

Effects of 4-Weeks Exercise Program on Balance Using Elastic Tubing as a Perturbation Force for Individuals With a History of Ankle Sprains

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Setting the scene:

Lateral ankle sprains are among the most common injuries incurred while performing both daily living and sport activities. Individuals who have repeatedly sprained their ankle often report persistent symptoms of weakness, a feeling of “giving way,” and pain during activity. Balance deficits have been frequently reported in individuals with chronically unstable ankles. Several researchers have suggested that improving balance may help alleviate the symptoms of functional ankle instability and reduce the rate of recurrent ankle sprains. Elastic tubing exercise is often used in conjunction with other rehabilitation exercises to promote ankle strength and balance in patients with recurrent ankle sprains. When utilizing elastic resistance exercise to rehabilitate a chronically unstable ankle, the unaffected ankle is attached to the elastic tubing and the affected ankle experiences a weight-bearing overload to resist against the perturbation force. The aim of this study was to evaluate the effect of a 4-week training program in subjects with and without a history of ankle sprains.

What did they do?

40 subjects (20 males, 20 females; 20 subjects with chronic ankle instability [CAI], 20 healthy) participated in the study. Ten subjects (5 males, 5 females) from each CAI and healthy group were randomly assigned to either the exercise or control group, resulting in a total of 4 groups. Total travel distance of the center of pressure, monitored using a force platform, was measured before training, after 4 weeks of training, and at a 4-week follow-up. The results showed improvement in balance in subjects with and without ankle sprain immediately and at 4 weeks follow up. But whether this might lead to a reduction in the recurrence of ankle sprains for individuals with chronically unstable ankles or the incidence of ankle sprains in individuals without a history of ankle sprains is not known.

Takeaway message:

Elastic resistance exercises is a simple method that can be used in rehabilitation to improve balance.