MOVEMENT STRATEGIES IN INDIVIDUALS WITH SPINAL CORD INJURY
TRANSFERRING

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The purpose of this study was to investigate the movement strategies used to transfer in individuals with spinal cord injury. Preliminary investigations by this group, reported two possible movement strategies adopted during the long sitting transfer in individuals with spinal cord injury (SCI). It was demonstrated that individuals (n = 10) used a translational or rotational pattern of movement. It was hypothesised that the selection of the specific movement strategies was based on the biomechanical and neurological resources of the individual. Seventeen (n=17) subjects, 5 with paraplegia and 12 with quadriplegia, have since been tested using a 2-D Peak Performances video analysis system. During the dynamic phase of the transfer the lateral translation of the head and the pelvis were cross-correlated to define the movement strategy. The results support the previous two strategy hypothesis, however, it is clear that some individuals utilise a combination of both strategies to maximise their ability to displace the pelvis laterally. The factors which determine the optimal selection of either strategy would seem to include the muscle performance of the elbow extensors and anthropometric factors such as arm length. It is concluded that Functional Electrical Stimulation (FES) programs which improve the force of elbow extension may not result in improved performance of transfers unless individuals optimize/modify their motor strategy pattern.