ABSTRACT

TITLE:	The Effects of Polymem Sportswrap on Neurological Sensation
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ABSTRACT: Background: PolyMem is used in the athletic field for the care of wounds. The use of this dressing demonstrates a much faster rate of healing than using no dressing at all (Beam, 2008). It has a high absorbency in a wound and has been known to drastically decrease pain (Burd et al., 2007). It does this by absorbing sodium ions from the skin, decreasing nerve conductance in the wound (Beitz et al., 2004). It is important to know if sensation is compromised before an athlete participates in his or her sport. Performance could be jeopardized and an athlete could be injured further. Purpose: The purpose of this study was to test neurological sensation with the use of PolyMem Sportswrap. Hypothesis: It was hypothesized that sensation would change after a 5 day use of the PolyMem wound dressing. Subjects: Subject selection included a healthy population from Fort Lewis College. Fifteen people, ages 18-23 were tested (4 males, 11 females). Methods: A single random group was tested via two point discrimination and deep tendon reflex on the brachioradialis after the use of control (no wrap used), gauze wrap, and PolyMem Sportswrap. Independent variables were time, treatment, and condition. Dependent variables were the points felt and reflex grade. A two factor ANOVA with repeated measures statistical analysis was used. Results: Significance was found across time within groups in both the two point discrimination ($P = 0.00$) and deep tendon reflex ($P = 0.01$). These findings show that the use of PolyMem Sportswrap altered sensation. Therefore, the hypothesis was accepted. Conclusions: This study found that neurological sensation changes with the use of PolyMem. It is possible that the placebo wrap increased the activation of the sensory receptors, heightening their response. However, the PolyMem Sportswrap returned the activation levels of the sensory receptors to normal levels. PolyMem has an effect on both afferent input as well as efferent response. PolyMem has been described as creating a healthy environment for healing (Beam, 2008). The results of this study provide insight that PolyMem does not only have a local effect on the tissues, but also a systemic change in the response to an area.