

Rutland, MD, Armstrong M, Carter B, Flores S, Nfodjo A, Spruiell J. *Upright Pose versus Thoracic Roll stretch and its effect on Posture in Sedentary Office Workers* (Poster). APTA- NEXT Conference, Orlando, FL, 6-29-18

**Purpose/Hypothesis:** The purpose is to compare the effects of the Upright Pose® vs. the thoracic roll stretch on posture in sedentary office workers versus instruction in a home exercise program.

**Number of Subjects:** 60 sedentary office workers (M=11,F=49);mean age of 48.6 years(SD=9.07)

**Materials/Methods:** Prior to testing, participants signed a medical release and completed demographic information. Blood pressure, height assessment, and a photograph of posture was taken prior to testing. Posture was measured with the Flexicurve® device by two physical therapy students. An Index of Kyphosis (IK) and Index of Lordosis (IL) was calculated from the measures of the thoracic and lumbar curves. The same tester measured and traced each curve to maintain consistency. Participants then randomly choose one of the three interventions (Group 1=Upright Pose®,Group 2=Foam roll stretch, Group 3=Posture education). Group 1 was educated in proper use of the Upright Pose® and was instructed to use it for 30 minutes during the workday. Group 2 was instructed to lie longitudinally on the foam roller with head support for 10 minutes,twice a day.Group 3 received instructions in proper posture to be completed once each hour during the workday. All participants demonstrated correct performance of their intervention. Following intervention, a post-test photograph was taken. An analysis of variance (ANOVA) was used to determine if a significant change occurred in thoracic and/or lumbar posture (dependent variable).Age, gender, and activity level were entered as covariates. A post-hoc Tukey test was used to determine the differences between groups. All data was analyzed with SPSS 22 statistical software ( $p < 0.05$ ).Results: A significant change in posture between pre- and post-test values( $p=0.001$ ) between all interventions was found. There was a significant difference between pre- and post-test measurements of subjects' lordotic curve ( $p < 0.05$ ).No significant difference found in pre- and post-test measurements of subjects' kyphotic curve( $p = 0.366$ ). No significant difference was found between the three interventions( $p=0.699$ ).Wilks' Lambda for between subjects' pre and post value was  $p < 0.001$  and between interventions 0.699 ( $p < 0.05$ ).Based upon two separate age groups (31-49 years; 50-67 years),the younger group exhibited a significance between group 1 and 3( $p = 0.05$ ).No significance was found between age or sex with interventions. Conclusions: A significant difference was found in pre- and post-Flexicurve® measure for lordosis. No significant difference was noted in posture curve changes between any intervention. The younger age of 31 to 49 years exhibited a greater effect for improving both kyphotic and lordotic curves.Clinical Relevance: It behooves us as clinicians to train patients with proper posture to decrease pain, decrease healthcare costs and work absenteeism ,and improve overall quality of life. In sedentary office workers, use of the Upright Pose®, thoracic roll or posture education can be used to improve postural alignment over time. Further research evaluating this population is needed to establish normative data.