Comparison of joint hypermobility measures in female college athletes from various sports
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**Context:** Joint hypermobility (JH) refers to excessive joint motion while hypermobility syndrome (HMS) refers to JH associated with prolonged, widespread pain. The Beighton, Carter-Wilkinson (CW) and Hospital del Mar (HdM) scales are utilized to determine the presence of JH; the Brighton Criteria are used to diagnose HMS. Although all of these scales are reported in the literature, it is not clear whether they are measuring the same phenomenon. **Objective:** To determine the prevalence of JH and HMS among female college athletes and the correlation among the different assessment scales. **Design:** Repeated measures cross-sectional design. **Setting:** University athletic facilities. **Participants:** This study included 290 female intercollegiate athletes, average age 19.2 ±1.2 years; subjects volunteered from a convenience sample at 4 colleges. **Interventions:** We measured joint ranges needed for Beighton, CW and HdM scales and asked about injury history needed for Brighton Criteria. **Main Outcome Measures:** Hypermobility status was determined according to each scale. Descriptive statistics were used to determine prevalence of hypermobility according to the different scales and for different sports. Pearson correlation coefficients and kappa statistics were computed to determine relationships among the hypermobility scales. **Results:** Prevalence of JH in this population was 27.2% (Beighton), 23.1% (CW), 43.4% (HdM); prevalence of HMS was 17.9% (Brighton). Correlation among JH scales ranged between r=0.66 and r=0.87. Kappa corrected measure of agreement between scales (hypermobile vs. not hypermobile) ranged between 29% and 62%. Joint hypermobility (determined using the Beighton Scale) was most prevalent among XC skiing (44.4%), volleyball (41.7%) and soccer (40.9%) participants and least common among ice hockey (16.9%) and lacrosse (17.5%) players. In contrast, HMS was most common among basketball (40.0%) and volleyball (33.3%) players and least common among ice hockey (5.6%) and field hockey (9.1%) players. **Conclusions:** Joint hypermobility and HMS were relatively common among these female athletes. The exact prevalence ranged between 17.9% and 43.4%, depending on the hypermobility scale used. Agreement among hypermobility scales was fair to moderate, indicating that different hypermobility scoring systems in the literature are not interchangeable. Prevalence also varied greatly depending on the sport. It is not clear whether athletes select sports in part based upon their body type or whether injury rates among individuals with HMS may lead these athletes to drop out of some sports more often than other sports. Athletic trainers have an opportunity to identify athletes with HMS and educate these athletes in exercises and strategies to minimize recurrent injury which may limit their athletic participation. Further research is needed to determine the impact of JH and HMS among female athletes and to determine how athletic trainers can minimize this impact. **Word Count:** 431