

The Effects of proprioceptive neuromuscular facilitation (PNF) Pattern Exercise Using the Sprinter and the Skater on Balance and Gait Function in the Stroke Patients

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Purpose: The aim of this study was to assess the effects of proprioceptive neuromuscular facilitation (PNF) pattern exercise using sprinter and skater on balance and gait in the stroke patients.

Methods: Twenty-two subjects were randomly assigned to the experimental group (n=11) and the control group (n=11). The experimental group performed PNF pattern exercise using sprinter and skater for 15 minutes with conventional physical therapy for 35 minutes (matt and gait training for 15 minutes + FES stimulation for 20 minutes), while the control group performed only conventional physical therapy for 50 minutes (matt and gait training for 30 minutes + FES stimulation for 20 minutes). Both groups performed therapeutic interventions for five days per week, for a period of four weeks. Functional Reach Test (FRT) and Berg Balance Scale (BBS) were used for assessment of balance, and Timed-Up and Go test (TUG) was used for testing of gait.

Results: The experimental group showed significant improvements in the FRT and the BBS, while the control group did not show significant changes in two measurements. The experimental group also showed significant improvements, however, the control group did not show significant changes in the TUG. In post-values of three measurements, significant differences were observed between the two groups ($p<0.05$).

Conclusion: This study demonstrated that PNF pattern exercise using sprinter and skater may be used to improve balance and gait function in stroke patients. Thus, we suggested that PNF pattern exercise using sprinter and skater would be a therapeutic intervention in stroke rehabilitation.

Key Words: PNF pattern exercise, Stroke, Balance, Gait