

Plantar Neuro-Receptor Activation in Total Knee Arthroplasty Patients: Impact on Clinical Function, Pain, and Stiffness - A Randomized Controlled Trial

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Abstract : Objectives: Osteoarthritis is the most common joint disease of adults worldwide. Despite total knee arthroplasty (TKA) demonstrating high levels of success, 20% of patients report dissatisfaction with their result. VOXX Wellness Stasis Socks are embedded with a proprietary pattern of neuro-receptor activation points that have been proven to activate a precise neuro-response, according to the pattern theory of haptic perception, which stimulates improvements in pain and function. The use of this technology in TKA patients may prove beneficial as an adjunct to recovery as many patients suffer from deficits to their proprioceptive system caused by ligamentous damage and alterations to mechanoreceptors during the procedure. We hypothesized that VOXX Wellness Stasis Socks are a safe, cost-effective, and easily scalable strategy to support TKA patients through their recovery. Design: Double-blinded, placebo-controlled randomized trial. Participants: Patients scheduled to receive TKA were considered eligible for inclusion in the trial. Interventions: Intervention group (I): VOXX Wellness Stasis socks containing receptor point-activation technology. Control group (C): VOXX Wellness Stasis socks without receptor point-activation technology. Sock use during the waking hours x 6 weeks. Main Outcome Measures: Western Ontario McMaster Universities Osteoarthritis Index (WOMAC) questionnaire completed at baseline, 2 weeks, and 6 weeks to assess pain, stiffness, and physical function. Results: Data analysis using SPSS software. P-values, effect sizes, and confidence intervals are reported to assess clinical relevance of the finding. Physical status classifications were compared using t-test. Within-subject and between-subject differences in the mean WOMAC were analyzed by ANOVA. Effect size was analyzed using Cramer's V. Consistent improvement in WOMAC scores for pain and stiffness at 2 weeks post op in the I over the C group. The womac scores assessing physical function showed a consistent improvement at both 2 and 6 weeks post op in the I group compared to C group. Conclusions: VOXX proved to be a low cost, safe intervention in TKA to help patients improve with regard to pain, stiffness, and physical function. Disclosures: None

Keywords : osteoarthritis, RCT, pain management, total knee arthroplasty

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