

REPRODUCIBILITY OF CURRENT WOUND SIZE SURFACE MEASUREMENT

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Aim: To analyse and compare the quality of 4 regular applied tools to measure wound size surface. The 4 tools are counting blocks, digitizer, planigraphy of sheets and planigraphy of digital photos. The main characteristic for quality is agreement or preciseness. Only if agreement is sufficient the healing process of a wound can be predicted. The agreement is expressed in SEM (Standard Error of Measurement) and MDC (Minimal Detectable Change). Other characteristics for quality are reliability (expressed in ICC's) and clinical practicality.

Method: A diagnostic study wherein 30 patient with skin wounds are evaluated by 2 raters, who on 2 occasions performed a test and retest procedure. Every wound is tested 8 times. Intra- and inter-rater agreement is determined in a within-day and between-day analysis. 30 Patients are classified in 3 settings: in-hospital, policlinic and home care. Small and large wounds are equally included.

Results: The 4 tools measure different wound sizes with unacceptable high spreading. Statistical significant differences are present between blocks/digitizer, blocks/plani sheet and ditizer/plani sheet (paired t test). Anova finds no clear intra- or inter-rater statistical significant differences within each of the 4 tools.

The intra-rater agreement of each tool is sufficient; the MDC% is 5% (meaning that a difference of 5% is based up on error variance; a change of more than 5% shows clinical change). The inter-rater agreement is more than 10%. The ICC values are all above 0,9 showing good reliability.

The clinical practicality of the 4 tools is not sufficient (time consuming). Different settings and wound sizes show the same results.

Conclusion: Reproducibility is only sufficient in intra-rater measurement. Clinical practicality is poor. A new measurement tool with proper agreement and practicality is needed for proper wound measurement.