

COMBINED LOW-FREQUENCY ULTRASONIC DEBRIDEMENT WITH ABRASION IN WOUND BED PREPARATION – A CASE SERIES

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Aim: The aim of this study was to evaluate the clinical effects of combined low-frequency ultrasonic debridement with abrasion¹ in wound bed preparation.

Methods: An exploratory case series study was carried out involving 10 patients with a chronic wound of different aetiology such as diabetes, venous, arterial or mixed ulcers and open surgical wounds. Patient received sequential combined low-frequency ultrasonic debridement with abrasion in a period of two weeks. Intervention was administered once per week for 5-10 seconds per square centimetre of a wound along with saline irrigation. Wounds were afterwards managed by standard treatment using wound dressings. Primary outcome was reduction of devitalised tissue (%). Secondary outcome was patient reported pain level (0-10) during procedure.

Results: The results of this study have shown that in 7 cases, the wound bed was in more than 80% of surface filled with a healthy, red granulations, while in three cases we also observed that the extent of the surface area and depth of the wound decreased. The intensity of patient reported pain during the procedure was in between 0 and 3.



Case1: Baseline
Male, 69 years, Osteomyelitis,
DM type II



One week after one debridement



Case 4: Baseline
Female, 81 years, Venous
ulcer



One week after one debridement

Conclusion: In this case series use of combined low-frequency ultrasonic debridement with abrasion resulted in a notable decrease of devitalised tissue in the wound bed. Furthermore, it allowed a simple, effective and gentle debridement. This study speaks in favour of using ultrasonic debridement in wound bed preparation, however further rigorous research is needed to evaluate the effectiveness of this intervention.

¹Combined low-frequency ultrasonic debridement with macro and micro abrasion was carried out with a medical device Curason (Curasonix GmbH, Germany)

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