CASE REPORT

# Management Of A Diabetic Foot Wound: A Case Study

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Diabetic foot ulcers remain a significant complication of diabetes, often requiring prolonged, multidisciplinary management to prevent infection, hospitalization and amputation.[1] This case study describes the treatment of a diabetic foot wound in a 67-year-old long-term care resident with multiple comorbidities in a rural setting in Nova Scotia. The individual demonstrated intermittent non-adherence to treatment recommendations, contributing to recurrent callus formation and episodes of infection. Despite challenges along the way, progressive healing was achieved guided by the Wounds Canada Best Practice Recommendations for Skin Health & Wound Management (2025).[1,2] While the Wound Prevention and Management Cycle outlined in the recommendations is conceptualized as a five-step process, this case served to highlight that wound healing is not always linear or neatly cyclical in practice. The care team involved in this case found themselves frequently having to revisit earlier steps in the cycle as new setbacks emerged. Factors such as infection, pain and wound dressing management contributed to multiple revisions of the care plan.

Through consistent monitoring, repeated debridement, timely infection management and ongoing collaboration between the wound care consultant, nursing staff and the resident, complete wound closure was achieved in January 2025. This case underscores the importance of persistence, flexibility and relationship-centered practice in supporting long-term healing and preventing ulcer recurrence in the complex environment of long-term care.

Diabetic foot ulcers remain a complex and persistent challenge in long-term care (LTC), often requiring sustained interdisciplinary collaboration to prevent infection, hospitalization and potential amputation. This case study outlines the year-long management of a resident in a nursing home, with multiple and complex comorbidities and intermittent adherence challenges, a true picture of the realities of wound prevention and management in current practice.

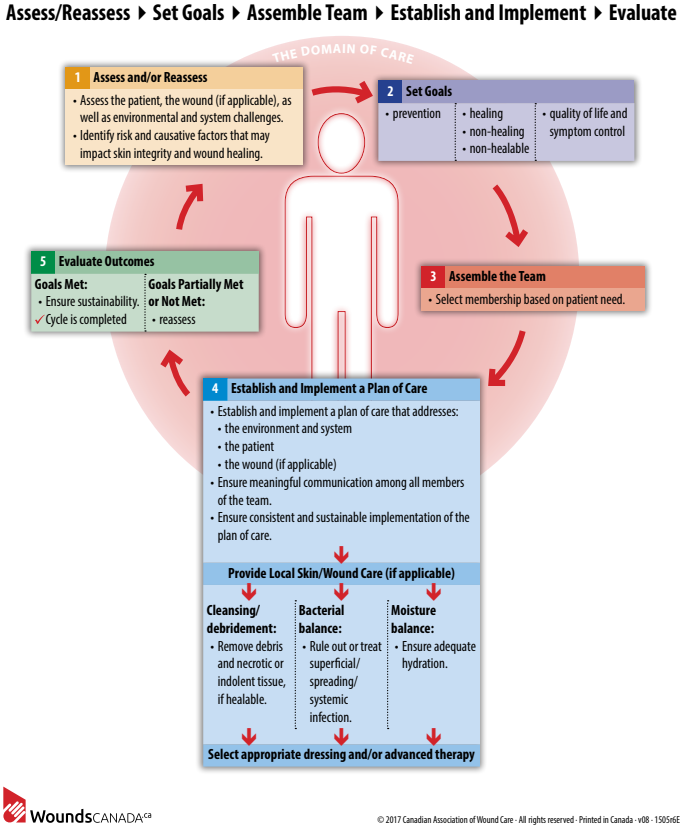


**Figure 1:** Wound Prevention and Management Cycle.

It is key that clinicians be diligent and prepared to move back and forth between steps as new complications arise—such as recurrent callus formation, infection and barriers to off-loading—requiring renewed assessment, adaptation and reengagement with the patient and care team. The progression of this wound, coming finally to complete closure in January 2025 despite several challenges, highlights the importance of consistency, persistent reassessment and ongoing partnership between the resident, wound care consultant and nursing staff in the long-term care setting. This case exemplifies how collaborative, adaptive practice is essential to achieving successful outcomes within the Wound Prevention and Management Cycle. (See Figure 1.)

## Case Presentation

This case study presents the management of a diabetic foot wound in a 67-year-old female residing in a long-term care facility. For the purposes of this case study, the resident will be called RA. RA's medical history includes Type 2 diabetes mellitus, hypothyroidism, gout, osteoarthritis, obesity, venous stasis edema and recurrent DVT. RA received oral antibiotics several times to treat recurrent diabetic wound infection. RA had reportedly demonstrated intermittent non-adherence to the current treatment plan, including inconsistent off-loading and use of improper footwear. Her wound care treatment plan had consisted of cleansing the wound and peri-wound with BIOCHL Pure Cleanse™, applying Inadine™ to the wound bed (cut to fit size), covering with Primapore™, changing dressing Q 7 days or more frequently if the Inadine turned white, monitoring for signs and symptoms of infection and ensuring the nursing staff and not the resident were removing the dressing.

All of this contributed to recurrent callus formation and repeated wound infections. In February 2024, the resident's physician completed a referral requesting that the Wound Care Consultant complete debridement of a wound on the resident's right hallux.

RA's blood sugars remained consistently between 6-8 because of diet and oral antidiabetic medications. RA is mobile with the assistance of a wheeled walker. She cannot wear offloading footwear as her level of mobility would put her at high risk for falls; though she wears a soft slipper with no tread, which also puts her at an increased risk for fall or injury. Although RA has significant edema in both legs, she resists keeping her legs elevated.

## Discussion

The Wound Consultant (WC) first visited RA on March 5, 2024, to review the resident's record and complete an initial assessment. WC could not palpate dorsalis pedis pulse due to edema; pulse was audible via hand-held doppler, waveforms multiphasic bilaterally. Loss of protective sensation was noted, as determined by monofilament testing score of 6/10. Resident's level of pain was difficult to assess as related to the wound due to comorbidities of gout and osteoarthritis that also contribute to the experience of pain.

RA has compression stockings that she is meant to be wearing, however, she refuses to wear them due to the pain and discomfort of the wound. WC was unable to complete an accurate assessment of the wound at right hallux because of the callus.

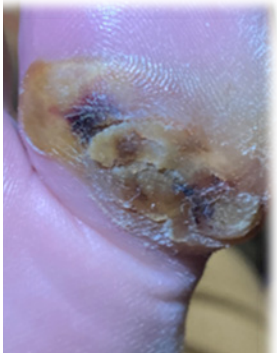

**Figure 2:** Baseline - February 28, 2024.

The presence of exudate at the lateral edges indicated further investigation was required. (See Figure 2.)

Debridement of the wound was completed by the WC on March 21, 2024, when a large amount of hard dry callous was removed, exposing a wound measuring (L) 2.2cm x (W) 1.0cm.

**Figure 3:** April 26, 2024 - Infection present.

On April 26, 2024, the WC made an on-site visit to find infection present in the wound and RA receiving oral antibiotics to treat the same. (See Figure 3.)

Assessment revealed increased pain and increased drainage, which was now purulent. The periwound was red and warm with no odour present. Due to active infection and increased pain, no debridement was completed during the visit. It was determined that pain management would be required prior to any future debridement.

The WC returned to see the client on May 7, 2024, to perform debridement of the wound. A large amount of loose, dry callous was removed; measurements post debridement were (L) 3.5cm x (W) 2.0cm x (D) 0.2cm. Education was provided to RA regarding the importance of offloading and wearing proper footwear even when inside. The WC visited on June 18, 2024, to perform another debridement. A large amount of hard dry callous was removed. Measurements post debridement were (L) 1.5cm x (W) 1.3cm, indicating improvement. During visit, the WC again reinforced with RA the importance of offloading and wearing proper footwear even when inside.

On August 28, 2024, the WC returned for an on-site visit at RA's LTC home to debride wound. Again, a large amount of hard dry callous was removed. Measurements post debridement were (L) 1.8cm x (W) 1.0cm.

The WC returned once again on October 30, 2024, to debride the wound and a large amount dry callous was removed. During assessment, it was noted that there was presence of 'debris' in the wound – which proved to be cat hair. This indicated to the WC that the resident had not been offloading the affected area as had been suggested in previous consult visits. The WC learned that RA would often shower without informing nursing staff, leaving the wound exposed, moist and at risk for further infection. (See Figure 4.)

**Figure 4:** October 30th, 2024 - infection present, large amount of callous and debris.

Prior to this consultation visit, the physician had seen RA and started her on oral antibiotics for seven days due to infection. Measurements post debridement at this visit were (L) 2.0cm x (W) 0.5cm. During the visit the WC, RA and nursing care team made the decision that RA would not shower or remove dressing on her own. RA agreed to having a sponge bath only and nursing staff would remove the dressing, rather than client doing so on her own. (See Figure 5.)

**Figure 5:** Same day - post debridement.

The WC visited again on November 14, 2024, to reassess and perform another debridement. During this two-week period, the WC noted there had been improvement. The amount of callous that had formed was now less and was not as hard, which allowed for a much easier procedure.

**Figure 6**: November 14th, 2024 - Post debridement.

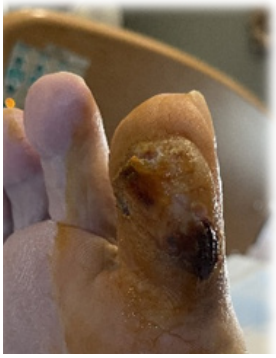

**Figure 7:** January 22, 2025.

**Figure 8:** Same day, post-debridement. Wound is fully closed.

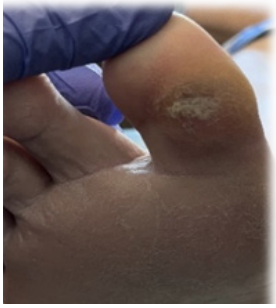

**Figure 9:** February 20, 2026 - Wound remains closed, small amount of callous.

This improvement acted as evidence that the resident had been adherent to the treatment plan as had been discussed at the last WC visit. (See Figure 6.)

A final on-site visit with the purpose of assessment, then debridement was made by the WC on January 22, 2025. At this visit, a large amount soft callous was easily removed during debridement, revealing a completely healed wound underneath. (See Figures 7 & 8.)

## Conclusion

Although the wound has successfully closed, preventing recurrence remains a priority for RA's care team. (See Figure 9.)

Long-term management must focus on maintaining stable blood sugars, ensuring proper footwear, promoting regular foot checks and supporting healthy daily activity. As previously stated, this case reinforces that the Wound Prevention and Management Cycle described in the Wounds Canada Best Practice Recommendations for Skin Health & Wound Management (2025) is not always a neat, five-step loop; rather, it often requires clinicians to return to previous steps, reassess and re-engage when new complications emerge. Throughout RA's year-long healing trajectory, progress depended on consistent, evidence-informed practice paired with a realistic, compassionate partnership between the wound care consultant, nursing team and the resident herself. Even when RA struggled with footwear choices, leg elevation or dressing management, the team adapted the plan to meet her where she was, ultimately supporting behavioural changes that promoted healing — such as RA's agreement to switch to sponge baths.

This case exemplifies how persistence, flexibility, and collaborative communication with the patient are essential to attaining positive wound outcomes in the growingly complex practice setting of long-term care. Wound management cannot be approached only as a technical sequence of interventions but requires care to be a relationship-centred process in which consistent engagement can guide patients toward more lasting improvements in their health.

***Disclaimer:*** *This document incorporates generative AI assistance (Microsoft Copilot) in helping to refine or reword sections of the authors' original work. All outputs were reviewed, verified and revised by the authors to ensure accuracy, integrity and alignment with academic standards.*

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