CASE STUDY

Verifying a Complete Debridement Using SnapshotNIR

Presented by: Erin Buchness, MHL, RN, DAPWCA

PATIENT HISTORY:
A 56-year-old female patient underwent an elective bunionectomy resulting in postoperative blistering, suture abscess, swelling, and erythema. Prior to this, the patient did not have any additional pertinent chronic medical problems or history.

CASE STUDY DETAILS:
Seven days postoperative, the patient was noted to have blistering and erythema along the surgical incision line. The blisters were then manipulated by her podiatrist, and the patient was sent home. Two weeks later, she returned to her podiatrist and was prescribed oral antibiotics. The next day, she was evaluated at urgent care and given IV clindamycin. A topical antibiotic was prescribed, and a referral was placed for the patient to be seen by a wound care specialist. The patient was admitted to the Mercy Wound Care and Hyperbaric Center twenty-eight days postoperatively for complications following her right foot bunionectomy.

Fig 1: Baseline image of the dorsal surface of the right foot with a post-operative ulcer after an elective bunionectomy. Pre-debridement images.

OBSERVATIONS:
SnapshotNIR was utilized during the initial evaluation in the wound center to establish the patient's baseline tissue oxygen saturation (S_tO_2) levels. NIRS images were captured to assess the wound's response to debridement, and to monitor S_tO_2 levels at the ulcer base and peri-wound.

Through the interpretation of the SnapshotNIR images, it was determined that the patient's increase in oxygenation correlated to the positive response of the debridement, suggesting that the wound would heal with the current treatment plan. Due to the severity of the ulcer and its proximity to the first metatarsophalangeal joint, the patient continued to be monitored pre- and post-debridement.

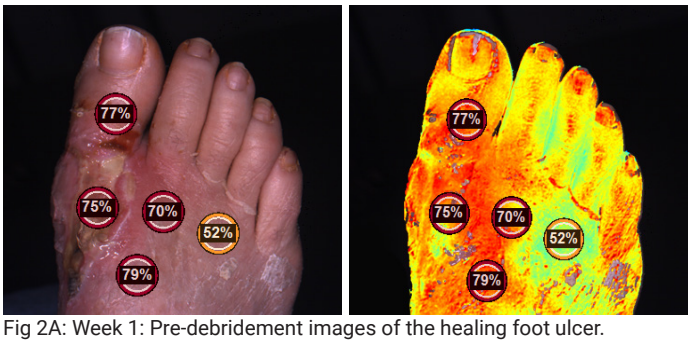

Fig 2A: Week 1: Pre-debridement images of the healing foot ulcer.

Fig 2B: Week 1: Post-debridement images of the healing foot ulcer. Note the increase in oxygenation.

"Being able to show a patient an image of their tissue health and their response to a debridement session is changing how patients view the importance of removing non-viable tissue, and how we, wound care specialists, practice wound care".

-Erin Buchness, MHL, RN, DAPWCA

Fig 3A: Week 3: Pre-debridement images of the healing foot ulcer.

Fig 3B: Week 3: Post-debridement images of the healing foot ulcer. Note the increase in oxygenation.

Fig 4: Week 4: Post-debridement images of the healing foot ulcer.

IMPACT:
SnapshotNIR helped to guide adequate debridement to remove ischemic tissue in the wound bed and peri-wound. It also confirmed adequate oxygenation to support wound healing. The NIRS images allowed the clinicians to deliver focused, patient-specific care. SnapshotNIR assisted in easing the patient's anxiety about possible toe amputation, reassuring her that her wound would heal, and that she would not need additional surgery.


Fig 5: Healed foot after debridements.

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