

Full Wound Closure of Stage IV Sacral Pressure Injury

Presented by: Danae Kissner, PA-C, CWS, CLT

PATIENT DETAILS:

An 80-year-old female presented to the Skilled Nursing Facility (SNF) with a stage IV sacral pressure ulcer with frank necrotic tissue and exposed muscle and tendon. She was admitted for hospice comfort care with a PCP team managing chronic health issues including urinary and fecal incontinence, dementia, adult failure to thrive, muscle wasting and rheumatoid arthritis.

CASE STUDY DETAILS:

On assessment, the tissue oxygen saturation (S_tO_2) of the stage IV sacral wound was measured using near-infrared spectroscopy (NIRS) indicating inadequate microcirculation for healing at 59%. The inflammatory pressure injury was treated initially with sharp debridement to rid the wound of the frank necrotic tissue and covered with dressings including collagen, autolytic debridement super-absorbent and anti-biofilm for an optimal healing environment.

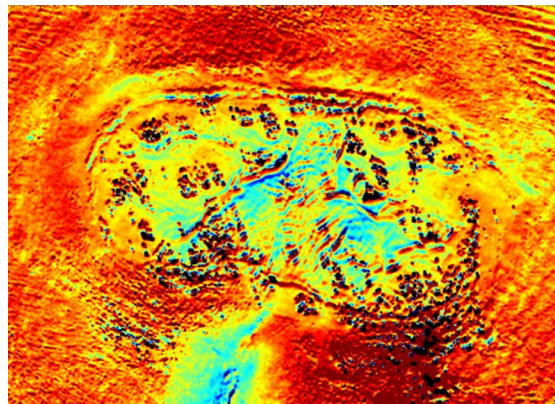


Fig 1. Initial visit of stage IV sacral pressure injury. Tissue oxygen saturation 59%. Image taken with SnapshotNIR on April 9, 2023.

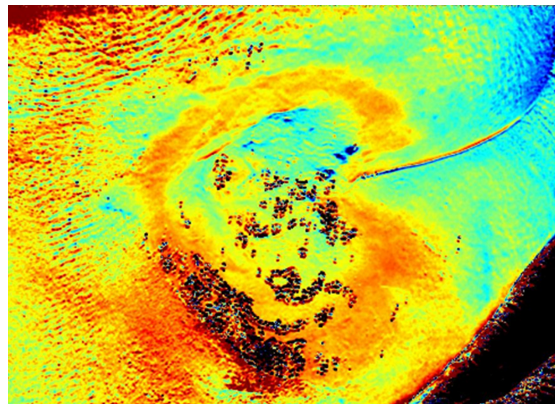


Fig 2. Follow-up image 1 week post-intervention on April 26, 2023. Wound area reduced by 30%. Image taken with SnapshotNIR.

Holistic, patient-centered care included a multi-disciplinary team combining wound care providers with skilled nursing staff who provided offloading and frequent repositioning alongside moisture and incontinence management; nutrition support of supplemental liquid protein; muscle strength and pain control from a physical rehabilitation team and chronic disease management from the PCP facility.

SnapshotNIR was used throughout the treatment process to monitor intervention efficacy. Through targeted patient care, by week ten, a proliferative healing environment with adequate S_tO_2 had been achieved. An improvement of 17% in tissue oxygenation was seen from the initial assessment to week ten.

Continuing with the multi-disciplinary treatment plan, during weeks 27-35, the stage IV pressure injury had minimal wound area and drainage, with frank scar tissue in the wound bed. The patient had reduced reliance on liquid protein and had progressed to an appetite stimulant, a successful outcome from the patient's nutritional support team.

Treatment at the SNF concluded at 35 weeks as the patient had achieved a successful treatment outcome with a fully closed wound. Additionally, there were no reported sequelae or recurrences during follow-up from the provider overseeing care.

"By using SnapshotNIR data, there is significant evidence that having a cooperative team and holistic, patient-centered approach to skin and wound care, there are more potentially favorable outcomes for patients suffering from stage 4 pressure injuries."

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IMPACT OF SNAPSHOTNIR:

Using NIRS imaging to confirm the improvement of S_tO_2 allowed efficient wound care to completely heal the stage IV pressure injury in 35 weeks, less time than the national average healing time for this type of injury. The SnapshotNIR images demonstrated the transition from inadequate microcirculation to a proliferative healing environment throughout the patient's treatment. As demonstrated in this case, care of complex wounds requires ongoing monitoring for tissue oxygenation that cannot be seen by the naked eye to determine efficacy of invasive procedures such as sharp debridement procedures and success of wound dressings. NIRS imaging provided demonstrable evidence to the patient and to the providers that the wound was progressing favorably and that despite her hospice status continued wound healing efforts were important and valuable. With the support of the rapid results from SnapshotNIR, the treating wound specialists could provide exceptional treatment.

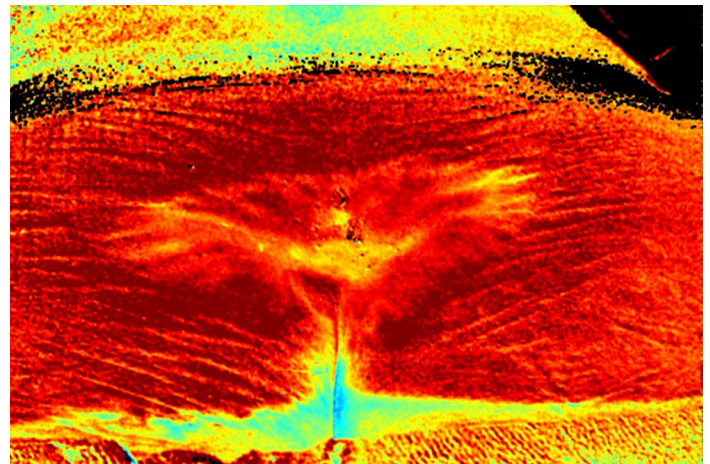


Fig 3. Follow-up image 10 weeks post-intervention on June 28, 2023. Tissue oxygen saturation 76%. Images taken with SnapshotNIR.

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