



POSTER PRESENTATION

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# Effect of cognitive task on postural control of the patients with chronic ankle sprain

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## Background

Chronic ankle instability can affect activities of daily living in patients. While many studies have indicated postural control deficits in these patients [1,2], the effect of a dual task on postural control has not been examined yet [3].

## Materials and methods

Postural stability in CAI patients (n=8) and healthy subjects (n=10) was measured using the Force Plate. Eight positions concluded two different stances (double & single) with closed or opened eyes. All positions concurrently were done with a cognitive task. Anterior/posterior (Rfa) and medial/lateral (Rsw) mean sway, area and mean velocity quantified static postural control [4].

## Results

Mean sway significantly increased in patients in the anterior/posterior (single and double leg stance) and medial/lateral (single leg stance) directions ( $P < 0.05$ ). While performing a dual task anterior/posterior mean sway decreases within the patients group on the impaired leg stance ( $P < 0.05$ ). Area significantly increased in patients in single leg stance but decreased in the bilateral standing positions except open eyes with cognitive task. Mean velocity significantly decreased (single leg stance) and increased (double leg stance). No difference is seen in the healthy subjects.

## Conclusion

Postural control deficits were identified in participants with chronic ankle instability. In view of the fact that a cognitive task resulted in decreasing displacement of centre of pressure in patients, this method may identify

as an examination and a plan of treatment for affecting on ankle stabilizing factors.

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