

SNAP™
THERAPY SYSTEM



Case Studies

THE SNAP™ THERAPY SYSTEM
Disposable Negative Pressure
Wound Therapy (dNPWT)



 **KCI**
AN ACELITY COMPANY

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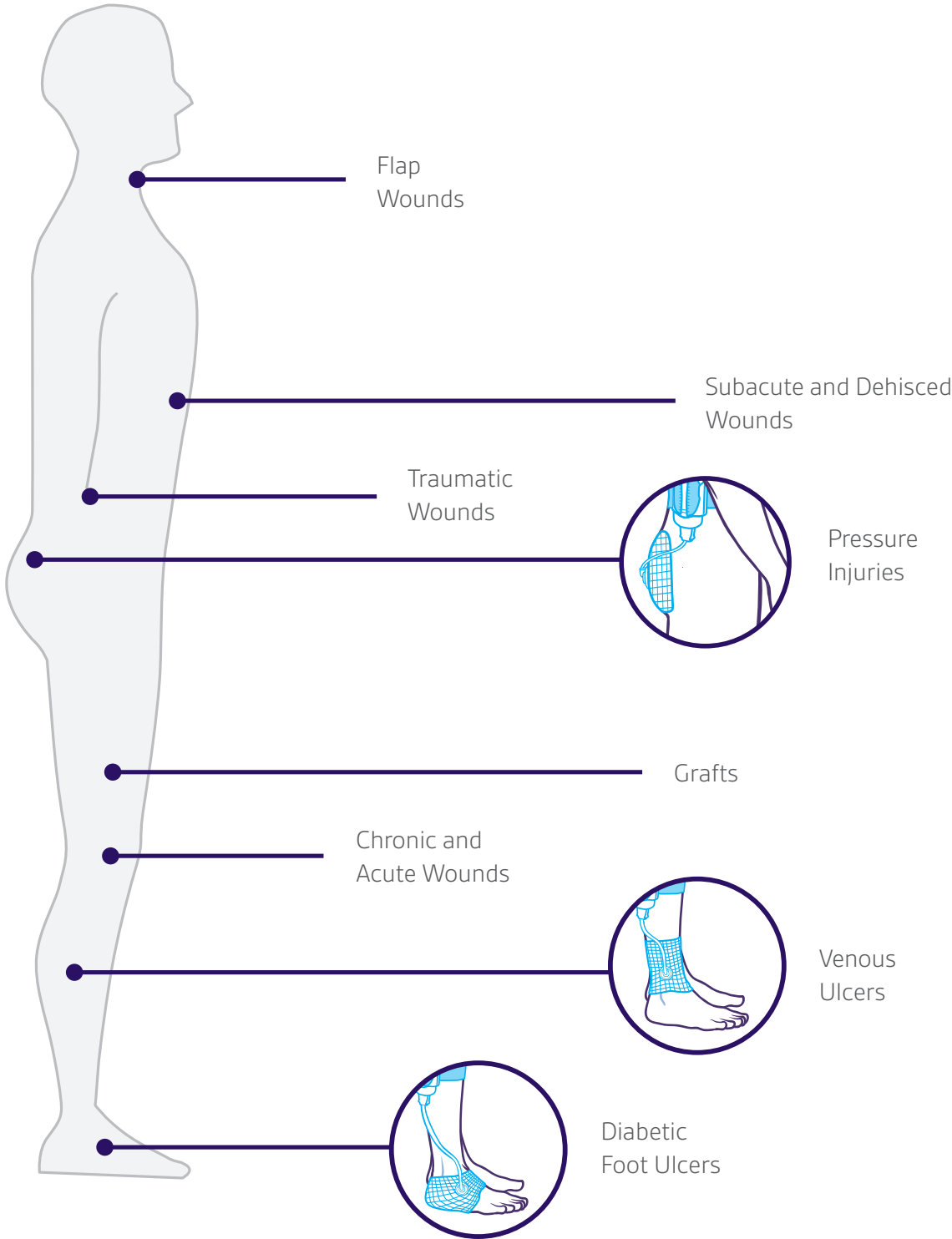
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INTRODUCTION

This booklet includes case studies across several wound types. As with any case study, the results and outcomes should not be interpreted as a guarantee or warranty of similar results. Individual results may vary depending on the patient's condition and circumstances.

SNAP™ THERAPY SYSTEM INDICATIONS

The SNAP™ System is indicated for patients who would benefit from wound management via the application of negative pressure, particularly as the device may promote wound healing through the removal of excess exudate, infectious material, and tissue debris.



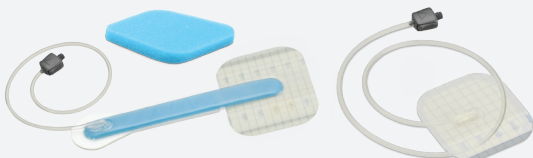
SNAP™ THERAPY SYSTEM AT A GLANCE

The SNAP™ System combines the simplicity of advanced wound dressings with the proven benefits of negative pressure therapy in a discreet design.¹

- Mechanically powered and portable for patient mobility
- No settings or adjustments for patient to learn
- Preserved patient quality of life (QOL)¹
- Discreet and worn under clothing
- Silent design ensures minimal sleep interruptions
- Continuous -125mmHg therapy
- Single-use, disposable NPWT
- Off-the-shelf availability



SNAP™ Therapy Strap and
SNAP PLUS™ Therapy Strap



SNAP™ Advanced Dressings and
SNAP™ Bridge Dressing



SNAP™ SecurRing™
Hydrocolloid

CASE STUDY 1

USE OF THE SNAP™ THERAPY SYSTEM TO MANAGE A WOUND RESULTING FROM A VENOMOUS INSECT BITE

Patient:

A 58-year-old male presented with an apparent insect bite on the left forearm. He initially noted a red pimple forming on the skin, which rapidly enlarged over 2 weeks with increasing pain and swelling of the arm.

Diagnosis:

The patient had an integumentary defect stemming from drainage of a venomous insect bite. A multimodal approach, which included a disposable negative pressure wound therapy system, was enlisted to facilitate wound healing.

Course of Treatment / Application of the SNAP™ System:

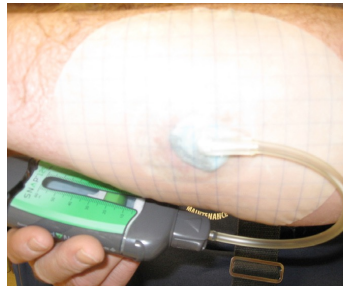
Upon presentation, the patient was referred immediately for hyperbaric oxygen therapy (HBOT), which was started the next day. Irrigation and drainage was completed 48 hours after his initial presentation, and revealed a large, crater-like defect extending to the muscle with minimal exudate or purulence (Figure A). After 2 days of wound packing with silver alginate and continued HBOT, the peri-wound inflammation had subsided, and the wound bed color had improved. The SNAP™ System foam interface dressing was applied over the wound, and the SNAP™ Advanced Dressing was applied over the foam interface to establish a seal. The SNAP™ Therapy Cartridge administered -125mmHg of continuous subatmospheric pressure. After two dressing applications, the wound volume was completely reduced (Figure C).

Discharge and Follow-up:

The patient was able to continue working while utilizing negative pressure and did not require disability. He went on to complete closure, only requiring 17 HBOT treatments and 6 weeks of care (Figure D).



A. Wound appearance after irrigation and drainage; 48 hours after presentation



B. Application of the SNAP™ System, 2 days post irrigation and drainage



C. Reduced wound volume after two dressing applications



D. Wound closure after 6 weeks

Patient data and photos courtesy of Christopher L. Barrett, DPM, CWS, FACCS; Crozer Chester Medical Center, Chester, PA

CASE STUDY 2

USE OF THE SNAP™ THERAPY SYSTEM TO MANAGE A SURGICAL DEFECT OPEN TO THE DEEP FASCIA OF THE UPPER EXTREMITY

Patient:

A 78-year-old female with a history of methicillin-resistant *Staphylococcus aureus* (MRSA) presented with an abscess in the upper extremity.

Diagnosis:

The patient had a surgical defect following the incision and drainage of a MRSA abscess in the antecubital fossa (Figure A), which necessitated excisional debridement of the surgical defect.

A disposable negative pressure wound therapy modality was enlisted to facilitate wound healing. Wound area and volume at presentation were 7.4cm² and 5.9cm³, respectively.

Course of Treatment / Application of the SNAP™ System:

Sharp debridement was performed prior to initial application of the SNAP™ System and again 2 weeks later (Figure B). No adjunctive advanced wound care modalities were utilized.

Five applications of the SNAP™ System resulted in reduction in wound volume.

Discharge and Follow-up:

Use of the SNAP™ System resulted in wound volume reduction, including complete resolution of the integumentary integrity following incision and drainage of a MRSA abscess. Wound resolution of the antecubital fossa was achieved in 4 weeks (Figure C).



A. Wound at presentation



B. Wound after second debridement



C. Wound fully healed at 4 weeks

Patient data and photos courtesy of Jonathan F. Arnold, MD, ABPM-UHM, CWS-P; Great River Wound and Hyperbaric Medicine Clinic, Great River Medical Center, West Burlington, IA

CASE STUDY 3

USE OF THE SNAP™ THERAPY SYSTEM TO MANAGE A DEHISCED WOUND

Patient:

A 66-year old male underwent an open reduction internal fixation (ORIF) procedure of the left ankle.

Diagnosis:

Twenty-one days post ORIF, the patient presented with a dehisced ankle wound (Figure A).

Course of Treatment / Application of the SNAP™ System:

A peripherally inserted central catheter was placed, and a culture-specific antibiotic regimen (vancomycin) was administered for 14 days. The dehisced wound also received excisional debridement. The SNAP™ System was applied over the wound. The foam interface dressing was applied within the wound, and the SNAP™ Advanced Dressing was applied over the foam interface to establish a seal. The SNAP™ Cartridge administered -125mmHg of subatmospheric pressure, and dressing changes occurred twice weekly. After 2 weeks of the SNAP™ System, the wound was debrided to reduce slough (Figure B). After 4 weeks, the SNAP™ System was discontinued. At week 5, wound management transitioned to the application of an oxidized regenerated cellulose (ORC)/collagen/silver-ORC dressing (PROMOGRAN PRISMA™ Matrix; KCI an ACELITY Company, San Antonio, TX) to the granulated wound bed to facilitate closure (Figure C).

Discharge and Follow-up:

At 7 weeks, the wound exhibited reepithelialization (Figure D). At the follow-up appointment, the wound demonstrated an uneventful resolution via secondary closure at 14 weeks (Figure E).



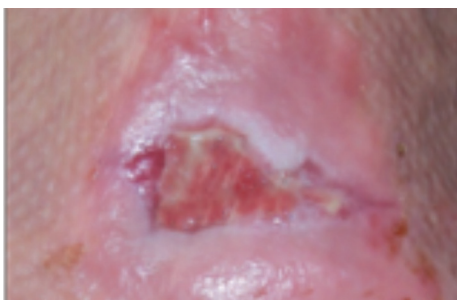
A. Dehisced ankle wound at presentation post ORIF.



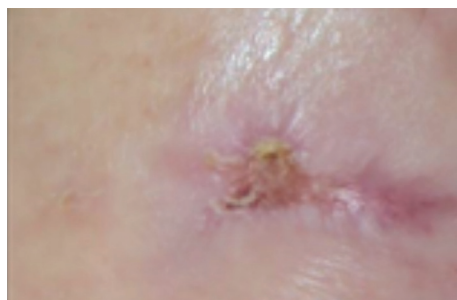
B. Slough was reduced after debridement and 2 weeks of the SNAP™ System.



C. The SNAP™ System was discontinued at 4 weeks: PROMOGRAN PRISMA™ Matrix at 5 weeks and wound remained granulated.



D. Epithelializing wound at 7 weeks.



E. Wound was healed at 14 weeks

Patient data and photos courtesy of Marcus Speyrer, RN, CWS; and Kerry T. Thibodeaux, MD, FACS, The Wound Treatment Center, Opelousas, LA

CASE STUDY 4

USE OF THE SNAP™ THERAPY SYSTEM TO MANAGE A WOUND RESULTING FROM A POSTOPERATIVE SURGICAL COMPLICATION

Patient: A 40-year-old female was referred to the clinic with a surgical site complication (Figure A). The patient was previously treated with topical silver sulfadiazine (Silvadene®, Pfizer Inc., New York, NY) for the treatment of wound sepsis, and was seen by her original surgeon for 4 weeks prior to clinic referral. The patient, who was otherwise healthy, recently traveled to the Dominican Republic for cosmetic surgery. The patient underwent liposuction to the flanks; however, the surgical site subsequently developed necrotic areas.

Diagnosis: The patient developed diminished tissue integrity with necrosis to the left flank and wound sepsis following cosmetic surgery. A disposable negative pressure wound therapy system was enlisted to prepare the wound bed; then other advanced modalities were used to further reduce the wound dimensions as well as facilitate reepithelialization and closure of the surgical defect.

Course of Treatment / Application of the SNAP™ System: During the first week of treatment, the patient underwent exogenous debridement with topical collagenase ointment (Santyl, Smith & Nephew plc, London, UK). For the second week of treatment, the wound was debrided and swabbed to detect any wound-resident pathogens following microbiological assays. Tests revealed that the wound was positive for the yeast, *Candida parapsilosis*, and the patient was administered an antifungal agent, fluconazole (Diflucan®, Pfizer Inc., New York, NY). At week 3, the wound was debrided further; then treatment transitioned to the application of a maltodextrin wound dressing (Multidex®, DeRoyal Industries, Inc., Powell, TN) to maintain a moist wound environment and a bacteriostatic polyvinyl alcohol foam dressing (Hydrofera Blue®, Hollister, Libertyville, IL). During the 4th week, the wound was debrided, and the SNAP™ System was applied to the wound. At follow-up during week 5, the wound exhibited granulation tissue (Figure B). The wound received further debridement, and the SNAP™ System was continued. During the 6-week follow-up, the wound bed had an even distribution of healthy granulation tissue (Figure C). The wound was debrided, and wound management continued with the SNAP™ System. At week 8, the SNAP™ System was discontinued, and the wound was debrided.

Discharge and Follow-up: The granulated wound bed was evaluated after the SNAP™ System was discontinued, and therapy transitioned to the application of an oxidized regenerated cellulose (ORC)/collagen/silver-ORC dressing (PROMOGRAN PRISMA™ Matrix, KCI an ACELITY Company, San Antonio, TX). After treatment with an ORC/collagen/silver-ORC dressing, the wound bed was reduced in size, and was prepared to receive epidermal grafting (Figure D). By week 9, an epidermal harvesting system (CELLUTOME™, KCI an ACELITY Company, San Antonio, TX) was used to harvest epidermal grafts to cover the wound. At 12 weeks, the wound had completely reepithelialized (Figure E). In total, this particular wound underwent seven rounds of debridement within the clinic in conjunction with four weeks of the SNAP™ System.

USE OF THE SNAP™ THERAPY SYSTEM TO MANAGE A WOUND RESULTING FROM A POSTOPERATIVE SURGICAL COMPLICATION (CONT.)



A. Surgical wound at presentation with necrotic tissue compression.



B. Wound after initial treatment with the SNAP™ System (Week 5).



C. Wound after second treatment with the SNAP™ System (Week 6).



D. Wound at Week 9 after the application of PROMOGRAN PRISMA™ Matrix.



E. At 12 weeks wound was reepithelialized.

Patient data and photos courtesy of Alberto J. Aviles, MD, FACS, Skyline Plastic Surgery, Warren, MI

CASE STUDY 5

USE OF THE SNAP™ THERAPY SYSTEM TO MANAGE A LOCAL FLAP OVER A RECALCITRANT ACUTE WOUND

Patient:

A 36-year-old male presented to the clinic with a recalcitrant acute wound. The patient had previously undergone a surgical procedure for the removal of a neuroma to the left ankle.

Diagnosis:

The patient had a non-healing surgical wound stemming from a neuroma excision from the left ankle. The surgical defect was negative for pathogenic cultures. Resolution of the integumentary defect involved usage of a disposable negative pressure wound therapy system to facilitate wound closure via local flap.

Course of Treatment / Application of the SNAP™ System:

The patient underwent reconstructive surgery (Figures A and B), and received a local flap to close the non-healing surgical defect on the foot (Figure C). After receiving the local flap, a hydrocolloid ring was placed around the periphery of the flap, and a protective dressing was applied over the flap. The SNAP™ System foam interface dressing was applied over the protected local flap, and the SNAP™ Advanced Dressing was applied over the foam interface to establish a seal (Figure D). The SNAP™ Cartridge administered -125mmHg of subatmospheric pressure. The SNAP™ System was applied for 7 days. The dressing was removed, and the local flap was evaluated (Figure E). No adjunctive therapies or debridements were necessary, and the SNAP™ System was discontinued after a single 7-day application.

Discharge and Follow-up:

Having established that there was 100% take of the local flap and definitive closure, the patient was discharged. There were no postoperative complications or any need for surgical revision.



A. Non-healing surgical wound of the ankle before reconstruction (Day 1).



B. Wound during reconstruction procedure on Day 1.



C. Ankle following reconstruction and closure via local flap on Day 1.



D. Placement of the SNAP™ System dressing over local flap on Day 1.



E. Local flap site upon removal of the SNAP™ System on Day 7.

Patient data and photos courtesy of Michael N. Desvigne, MD, FACS, CWS, FACCWS, Valley Wound Care Specialists, Glendale, AZ

CASE STUDY 6

USE OF THE SNAP™ THERAPY SYSTEM TO BOLSTER A FULL THICKNESS SKIN GRAFT

Patient:

An 87-year-old male presented to the clinic with a malignancy (squamous cell carcinoma) of the integumentary system localized to the dorsal forearm (Figure A). The patient had no significant prior medical history.

Diagnosis:

The patient had a surgical defect resultant of a wide local excision of a malignant lesion, which necessitated the application of a full-thickness skin graft (FTSG) for closure of the wound.

Course of Treatment / Application of the SNAP™ System:

Upon completion of the dermal excision procedure, the patient received a FTSG to close the surgical defect on the dorsal forearm. To protect the FTSG, a non-adherent dressing was placed over the graft. The SNAP™ System was applied over the FTSG as a bolster (Figure B). The foam interface dressing was applied over the protected graft, and the SNAP™ Advanced Dressing was applied over the foam interface to establish a seal. The SNAP™ Cartridge administered -125mmHg of subatmospheric pressure. The SNAP™ Dressing was removed on postoperative Day 5, and the graft was evaluated at 1 week postoperatively.

Discharge and Follow-up:

The patient was discharged, and the graft was evaluated at 4, 8, and 12 weeks. By postoperative week 8, there was 100% graft take without postoperative complications or any need for surgical revision (Figure C).



A. Preoperative left dorsal forearm prior to FTSG application.



B. Postoperative placement of the SNAP™ System.



C. Postoperative follow-up at 8 weeks.

Patient data and photos courtesy of Virginia Lobach, MS, PA-C; Devinder Singh, MD; and Tripp Holton, MD, Division of Plastic Surgery, Anne Arundel Medical Center, Annapolis, Maryland

CASE STUDY 7

USE OF THE SNAP™ THERAPY SYSTEM TO MANAGE AN ACUTE WOUND (PILONIDAL CYST)

Patient:

An otherwise healthy female patient presented to the clinic with a pilonidal cyst. A small pilonidal sinus with a depth of 3cm was located directly superior to the pilonidal cyst.

Diagnosis:

The patient had an acute wound/surgical defect resultant of the excision and drainage of the pilonidal cyst. A disposable negative pressure wound therapy modality was enlisted to facilitate wound healing and achieve closure.

Course of Treatment / Application of the SNAP™ System:

Upon completion of the excision and drainage procedure, the patient was treated for 4 months with standard wound dressings. After 4 months of standard care, the wound measured 5.3cm x 1.2cm x 0.5cm, producing under 10mL of serous exudate per day. Granulation tissue was present in the wound bed, and the periwound skin was intact with viable wound edges. The wound showed no signs of infection. The SNAP™ System foam interface was applied over the wound, and the SNAP™ Advanced Dressing was applied over the foam interface to establish a seal. The SNAP™ System was initiated with -125mmHg of continuous negative pressure and paired with a barrier wipe drape to protect the surrounding skin. Dressings were changed twice per week. After 5 days of the SNAP™ System, the wound had reduced in size, measuring 5.2cm x 1cm x 0.4cm (Figure A). A continuous reduction in wound volume was noticeable at each dressing change (Figures B and C), with wound dimensions of 4cm x 0.5cm x 0.2cm after 29 days using the SNAP™ System (Figure D). At this timepoint, the depth of the superior pilonidal sinus had reduced to 0.2cm. After 36 days of the SNAP™ System, the wound depth had resolved, and the wound bed measured 2cm x 1cm x 0cm (Figure E). The SNAP™ System was discontinued.

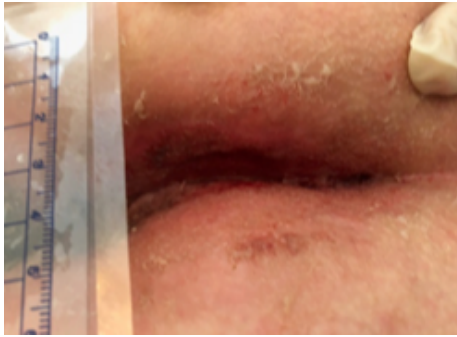
Discharge and Follow-up:

Therapy was then stepped down to coverage with a povidone-iodine dressing, which was held in place with a self-adherent, absorbent secondary dressing. The wound continued to improve (Figure F), and healed completely within 2 weeks.

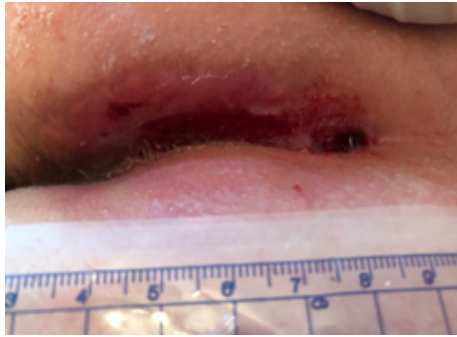
USE OF THE SNAP™ THERAPY SYSTEM TO MANAGE AN ACUTE WOUND (PILONIDAL CYST) (CONT.)



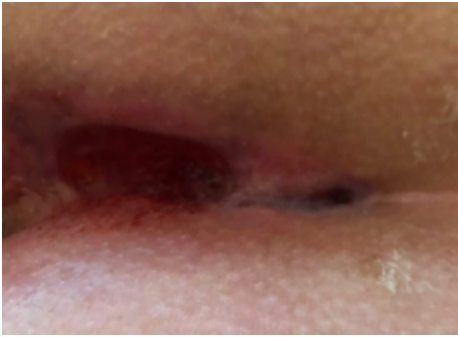
A. Wound after 5 days of the SNAP™ System.



B. Wound after 12 days of the SNAP™ System.



C. Wound after 19 days of the SNAP™ System.



D. Wound after 29 days of the SNAP™ System.



E. Wound after 36 days of the SNAP™ System.



F. Wound 5 days after step down to treatment with sterile dressings.

Patient data and photos courtesy of Vonin Leighton, RN; Vitalis Hospital in the Home, Sydney, NSW

CASE STUDY 8

USE OF THE SNAP™ THERAPY SYSTEM TO MANAGE A FOOT ABSCESS

Patient:

A 50-year-old male presented to the emergency department with an abscess over the first interspace of the left foot. The patient's previous medical history included Type 2 diabetes.

Diagnosis:

The patient was taken to the operating room, and had a surgical defect following incision and drainage of an interspace foot abscess (Figure A). The wound was initially managed with daily wet-to-moist dressing changes until follow-up in the clinic. After 1 week, the surgical defect underwent debridement. A disposable negative pressure wound therapy modality was then enlisted to facilitate wound closure.

Course of Treatment / Application of the SNAP™ System:

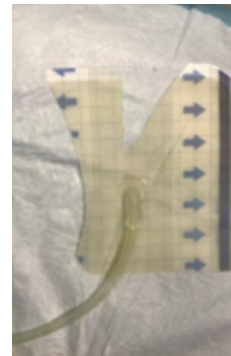
Per institutional guidelines, the wound bed was prepared, the periwound area was cleansed, and skin prep was utilized prior to the application of the SNAP™ System. The irregular topography of the surgical defect presented a challenge in dressing the interspace and in attaining a steadfast seal during the application of subatmospheric pressure. The SNAP™ System foam interface was placed into the surgical defect, which coursed the plantar hallux and the interspace to the dorsal first metatarsal. The SNAP™ SecurRing Hydrocolloid was rolled thin and placed around the wound margin. The SNAP™ Advanced Dressing was custom cut to include a "V" shape (Figure B) to better contour the irregular area between the toes. An additional set of hands was enlisted for the placement of the drape with special attention given to stretching and adhering the individually-cut the SNAP™ Advanced Dressing from the intact periwound to stop wrinkles in the drape. The SNAP™ System was applied to the first interspace (Figure C), and dressings were changed twice weekly. Figure D shows the wound after 4 weeks of the SNAP™ System and weekly debridement. The SNAP™ System was discontinued after 9 weeks, as the wound was reduced in size and exhibited healthy tissue granulation (Figure E and F).

Discharge and Follow-up:

During follow-up 2 weeks after the SNAP™ System was discontinued, the wound was almost completely healed (Figure G).



A. First interspace after abscess incision and drainage.



B. The SNAP™ Advanced Dressing cut to contour the first interspace.



C. The SNAP™ System applied to the first interspace.



D. Wound after 4 weeks of the SNAP™ System and weekly debridement.



E/F. Wound after 2 months of the SNAP™ System.



G. At 11-week follow-up, the wound was almost completely healed.

Patient data and photos courtesy of Colin J. Traynor, DPM, Parnassus Heights Podiatry Group, San Francisco, CA

CASE STUDY 9

USE OF THE SNAP™ THERAPY SYSTEM TO MANAGE A VENOUS STASIS ULCER

Patient:

An 80-year-old female presented to the clinic with a chronic venous stasis ulcer of the lower extremity, which resulted from blunt trauma with the corner of a table (Figure A). The patient's medical history included venous insufficiency and chronic lower extremity edema.

Diagnosis:

The patient had a chronic venous stasis ulcer, which necessitated excisional debridement of the necrotic tissue from the lower extremity, and a multimodal approach to facilitate wound healing.

Course of Treatment / Application of the SNAP™ System:

The venous stasis ulcer initially underwent sharp debridement and soaking with a stabilized hypochlorous acid solution, followed by coverage with an alginate and a foam dressing. A 2-layer compression kit was subsequently applied over the dressed wound. The wound was debrided weekly between dressing changes, and the patient was administered a prophylactic regimen of antibiotics. At post-treatment Day 17, the wound underwent further debridement, and the SNAP™ System was initiated (Figure B). The SNAP™ System dressings were changed twice per week. At post-treatment Day 73, the SNAP™ System was discontinued; however, topical therapy with compression continued (Figure C).

Discharge and Follow-up:

At post-treatment Day 133, wound was near full reepithelialization after topical therapy and compression (Figure D). Placental allograft was used to facilitate wound closure. By post-treatment Day 196, the wound had completely reepithelialized (Figure E).



A. Chronic venous stasis ulcer at presentation.



B. Wound at post-treatment Day 17 and prior to the initiation of the SNAP™ System and compression



C. Wound after discontinuance of the SNAP™ System at post-treatment Day 73.



D. Wound at post-treatment Day 133 after topical therapy with compression.



E. Wound closure on post-treatment Day 196.

Patient data and photos courtesy of William H. Tettelbach, MD, FACP, CWS, Wound Care & Hyperbaric Medicine Clinical Services, Intermountain Healthcare, Salt Lake City, UT

CASE STUDY 10

USE OF THE SNAP™ THERAPY SYSTEM TO MANAGE A CALCANEAL DIABETIC FOOT ULCER (DFU)

Patient:

A 64-year-old male was referred to the wound clinic by an orthopedist for a calcaneal abscess (Figure A), which resulted from stepping on a foreign body. The patient's medical history included Type 2 diabetes mellitus and peripheral neuropathy.

Diagnosis:

The patient had a calcaneal abscess that had been worsening for 3 months, which necessitated excisional debridement of the necrotic tissue, and preparation of a healthy wound bed to facilitate closure via grafting.

Course of Treatment / Application of the SNAP™ System:

Empiric antibiotics were initiated, and an MRI was ordered to image the lower extremity. Aggressive sharp excisional debridement was performed on the first day of presentation (Figure B). The SNAP™ Plus Therapy System (-125mmHg; 150mL canister) was applied immediately over the debrided wound after complete removal of necrotic tissue and thorough irrigation. On treatment Day 5, the images from the MRI were suggestive of osteomyelitis (Figure C). A swab culture of the abscess revealed *Staphylococcus aureus*, and the patient continued the prescribed oral antibiotic regimen. Offloading with a knee scooter was recommended, and wound management continued with the SNAP™ System with a smaller canister (60mL) due to an observed decrease in the amount of drainage from the ulcer. After 4 weeks, the ulcer continued to show reduction in size (Figure D). At 8 weeks, the wound was considerably smaller with healthy wound edges (Figure E), and the SNAP™ System was discontinued.

Discharge and Follow-up:

The wound bed was sufficiently granulated, and a dehydrated human amnion/chorion membrane allograft (dHACM) was applied. Figure F shows the ulcer 3 days post first dHACM allograft application. The patient continued to receive oral antibiotics and to offload. There were three subsequent applications of dHACM allografts, and at 10 weeks, treatment was switched to a non-adherent silicone dressing with an absorbent foam cover. At 13 weeks, the ulcer had resolved (Figure G).

Patient data and photos courtesy of William H. Tettelbach, MD, FACP, CWS, Wound Care & Hyperbaric Medicine Clinical Services, Intermountain Healthcare, Salt Lake City, UT.



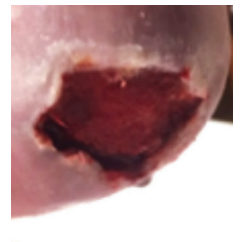
A. DFU on calcaneus at presentation.



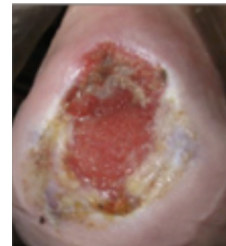
B. Calcaneal ulcer after aggressive sharp excisional debridement



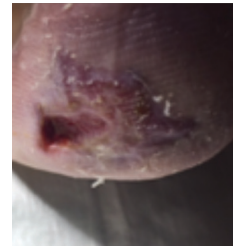
C. Wound at postoperative Day 5 after MRI diagnosis of osteomyelitis and initial treatment with the SNAP™ System



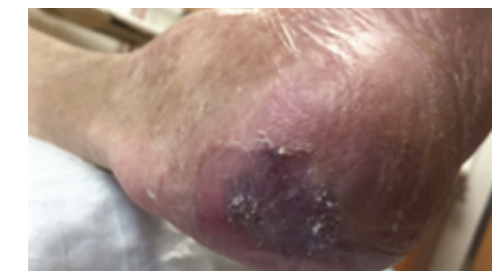
D. At 4 weeks, wound dimensions were reduced, and the SNAP™ System was continued.



E. At 8 weeks, wound bed was prepared to receive dHACM allograft, and treatment with the SNAP™ System was discontinued.



F. 3 days post first dHACM allograft application.



G. At 13 weeks, the ulcer was completely resolved.

CASE STUDY 11

USE OF THE SNAP™ THERAPY SYSTEM TO MANAGE A PLANTAR DIABETIC FOOT UCLER (DFU)

Patient:

A 55-year-old male presented to the clinic with a diabetic foot ulcer (DFU). The patient's medical history included diabetes, peripheral neuropathy and Charcot arthropathy.

Diagnosis:

The patient had a chronic plantar midfoot ulcer concomitant with his diabetes, Charcot deformity, and loss of protective sensation. A disposable negative pressure wound therapy modality was enlisted to manage the wound, and a total contact cast (TCC) system was employed for off-loading the DFU.

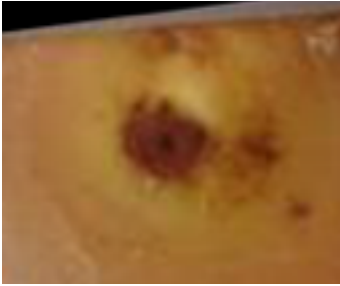
Course of Treatment / Application of the SNAP™ System:

At initial presentation, the DFU was evaluated (Figure A). TCC was recommended to facilitate healing of the DFU, which would distribute the patient's weight more evenly along the plantar aspect, and reduce shearing forces. However, the patient was initially reluctant, and he declined the recommendation to receive a TCC to off-load. At a follow-up appointment 42 days from initial presentation, the DFU was reevaluated. (Figure B). As healthy cellular growth within the wound bed was preempted by a resistance to off-load, the patient reconsidered the recommendation to receive a TCC. Following the initial TCC application, TCC was used five more times for off-loading. After the sixth TCC removal, the DFU was again reassessed. Although the DFU demonstrated significant progress in size reduction and appearance of the wound bed (Figure C), there had been no change from the fifth and sixth castings. X-ray imaging of the impacted foot following the sixth TCC treatment (Figure D) gauged whether a bony exostosis was responsible for creating a focal point of high pressure that was restricting complete wound closure. Peripheral arterial studies as determined by the ankle-brachial index (ABI) test and pulse volume recordings (PVR) revealed that there was no significant arterial occlusive disease in the bilateral lower extremities that would delay healing. Nevertheless, given the stalled wound progression, it was inferred that the wound was likely occupied by bacterial biofilm and inflammatory proteases, which would require a plurality of modalities to disrupt the colonization and to nullify the constitutive activity. DFU management transitioned to a multimodal approach that entailed wound debridement (Figure E), the application of collagen and the coupling of a TCC with the SNAP™ System. An extra portion of the SNAP™ Advanced Dressing was cut to size and placed as a protective layer around the periwound of the DFU. The SNAP™ SecurRing™ Hydrocolloid was flattened and placed around the wound margin (Figure F). The SNAP™ System foam interface was applied over the wound, and the SNAP™ Bridge Dressing was applied over the foam interface to establish a seal (Figure G). The SNAP™ System was applied under the TCC (Figures H and I). The SNAP™ Cartridge administered -125mmHg of continuous subatmospheric pressure.

Discharge and Follow-up:

In 18 days, 4 applications of a TCC for off-loading and 3 applications of the SNAP™ System resulted in complete resolution of the chronic plantar midfoot ulcer (Figure J).

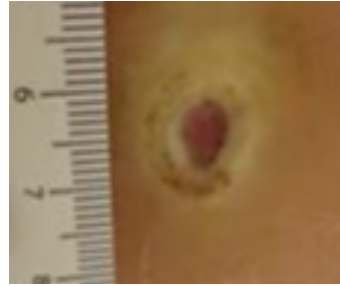
USE OF THE SNAP™ THERAPY SYSTEM TO MANAGE A PLANTAR DIABETIC FOOT UCLER (DFU) (CONT.)



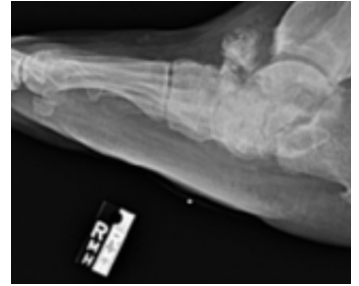
A. DFU at initial presentation



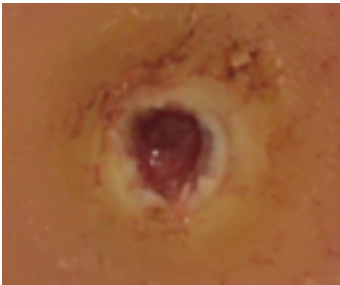
B. DFU prior to first application of a TCC



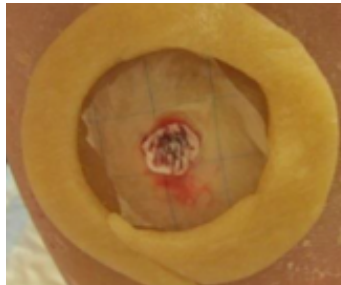
C. DFU after sixth application of a TCC.



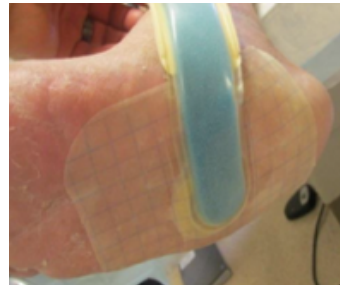
D. Radiograph of right foot 71 days after initial presentation.



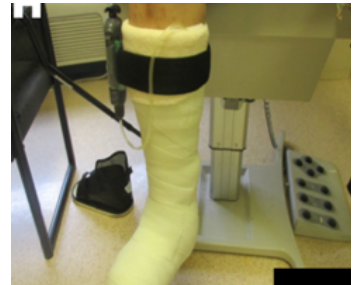
E. DFU following debridement



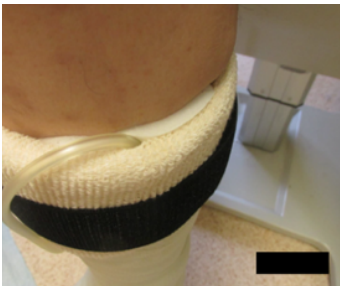
F. DFU with the placement of the SNAP™ SecurRing™ Hydrocolloid around the wound margin



G. Placement of the SNAP™ Bridge Dressing over the wound



H. The SNAP™ System applied under the TCC



I. The SNAP™ System applied under the TCC



J. Complete resolution of the chronic plantar midfoot ulcer

Patient data and photos courtesy of Christopher L. Barrett, DPM, CWS, FACCS; Crozer Chester Medical Center, Chester, PA

CASE STUDY 12

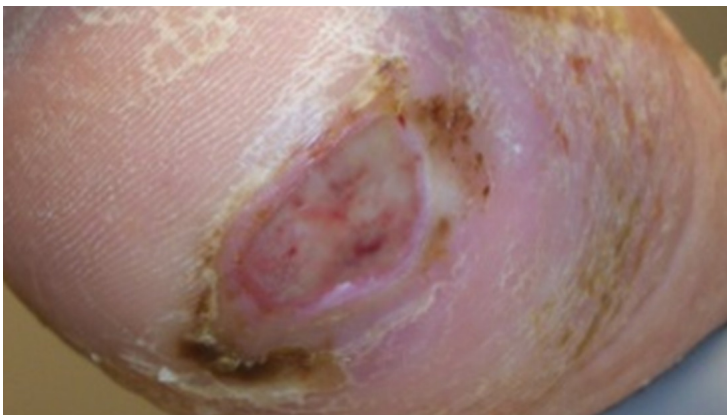
USE OF THE SNAP™ THERAPY SYSTEM TO MANAGE A PRESSURE INJURY

Patient:
An 85-year-old female presented to the clinic with a calcaneal pressure injury. The patient's medical history included peripheral vascular disease, hypertension, hyperthyroidism, neuropathy, chronic kidney disease, cataracts, cardiomyopathy, and ischemic polymyalgia rheumatica.

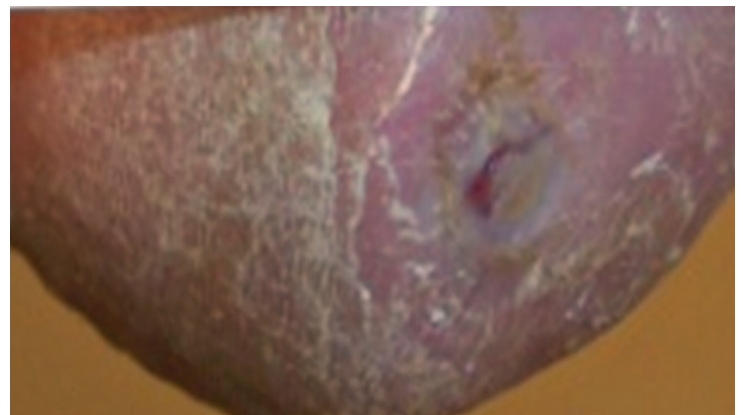
Diagnosis:
The patient had a 30-day-old stage 3 pressure injury on the right heel (Figure A). Resolution of the pressure injury called for a multimodal approach including a disposable negative pressure wound therapy system to facilitate closure of the pressure injury.

Course of Treatment / Application of the SNAP™ System:
The calcaneal pressure injury would be a recipient site for an epidermal graft. To prepare the donor site for epidermal harvesting, the patient's thighs underwent depilation, and were washed with isopropyl alcohol. The vacuum head of the epidermal harvesting system (CELLUTOME™ Epidermal Harvesting System, KCI, an ACELITY Company, San Antonio, TX) was attached to the donor site to apply subatmospheric pressure (-400mmHg to -500mmHg) and warmth (37°C to 41°C) to generate epidermal microdomes for harvest. Following epidermal grafting, the SNAP™ System was enlisted to bolster the graft. To protect the epidermal graft, a non-adherent silicone dressing (ADAPTIC TOUCH™ Non-Adhering Silicone Dressing, KCI, an ACELITY Company, San Antonio, TX) was applied. The SNAP™ System, foam interface dressing was applied over the protected epidermal graft, and the SNAP™ Advanced Dressing was applied over the foam interface to establish a seal. The SNAP™ Cartridge administered -125mmHg of subatmospheric pressure.

Discharge and Follow-up:
The pressure wound was evaluated after the SNAP™ System was discontinued. The pressure wound then underwent a round of sharp excisional debridement, and treatment transitioned to oxidized regenerated cellulose (ORC)/collagen/silver-ORC dressing (PROMOGRAN PRISMA™ Matrix, KCI, an ACELITY Company, San Antonio, TX) and compression therapy with an Unna boot. The donor site healed without complications by 2 weeks post epidermal graft harvesting. The pressure wound was fully closed without complications at the 2-month follow-up visit (Figure B).



A. Wound at presentation.



B. Wound fully closed at 2-month follow-up visit.

Patient data and photos courtesy of Animesh Bhatia, DPM, CWS, Columbus Podiatry and Surgery, Inc., Columbus, OH

ORDERING INFORMATION*

SNAP™ Therapy Cartridge



SKU: SNPA125
Pressure: -125mmHg
Capacity: 60ml



SKU: SNPA100
Pressure: -100mmHg
Capacity: 60ml



SKU: SNPA075
Pressure: -75mmHg
Capacity: 60ml

SNAP™ Plus Therapy Cartridge



SKU: SNPA125P
Pressure: -125mmHg
Capacity: 150ml

SNAP™ SecurRing™ Hydrocolloid



SKU: SRNG10
Size: 5cm diameter

SNAP™ Therapy Strap



SKU: STPAS
Size: Small 46cm



SKU: STPAM
Size: Medium 53cm



SKU: STPAL
Size: Medium 61cm

SNAP PLUS™ Therapy Strap



SKU: STPASP
Size: Small 46cm



SKU: STPAMP
Size: Medium 53cm



SKU: STPALP
Size: Large 61cm

SNAP™ Bridge Dressing Kit



SKU: BKTFF14X11
Size: 14cm x 14cm
Interface: Foam



SKU: BKTFF14X11S
Size: 14cm x 11cm with SecurRing™ Hydrocolloid
Interface: Foam

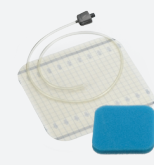
SNAP™ Advanced Dressing Kit



SKU: SKTF10X10
Size: 10cm x 10cm
Interface: Reticulated Open Cell Foam (blue)



SKU: SKTF15X15
Size: 15cm x 15cm
Interface: Reticulated Open Cell Foam (blue)



SKU: SKTF20X20
Size: 20cm x 20cm
Interface: Reticulated Open Cell Foam (blue)

* All products may not be available in your region. Please contact your local KCI representative for your regional SKU.

For more information about the SNAP™ Therapy System, contact your local KCI representative.

Reference:

1. 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 and Regen.* 2012;20(3):332-341. Marston WA, Armstrong DG, Reyzelman AM

SNAP™ Therapy Cartridges are class IIa products. SNAP™ Therapy Dressings are class IIb products. SNAP™ SecurRing™ Hydrocolloid is a class I product. SNAP™ Therapy Straps are class I products. CE 661656 / Notified Body: BSI.

NOTE: As with any case study, the results and outcomes should not be interpreted as a guarantee or warranty of similar results. Individual results may vary depending on the patient's circumstances and condition.

NOTE: Specific indications, contraindications, warnings, precautions and safety information exist for KCI products and therapies. Please consult a clinician and product instructions for use prior to application. This material is intended for healthcare professionals.

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