ensure that all vessels are adequately protected with overlying fascia, tissue or other protective barrier. Greater care should be taken with respect to weakened, irradiated or sutured blood vessels
- Infected wounds
- Osteomyelitis
- Sharp edges in the wounds (i.e., bone fragments)
- Spinal cord injury (stimulation of sympathetic nervous system)
- Enteric fistulas

Continuation of healing during use of the NPWT system should be monitored on a frequency not less than every 14 days.

Complete healing of a wound would normally be anticipated if all bone, cartilage, tendons, and foreign material were completely covered, healthy granulation were present to within 5 mm of the surface, and the wound edges were reduced to 2 cm in width or diameter.

Negative pressure therapy systems should be used as part of a comprehensive wound care program that includes attention to other factors that impact wound healing such as diabetes control, nutritional status, relief of pressure, etc.

The focus of these policy statements and guidelines is for use of NPWT in the outpatient setting.

## **Rationale:**

For individuals who have diabetic lower-extremity ulcers or amputation wounds who receive outpatient NPWT, the evidence includes randomized controlled trials (RCTs) and a systematic review of RCTs. Relevant outcomes are symptoms, change in disease status, morbid events, quality of life, and treatment-related morbidity. There was a higher rate of wound healing and fewer amputations with NPWT, although the studies were at risk of bias due to lack of blinding. The evidence is sufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who have chronic pressure ulcers who receive outpatient NPWT, the evidence includes RCTs and systematic reviews. Relevant outcomes are symptoms, change in disease status, morbid events, quality of life, and treatment-related morbidity. All trials are of low quality and at high risk of bias. In addition, most study populations were treated in inpatient settings. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who have lower-extremity ulcers due to venous insufficiency who receive outpatient NPWT, the evidence includes one RCT and a systematic review. Relevant outcomes are symptoms, change in disease status, morbid events, quality of life, and treatment-related morbidity. A single RCT

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in patients with nonhealing leg ulcers who were treated with skin grafts found a faster rate of healing with NPWT when used in the inpatient setting. No studies were identified on the effectiveness of NPWT as a primary treatment for leg ulcers or for use of NPWT in the outpatient setting. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who have burn wounds who receive outpatient NPWT, the evidence includes RCTs, systematic reviews, and case series. Relevant outcomes are symptoms, change in disease status, morbid events, quality of life, and treatment-related morbidity. An interim report of an RCT evaluating NPWT in partial-thickness burns, summarized in a Cochrane review, did not permit conclusions on the efficacy of NPWT in partial-thickness burns. A separate RCT comparing NPWT with split-skin grafts in patients with full-thickness burns did not show differences in graft take and wound epithelialization. A retrospective case series reported functional outcomes for most patients who were treated with NPWT at a single center. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who have traumatic or surgical wounds who receive outpatient NPWT, the evidence includes RCTs and systematic reviews. Relevant outcomes are symptoms, change in disease status, morbid events, quality of life, and treatment-related morbidity. There are limited data on NPWT as a primary treatment of partial-thickness burns. One RCT found no benefit of NPWT on graft take and wound epithelialization in patients with full-thickness burns. Another RCT found a significant decrease in time to wound closure in patients with wound healing impairment following abdominal surgery; however, it is unclear if this difference is clinically meaningful. NPWT showed no benefit in the treatment of patients with surgical wounds or skin grafts healing by primary intention, and a systematic review of NPWT for traumatic and surgical wounds found no differences between standard dressing and NPWT for any wound outcome measure. However, one small RCT has suggested that prophylactic NPWT may reduce the number of dressing changes and pain when used in an outpatient setting. A small retrospective study reported improved epithelialization with NPWT in patients free of comorbidities. Additional study in larger samples is needed to evaluate this outcome measure. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who have any wound type (acute or nonhealing) who receive portable single-use outpatient NPWT, the evidence includes RCTs. Relevant outcomes are symptoms, change in disease status, morbid events, quality of life, and treatment-related morbidity. The evidence includes an RCT of the PICO Single Use Negative Pressure Wound Therapy System, an RCT of the nonpowered Smart Negative Pressure (SNaP) Wound Care System, and a pseudorandomized study of the Prevena Incision Management System. The PICO device was studied in an adequately powered but unblinded RCT of combined in- and outpatient use following total joint arthroplasty; also, a 2017 RCT compared the PICO device with standard dressing following abdominal surgery. Results showed some benefits, though not statistically significant. One study with the SNaP nonpowered Wound Care System showed noninferiority to a vacuum-assisted closure device. Interpretation of this trial is limited by a high loss to follow-up and lack of a control group treated with dressings. Well-designed comparative studies with larger numbers of patients are needed to confirm a beneficial effect of the technology with greater certainty. The evidence suggests at least non-inferiority of mechanical systems as compared to powered, in the effects of the technology on health outcomes.

Overall, the evidence from comparative clinical trials has demonstrated that there is a subset of problematic wounds for which the use of NPWT may provide a significant clinical benefit. However, due to clinical variability and limited data, it is not possible to determine prospectively which wounds are most likely to respond favorably to NPWT. In addition, clinical input supports a therapeutic trial of NPWT for chronic pressure ulcers that have failed to heal, for traumatic or surgical wounds that have failed to close when there is exposed bone, cartilage, tendon, or foreign material within the wound, and for nonhealing wounds in patients with underlying clinical conditions known to negatively impact wound healing. Therefore, a therapeutic trial of NPWT of not less than 14 days may be considered medically necessary for chronic wounds that have failed to heal, despite intense conventional wound therapy for at least 90 days, or for wounds of at least 30 days that have a high probability of failure to heal due to compounding factors involving the wound and the patient. For

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continued use of NPWT beyond 14 days to meet criteria for medical necessity, there must be objective evidence of wound healing, such as the development of healthy granulation tissue and progressive wound contracture.

Use of NPWT for other wounds may be considered not medically necessary as these wounds will heal through conventional wound management, i.e., the evidence does not demonstrate an incremental improvement in wound healing with use of the NPWT for these cases.

## **Billing/Coding/Physician Documentation Information**

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This policy may apply to the following codes. Inclusion of a code in this section does not guarantee that it will be reimbursed. For further information on reimbursement guidelines, please see Administrative Policies on the Blue Cross Blue Shield of North Carolina web site at [www.bcbsnc.com](http://www.bcbsnc.com). They are listed in the Category Search on the Medical Policy search page.

*Applicable codes: 97605, 97606, 97607, 97608, A6550, A7000, A7001, A9272, E2402, K0743, K0744, K0745, K0746*

The following information may be requested for review of medical necessity:

1. Type and age of wound and any prior treatment
2. Patient compliance with therapies
3. Size of wound and amount of drainage
4. Comorbid conditions
5. Nutritional status
6. Medical records documenting complete wound therapy program (refer to Policy Guidelines for details)
7. Treatment plan stating specific functional goals and estimating when those goals will be reached.
8. Operative note or wound care notes, if request is for use of topical negative pressure therapy in surgical and/or traumatic wounds.

BCBSNC may request medical records for determination of medical necessity. When medical records are requested, letters of support and/or explanation are often useful, but are not sufficient documentation unless all specific information needed to make a medical necessity determination is included.

## **Scientific Background and Reference Sources**

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BCBSA Medical Policy Reference Manual - 1/30/98

Medical Policy Advisory Group - 10/99

Specialty Matched Consultant Advisory Panel - 9/2000

Specialty Matched Consultant Advisory Panel - 10/2000

Medical Policy Advisory Group - 10/2000

Medicare DMERC Medical Policy for Negative Pressure Wound Therapy Pumps

ECRI Target™ Fact Sheet on Vacuum-Assisted Closure Therapy for Wound Healing; April, 2000

ECRI Windows on Medical Technology™ for Vacuum-Assisted Wound Closure for Chronic and Acute Wounds; October, 2000

BCBSA Medical Policy Reference Manual - Policy 1.01.16 - 7/12/02

Specialty Matched Consultant Advisory Panel - 8/2002

BCBSA Medical Policy Reference Manual [Electronic Version]. 1.01.16, 10/9/03.

Specialty Matched Consultant Advisory Panel - 8/2004

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Cro, C., George, K.J., et al. Vacuum assisted closure system in the management of enterocutaneous fistulae, *Postgrad Med J*, June 2002; 78(920): 364-5.

Erdmann Detlev, Drye Carol, et al. Abdominal wall defect and enterocutaneous fistula treatment with the vacuum-assisted closure (V.A.C.) system, *Plastic and Reconstructive Surgery*, December 2001, pp.2066-2068.

Goverman J, Yelon JA, Platz JJ, Singson RC, & Turcinovic M. The "Fistula VAC," a technique for management of enterocutaneous fistulae arising within the open abdomen: report of 5 cases. *J Trauma*. 2006 Feb;60(2):428-31.

Specialty Matched Consultant Advisory Panel - 8/2006

The V.A.C. (Vacuum Assisted Closure) Clinical Guidelines. KCI, Inc., December 2006.

Specialty Matched Consultant Advisory Panel - 9/4/2008

Negative Pressure Wound Therapy. Technology Assessment. November 2009. Rockville, MD: Agency for Healthcare Research and Quality. <http://www.ahrq.gov/clinic/ta/negpresswtd/>. Retrieved 7/23/2010

National Institute for Health and Clinical Excellence (NICE). Negative pressure wound therapy for the open abdomen. *Interventional Procedure Guidance 322*. London, UK: NICE; December 2009

BCBSA Medical Policy Reference Manual [Electronic Version]. 1.01.16, 4/8/2010

BCBSA Medical Policy Reference Manual [Electronic Version]. 1.01.16, 4/14/11

BCBSA Medical Policy Reference Manual [Electronic Version]. 1.01.16, 1/12/12

Specialty Matched Consultant Advisory Panel – 5/16/2012

BCBSA Medical Policy Reference Manual [Electronic Version]. 1.01.16, 1/10/13

Specialty Matched Consultant Advisory Panel – 5/2013

Dumville JC, Munson C. Negative pressure wound therapy for partial-thickness burns. *Cochrane Database Syst Rev* 2012; 12:CD006215.

BCBSA Medical Policy Reference Manual [Electronic Version]. 1.01.16, 1/9/14

Specialty Matched Consultant Advisory Panel – 5/2014

BCBSA Medical Policy Reference Manual [Electronic Version]. 1.01.16, 1/15/15

Specialty Matched Consultant Advisory Panel – 5/2015

BCBSA Medical Policy Reference Manual [Electronic Version]. 1.01.16, 1/14/16

Specialty Matched Consultant Advisory Panel – 5/2016

BCBSA Medical Policy Reference Manual [Electronic Version]. 1.01.16, 1/12/17

Specialty Matched Consultant Advisory Panel – 5/2017

BCBSA Medical Policy Reference Manual [Electronic Version]. 1.01.16, 1/11/2018

Specialty Matched Consultant Advisory Panel – 5/2018

BCBSA Medical Policy Reference Manual [Electronic Version]. 1.01.16, 1/17/2019

Specialty Matched Consultant Advisory Panel – 6/2019

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BCBSA Medical Policy Reference Manual [Electronic Version]. 1.01.16, 1/16/2020

Specialty Matched Consultant Advisory Panel – 5/2020

Armstrong DG, Marston WA, Reyzelman AM, Kirsner RS. Comparative effectiveness of mechanically and electrically powered negative pressure wound therapy devices: a multicenter randomized controlled trial. Wound Repair Regen. 2012 May-Jun;20(3):332-41.

Marston WA, Armstrong DG, Reyzelman AM, Kirsner RS. A Multicenter Randomized Controlled Trial Comparing Treatment of Venous Leg Ulcers Using Mechanically Versus Electrically Powered Negative Pressure Wound Therapy. Adv Wound Care (New Rochelle). 2015 Feb 1;4(2):75-82.

Medical Director review 8/2020

BCBSA Medical Policy Reference Manual [Electronic Version]. 1.01.16, 1/14/2021

Specialty Matched Consultant Advisory Panel – 4/2021

## **Policy Implementation/Update Information**

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### **From policy entitled: Vacuum-Assisted Closure of Wounds:**

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|----------|--|
| 12/98    | New Policy Issued, based on BCBSA policy.<br><br>There is minimal published data regarding vacuum-assisted closure of wounds, consisting of one animal study and an uncontrolled case series of 300 patients. Controlled trials are needed to demonstrate the independent contribution of vacuum-assisted closure to the overall management of chronic wounds. |
| 7/99     | Reformatted, Medical Term Definitions added.   |
| 10/99    | Medical Policy Advisory Group  |
| 10/00    | Sent to two Specialty Matched Consultant Advisory Panels. No change recommended in criteria. Medical Policy Advisory Group review. No change recommended in criteria. Approve.   |
| 2/02     | Coding format change.  |
| 9/02     | Specialty Matched Consultant Advisory Panel review 8/2002. Policy revised from investigational to covered in specific conditions. Name changed from "Vacuum Assisted Closure of Chronic Wounds" to "Vacuum Assisted Closure of Wounds". Codes K0538, K0539 and K0540 added to Billing/Coding section. System coding changes.                                   |
| 10/02    | System coding changes.   |
| 6/03     | Policy Reformatted. Additional information added to "Description" section. "When covered" now includes A., B. and C. with types of wounds listed. "Policy Guidelines" now has two major requirements for complete wound therapy program-1) General measures and 2) Therapy specific to type of wound.  |
| 10/28/04 | Specialty Matched Consultant Advisory Panel review. Additional information added and criteria changes made regarding acute and subacute wounds. Removed codes K0538, K0539, and K0540 from the policy. They were deleted 1/1/04. Notification given 10/28/04. Effective date of policy is 1/6/2005.  |
| 01/06/05 | Added 2005 CPT codes 97605 and 97606 to Billing/Coding section. Billing/Coding section updated for consistency.  |

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- 1/5/06 Removed deleted code A6551 from Billing/Coding section.
- 4/24/06 Under Policy Guidelines section, first sentence, clarified that the complete wound therapy program should be documented in the medical records: "A complete wound therapy program *documented in medical records should* include both of the following criteria....." Same section, 2.D.i. last sentence, also clarified the records that should contain documentation for medical necessity: "Necessity for a wound vac in surgical and/or traumatic wounds must be clearly documented in the *operative note or wound care notes or records* by a statement...." The italicized wording has also been added under When not Covered section, 3.a. re: acute or subacute wounds. Similar information added to Billing/Coding/Physician Documentation Information.
- 5/21/07 Under "**When not Covered**" section: added the following to #1; e. The skin surrounding the wound does not allow for an effective adhesive drape necessary to create negative pressure; **or** f. The wound is a Stage I or II pressure ulcer, **or** g. A measurable degree of wound healing has failed to occur after use of the vacuum-assisted closure device for one month; **or** f. Adequate wound healing has occurred to the degree that use of the vacuum-assisted closure device may be discontinued (uniform granulation tissue has been obtained).

Under "**Policy Guidelines**" added the following: Vacuum-assisted closure is used to initiate the healing of wounds. It is a technique designed to promote the formation of granulation tissue in the wound bed either as an adjunct to surgical therapy, or as an alternative to surgery in a debilitated patient. Vacuum-assisted closure can create optimal conditions for either reepithelialization (e.g., healing by secondary intention) or preparation for wound closure with skin grafts, or flaps (e.g., healing by primary intention). Added A. **Chronic wounds**: Medical records should document that a complete wound therapy program has been attempted and that progressive wound healing has failed to occur after 30 days. A complete wound therapy program should include both 1 and 2 of the following criteria (depending on the type of wound).....A.1. deleted end of sentence, "which should be addressed, applied, or considered and ruled out prior to application of vacuum assisted closure..." Acute and subacute wounds are now B.1-B.5. as follows: 1. (new) The patient has complications of a surgically-created wound including, but not limited to, post-sternotomy disunion with exposed sternal bone, post-sternotomy mediastinitis, postoperative disunion of the abdominal wall, flap or graft failure, dehisced wounds, A complicated surgical wound is a wound likely to take significantly longer to heal than a similar wound without complications, such as a large dehiscence. 2. (new) The patient has a traumatic wound that will require a flap or graft such as a degloving injury, high-energy soft tissue injury (falls, MVA, sports), wounds exposing tendons, bone and/or joint. The VAC may be used to help promote healing prior to a flap or graft by advancing early healing of the site and thereby helping to prepare the wound bed for a flap or graft procedure. VAC may also avoid local or free-tissue transfer in some instances. 3. (revised) There is documentation of the medical necessity for accelerated formation of granulation tissue which cannot be achieved by other available topical wound treatments. 4. (new) There is risk or co-morbidity present expected to significantly prolong healing achievable with other topical wound treatments. Patients with other medical problems (i.e., diabetes, coronary artery disease, or renal disease) may be more susceptible to wound dehiscence and delayed wound healing. 5. was in last half of old d.i.-no changes. Re: last paragraph (not numbered), now reads: Vacuum-assisted closure may be considered medically necessary as long as the on-going wound care is performed or supervised by a licensed health care provider and there is at least biweekly documentation of quantitative measurements of wound characteristics including wound length and width (surface area), and depth. The recorded wound measurements must demonstrate progressive wound healing between evaluations or after four weeks of vacuum-assisted wound therapy (including in-patient time) has evolved. The majority of patients achieve sufficient wound closure with six weeks of vacuum-assisted closure therapy; some patients may require longer. However, coverage beyond four months is generally considered not medically

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necessary. It is not necessary to continue using until a wound is completely healed. For example, if the depth of a wound is less than 0.5cm, then it would generally not be appropriate to continue use of the device. Also, if improvement of a wound has steadily occurred during four months treatment, then continued use on that wound would very rarely be medically necessary. An exception might be a very large open sternotomy or abdominal wound which had improved but was still quite large after four months of treatment.

Under Billing/Coding section, added: "Treatment plan stating specific functional goals and estimating when those goals will be reached."

Specialty Matched Consultant Advisory Panel review 8/2006. Under "When Covered" section, added criteria for enteric fistulas. Under "When not Covered" section; 1.a. now reads "The presence of non-enteric or unexplored fistulas within the vicinity of the wound." Reference sources added. (pmo)

## 10/6/08 **Revisions under "When Covered" section:**

B. Now reads "*Complications of a surgically created wound (e.g., dehiscence) or a traumatic wound (e.g., pre-operative flap or graft) when the following criteria are met. 1) Coverage may be provided only if a conventional wound therapy program has been tried and failed or if the patient has a contraindication to a conventional wound therapy program. Documentation must be provided (see Billing/Coding/Physician Documentation Information section). 2) Need for accelerated formation of granulation tissue which cannot be achieved by other available topical wound treatments because of the unique nature of the wound. 3) There is risk or co-morbidity present expected to significantly prolong healing achievable with other topical wound treatments.*"

## **Revisions under "When Not Covered" section:**

3. Now reads "*Vacuum-Assisted Closure of surgically created wounds or traumatic wounds is not covered if the criteria under "When Covered" section, B.1-3 is not met.*"

## **Revisions under "Policy Guidelines" section:**

B. ~~Surgically Created or Traumatic Acute and subacute Wounds:~~

1) Coverage may be provided only if a conventional wound therapy program has been tried and failed or if the patient has a contraindication to a conventional wound therapy program. Documentation must be provided. Vacuum-assisted closure ~~Wound vacs~~ will not be approved as primary treatment.

C. Continued Coverage for Wounds Described Above: Vacuum-assisted closure may be....

Other:

Key words and Reference source added. "VAC" or "wound vac" have been replaced with "vacuum-assisted closure" throughout the policy.

Notification given 10/6/08. Effective date 1/5/09. (pmo)

## **Policy retitled: Topical Negative Pressure Therapy for Wounds**

1/5/09 Policy entitled "Vacuum Assisted Closure of Wounds" retitled to "Topical Negative Pressure Therapy for Wounds". The term "vacuum-assisted closure" has been replaced with "topical negative pressure therapy" throughout the policy. (pmo)

2/2/09 Under When Covered section, B., clarified that B.1. should have "and" at the end; B.2. should be B.1.a. and should have "or" at the end; and B.3. should be B.1.b. Will now read: "B. Complications of a surgically created wound (e.g., dehiscence) or a traumatic wound (e.g., pre-operative flap or graft) when the following criteria are met. 1. Coverage may be provided only if a conventional wound therapy program has been tried and failed or if the patient has a contraindication to a conventional wound therapy program. Documentation

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must be provided (see Billing/Coding/Physician Documentation Information section); **AND** a. There is a need for accelerated formation of granulation tissue which cannot be achieved by other available topical wound treatments because of the unique nature of the wound; **OR** b. There is risk or co-morbidity present expected to significantly prolong healing achievable with other topical wound treatments. (pmo)

- 3/30/09 Key word section deleted. (pmo)
- 6/22/10 Policy Number(s) removed (amw)
- 10/26/10 Description section revised. Policy statement unchanged. Coverage criteria reformatted and revised. An initial 2-week therapeutic trial using NPWT system, as part of a comprehensive wound care program that includes controlling factors such as diabetes, nutrition, relief of pressure, etc., may be considered medically necessary under the conditions noted in the policy. Continuation of the NPWT system, as part of a comprehensive wound care program, may be considered medically necessary following an initial 2-week therapeutic trial or a subsequent treatment period if the treatment has resulted in documented objective improvements in the wound. Continuation of the NPWT system is considered Not Medically Necessary when the therapeutic trial or subsequent treatment period has not resulted in documented objection improvement in the wound, or the wound has developed evidence of complications contraindicating continued NPWT, or the wound has healed to an extent that either grafting can be performed or the wound can be anticipated to heal completely with other wound care treatments. Therapeutic trials of NPWT systems for the treatment of other acute or chronic wounds except as noted above are considered not medically necessary. Policy Guidelines and References Updated. Notification given 10/26/10 for effective date of 2/01/2011. (adn)
- 12/20/11 Description section updated to include information on non-powered (mechanical) NPWT systems. Updated FDA link. The word “powered” was added to “NPWT” where applicable. The following statement was added to the When NPWT is Not Covered section: “Use of non-powered NPWT systems for the treatment of acute or chronic wounds is considered investigational.” Codes A7000, A7001, A9272, K0743, K0744, K0745, K0746 added to Billing/Coding section. Noted in the Billing/Coding section that there is no specific code for the disposable NPWT system. Specialty Matched Consultant Advisory Panel review 11/30/11. (adn)
- 3/20/12 Removed the following statement from the Billing/Coding section as there is now a specific code (A9272) for a disposable NPWT system: “There are no specific codes for a disposable NPWT system. It may be coded using an unlisted code such as A4649”. (sk)
- 7/10/12 2011 update information added to Policy Guidelines section. Related Policies added. Specialty Matched Consultant Advisory Panel review 5/16/12. No change to policy statements. (sk)
- 1/1/13 Added HCPCS codes G0456 and G0457 to Billing/Coding Section. (sk)
- 2/26/13 Reference added. No change to policy statement. (sk)
- 6/11/13 Specialty Matched Consultant Advisory Panel review 5/15/13. No change to policy statements. (sk)
- 4/15/14 References added. Senior Medical Director review. No change to Policy statements. (sk)
- 6/10/14 Specialty Matched Consultant Advisory Panel review 5/27/14. No change to policy statements. (sk)
- 12/30/14 Added codes 97607 and 97608 to Billing/Coding section for effective date 1/1/2015. Deleted codes G0456 and G0457. (sk)
- 3/31/15 Reference added. (sk)

# Topical Negative Pressure Therapy for Wounds

- 7/1/15 Specialty Matched Consultant Advisory Panel review 5/27/15. (sk)
- 7/1/16 Reference added. Policy Guidelines updated. Specialty Matched Consultant Advisory Panel review 5/25/16. (sk)
- 3/31/17 Reference added. Policy Guidelines updated. (sk)
- 6/30/17 Specialty Matched Consultant Advisory Panel review 5/31/2017. (sk)
- 3/9/18 Reference added. (sk)
- 6/29/18 Specialty Matched Consultant Advisory Panel review 5/23/2018. (sk)
- 2/26/19 Reference added. (sk)
- 7/16/19 Specialty Matched Consultant Advisory Panel review 6/28/2019. (sk)
- 6/23/20 Reference added. Regulatory status updated. Specialty Matched Consultant Advisory Panel review 5/20/2020. (sk)
- 7/21/20 Medically necessary criteria added for mechanical NPWT, with criteria. References added. (hb)
- 8/25/20 Medical Director review. Added “One week of negative pressure wound therapy (NPWT) is considered medically necessary as part of the post-operative care for patients who receive split thickness skin grafting (STSG)” to the When Covered section. (sk)
- 5/18/21 Reference added. Regulatory status updated. Specialty Matched Consultant Advisory Panel review 4/21/2021. (sk)

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