

## A Study of the Effect of Stability Trainer on Dynamic Balance in Distal Sensory Diabetic Neuropathy

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### Abstract

The purpose of this study was to determine the effect of stability trainer on dynamic balance in patients with distal sensory diabetic neuropathy (DSDN). Thirty subjects of both genders were divided into 2 groups. Experimental group received 45 minutes conventional physiotherapy & 15 minutes balance training on stability trainer while control group received 45 minutes of conventional physiotherapy. **Results:** There was significant difference between pre to post readings of DGI & TUG in both groups with overall percentage of DGI 24.5% & TUG 31.89% in experimental group and DGI 12.94% & TUG 11.82% in the control group. In pre to follow up readings there was significant difference with DGI 14.56% & TUG 30.31% in experimental Group and DGI 7.46% & TUG 6.94% in control group. **Conclusion:** It was concluded that training on stability trainer with conventional physiotherapy is more effective than conventional physiotherapy alone, in improving dynamic balance.

### Introduction

Diabetic peripheral neuropathy (DPN), a microvascular complication of diabetes, is associated with considerable mortality, morbidity and diminished quality of life. Characterized by pain, paresthesia and sensory loss, it affects up to 50% of patients with diabetes with new cases occurring at an annual incidence of about 2%. In absolute numbers, against the estimated global prevalence of 220 million cases of diabetes by 2010, DPN is likely to affect as many as 110 million persons worldwide and at tremendous cost (Solomon, 2001). Neuropathy is a common and serious complication of diabetes mellitus. The most common type of

neuropathy associated with diabetes mellitus is diabetes sensory polyneuropathy (DSPN). The associated symptoms of DSPN are typically described as symmetrical sensory loss to all modalities often referred to as a “dying back” phenomenon. Described as an axonal length-dependent pathology, referencing the distance from the dorsal root ganglion to the sensory receptor, DSPN allegedly produces an almost universal finding of stocking distribution sensory loss in the lower extremities and glove distribution sensory loss in the upper extremities (Andrew *et al*, 2008). Patients with type 2 diabetic neuropathy (DN) are at an increased risk of falls. This increased