Efficacy of Micro-Water-Jet Debridement of Acute & Chronic Wounds in an Office-Based Setting

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Introduction

Debridement is a critical step in wound bed preparation and healing. Multiple debridement tools exist with their associated advantages and disadvantages. We evaluate the clinical efficacy and ease-of-use of Micro Water Jet debridement (MWJ) on acute and chronic wounds in an office-based setting.

Methods

A series of 4 patients were evaluated with different wound types, location, and size who underwent micro-water-jet-debridement with saline. Average wound size was 35 sq. cm (Range: 25sq cm - 100 sq. cm). Clinical efficacy was noted by punctate bleeding and removal of desired tissue, with follow-up to document healing status. Ease-of-use was evaluated by set up time, surgeon’s evaluation of the micro-water-jet’s debridement characteristics, and patient comfort.

Results

All four patients underwent successful debridement using the micro-water-jet debridement in the office. Punctate bleeding and effective removal of tissue were noted in all patients. All patients healed or had documented wound healing by decreased dimensions during an 8-week follow-up. Setup time was straightforward (Average 7 minutes, Range 5-10 minutes) and the surgeon described the debridement as precise and efficient with minimal patient discomfort. There were no adverse events with bleeding or infection.

Conclusion & Discussion

Micro Water Jet (MWJ) debridement is a clinically efficacious and simple system for debridement of acute and chronic wounds in the office setting. Patients tolerated this form of debridement well with minimal discomfort and achieved healed wounds with adjunctive local wound care. MWJ debridement in the office setting has many advantages over traditional forms of debridement (scalpel, curette, radical surgical) while avoiding the costs of an operating room. Future studies should include a more global economic cost analysis of using this device in the outpatient and inpatient setting, and in conjunction with various biologics with MWJ wound bed preparation.