

# Endocrinology and Wound Care: A Multidisciplinary Team Approach to Optimizing Diabetes and Wound Healing

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## Introduction

Collaboration between Endocrinology and Wound Care can greatly impact the rate of healing in diabetic foot wounds. Here we highlight the improvement of wound healing through multidisciplinary care with improved diabetic control in combination with frequent wound care.

## Methods

A retrospective chart review was conducted for five patients with diabetic foot wounds who had seen Endocrinology and Wound Care. All five patients were type 2 diabetics who had established care with endocrinology within the last six years. Wounds in this retrospective review included diabetic foot ulcerations and/or surgical wounds (Refer to Representative Cases). Their diabetic wound care course, diabetic complications, and interventions that improved diabetic control were reviewed.

## Results

Patient one had significant improvement of HgbA1c (10.0 to 7.1) following the initiation of Dulaglutide and titration of insulin regimen. Patient two had significant improvement of HgbA1c (15.0 to 9.9) after reinitiating insulin and the use of Continuous Glucose Monitoring. Patient three had the most significant improvement of HgbA1c from 13.5 to 7.2 following reestablishment of care. The two remaining patients who did not have improved control of their diabetes had questionable compliance. Four of the five patients foot wounds were significantly improved and/or went on to closure. Wound Care modalities included debridement, antibiotics, NPWT, collagen, total contact casting, and an application of a split-thickness skin graft (STSG).

## Representative Cases

Type 2 diabetic with diabetic foot infection and a DFU that probed to the 5<sup>th</sup> metatarsal. PMHx: DM2, neuropathy, hypertension, obesity, and hyperlipidemia. Patient taken to the OR for an open 5<sup>th</sup> ray amputation. Wound care with NPWT and collagen/ORC/Ag with wound to closure. (HgA1c from 10.0 to 7.1)



## Representative Cases

Type 2 diabetic with diabetic foot infection, DFU, and osteomyelitis. PMHx: CAD, MI, anxiety, DM2, diabetic neuropathy, COPD, diabetic retinopathy, GERD, hyperlipidemia, OCD, and chronic nicotine use. Patient underwent open 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> ray amputation. Wound care included NPWT and collagen/ORC/Ag with wound going on to full closure. (HgA1c from 15.0 to 9.9)



## Representative Cases Continued

Type 2 diabetic with diabetic foot infection, DFU, and osteomyelitis of the 5<sup>th</sup> metatarsal. PMHx: DM2, diabetic peripheral neuropathy, AKI, and history of sepsis. Patient was taken to the OR for an open 5<sup>th</sup> ray amputation. Wound care with NPWT, collagen/ORC/Ag and methylene blue foam followed by a split-thickness skin graft with closure of the wound. (HgA1c from 13.5 to 7.2)



## Discussion

Regular follow up with endocrinology and wound care are essential for rapid improvement of diabetic foot wounds. Compliance and close titration of insulin with endocrinology combined with aggressive wound care were all significant contributors for improvement or closure of these wounds.