Arch taping is a common treatment for individuals with pes planus. However, limited data exists on its impact on muscle activation and force dissipation. **Objective**: To evaluate muscle recruitment strategies and ground reaction forces (GRF) in people with flexible pes planus (FPP) using an augmented low-Dye arch taping technique (ALDTT) while performing functional tasks.

**Design and Settings**: A two group pre and post-test non-equivalent group design was used. IV’s were tape and functional tasks (backpedal (BP), cutting (CUT), drop jump (DJ), and hopping (HOP)). The dependent variables included surface EMG (anterior tibialis, peroneus longus, and soleus) which measured time to peak, average area, and average peak following ground contact. GRF’s measured included peak vertical force (Fz), range of force in medial-lateral (Fx), anterior-posterior (Fy) directions, center of pressure displacement area (CPDA) and velocity (CPDV). Visual analog pain scale (VAP) was also used. Tests were counterbalanced and order was randomized. **Subjects**: Twenty-two (11 males, 11 females, 20.27 ± 1.61 yrs of age) people with a vertical navicular drop > 10 mm volunteered for this study. Subjects were divided into groups based on shin pain, control (no pain) and experimental groups (pain).

**Measurements**: Statistical tests were performed using SPSS 12.0. A 2 (tape) x 2 (symptoms) MANOVA with repeated measures on tape determined differences in EMG and GRF’s between the two conditions in all four tasks (BP, CUT, HOP, DJ). A paired sample t-test assessed differences in CPDA, CPDV, and VAP between the two conditions in all four tasks. P= 0.05 determined significance. **Results**: MANOVA’s identified significantly lower peak soleus and peroneus longus muscle activity in all four tasks, taped vs. un-taped (Soleus: BP (p= 0.015), CUT (p = 0.000), DJ (p = 0.001), HOP (p = 0.001); peroneus longus = BP (p = 0.016, CUT (p = 0.003), DJ (p = 0.000), HOP (p = 0.001). Average area EMG increased for the anterior tibialis during the DJ (p = 0.03) while taped. GRF revealed significance for the symptomatic group: decreased time to peak Fz while CUT un-taped (p = 0.04), increased time to peak (VGRF) for the DJ taped (p = 0.024), increased Fx while CUT taped (p = 0.011) and un-taped (p = 0.036). Pain significantly decreased in both groups while taped during HOP (p = 0.026) and CUT (p = 0.025). **Conclusions**: ALDTT may provide support to the subtalar joint offering a more efficient mechanism of force dissipation. **Key Words**: Functional Activities, Electromyography, Subjective Pain.