The Use of the SNAP™ Therapy System in Clinical Practice

It's an ultraportable, mechanically-powered disposable NPWT.

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Introduction

Negative pressure wound therapy (NPWT) has been utilized in a wide variety of wound types. However, patients with smaller and lower exudating wounds can be inconvenienced by the noise level and size of traditional electrically powered negative pressure devices. These patients may benefit from the use of an ultraportable, mechanically powered device (SNAP™ Therapy System, KCI, an ACELITY Company, San Antonio, TX). This article describes the SNAP™ System, its use in clinical practice, coding, and reimbursement guidelines.

TABLE 1:

Available SNAP™ Therapy Dressings

Dressing Name	Size Available	Components
SNAP™ Advanced Dressing Kit	• 10cm x 10 cm • 15 cm x 15 cm • 20 cm x 20 cm	• Foam interface layer • Hydrocolloid Dressing • Cut-to-Length Tubing
SNAP™ Long Dressing Kit	• 14 cm x 34 cm	• Foam interface layer • Hydrocolloid Dressing • Cut-to-Length Tubing
SNAP™ Bridge Dressing Kit	• 14 cm x 11 cm	• Foam interface layer • Hydrocolloid Dressing • Cut-to-Length Tubing • Optional SNAP™ SecurRing™ Hydrocolloid
Interface Layer	• 8 cm x 8 cm • 13 cm x 13 cm • 18 cm x 18 cm	• Blue foam interface layer
SNAP™ SecurRing™ Hydrocolloid	• 5 cm diameter	• Hydrocolloid ring

Description of SNAP™ Therapy System

The SNAP™ System is a small, ultraportable (< 3 oz), single-use, mechanically powered negative pressure system. A set of specialized constant force springs creates the forced air expansion needed to maintain a pre-determined negative pressure, even when the built-in canister fills with exudate. The use of mechanical power reduces therapy use noise levels below those associated with electrically powered devices.

The SNAP™ System can hold up to 60 mL of exudate and has three negative pressure options: -75 mmHg, -100 mmHg, and -125 mmHg. The SNAP PLUS™ 125 mmHg Therapy Cartridge (KCI, an ACELITY Company, San Antonio, TX) can hold up to 150 mL of exudate. SNAP™ Therapy Straps and SNAP PLUS™ Therapy Straps are available in three sizes (18 in., 21 in., and 24 in.) and contain a clip for the therapy cartridge.

Currently, there are three primary dressing type options for use with the SNAP™ System: SNAP™ Ad-

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vanced Dressing Kit, SNAP™ Long Dressing Kit, and SNAP™ Bridge Dressing Kit (Table 1). Also available is a blue foam interface layer (to facilitate even levels of negative pressure in the wound) and a SNAP™ SecurRing™ Hydrocolloid (KCI, an ACELITY Company, San Antonio, TX) to assist with adhesion of the dressings on dry and uneven skin surfaces, difficult body contours, and other areas where it is difficult to maintain a seal (Table 1).

The SNAP™ System promotes wound healing by drawing wound edges together and removing small amounts of infectious materials and exudate. The system is designed for use in small, low exudating wounds (< 13 cm x 13 cm and < 180 cc/ week). Use in larger wounds or moderately to highly exudating wounds is not recommended. Indications and contraindications for the use of the SNAP™ System are listed in Table 2.

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Evidence for SNAP™ System Use

Currently, only 10 published studies describe the use of the SNAP™ System in wound care. These studies focused on the use of the SNAP™ System over ulcers (diabetic, venous, or mixed etiology), surgical wound dehiscence, and grafts. Results from these studies reported similarity in wound healing rates between the SNAP™ System and traditional electronic negative pressure (V.A.C.® Therapy, KCI, an ACELITY Company, San Antonio, TX).[1-3] Reduced time

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TABLE 2:

SNAP™ System Indications and Contraindications for Use

Indication for Use	Contraindications
• Chronic Wounds	• Inadequately Drained Wounds
• Acute Wounds	• Necrotic Tissue (i.e., eschar, adherent slough)
• Traumatic Wounds	• Exposed Blood Vessels
• Subacute Wounds	• Anastomotic Sites
• Dehisced Wounds	• Organs
• Partial-Thickness Burns	• Tendons
• Ulcers (DFU, VLU, PI)	• Nerves
• Surgically Closed Incisions	• Malignant Wounds
• Flaps	• Fistulas
• Grafts	• Untreated Osteomyelitis
	• Actively Bleeding Wounds

DFU= diabetic foot ulcer; VLU= venous leg ulcer; PI= pressure injury

TABLE 3:

Tips for SNAP™ System Application and Usage

- Identify areas of potential dressing leaks before dressing application.
- Use SNAP™ SecurRing™ Hydrocolloid to help increase adhesion of the dressing to the wound in leak-prone areas.
- Trim the hydrocolloid dressing before application, leaving a 2 cm border around the wound and a 1.5 cm border around the dressing port.
- Slowly remove the paper backing and smooth the dressing over the wound at the same time to minimize dressing wrinkles.
- Ensure correct fit of the therapy strap around the patient, leave enough room for the therapy strap to comfortably sit on the patient's skin without being too tight or too loose.
- Cut the tubing to length after measuring the distance between the therapy strap location and the wound dressing.
- If a leak does develop after negative pressure initiation:
  - — Warm the hydrocolloid or external wrap with your hands until it becomes more pliable
  - — Smooth out the wrinkles
  - — Pinch the wrinkles together
- The patient should visually inspect the SNAP™ System every 8 hours.
  - — If the indicator is green, the dressing has a sucked down appearance, and the dressing is firm to the touch, therapy is active.

to healing was observed in patients that utilized the SNAP™ System compared to a historical control treated with wound dressings, skin substitutes, and/or skin grafts.[4] Development of granulation tissue in the wound bed and reduction of wound size were documented following use of the SNAP™ System in the case series publications.[5-11] Additionally, two studies concluded that there was lower disruption of daily activities with the use of the SNAP™ System compared to V.A.C.® Therapy due to the reduced noise of the therapy and portability of the device.[1,2]

Tips for SNAP™ System Use in Clinical Practice

A full patient and wound assessment should be performed prior to the creation of a wound care treatment plan. This assessment can help identify potential areas for intervention (e.g., tobacco cessation, blood glucose control, patient nutrition improvements) to reduce barriers to wound healing. Once a wound has been deemed suitable for SNAP™ System use and barriers to wound healing have been addressed, the healthcare provider will need to be mindful of areas for therapy application optimization. Appropriate dressing application, therapy strap use, and patient education can support the use of the SNAP™ System. Table 3 describes several tips for therapy application and troubleshooting.

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Representative Case

A 79-year-old male presented with an eight-month-old diabetic foot ulcer following amputation of the left hallux (Figure 1a). Previous wound care included four months of traditional NPWT followed by four months of hydrogel dressings. Sharp debridement was performed followed by application of a fish skin-derived skin-substitute (Omega3 Wound, Kerecis, Arlington, VA). The SNAP™ System was applied over the skin substitute as a bolster. SNAP™ System dressings were changed every two to three days, followed by weekly sharp debridement, weekly application of a new fish skin-derived skin-substitute, and re-application of the SNAP™ System for six weeks. At each dressing change, the wound bed showed a reduction in size and improved granulation tissue development in the wound bed (Figure 1b-e). After six weeks, sharp debridement and re-application of a new skin substitute were discontinued. The SNAP™ System was utilized for two more weeks until the wound was fully closed (Figure 1f).

SNAP™ System Coding and Reimbursement

Coding and reimbursement guidelines vary depending on the requirements of the payor. Before filing any claims, providers should verify requirements and policies with the payor as well as any pre-authorization steps. Cost and reimbursement numbers are approximate and may vary by carrier and state. Each payor may have differing formal or informal coding and coverage policies or decisions.

The SNAP™ System is contractor-priced for physician office and physician facility reimbursement.

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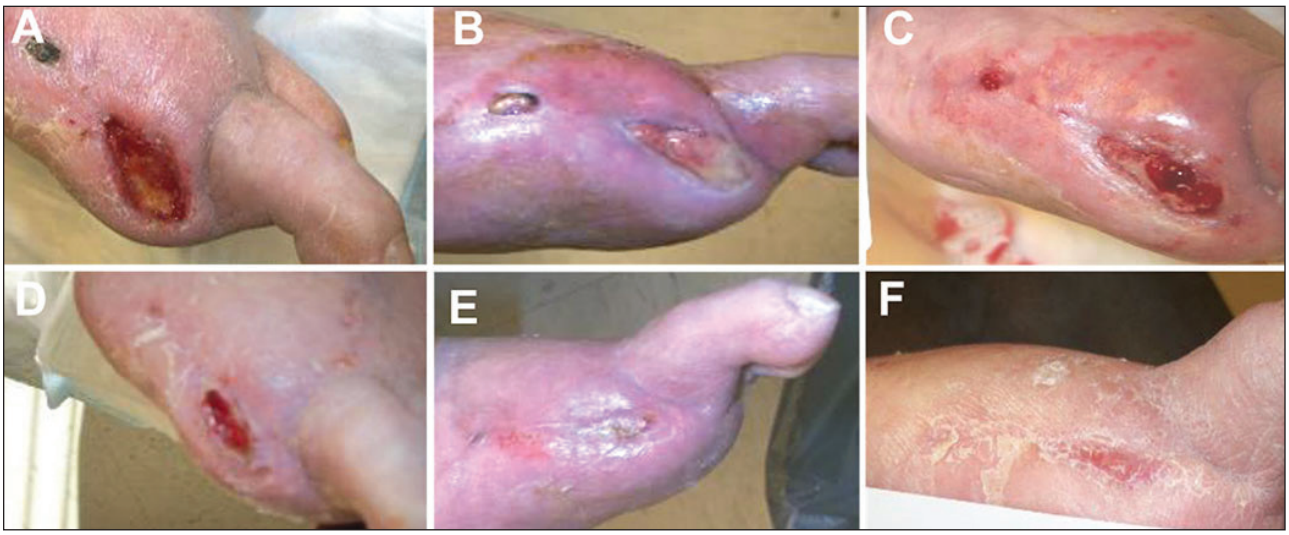

Figure 1: Use of fish-skin derived skin-substitute and SNAP™ System in a diabetic foot ulcer. A. Wound at presentation; B. Wound after seven days of therapy; C. Wound after 14 days of therapy; D. Wound after 28 days of therapy; E. Wound after 42 days of therapy; F. Wound fully closed after 56 days of therapy.

Coding

Three CPT (Current Procedural Terminology) codes are available for use with the SNAP™ System (97607, 97608, and A9272). Descriptions for these codes are listed in Table 4.

Reimbursement

Reimbursement costs vary depending on the type of facility. A list of common 2018 reimbursement figures is provided in Table 5. It is important to remember that payor variations exist. The SNAP™ System is contractor-priced for physician office and physician facility reimbursement; reimbursement for a hospital outpatient department (including a wound care center) is $310.80. The home healthcare setting can now bill Medicare separately for the provision of an exudate management collection system, application of disposable NPWT, associated wound assessment, and instructions for ongoing care to Medicare Part B. The reimbursement is set to equal the amount of the payment that would be made under the Medicare Hospital Outpatient Prospective Payment system. The home health setting reimbursement is outside of or in addition to a home health agency's traditional 60-day episode bundled payment for providing home health services and applies only when an entirely new, complete therapy device and dressing is provided with the wound assessment and application of therapy. The reimbursement is a bundled payment to pay for the nursing time involved and acquisition cost of the complete SNAP™ System device supply. Nurse visits to change a dressing only will be included in the 60-day episode bundled payment and will not be billed or reimbursed separately.

The reimbursement is set to equal the amount of the payment that would be made under the Medicare Hospital Outpatient Prospective Payment system.

The SNAP™ System is an ultraportable, mechanically-powered disposable NPWT that can provide patients with smaller, low exudating wounds an alternative to traditional electrically powered NPWT.

Economic Benefits

To date, only one study reports the cost and effectiveness of the SNAP™ System. Hutton et al.[12] utilized mathematical modeling to examine the cost and effec-

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tiveness of advanced wound dressings, electronically powered NPWT, and the SNAP™ System in the treatment of diabetic lower extremity wounds using healing and complication rates from 32 published studies. Compared to advanced wound dressings, the SNAP™ System saved $9,000 per wound treated with double the number of completely healed patients. When compared to electrically powered NPWT, the SNAP™ System saved $2300 to $2800 per wound.

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TABLE 4:

Codes for SNAP™ System

CPT* Code	Description	Wound Surface Area
97607	NPWT using disposable non-durable medical equipment including the provision of exudates management collection system, topical applications, wound assessment, and instructions for ongoing care, per session	Wound surface area <50 cm^2
97608	NPWT using disposable non-durable medical equipment including the provision of exudates management collection system, topical applications, wound assessment, and instructions for ongoing care, per session	Wound surface area >50 cm^2
A9272	Wound Suction, disposable (includes dressing, accessories, components, each)	Not applicable

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TABLE 5:

2018 Reimbursements for SNAP™ System by Type of Facility

CPT* Code	Physician Fee Schedule (Office)	Physician Fee Schedule (Facility)	Ambulatory Payment Classification Cross Walk (OPPS Payment Status Indicator)	Hospital Outpatient Department (including WCC)	Ambulatory Surgical Center	Home Health Prospective Payment System
97607	Contractor-Priced	Contractor-Priced	5052 (T)	$310.80	Not available for billing	$310.80
97608	Contractor-Priced	Contractor-Priced	5052 (T)	$310.80	Not available for billing	$310.80
A9272	Not paid under Medicare	Not paid under Medicare	(E1)	Statutorily excluded by Medicare	Statutorily excluded by Medicare	Not paid by Medicare

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Conclusion

The SNAP™ System is an ultraportable, mechanically-powered disposable NPWT that can provide patients with smaller, low exudating wounds an alternative to traditional electrically powered NPWT. In my practice, use of the SNAP™ System has provided positive clinical benefits of wound management. Further studies are necessary to determine the clinical and cost-effectiveness of the SNAP™ System. **PM**

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References

[1] Armstrong DG, Marston WA, Reyzelman AM, Kirsner RS. 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;19:173-180.

[2] 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;20:332-341.

[3] 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 2015;4:75-82.

[4] Lerman B, Oldenbrook L, Eichstadt SL, Ryu J, Fong KD, Schubart PJ. Evaluation of Chronic Wound Treatment with the SNaP Wound Care System versus Modern Dressing Protocols. Plast Reconstr Surg 2010;126:1253-1261.

[5] Bradbury S, Walkley N, Ivins N, Harding K. Clinical Evaluation of a Novel Topical Negative Pressure Device in Promoting Healing in Chronic Wounds. Adv Wound Care 2015;4:346-357. doi:10.1089/wound.2014.0596.

[6] Fong KD, Hu D, Eichstadt SL et al. Initial clinical experience using a novel ultraportable negative pressure wound therapy device. Wounds 2010;22:230-236.

[7] Neiderer K, Martin B, Hoffman S, Jolley D, Dancho J. A Mechanically Powered Negative Pressure Device Used in Conjunction with a Bioengineered Cell-based Product for the Treatment of Pyoderma Gangrenosum: A Case Report. Ostomy Wound Manage 2012;58:44-48.

[8] Lerman B, Oldenbrook L, Ryu J, Fong KD, Schubart PJ. 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. Journal of Diabetes Science and Technology 2010;4:825-830.

[9] Awad T, Butcher M. Handling the sequelae of breast cancer treatment: use of NPWT to enhance patient independence. J Wound Care 2013;22:162, 164-166. doi:10.12968/jowc.2013.22.3.162.

[10] Awad T, Butcher M. Managing diabetic foot ulceration with a new, highly portable NPWT device. Wounds International 2012;3:40-44.

[11] Isaac AL, Rose J, Armstrong DG. Mechanically powered negative pressure wound therapy as a bolster for skin grafting. Plast Reconstr Surg Glob Open 2014;2:e103. doi:10.1097/GOX.0000000000000044.

[12] Hutton DW, Sheehan P. Comparative effectiveness of the SNaP wound care system. Int Wound J 2011; 8:196-205.

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