



# A Retrospective Evaluation of Transforming Powder Dressing in the Treatment of Non-Healing Diabetic Foot Ulcers



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## Introduction

Diabetes mellitus (DM) is a serious chronic disease with an estimated worldwide prevalence of 2.8%. Diabetic foot ulcers (DFUs) are a common complication of DM caused by varying factors including poor glycemic control, peripheral neuropathy, reduced sweating, poor sensation and inadequate arterial circulation. Data indicates that 10-15% DFUs remain chronically active and up to 24% of them eventually lead to limb amputations due to foot infections.

Transforming powder dressing (TPD) forms a non-occlusive barrier on the wound bed that helps optimize wound moisture to promote healing. Extended wear time reduces dressing changes, infection risk and complications, presenting a promising new wound treatment modality.

## Materials and Methods

We used a novel methacrylate-based transforming powder dressing, which transforms in-situ to a shape-retentive wound matrix once in contact with moisture. (Altrazeal® TPD, ULURU Inc.).

A retrospective evaluation was conducted for 17 patients with non-healing, Wagner Grade 2-3 DFUs treated with standard of care therapies. Dressing change frequency and time to closure were evaluated.

## Results



52-year-old male with non-healing Wagner grade 2 ulcer for five months receiving daily dressing changes. Pain and exudation reduced significantly after one TPD application. Two TPD changes were required over the four-week period.



68-year-old male with non-healing Wagner Grade 3 DFU for one year. Patient expressed pain reduction immediately after TPD application.

Wound area reduced significantly by first dressing change (Day 9) with 75% reduction by the third change (Day 40).



59-year-old female with type II DM, CVD and non-healing Wagner Grade 3 ulcer for three months. A total of eight dressings were utilized over seven weeks.

## Summary Results: TPD Treatment Outcomes for Wagner

Wagner Grade Ulcer Classification	Total Cases Analyzed	Average Days to Healing	Average Number of Dressing Changes	Average Days Between Dressing Changes
All	17	46	5.9	10
3	13	48	6.2	10
2	4	37	5.3	10

Historical data on 17 patients (mean age of 58) revealed 13 patients (77%) with severe Wagner Grade 3 DFUs and 4 (23%) had Wagner Grade 2 DFUs. The hard-to-heal DFUs had a mean duration of 33 months (range: 4 days – 18 years). TPD was changed on a weekly to monthly schedule, based on the clinician's judgement and individual patient needs. The mean number of dressing changes was 5.9 and the mean time to heal was 45.7 days. All patients displayed accelerated wound closure and avoided amputations.

## Conclusion

TPD presented a safe and effective modality for treatment of hard-to-heal DFUs; significantly reducing the duration of healing, patient pain and the number of dressing changes.

## References

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