

participants pre- and 159 (44.79%) participants post-COVID-19. There were no significant differences between the two groups on all health-related outcome measures. **DISCUSSION:** Results indicated that there was no decline in the health outcomes of the participants after the COVID-19 pandemic. This finding is not consistent with the preliminary data available in the literature that report worse health outcomes in older adults after the pandemic. We hypothesize that the reason for the difference is that our study population was from a cohort that was predominantly from a higher education and socioeconomic status, with adequate access to healthcare and health resources, and high health literacy. Future studies should consider older adult populations where social determinants of health may be a consideration.  
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**Bioimpedance Spectroscopy As A Practical Indicator Of Short-term Performance Changes In Collegiate Athletes**  
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(No relevant relationships reported)

Bioelectrical impedance spectroscopy (BIS) provides a noninvasive method to assess hydration status and total body water (TBW) distribution, including whole-body and segmental intracellular and extracellular compartments and their ratios (ICW/ECW). Routine monitoring of compartment water in sport is gaining attention, though it is unclear whether BIS-derived measures are associated with short-term performance changes. **PURPOSE:** To examine the repeated measures association between BIS-derived body water variables and peak power (PP) during maximal cycling in collegiate hockey players. **METHODS:** Twenty male NCAA Division I athletes (mean±SD: age 21.4±1.6 years, height 184.7±6.0 cm, body mass 88.1±8.5 kg) completed BIS assessments (SOZO, ImpediMed) before a 6-second maximal Wattbike sprint across 32 weeks and 159 sessions. BIS testing occurred each morning upon arrival at the training facility following standardized procedures and whole-body and leg segment data were extracted. PP during the sprint served as the final warm-up before practice or games. Data were collected between July 16, 2024, and March 20, 2025, as part of a longitudinal athlete monitoring program yielding 1,795 observations. Session-to-session change scores for all variables were calculated and analyzed. Repeated-measures correlations were performed to identify significant relationships and all significant correlates were further analyzed using linear mixed-effects models (LMMs) controlling for day of testing. **RESULTS:** Changes in TBW ( $p = 0.75$ ), Leg ICW ( $p = 0.18$ ), and Leg ICW/ECW ( $p = 0.09$ ) were not significant correlates of changes in PP. Linear mixed-effects models controlling for day of the week showed that changes in whole-body ECW ( $\beta = -11.21$ ,  $p = 0.001$ ,  $f^2 = 0.007$ ), ICW ( $\beta = 6.70$ ,  $p = 0.011$ ,  $f^2 = 0.004$ ), and the ICW/ECW ratio ( $\beta = 174.65$ ,  $p < 0.001$ ,  $f^2 = 0.009$ ) were significant predictors of changes in PP. Leg ECW was also negatively associated with PP ( $\beta = -13.20$ ,  $p = .045$ ,  $f^2 = 0.002$ ). All effect sizes were negligible-to-very small ( $f^2 \leq 0.009$ ). **CONCLUSION:** Although statistically significant, changes in BIS-derived body water variables explained, at best, roughly 1% of the variance in PP. Thus, the practical significance of compartment water monitoring to predict short-term changes in maximal cycling power appears minimal.

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**Does A History Of Lower Limb Injury Impair Athletic Skills In Youth Athletes?**  
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(No relevant relationships reported)

Lower limb injuries are common in youth sports and may lead to lasting performance deficits. The long-term impact in adolescents is poorly understood. **PURPOSE:** To investigate whether a history of lower limb injury leads to performance deficits in youth athletes. **METHODS:** We tested 22 competitive athletes between the ages of 11 and 17 (9 female, 13 male). All subjects completed a questionnaire regarding history of injuries and were then tested for countermovement jump (CMJ) height and peak take-off force using Vald ForceDecks force plates, quadricep strength and torque using a Vald Dynamo dynamometer, and 40-yard dash and 5-10-5 agility shuttle, capturing performance with the Vald SmartSpeed pulsed laser. All tests were completed by licensed physical therapists who were trained in the protocols. We evaluated population differences using chi-squared tests and independent-samples t-tests; where assumptions were violated, Mann-Whitney U was used. Linear regression measured the effects of previous lower limb injury on performance holding sex and maturation variables constant. **RESULTS:** Subjects were 15.0 ± 1.8 yr, 63.6% had a history of lower limb injury (46.2% of males, 88.9% of females;  $p = 0.074$ ). Among subjects with a history of a lower limb injury, CMJ height was 25.9 ± 5.4 cm, peak take-off force was 22.5 ± 2.9 N, quadricep strength was 35.2 ± 12.7 kg, torque was 2.2 ± 0.5 NM, 40-yard dash was 6.1 ± 0.5 sec, and 5-10-5 agility shuttle was 5.4 ± 0.3 sec. For subjects without a history of a lower limb injury, CMJ height was 33.7 ± 6.1 cm, peak take-off force was 22.4 ± 1.4 N, quadricep strength was 42.4 ± 20.0 kg, torque was 2.8 ± 0.8 Nm, 40-yard dash was 5.8 ± 0.5 sec, and 5-10-5 agility shuttle was 5.2 ± 0.4 sec. Significant differences were observed in vertical jump height and quadricep torque. Subjects with a history of lower limb injury jumped 29.6% lower ( $p = 0.002$ ) and generated 23.3% less quadricep torque ( $p = 0.046$ ). No other differences reached significance. Regression analysis, holding sex constant ( $p = 0.050$ ), found a history of lower limb injury to predict a 6.3 cm reduction in jump height ( $p = 0.024$ ; 95% CI of  $\beta$ : -11.7, -1.0). **CONCLUSION:** Youth athletes with a history of lower limb injury exhibited poorer jump height and quadriceps torque. Female athletes had a higher prevalence of lower limb and knee injuries than male athletes.

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**The Influence Of Biological Sex On Upper Extremity Power With Lean Mass Held Constant**  
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Differences in strength and lean mass are well established between biological males and females, with greater disparities found in the upper body. What has been minimally explored is the influence of sex on power generation with lean mass held constant. **PURPOSE:** To test the effect of sex on isotonic power generated in the biceps and triceps while controlling for lean mass. **METHODS:** We tested 68 males and 18 females on body composition and power output. Each subject completed all testing in a single session. Dual-energy X-ray absorptiometry was used to measure lean mass in the dominant and non-dominant arms; this was followed by exercise testing on a Proteus device. Subjects performed a 6-repetition set at 12 lbs of electromagnetic resistance on unilateral biceps curl and triceps extension (dominant and non-dominant arms tested separately) and bilateral biceps curl and triceps extension. Linear regression analyses measured the effect of sex on power holding age and relevant lean mass constant. For unilateral exercises, lean mass in the involved arm was used; for bilateral exercises, the mean of both arms was used. All analyses were performed on SPSS version 29.0. **RESULTS:** Subject age was 43.0 ± 9.1 yr; there was no difference between males and females ( $p = 0.962$ ). Lean mass was 8.8 ± 2.4 lb in the dominant arm, 8.5 ± 2.4 lb in the non-dominant arm, and the mean of both limbs was 8.6 ± 2.4 lb; males had 56.8% more mass ( $p <$