Sleep Characteristics and Risk for Obstructive Sleep Apnea among Division-I Football Players and Wrestlers.

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**Purpose:** Disordered sleep negatively affects athletic performance. Neither the prevalence nor risk factors for obstructive sleep apnea (OSA) are known among collegiate athletes. Our goal is to describe sleep quantity, quality and risk factors for OSA among Division-I athletes. **Methods and Study Design:** Cross-sectional cohort study. Division-I football and wrestling athletes completed a survey that included measures of sleep quality and quantity, as well as validated screening tools for OSA. Vital signs were collected at the time of athlete’s annual physical exam. Athletes with known sleep disorders were excluded. **Results:** 125 males athletes, average age of 19.9 years, completed the survey. 34.4% got <7 hours of sleep per night. 60% believed they got enough sleep. 16.8% felt their athletic performance was “affected always or usually by lack of sleep or poor sleep” and 29.6% believe their athletic performance was “affected sometimes.” 40.8% had a STOP-bang score of ≥ 3. 29.6% had an Epworth score > 11. Average neck circumference was 17.05 inches. 64.8% had SBP between 120-139 mmHg and 13.6% had SBP ≥ 140. **Conclusions:** A large proportion of athletes scored highly on validated screens for OSA. Many athletes feel that their athletic performance is affected by lack of sleep or poor sleep. Anthropometric measurements in this population may increase risk of OSA. These athletes also have high rates of pre-HTN and HTN for their age group. Further investigation is ongoing to describe the prevalence of OSA in this population. **Significance:** OSA is a significant and frequently under-recognized medical condition with immediate and long-term consequences. Athletic and academic performance is adversely affected by lack of sleep and poor sleep. However, athletes are not routinely screened for disordered sleep and further study is needed.
Abstract Title: Examining DEXA as a Possible Screening Tool for Obstructive Sleep Apnea in Collegiate Athletes. Purpose: Football players and wrestlers often have anthropometric features that increase their risk for obstructive sleep apnea (OSA). Our goal is to exam the relationship between neck tissue composition and STOP-Bang and Epworth scores. Methods and Study Design: Design: Cross-sectional cohort study. Division-I football and wrestling athletes completed a survey that included measures of sleep quality and quantity. STOP-Bang and Epworth scores associated with increased risk for OSA are > 3 and > 11 respectively. Multiple anthropometric measurements including BMI, neck circumference, blood pressure, and DEXA body composition scores and were obtained. DEXA scores were based on a region of interest (ROI) centered between C4-C7. We used a paired t-test and ANOVA to determine if any significant relationships exist. Results: 125 males athletes completed the questionnaire. 40.8% had STOP-Bang scores of ≥ 3. 29.6% had Epworth scores of >11. Those with STOP-Bang scores ≥ 3 had a significantly higher fat percentage (12.9 +/- 6.7%, p <0.001), fat mass (168 +/- 120 g, p< 0.001), and lean mass (1036 +/- 187g, p <0.001), but no difference in lean percentage (p=0.078) at the ROI when compared to those who had STOP-Bang scores of <3. Those with Epworth scores of >11 had no significant difference in neck composition compared to those with scores of <11. Conclusions: Many athletes scored highly on validated OSA screening questionnaires. Neck composition at the ROI was significantly correlated to STOP-Bang scores, but not Epworth scores. Whether or not this will prove to be predictive of OSA is yet to be determined. Subjects who have screened positive are currently undergoing diagnostic testing. Significance: DEXA composition scoring at the C4-C7 area may prove to be a useful in OSA screening, but further diagnostic testing is needed to assess if its predictive of OSA.