

Title: The effects of the arthrokinematic approach-Hakata method for lost arm-function in chronic stroke patients

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Abstract

Introduction: In chronic stroke survivors (< six months) with little voluntary movement of the upper-limb, function can become lost over the long term. However, there is the chance to recover paretic upper-limb motor function using the arthrokinematic approach-Hakata method (AKA-H) and articular neurological treatment (ANT).

Subjects: Sixteen patients with chronic motor impairment of the upper limb 6 months after stroke (median: 56.2 months [7-216]) who could walk independently and fully understand our intervention.

Method: We (a well-trained specialist and a physical therapist of AKA-H) applied AKA-H and ANT every week or every other week for over three months.

Results: All patients exhibited significant improvement in the passive ROM of shoulder movement (flexion, abduction, and external rotation, wrist flexion) after AKA-H and ANT. Eight patients achieved voluntary movement of shoulder flexion over 90 degrees and horizontal-abduction in the supine position, and then managed to move their fingers separately. Two patients got but only at the supine position. Five patients achieved elbow extension with some support of shoulder flexion to 90 degrees.

The limitations at the range of motion of hemiparetic upper-limb joints may be caused by joint contracture due to intra-articular disorders. Because articular nerves in the extrinsic ligaments of the limb joint are used to generate joint movement, these over-discharges accumulate to be tight junction. The AKA-H and ANT can remedy the severely impaired arm function of chronic stroke patients.