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## Subject: Negative Pressure Wound Therapy (NPWT)

THIS MEDICAL COVERAGE GUIDELINE IS NOT AN AUTHORIZATION, CERTIFICATION, EXPLANATION OF BENEFITS, OR A GUARANTEE OF PAYMENT, NOR DOES IT SUBSTITUTE FOR OR CONSTITUTE MEDICAL ADVICE. ALL MEDICAL DECISIONS ARE SOLELY THE RESPONSIBILITY OF THE PATIENT AND PHYSICIAN. BENEFITS ARE DETERMINED BY THE GROUP CONTRACT, MEMBER BENEFIT BOOKLET, AND/OR INDIVIDUAL SUBSCRIBER CERTIFICATE IN EFFECT AT THE TIME SERVICES WERE RENDERED. THIS MEDICAL COVERAGE GUIDELINE APPLIES TO ALL LINES OF BUSINESS UNLESS OTHERWISE NOTED IN THE PROGRAM EXCEPTIONS SECTION.

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### DESCRIPTION:

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 nonviable 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) involves 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 also 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, and/or creating beneficial mechanical forces that lead to cell growth and expansion.

Nonpowered (mechanical) NPWT systems have also been developed and can be worn under clothing. These systems may consist of a cartridge, dressing, and strap; the cartridge acts as the negative pressure source. The systems are fully disposable and are reported to generate negative pressure levels similar to other NPWT systems.

## POSITION STATEMENT:

**Note:** The focus of this guideline is the use of NPWT in the outpatient setting. Although it is recognized that patients may begin using the device in the inpatient setting as they transition to the outpatient setting, this policy applies to the outpatient setting.

### INITIATION of Powered Negative Pressure Wound Therapy (NPWT)

An initial therapeutic trial of not less than 2 weeks using a powered negative pressure wound therapy (NPWT) system, as part of a comprehensive wound care program that includes controlling factors (eg, diabetes, nutrition, relief of pressure), **meets the definition of medical necessity** for any **ONE** of the following indications:

- Chronic (greater than 90 days) stage III or IV pressure ulcers that have failed to heal despite optimal wound care when there is high-volume drainage that interferes with healing and/or when standard dressings cannot be maintained due to anatomic factors;
- Wounds in members with underlying clinical conditions that are known to negatively impact wound healing, which are nonhealing (at least 30 days), despite optimal wound care. (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 NPWT.); **OR**
- Surgical wounds (eg, dehiscence, exposed hardware or bone) or traumatic wounds (e.g. preoperative flap or graft, exposed bone, tendon) where there has been a failure of immediate or delayed primary closure.

### CONTINUATION of Powered Negative Pressure Wound Therapy (NPWT)

Continuation of the powered NPWT system, as part of a comprehensive wound care program, **meets the definition of medical necessity** following an initial 2-week therapeutic trial if the treatment trial has resulted in documented objective improvements in the wound, and if there is an ongoing objective improvement during subsequent treatment. (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.)

Continuation of the powered NPWT system **does not meet the definition of medical necessity** when any of the following occurs:

- The therapeutic trial or subsequent treatment period has not resulted in documented objective improvement in the wound;
- The wound has developed evidence of wound complications contraindicating continued NPWT; **OR**
- The wound has healed to the 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 **do not meet the definition of medical necessity**.

Use of nonpowered NPWT systems for the treatment of acute or chronic wounds is considered **experimental or investigational**. The evidence is insufficient to determine the effects of the technology on health outcomes.

Single-use NPWT systems (e.g., PICO Single Use NPWT) are considered **experimental or investigational**. The evidence is insufficient to determine the effects of the technology on health outcomes.

## BILLING/CODING INFORMATION:

### CPT Coding:

97605	Negative pressure wound therapy (e.g. vacuum assisted drainage collection), utilizing durable medical equipment (DME), including topical application(s), wound assessment, and instruction(s) for ongoing care, per session; total wound(s) surface area less than or equal to 50 square centimeters
97606	Negative pressure wound therapy (e.g. vacuum assisted drainage collection), utilizing durable medical equipment (DME), including topical application(s), wound assessment, and instruction(s) for ongoing care, per session; total wound(s) surface area greater than 50 square centimeters
97607	Negative pressure wound therapy, (e.g., vacuum assisted drainage collection), utilizing disposable, non-durable medical equipment including provision of exudate management collection system, topical application(s), wound assessment, and instructions for ongoing care, per session; total wound(s) surface area less than or equal to 50 square centimeters <b>(Investigational)</b>
97608	Negative pressure wound therapy, (e.g., vacuum assisted drainage collection), utilizing disposable, non-durable medical equipment including provision of exudate management collection system, topical application(s), wound assessment, and instructions for ongoing care, per session; total wound(s) surface area greater than 50 square centimeters <b>(Investigational)</b>

### HCPCS Coding:

A6550	Wound care set, for negative pressure wound therapy electrical pump, includes all supplies and accessories
A7000	Canister, disposable, used with suction pump, each
A9272	Wound suction, disposable, includes dressing and all accessories and components, each <b>(Investigational)</b>
E2402	Negative pressure wound therapy electrical pump, stationary or portable
K0743	Suction pump, home model, portable, for use on wounds <b>(Investigational)</b>
K0744	Absorptive wound dressing for use with suction pump, home model, portable, pad size 16 square inches or less <b>(Investigational)</b>

K0745	Absorptive wound dressing for use with suction pump, home model, portable, pad size more than 16 square inches but less than or equal to 48 square inches <b>(Investigational)</b>
K0746	Absorptive wound dressing for use with suction pump, home model, portable, pad size greater than 48 square inches <b>(Investigational)</b>

### ICD-10 Diagnosis Codes That Support Medical Necessity:

L89.000 – L89.899	Pressure ulcer of specified site
L89.90 – L89.95	Pressure ulcer of unspecified site
S01.00xA – S01.95xS	Open wound of head
S11.80Xa – S11.95xS	Open wound of neck
S31.000A – S31.839S	Open wound of abdomen, lower back, pelvis and external genitals
S41.001A – S41.159S	Open wound of shoulder and upper arm
S51.001A – S51.859S	Open wound of elbow and forearm
S61.001A – S61.559S	Open wound of wrist, hand and fingers
S71.001A – S71.159S	Open wound of hip and thigh
S81.001A – S81.859S	Open wound of knee and lower leg
S91.001A – S91.359S	Open wound of ankle, foot and toes

### REIMBURSEMENT INFORMATION:

Reimbursement for vacuum-assisted wound closure devices is limited to 4 months.

Because negative pressure wound therapy pumps are capable of accommodating more than one wound dressing set for multiple wounds on a member, reimbursement for more than one pump per member for the same time period **does not meet the definition of medical necessity**.

Code E2402: one (1) unit of service allowed per member date of service.

Reimbursement for the following supplies used with a covered negative pressure wound therapy pump is limited to the following:

A6550	dressing kit	15 dressing kits per wound, per month
A7000	canister set	10 per month unless there is documentation evidencing a large volume of drainage (greater than 90 ml of exudate per day).

The following information may be required documentation to support medical necessity: Physician history and physical, physician treatment notes including documentation of failure conservative medical management, treatment plan, radiology and surgical reports, physical therapy notes (if applicable).

### LOINC Codes:

Documentation Table	LOINC Codes	LOINC Time Frame Modifier Code	LOINC Time Frame Modifier Codes Narrative
Physician history and physical	28626-0	18805-2	Include all data of the selected type that represents observations made six months

			or fewer before starting date of service for the claim.
Physician treatment/ visit notes including documentation of failure of conservative medical management	18733-6	18805-2	Include all data of the selected type that represents observations made six months or fewer before starting date of service for the claim.
Treatment plan	18776-5	18805-2	Include all data of the selected type that represents observations made six months or fewer before starting date of service for the claim.
Radiology study report	18726-0	18805-2	Include all data of the selected type that represents observations made six months or fewer before starting date of service for the claim.
Physician operative note	28573-4	18805-2	Include all data of the selected type that represents observations made six months or fewer before starting date of service for the claim.
Physical therapy notes	28579-1	18805-2	Include all data of the selected type that represents observations made six months or fewer before starting date of service for the claim.

### PROGRAM EXCEPTIONS:

**Federal Employee Program (FEP):** Follow FEP guidelines.

**State Account Organization (SAO):** Follow SAO guidelines.

**Medicare Advantage Products:** The following Durable Medical Equipment Regional Carrier (DMERC) Local Coverage Determinations (LCDs) were reviewed on the last guideline reviewed date: Negative Pressure Wound Therapy Pumps (L33821) and Suction Pumps (L33612) located at [cgsmedicare.com](http://cgsmedicare.com).

### DEFINITIONS:

None applicable.

### RELATED GUIDELINES:

None applicable.

### OTHER:

None applicable.

## REFERENCES:

1. American Academy of Orthopaedic Surgeons. Prevention of Surgical Site Infections After Major Extremity Trauma Evidence-Based Clinical Practice Guideline. [www.aaos.org/SSITraumacpg](http://www.aaos.org/SSITraumacpg). Published 03/21/22.
2. Armstrong DG, Marston WA, Reyzelman AM et al. Comparison of negative pressure wound therapy with an ultraportable mechanically powered device vs. traditional electrically powered device for the treatment of chronic lower extremity ulcers: a multicenter randomized-controlled trial. *Wound Repair Regen* 2011;19(2):173-80.
3. Armstrong DG, Marston WA, Reyzelman AM et al. Comparative effectiveness of mechanically and electrically powered negative pressure wound therapy devices: a multicenter randomized controlled trial. *Wound Repair Regen* 2012; 20(3):332-41.
4. Association for the Advancement of Wound Care (AAWC). Guideline of Pressure Ulcer Guidelines. 2014; located at [o-wm.com](http://o-wm.com).
5. Association for the Advancement of Wound Care (AAWC). The International Consolidated Venous Ulcer Guideline Update 2015; located at [o-wm.com](http://o-wm.com).
6. Blue Cross Blue Shield Association Evidence Positioning System® 1.01.16 Negative Wound Pressure Therapy in the Outpatient Setting, 02/23.
7. Blue Cross Blue Shield Association TEC Assessment, "Vacuum-Assisted Wound Closure Devices", (2000).
8. Borys S, Hohendorff J, et al. Negative-pressure wound therapy for management of chronic neuropathic noninfected diabetic foot ulcerations - short-term efficacy and long-term outcomes. *Endocrine*. Dec 2018;62(3):611-616.
9. CGS Administrators, LLC; Local Coverage Determination (LCD): Suction Pumps (L33612); accessed at [cgsmedicare.com](http://cgsmedicare.com).
10. CGS Administrators, LLC; Local Coverage Determination (LCD): Negative Pressure Wound Therapy Pumps (L33821); accessed at [cgsmedicare.com](http://cgsmedicare.com).
11. Danne J, Gwini S, McKenzie D, et al. A retrospective study of pilonidal sinus healing by secondary intention using negative pressure wound therapy versus alginate or gauze dressings. *Ostomy Wound Manage*. Mar 2017;63(3):47-53.
12. ECRI Institute Product Brief- PICO Single-use System (Smith & Nephew, Inc.) for Delivering Negative Pressure Wound Therapy, December 2018.
13. Fleming CA, Kuteva M, et al. Routine use of PICO dressings may reduce overall groin wound complication rates following peripheral vascular surgery. *J Hosp Infect*. 2018 May;99(1):75-80.
14. Fong, KD, D. Hu, et al. "Initial Clinical Experience Using the Novel Ultraportable Negative Pressure Wound Therapy Device." *Plast. Reconstr. Surg*. 125: 1362, 2010.
15. Fong KD, Hu D, et al. The SnAP System: Biomechanical and Animal Model Testing of a Novel Ultraportable Negative-Pressure Wound Therapy System. *Plast Reconstr Sug*. 125(5): 1362-1371.
16. Frykberg RG, Zgonis T, Armstrong DG, Driver VR, Giurini JM, Kravitz SR, Landsman AS, Lavery LA, Moore C, Schuberth JM, Wukick DK, Andersen C, Vanore JV. Diabetic foot disorders: a clinical practice guideline. *J Foot Ankle Surg* 2006 Sep-Oct; 45(5):S2-66.
17. Galiano RD, Hudson D, et al. Incisional Negative Pressure Wound Therapy for Prevention of Wound Healing Complications Following Reduction Mammoplasty. *Plast Reconstr Surg Glob Open*. 2018 Jan 12;6(1):e1560.
18. Gupta R, Darby GC, et al. Efficacy of Negative Pressure Wound Treatment in Preventing Surgical Site Infections after Whipple Procedures. *Am Surg*. 2017 Oct 1;83(10):1166-1169.

19. Hurd T, Kirsner RS, et al. International Consensus Panel Recommendations for the Optimization of Traditional and Single-Use Negative Pressure Wound Therapy in the Treatment of Acute and Chronic Wounds. *Wounds*. 2021 Feb;33(suppl 2):S1-S11.
20. Hussamy DJ, Wortman AC, et al. Closed Incision Negative Pressure Therapy in Morbidly Obese Women Undergoing Cesarean Delivery: A Randomized Controlled Trial. *Obstet Gynecol*. 2019 Oct;134(4). PMID 31503147.
21. Hutton DW, Sheehan P. Comparative Effectiveness of the SNaP™ Wound Care System. *Int Wound J*, 8 (2), 196-205; Apr 2011.
22. Hyldig N, Vinter CA, et al. Prophylactic incisional negative pressure wound therapy reduces the risk of surgical site infection after caesarean section in obese women: a pragmatic randomised clinical trial. *BJOG*. 2019 Apr;126(5):628-635.
23. Institute for Clinical Systems Improvement (ICSI). Pressure ulcer prevention and treatment protocol. Health care protocol. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2012 Jan.
24. Javed AA, Teinor J, et al. Negative Pressure Wound Therapy for Surgical-site Infections: A Randomized Trial. *Ann Surg*. Oct 10 2018. PMID 30308616.
25. Kirsner R, Dove C, et al. A Prospective, Randomized, Controlled Clinical Trial on the Efficacy of a Single-use Negative Pressure Wound Therapy System, Compared to Traditional Negative Pressure Wound Therapy in the Treatment of Chronic Ulcers of the Lower Extremities. *Wound Repair Regen*. 2019 May 14. doi: 10.1111/wrr.12727. [Epub ahead of print] PMID 31087729.
26. Kirsner RS, Hurd T. Assessing the Need for Negative Pressure Wound Therapy Utilization Guidelines: An Overview of the Challenges With Providing Optimal Care. *Wounds*. 2020 Dec;32(12):328-333. PMID:33472158.
27. Lerman, B, H Oldendrook, et al. "Evaluation of Chronic Wound Treatment with the SNaP Wound Care System vs. Modern Dressing Protocols." *Plast Reconstr Surg* 2010, 126:1153-1161.
28. Lerman, B., L. Oldenbrook, et al. "The SNaP Wound Care System: a case series using a novel ultraportable negative pressure wound therapy device for the treatment of diabetic lower extremity wounds." *J Diabetes Sci Technol*, 4(4): 825-830; 2010.
29. Marston WA, Armstrong DG, et al. 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)*, 4 (2), 75-82, 2015 Feb 1.
30. Menzies S, McGrath E, et al. Portable Negative Pressure Wound Therapy Leading to Rapid Resolution of Pain Associated with Poorly Healing Wounds of the Lower Limbs, 2017. *J Clin Exp Dermatol Res* 8: 425.
31. Mir A, Guys N, et al. Negative Pressure Wound Therapy in the Head and Neck: An Evidence-Based Approach. *Laryngoscope*. Aug 22 2018. PMID 30134500.
32. Murphy PB, Knowles S, et al. Negative Pressure Wound Therapy Use to Decrease Surgical Nosocomial Events in Colorectal Resections (NEPTUNE): A Randomized Controlled Trial. *Ann. Surg*. 2019 Jul;270(1). PMID 30499799.
33. National Institute for Health and Clinical Excellence (NICE), PICO negative pressure wound dressings for closed surgical incisions; Medical technologies guidance [MTG43] Published date: May 2019. Accessed at nice.uk.
34. National Institute for Health and Clinical Excellence (NICE), PICO negative pressure wound therapy for closed surgical incision wounds; Medtech innovation briefing [MIB149]; published date: June 2018. Accessed at nice.org.uk.
35. Norman G, Gob EL, et al. Negative pressure wound therapy for surgical wounds healing by primary closure. *Cochrane Database Syst Rev*. 2020 Jun 15;6(6):CD009261.

36. Rhee SM, Valle MF, et al. Negative Pressure Wound Therapy Technologies For Chronic Wound Care in the Home Setting. Evidence Report/Technology Assessment (Contract No. 290-201-200007-I) Rockville, MD: Agency for Healthcare Research and Quality; 2014.
37. Sahebally SM, McKeivitt K, Stephens I, et al. Negative Pressure Wound Therapy for Closed Laparotomy Incisions in General and Colorectal Surgery: A Systematic Review and Meta-analysis. JAMA Surg. Nov 12018;153(11):e183467. PMID 30267040.
38. Samson DJ, Lefevre F, Aronson N. Wound-healing technologies: low-level laser and vacuum-assisted closure. Evidence Report/Technology Assessment No. 111. (Prepared by the Blue Cross and Blue Shield Association Technology Evaluation Center Evidence-based Practice Center, under Contract No. 290-02-0026.) AHRQ Publication No. 05-E005-2. Rockville, MD: Agency for Healthcare Research and Quality (12/04).
39. Seidel D, Diedrich S, et al. Negative Pressure Wound Therapy vs Conventional Wound Treatment in Subcutaneous Abdominal Wound Healing Impairment: The SAWHI Randomized Clinical Trial. JAMA Surg. 2020 Jun 1;155(6):469-478.
40. Singh DP, Gabriel A, et al. Meta-Analysis of Comparative Trials Evaluating a Single-Use Closed-Incision Negative-Pressure Therapy System. Plast Reconstr Surg. 2019 Jan;143:41S-46S. PMID: 30586103.
41. Smith & Nephew, Inc. Dossier: PICO™ Single Use Negative Pressure Wound Therapy System; April 2021.
42. Smith & Nephew, Inc. PICO™ System: Publications Summary; April 2019.
43. Strugala V, Martin R. Meta-Analysis of Comparative Trials Evaluating a Prophylactic Single-Use Negative Pressure Wound Therapy System for the Prevention of Surgical Site Complications. Surg Infect (Larchmt). 2017 Oct;18(7):810-819.
44. Sullivan N, Snyder DL, et al. Technology assessment: Negative pressure wound therapy devices (Contract No. 290-2007-10063). Rockville, MD: Agency for Healthcare Research and Quality; 2009.
45. Tanaydin V, Beugels J, et al. Randomized Controlled Study Comparing Disposable Negative-Pressure Wound Therapy with Standard Care in Bilateral Breast Reduction Mammoplasty Evaluating Surgical Site Complications and Scar Quality. Aesthetic Plast Surg. Aug 2018;42(4):927-935.
46. U.S. Food and Drug Administration (FDA); accessed at fda.gov.
47. Webster J, Liu Z, et al. Negative pressure wound therapy for surgical wounds healing by primary closure. Cochrane Database Syst Rev. 2019 Mar 26;3:CD009261. PMID: 30912582.

## COMMITTEE APPROVAL:

This Medical Coverage Guideline (MCG) was approved by the Florida Blue Medical Policy and Coverage Committee on 05/25/23.

## GUIDELINE UPDATE INFORMATION:

04/15/01	New Medical Coverage Guideline.
04/15/03	Reviewed; no changes in coverage statement.
01/01/04	Annual HCPCS coding update.
04/15/05	Scheduled review: no change in coverage statement; reimbursement information updated to reflect DME contracted fee schedule agreement.
01/01/06	Annual HCPCS coding update: revise A6550, and remove A6551.



04/15/07	Scheduled review; no change in coverage statement; reimbursement statement revised for clarification; A6550 deleted; references updated.
06/15/07	Reformatted guideline.
05/15/09	Scheduled review: added reimbursement statement regarding multiple pumps; re-named guideline; added Program Exception information for Medicare Advantage; updated references.
08/15/10	Position Statement unchanged; coding section updated; Program Exception section updated; references updated.
02/01/11	Revision; formatting changes.
07/01/11	3 <sup>rd</sup> Quarter HCPCS coding update: added codes K0743 – K0746.
07/15/11	Revision; formatting changes.
09/15/11	Revision; formatting changes.
11/15/11	Review and revision; Position Statement updated to include information for non-electric NPWT pumps; references updated; formatting changes.
01/01/12	Annual HCPCS coding update: added A9272.
08/15/12	Revision to add position statement regarding single-use NPWT devices; revision of Reimbursement section; references updated; formatting changes.
01/01/13	Annual HCPCS coding update: added G0456 and G0457.
08/15/13	Scheduled review: Position Statement unchanged; Program Exceptions section updated; references updated.
01/01/14	Annual HCPCS coding updated: revised descriptor for A9272.
08/15/14	Scheduled review: position statement revised for clarification of criteria; references updated.
01/01/15	Annual coding update. Revised 97605 and 97606; added 97607 and 97608; deleted G0456 and G0457.
11/01/15	Revision: ICD-9 Codes deleted.
07/15/18	Revision; title, description, position statements, reimbursement section, and references updated; formatting changes.
07/15/19	Review; position statements maintained; coding and references updated.
05/15/20	Review; position statements maintained and references updated.
06/15/21	Review; position statements maintained; references updated.
08/15/22	Revision: Description section and position statement note updated.
06/15/23	Review: Position statements maintained and references updated.