

Electromyographic Activities in the Trunk Muscles of Stroke Induced Hemiplegic Patients during Symmetric Movements

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Abstract

The purpose of this study was to compare the electromyographic (EMG) activities of affected and unaffected trunk muscles in hemiplegic patients during symmetric trunk movements. The subjects were seven hemiplegic patients (five men and two women, 66.9 ± 13.9 years old). EMG activities from both sides of the rectus abdominis and lumbar erector supinae muscles were recorded and analyzed during maximum voluntary contractions and trunk flexion-extension movements in the sitting position. Data analysis was based on the timing and amount of muscular activities of bilateral corresponding muscles. High synchronous activities occurred in both sides of the trunk muscle of hemiplegic patients. However, there were great variations in the amount of IEMG (integrated EMG). These results indicated that the bilateral corresponding axial trunk muscles co-contract during symmetric trunk movements, but the amount of activity was influenced by excessive contraction of the affected side or compensatory contraction of the unaffected side.
