

# Effectiveness of Hospital-based Systemic Rehabilitation in Improving Ankle Function after Surgery in Chronic Ankle Instability Patients

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**Objectives:** We investigated the therapeutic effect of a postoperative hospital-based systemic rehabilitation protocol on ankle function in chronic ankle instability (CAI) patients.

**Methods:** Thirty-five patients who underwent a modified Broström procedure for CAI were recruited in this prospective randomized controlled trial. Fifty-minute sessions of hospital-based rehabilitation were performed three times weekly for 12 weeks in the intervention group. Education-based rehabilitation was conducted at home in the control group. The outcomes were evaluated at baseline (T0), 12 weeks (T1), and 16 weeks (T2). The primary outcome was the foot and ankle outcome score (FAOS). Ankle motor strength and spatiotemporal gait metrics were assessed as secondary outcomes. **Results:** There were significant time and group interaction effects on the pain, symptoms, activities of daily living, sports activities, and quality of life (QOL) domains of the FAOS ( $P < 0.05$ , all). The patients in the intervention group showed

larger improvements in all domains of the FAOS than did the control group at both T1 and T2 ( $P < 0.05$ , all). The time and group interaction effects on invertor and evertor strength were also significant ( $P = 0.047$  and  $P = 0.044$ ). Invertor and evertor strength improved significantly more in the intervention group than in the control group at T1 and T2 ( $P < 0.05$ , all). The preferred walking velocity, cadence, step length on the affected side, and double stance phase duration tended to improve over time.

**Conclusions:** Postoperative hospital-based rehabilitation helped improve CAI pain, symptoms, independence in activities of daily living, sports activity levels, and QOL more effectively than did conventional rehabilitation at home.