

# Treatment of a Complex Diabetic Foot Wound with RTD™ Wound Dressing: A unique absorbent antimicrobial polyurethane foam dressing

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## Introduction

This 71 y/o female patient presented to wound clinic with a large 15 month old wound on the lateral aspect of the ankle and dorsum of the foot. Wound cultured positive for P.aeruginosa, MRSA, and E. coli with etiology related to atherosclerosis. Patient has a complicated medical history including Diabetes, Hypertension, Lupus, Crohn's disease, Fibromyalgia, Spinal Stenosis and previous lower extremity Pyoderma Gangrenosum. The patient has a history of systemic immunosuppressant therapy. Previous treatment included multiple oral antibiotics, systemic antibiotics, and debridement.

The purpose of this study is to demonstrate the benefits of RTD™ Wound Dressing in managing this large lower extremity wounds complicated by a complex medical history, including diabetes and autoimmune disease. This dressing is the only one on the market that contains all three known antimicrobials integrated into the foam matrix; methyleneblue (0.25 mg/g) and gentian violet (0.25 mg/g) plus a silver compound (Silver Zirconium Phosphate (7 mg/g)).

This dressing provides sustained antimicrobial protection and is effective against a broad spectrum of gram negative and gram positive bacteria, yeast and fungi. It is a more effective antimicrobial than dressings that contain organic pigments (methylene blue and gentian violet) alone<sup>1</sup>.

## Method

Wound measurements were recorded on each visit. Initially the patient was managed for 6 weeks with oral antibiotics, debridement, compression and advanced wound care dressings including: Silvaklenz™/Silvion™, Enluxtra™, Drawtex® and Cutimed®. RTD™ was started, in addition to oral antibiotics, due to an increase in wound size, exudate and foul odor with prior treatment. Percent wound surface area reduction was calculated and monitored following the commencement of RTD™ wound dressing. The patient received treatment with a cryopreserved amniotic cell injection 5 months into her treatment.

## Results

The wound measurement was 8.0 x 9.0 x 0.2 cm (72 cm<sup>2</sup>) at the time that RTD™ wound dressing was initiated. Percent wound surface area reduction (WSAR) in 4, 8 and 12 weeks was 26% (53.6 cm<sup>2</sup>), 53% (34.1 cm<sup>2</sup>), 84% (11.34 cm<sup>2</sup>), respectively. The wound continues to heal gradually. The wound measured 2.2 x 1.1 x 0.1cm at 7 months post RTD™ and was reduced to 2.42 cm<sup>2</sup> (97% WSAR).



Initial Assessment (15 month wound)



Week 6 (Prior to RTD™)



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## Discussion

RTD™ helped to control the wound bed contamination and reduce the surface bioburden. The wound began healing despite the fact that it was frequently complicated by infection through out treatment. RTD™ has been shown to be effective in reducing commonly found wound bacteria<sup>2</sup>. Since this new dressing possesses absorptive and antimicrobial properties, it creates an optimal environment for wound healing and helps to overcome the challenges of a compromised wound-healing environment such as this. Since the silver compound in this dressing is non cytotoxic, this dressing could be used throughout the continuum of healing.

## Conclusion

This 76 year old patient was immunosuppressed and had a very complicated medical history, including Diabetes, Hypertension, Lupus, Crohn's disease, Fibromyalgia, Spinal Stenosis and Pyoderma Gangrenosum. The outcome with RTD™ was very positive with 84% WSAR in after 12 weeks. This dressing appeared to help "kick start" the healing process where other dressings were not as effective. This complex chronic wound continues to improve with the use of RTD™ wound dressing.



4 Weeks with RTD™ - 26% WSAR



8 Weeks with RTD™ - 53% WSAR



12 Weeks with RTD™ - 84% WSAR



7 Months with RTD™ - 97% WSAR

## References

1. Keneric Healthcare: Data on file 2014
2. Achterberg J, Abboud L. Case Closed: Opening the door to closing challenging wounds. *Ostomy Wound Manage.* 2014;61(3):12-14.



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