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**MEASURING HAND SIZE IN PATIENTS WITH BREAST CANCER RELATED LYMPHOEDEMA (BCRL)**

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Breast cancer related lymphoedema (BCRL) affects 24–42% of patients after treatment for breast cancer. The gold standard method to measure the hand swelling associated with BCRL is to submerge the hand/arm into water and measure the amount of water displaced. This method is not always possible clinically and the figure of eight method, which involves wrapping a simple measuring tape around the hand in a specific way, may be an alternative method of measurement.

The aim of the study was to examine the reliability and validity of the figure-of-eight method of measuring hand size in women with BCRL.

**Methods** 24 people with BCRL had their affected hand measured by both the water displacement and tape measure methods by two novice therapists (testers). The figure of eight measurements were taken using a blank tape which was then measured against a meter stick by the recorder. For the water displacement method, subjects were asked to submerge their hand into the water filled volumeter. The volume of the water displaced was measured and recorded by the recorder. The therapists were therefore blind to the results. Each method was repeated three times and the order of testing was randomised between subjects and testers.

**Results** 24 full sets of data were available for analysis. In terms of intertester reliability the ICC values ranged from 0.825 to 0.854. For intratester reliability ICCs were 0.889 for tester 1 and 0.919 for tester 2. For validity Pearson's – moment correlation was 0.700 for tester 1 and 0.752 for tester 2 (both  $p < 0.001$ ).

**Conclusion** The figure of eight method was found to be a valid and reliable method of measuring hand swelling. The findings of this study would support the use of this simple clinical

measurement for determining the extent of hand swelling in women with BCRL.