



Working In Synergy to Heal [WISH]: Practice Innovations NPWT + KYLON® + Vaporous Hyperoxia Therapy + CAMPs, a Medicare cost analysis



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Introduction

Non-healing wounds pose significant physical, emotional, and financial challenges for patients, caregivers, clinicians, and payers. There is a need for a comprehensive, multimodal treatment approach that integrates advanced therapies to address the multifaceted nature of wound healing.

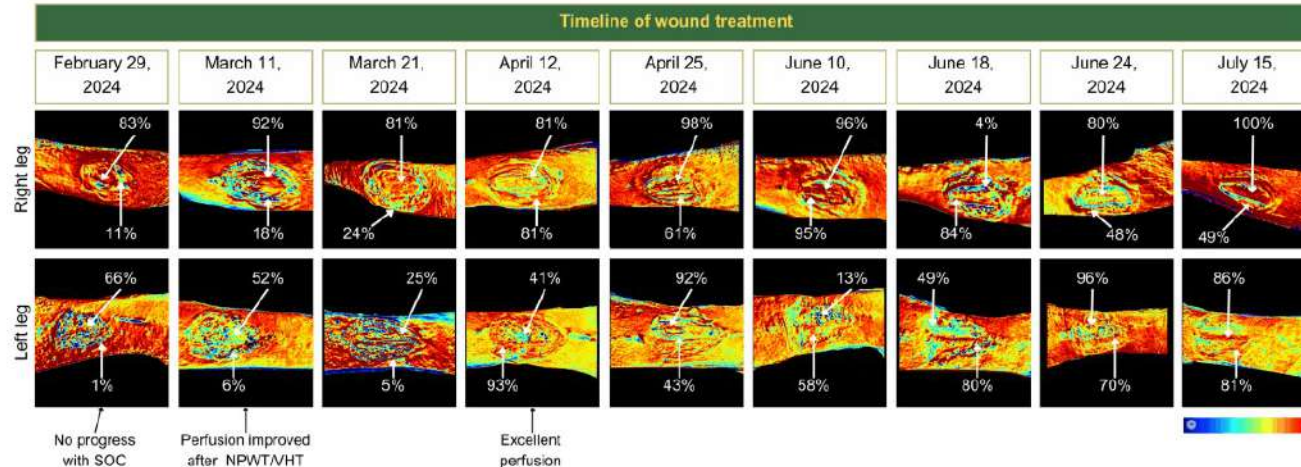
Case details

An 83-year-old diabetic female (A1C 10) with rheumatoid arthritis (on Leflunomide) presented with bilateral lower extremity ulcerations, including exposed bone on the left and exposed Achilles tendon and muscle on the right. After two months of serial debridements and autolytic dressings, she was transitioned to an advanced wound care regimen. This included Negative Pressure Wound Therapy (NPWT), Vaporous Hyperoxia Therapy (VHT), and cellular-based skin substitutes, with continuous near-infrared spectroscopy (NIRS) imaging to monitor tissue oxygenation and guide the care plan.

Discussion

Our approach is both clinically effective and economically sustainable for Medicare beneficiaries, seamlessly integrating advanced wound management within a community-connected care model. The strategic use of negative pressure wound therapy, vaporous hyperoxia therapy, and cellular-based skin substitutes has demonstrated significant efficacy in accelerating healing, especially in patients with complex comorbidities. At each in-clinic visit, near-infrared spectroscopy imaging was employed to monitor wound bed and periwound tissue oxygenation, providing crucial data that informed and reinforced the ongoing care plan. This value-driven methodology not only improves clinical outcomes but also aligns with healthcare cost-efficiency objectives, highlighting a synergistic approach that supports the wider adoption of these protocols across various healthcare settings.

Results



This figure shows the cumulative total charges incurred during the patient's treatment journey to date, based on the Novitas Medicare Fee Schedule allowable rates (PAR). The patient, a Medicare beneficiary, is still undergoing treatment. The figure includes charges for 37 unique billing codes used throughout the course of care.

The billing codes are grouped as follows: Multi-layer compression uses code 29581. For debridement procedures, codes 11043, 15271, and 15272 are employed, covering various aspects of skin and subcutaneous tissue removal and skin replacement. Skin substitutes are identified by code Q4278. VHT is denoted by code 97610. Evaluation and management procedures include codes 99205, 99214, and 99215. NPWT is represented by codes 97605, 97606, 97607, and 97608. Lastly, biopsy-related procedures include codes 11102, 11103, and 11400.

February 27th (initial visit):

- The violaceous ulcerations measured 56 cm² on the right and 72 cm² on the left.
- The patient underwent a biopsy and PCR analysis. The PCR result was negative on the left and showed Enterobacter on the right. Moxifloxacin was prescribed daily for 7 days.
- A smaller, single-use NPWT generator with a Y connector was introduced.

February 29th:

- The patient began vaporous hyperoxia therapy (VHT) with serial wound bed preparation; approved for a cellular-based skin substitute.
- March 4th - 15th:** Continuation with NPWT/VHT with wound bed preparation.
- March 21st:** The patient received a single-layer spongy, wet-prep placental membrane on her right calf and a tri-layer dehydrated placental membrane on her left calf. Two applications of grafts were deployed.

March 28th - May 9th :

- She required hospitalization and a subacute stay from weeks 4 to 10 due to hyperglycemia and presyncope-related falls. During this period, she continued to receive NPWT and VHT treatments with The WISH Clinic's direct involvement at her skilled nursing facility (SNF). Her diabetic medications were adjusted accordingly.

May 9th - June 26th:

- She continued to receive NPWT and VHT treatments, along with serial wound bed preparation and application of a cellular-based skin substitute.
- June 26th:** Application of a long-leg cast.



View the Poster

Procedure group	Total Charges
Related to multi-layer compression	\$1 800
Debridement procedure	\$2 195
Related to skin substitutes (CAMP)	\$73 580
Vaporous Hyperoxia Therapy related procedures	\$18 551
Evaluation and management procedures	\$3 790
Negative Pressure Wound Therapy (NPWT) related	\$4 235
Related to biopsy	\$1532