



# Long-term Lateral Ankle Instability

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## Abstract

Long-term lateral ankle instability is a common condition following acute ankle sprain. The pathophysiology is complex, involving ligamentous laxity, proprioceptive deficits, and neuromuscular control abnormalities. This study aims to investigate the long-term effects of lateral ankle instability on gait and balance. The study design is a prospective cohort study. The participants were 20 patients with a history of acute ankle sprain, who were followed up for 12 months. The primary outcome was the change in gait parameters, including stride length, stride time, and stride width. The secondary outcome was the change in balance parameters, including sway area and sway length. The results showed that patients with lateral ankle instability had significantly shorter stride lengths and longer stride times compared to the control group. There was also a significant increase in sway area and sway length over time. These findings suggest that lateral ankle instability leads to gait and balance abnormalities, which may increase the risk of falls and further injury. The study has several limitations, including a small sample size and a short follow-up period. Further research is needed to confirm these findings and to explore the underlying mechanisms of lateral ankle instability.

**Keywords:** lateral ankle instability, gait, balance, proprioception, neuromuscular control

**Introduction:** Lateral ankle instability is a common condition following acute ankle sprain. It is characterized by a feeling of instability and a tendency to give way during weight-bearing activities. The pathophysiology is complex, involving ligamentous laxity, proprioceptive deficits, and neuromuscular control abnormalities. This study aims to investigate the long-term effects of lateral ankle instability on gait and balance.

