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## **Relationship between weight bearing symmetry, trunk control and fear of fall amongst subjects with stroke: A cross sectional study**

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## Relationship between weight bearing symmetry, trunk control and fear of fall amongst subjects with stroke: A cross sectional study

**Background-** Stroke is one of the most disabling conditions that can occur in adulthood around the world. It has been reported worldwide, that a stroke survivor will suffer from physical limitations such as hemiparesis, impaired postural control and other cognitive and spatial disabilities. Due to the combination of such limitations, patients post stroke experience balance deficits during walking and quiet, long standing. It has been reported that 83% of patients post stroke, bear more weight on the non paretic side, compared to the paretic side during quiet sitting, standing and while performing functional tasks. Patients display more activation of the trunk muscles on the non-paretic side as compared to the paretic side. This study aims to find the relationship between weight bearing symmetry, trunk control and fear of falling amongst subjects with stroke. **Methodology-** 20 stroke subjects were recruited in the following study and were assessed for the weight bearing symmetry using forceplates, trunk control using Trunk impairment scale, trunk strength using isometric dynamometer and fear of fall using the Falls efficacy scale- international version. **Results-** Subjects with stroke presented with weight bearing asymmetry, poorer trunk muscle strength, poor trunk control and a moderate fear of falling. There was a positive correlation for weight bearing asymmetry and trunk muscle strength of muscle groups on the unaffected side. Trunk control had significant correlation with fear of falling. **Discussion-** Subjects with stroke demonstrated weight bearing asymmetry, more towards the unaffected side in standing, a significant loss in trunk muscle strength bilaterally, along with poor trunk control and a moderate fear of falling. Evidence of correlation between trunk control and fear of falling suggested that as trunk control improves, fear of falling reduces. **Conclusion-** The results of the present study suggest that, subjects with stroke who had stronger lateral trunk flexors on the unaffected side had greater asymmetry of weight bearing towards the unaffected side and subjects who had weaker trunk control had a greater fear of falling.