

Armstrong MJ, Easterling EH, Hoermann JD, Jackson GA, Torres JA. PREVALENCE OF LOWER EXTREMITY MUSCULOSKELETAL DISORDERS IN COLLEGIATE MARCHING BAND MEMBERS. Hardin-Simmons University Department of Physical Therapy, Abilene, TX.

PURPOSE: (1) To examine the prevalence of lower extremity (LE) musculoskeletal injuries/symptoms in collegiate marching band members; (2) to interpret the relationship between instrument type and location of injury/symptoms; and (3) to interpret the comparison of means between injury/symptoms location and Body Mass Index (BMI).

SUBJECTS: Hardin-Simmons University (HSU) marching band members (n=55) were invited to participate in the study.

METHODS: Participants signed informed consent. Height/weight were measured to calculate BMI measurements and subjects completed a Lower Extremity Functional Scale (LEFS), a Short Questionnaire to Assess Health Enhancing Physical Activity (SQUASH), and a 15-question survey constructed by the researchers. Information collected included: gender, length of participation in marching band, instrument category, practice hours, region of injury/symptoms, duration of injury/symptoms, pain intensity, pain sensation, onset of injury/symptoms, methods of alleviating pain, using physical therapy, extracurricular physical activity participation, intensity of physical activity, type and intensity of leisure activities. IBM SPSS Statistics Version 25 was utilized to analyze data. Frequency outcomes assessed the prevalence of injury/symptoms in marching band members. A Chi-Square test was used to determine if instrument type could significantly predict the location of injury. An independent T-test was used to determine if there was a significant difference between the means of BMI and the number of injuries/symptoms by location.

RESULTS: Ninety-six percent (n=53) HSU marching band members (M=34, F=19), participated in the study. A total of 58.5% of respondents reported injury/symptoms. The Chi-squared statistical analysis predicted percussionists were at a significantly higher risk for acquiring low back injuries/symptoms ($p<.004$). The t-test results detected a significant difference between BMI and reported hip injury/symptoms revealing those with higher BMI's reported a notably higher number of hip injuries/symptoms ($p=.051$).

CONCLUSIONS: The results revealed 59% of the marching band reported lower extremity injuries/symptoms. **Individuals playing percussion instruments were more susceptible to low back injury/symptoms which may be attributed to the load of the instrument on their body.** This sample of convenience revealed interesting findings, but the small number of participants suggest a need for a larger sample size across multiple marching bands to generalize the results to all marching band members.

CLINICAL RELEVANCE: Our study demonstrated that lower extremity injuries/symptoms are common in collegiate marching band members. Physical therapists and athletic trainers associated

with collegiate marching bands should utilize this research to infer the need of preventative measures, such as exercise, postural techniques, and kinesiotaping to help decrease lower extremity injury/symptoms. Education regarding services provided by physical therapists and athletic trainers should be shared with marching band members so they can receive early intervention for injuries.