

TECHNICAL REPORT**LOCAL TISSUE WATER CHANGES ASSESSED BY TISSUE DIELECTRIC CONSTANT: SINGLE MEASUREMENTS VERSUS AVERAGING OF MULTIPLE MEASUREMENTS****H.N. Mayrovitz, S. Davey, E. Shapiro**

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ABSTRACT

Previous reports describe the use of average tissue dielectric constant (TDC) measurements to assess local tissue water and its change. Our goal was to determine if a single TDC measurement could be used in place of the average of multiple measurements. The comparison criteria used to test this was the extent to which single and averaged measurements yielded similar TDC values in both normal and lymphedematous tissue. Measurements were made on both ventral forearms to a depth of 2.5 mm in 10 women with unilateral arm lymphedema. The main results showed that the 95% confidence interval for differences between single and averaged TDC values was less than ± 1 TDC unit for both normal and lymphedematous arms. This finding strongly suggests that for most, if not all, clinical evaluations, suitable assessments can be made using a single TDC measurement.