Patients (or Participants) We enrolled 66 student-athletes (53.0% Female, Age: 20.0 ± 1.1 years old, Height: 1.75 ± 0.11m, Weight: 78.7 ± 20.9kg) from 16 sports who were diagnosed with sports-related concussions.

Interventions (or Assessment of Risk Factors) Electronic medical records were tracked for a year following the concussion for diagnosed lower extremity MSK injuries.

Main Outcome Measurements All participants completed a multifaceted concussion baseline consisting of 1) 22-item 0–6 self-reported symptom checklist with outcomes including, 1) number of symptoms endorsed, 2) total symptom score, 3) Standard Assessment of Concussion, 4) Balance Error Scoring System, 5) Immediate Post-Concussion Assessment and Cognitive Testing composite scores, 6) clinical reaction time, and 7) the King-Devick test. The concussion participants completed the same exam acutely post-concussion (<48 hours) and binary logistic regression was used to identify predictors of subsequent MSK from the change scores (Acute minus Baseline).

Results The participant demographics and injury characteristics (p=0.318, Exp(B)=1.020) and concussion clinical outcomes (p=0.461, Exp(B)=1.200) did not predict subsequent MSK. Exploratory analysis failed to identify any individual predictive variable from the clinical measures including total symptoms (Δ=9.3, p=0.738), symptoms severity (Δ=21.1, p=0.738), BESS (Δ=1.6 errors, p=0.474), SAC (Δ=0.7, p=0.938), Verbal Memory (Δ=1.6, p=0.064), Visual Memory (Δ=5.1, p=0.724), Motor Speed (Δ=0.6, p=0.297), Reaction Time (Δ=0.04 s, p=0.642), CRT (Δ=15.8 ms, p=0.446), King-Devick (Δ=6.9 s, p=0.792).

Conclusions None of the standard concussion assessments significantly predicted MSK injury in the year following concussion. Thus, clinicians are not able to utilize common neurological measures or participant demographics to identify those at risk for subsequent LE MSK suggesting injury prevention programs should be implemented for all post-concussion athletes.

172 THE EFFECT OF ANXIETY DURING CONCUSSION ASSESSMENT IN RURAL LOW SOCIOECONOMIC ADOLESCENT ATHLETES

Background In youth, anxiety is the most prevalent mental illness in the US, effecting 31.9% of adolescents. During concussion assessment, athletes may experience high levels of anxiety due to concerns such as the inability to perform in their sport. While it is commonly assumed lower socioeconomic (SES) adolescents are more resilient in handling anxiety, this has not been examined.

Objective Determine the effect of anxiety on neuropsychological testing in rural low SES adolescent athletes.

Design Cross-sectional between-groups cohort design.

Setting and Participants Rural low SES adolescent athletes (n=126) were recruited prior to their competitive season to establish anxiety levels during baseline concussion assessment.

Interventions Participants were given baseline tests including computerized neuropsychological test battery (ImpACT™) and the State Trait Anxiety Inventory (STAI-Y) to determine cognitive function and levels of anxiety, respectively. Participants were divided into groups based upon STAI-Y scores. Using SPSS, one-way ANOVAs were calculated on ImpACT composite scores, using an alpha level of .05 for all tests.

Main Outcome Measurements ImpACT composite scores.

Results 7% (n=9) and 17% (n=21) endorsed high state and trait anxiety respectively. Statistically significant differences existed between state anxiety groups on composite reaction time (F(1,124) = 6.72, p=0.011, eta squared = .03), composite impulse control (F(1,124) = 8.49, p= 0.004, eta squared = .01), and total symptoms (F(1,124) = 7.09, p<0.001, eta squared = .01), with high state anxiety athletes performing worse and reporting more symptoms.

Conclusions Rural low SES athletes endorsed lower levels of anxiety than the general population, however those with high state anxiety endorsed more symptoms and performed worse on measures of impulsivity. This study provides initial...