

**BIOMECHANICAL EVALUATION OF SCAPULAR GIRDLE IN  
PATIENTS WITH CHRONIC ARM LYMPHEDEMA****A. Balzarini, P. Lualdi, C. Lucarini, S. Ferla, M. Galli, M. Crivellini, F. DeConno**

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*ABSTRACT*

*The presence of arm lymphedema can induce alterations in motor functions and posture. Using an optoelectronic system (ELITE 2002), we evaluated these alterations during a set of tests involving walking, resting and fatigue. The results of our biomechanical analysis demonstrated a limited range of motion of the affected arm, particularly a reduction in swinging during walking tests, and in shoulder retroposition and abduction movements for all patients. After repeated cyclical movements, premature fatigue appeared in the pathological arm. Lymphedema does not appear to cause alterations to the posture of the spine in our study, but drooping of the shoulder homolateral to the lymphedema can occur. This kind of investigation, which is quick, easy, and comfortable for patients with lymphedema, can be a useful method to evaluate functional capacity, thus allowing a quantitative assessment of the loss of function and the optimizing of the rehabilitative protocol.*