

Submitting / Presenting Author: Dr Bruce LK Davey¹ (PhD)

Co-Authors: Adam Philps² (BHSc (Pod)), Les JM Jonsson³ (BHSc (Pod), Dip Pod Surg, Dip Pod, Dip Soc Sc (Psy)), Dr David B Nixon⁴ (MBChB), Dr Mark A Nixon¹ (MBChB, BMedSc, BSc)

Affiliations: 1 ARANZ Medical Ltd, Christchurch, New Zealand; 2 Philps Podiatry, Masterton, New Zealand; 3 Jonsson Podiatry, Masterton, New Zealand; 4 The Doctors, Masterton, New Zealand

Title: Use of the ARANZ Medical *SilhouetteMobile*TM in Primary Practice for the Documentation and Monitoring of Diabetic Foot Ulcers: A Preliminary Study

Background: *SilhouetteMobile*TM is an electronic, hand-held wound measurement and documentation system. Previous reports have documented usage of the system on vascular wounds. Here *SilhouetteMobile*TM was used to take images and perform measurements on diabetic foot ulcers in rural New Zealand (regional population of 38,000), involving a medical practice and two podiatry clinics.

Purpose: To assess the usability, ease of integration, and reliability of *SilhouetteMobile* for measuring diabetic foot ulcers in the primary care setting.

Methods: *SilhouetteMobile* was used to measure diabetic foot ulcers of four patients. Each ulcer was measured four times in order to obtain a measure of intra-user variability. For each ulcer assessed, the mean surface area, and the maximum deviation from the mean, was calculated. Additionally one ulcer was followed up for several weeks.

Results: *SilhouetteMobile* was very easy to use, with training consisting of a one hour tutorial. PDF reports were automatically generated by the system for insertion into the patient notes, and a useful aid for specialist consultation. The changes over time graphs aided with the monitoring of wound progress, and were useful for both the clinician and the patient. The system exhibited good intra-user variability (within 5%) at all locations.

Conclusions: *SilhouetteMobile* was found to be easy to use, could obtain measurements quickly and with precision. It generated reports automatically that were concise and clinically meaningful.