Optimizing Complex Wound Healing: A Case-Based Application of the 7-Steps of Wound Management Framework

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INTRODUCTION

The "7-Steps of Wound Management" is an evidence-based framework designed to enhance outcomes in managing hard-to-heal wounds. These steps involve assessing circulation, infection, debridement, offloading, nutritional support, moisture management, and advanced therapies such as cellular, acellular and matrix-like products (CAMPs) or hyperbaric oxygen (HBO_2) therapy. This framework aims to promote healing, reduce complications, conserve medical resources, and improve quality of life.

AIMS

Evaluate the application of the 7-Steps of Wound Management framework in treating complex wounds through case studies.

Highlight the usefulness of advanced therapies, like CAMPs, when standard care fails in chronic wound healing.

Demonstrate the impact of individualized, patient-centered care in improving healing outcomes and quality of life.

MATERIALS & METHODS

Patients were treated using the 7-step framework, which included evaluating circulation with ABIs or Doppler, wound cultures as needed, and regular sharp debridement. Nutritional needs were addressed, off-loading was implemented when necessary, and dressing choices were tailored to wound characteristics (Fig 1).[1,2] For wounds not reducing by 50% after four-weeks of standard care, advanced therapies like CAMPs or HBO_2 were deployed. Treatment protocols emphasized adaptability based on individual patient need.

MATERIALS & METHODS

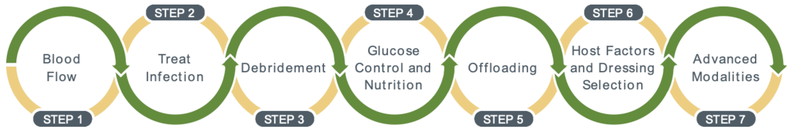
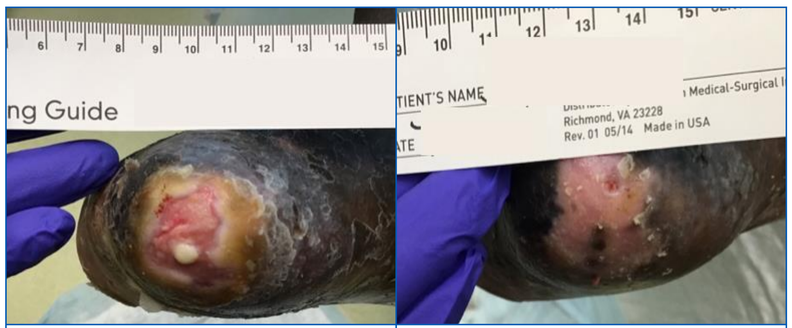


Fig 1. 7-Steps of Wound Management - The Clinical Foundation To Standardize Wound Care

RESULTS

Cases:

Patient 1: A 58-year-old diabetic male with amputations and peripheral neuropathy developed diabetic foot ulcers (DFUs). After stagnation with silver dressings, advanced therapy with PuraPly AM (Organogenesis, Canton, MA, USA) was implemented, achieving complete epithelialization in 33 days despite a 28-day gap in follow-up (Fig 2).



DAY 0 - PuraPly AM Applied	Day 33 - after initial application

Fig 2. 58 y/o diabetic male with amputations and peripheral neuropathy

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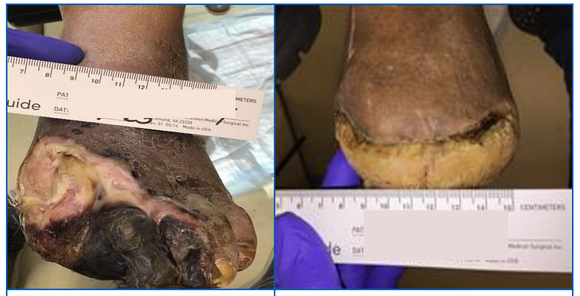
RESULTS

Patient 2: An 80-y/o male with PAD underwent revascularization and TMA for ischemia and necrosis. In addition to standard care and dietary counseling, negative pressure wound therapy (NPWT), PuraPly AM, and Apligraf (Organogenesis, Canton, MA, USA) CAMPs were utilized. Complete closure occurred within four months (Fig 3).



Presentation prior to TMA & initiation of CAMPs	4 months after standard care plus NPWT & CAMPs

Fig 3. 80 y/o male with peripheral arterial disease (PAD)

CONCLUSIONS

These cases illustrate the importance of the 7-Steps framework in overcoming challenges like missed follow-ups and chronic wounds. Advanced therapies like CAMPs proved critical when standard care alone failed to achieve closure. The approach aligns with literature advocating systematic wound management and individualized care.[3,4,5] The "7-Steps of Wound Management" offers a comprehensive foundation for optimizing the process of caring for both complicated and hard-to-heal wounds. Consistent, patient-centered applications lead to improved healing, reduced complications, and enhanced quality of life.

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