

## COMPARISON OF THE WOUND AREA ASSESSMENT METHODS IN THE DIABETIC FOOT SYNDROME

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### Abstract

The paper presents results of comparison of the wound area assessment methods in the diabetic foot syndrome (DFS). Wound size is a basic parameter that is used to evaluate efficacy of the applied treatment. Four measurement methods were used: the rulers, the planimetric Visitrak (Smith & Nephew, England), the Silhouette (Aranz Medical, New Zealand) applying lasers, digital photography and planimetry as well as the patient's module of TeleDiaFoS telecare system with the foot scanning capabilities. Study group consisted of 18 DFS patients. Nineteen wounds were successfully measured with all 4 methods. The results of the Visitrak and the Silhouette can be used interchangeably ( $r = 0.994$ , slope = 1.01, intercept = 0.154 cm<sup>2</sup>). For the other systems strong linear relationships exist that can be used to convert the wound area measured with one method to the corresponding value of another method. The correlation coefficients higher than 0.985 were obtained in ease of 3 systems: Visitrak, Silhouette and TeleDiaFoS.

The TeleDiaFoS system can provide a physician with the patient-self-taken wound images that can be used for reliable assessment of the wound healing process during home tele-monitoring of the DFS patients.

**Keywords:** Diabetes mellitus, Diabetic Foot Syndrome, wound area assessment, wound healing