



Limb Blood Flow, Cardiac Output and Quadriceps Muscle bulk Following Spinal Cord Injury And The Effect Of Training For The Odstock Functional Electrical Stimulation Standing System.

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Abstract

As part of the assessment of the Odstock Functional Electrical Stimulation (FES) Standing system for mid to low thoracic lesion spinal cord injured (SCI) subjects, cardiac output, thigh blood flow and quadriceps muscle thickness were measured before and following an electrical stimulation muscle retraining programme. The same parameters were also measured in a group of uninjured subjects and in SCI subjects. It was found that there was no difference in cardiac output between the groups. However thigh blood flow was found to be around 65% of normal values in the spinally injured group. This returned to normal values following the retraining programme. The quadriceps muscle wasted to approximately 50% of its original thickness in the first three weeks following spinal cord injury. The retraining programme increased the muscle thickness to near normal values.

Paraplegia 31 (1993) 303-3 10