6.3, SD 0.6, ES = 0.8), however this was non-significant (p = .187).

Conclusion S-MAS scores are higher in footballers with HSI's compared to controls, suggesting sub-optimal sprint mechanics are associated with previous and possibly future HSI. The easy-to-use nature of the S-MAS means screening sprint running mechanics can be simply integrated into routine practice, potentially identifying footballers at HSI risk.

51 FACTORS ASSOCIATED WITH GOOD RECOVERY FROM ACHILLES TENDON RUPTURE AT 1 YEAR POST RUPTURE

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Introduction Achilles tendon rupture (ATR) leads to long-term structural and functional impairments (1,2). Currently, the predictors of good recovery after ATR are poorly understood. Thus, we applied multivariable linear regression analysis to identify factors that explain good recovery.

Materials and Methods A total of 35 unilateral ATR patients (6 females) were recruited. Structural, mechanical, and neuromuscular parameters were measured 1-year after rupture. Multivariable linear regression was used to predict differences between limbs (Δ) in: 1) tendon length at rest, 2) non-uniformity of tendon displacement, and 3) flexor hallucis longus (FHL) surface electromyography (EMG) activation% during isometric submaximal contraction. Relevant covariates were included in the models based on previous knowledge (1,3–5). We also investigated the relative contribution of FHL to total triceps surae EMG activity during submaximal contraction between limbs.

Results Medial Gastrocnemius (MG)-tendon Δstiffness was significantly associated with both ΔMG (p=0.007) and Δlateral gastrocnemius (p=0.030) subtendon lengths. FHL EMG% difference between limbs was associated with MG (p=0.003) and soleus (p=0.040) Δsubtendon lengths. The relative contribution of MG to plantarflexion was lower in the injured limb with a mean difference of 0.061 (95%CI [0.02–1.0]; p=0.007). This was accompanied by an increased FHL contribution in the injured limb of -0.061 (95%CI [-1.06- -0.016]; p=0.011).

Conclusions The increased contribution of FHL appears to counteract deficits caused by the elongated tendon and smaller contribution of MG in the injured limb. Excessive lengthening of the tendon post-rupture could result in lower stiffness, reducing maximal isometric force production capacity, and worsening the ramifications after ATR.

55 WHAT DO UPPER-EXTREMITY PHYSICAL PERFORMANCE TESTS ACTUALLY MEASURE? INSIGHTS FROM AN ELECTROMYOGRAPHICAL STUDY

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Introduction Physical performance tests (PPTs) focus on multi-joint evaluations in which the athlete performs an activity that represents some aspects of athletic function. Evaluating the electromyographical (EMG) demands of those PPTs enables clinicians to select appropriate PPTs for their athletes.

Material and Methods Thirty asymptomatic overhead athletes participated in this descriptive laboratory study. Four PPTs (Y-Balance Test - Upper Quarter (YBT-UQ), Closed Kinetic Chain Upper Extremity Stability Test (CKCUEST), Upper Limb Rotation Test (ULRT) and Shoulder Endurance Test (SET)) were evaluated using surface EMG on both dominant and non-dominant sides to measure muscle activity of upper (UT), middle (MT), and lower (LT) trapezius, serratus anterior (SA), infraspinatus (IS), and posterior deltoid (PD).

Results During YBT-UQ performance on both sides, the supporting hand showed high SA activity levels (range: 51–94% MVIC) during all reach directions while IS was most active when supporting the superolateral reach (range: 92 –129% MVIC). For the reaching hand, SA was most active (range: 46–83%MVIC). During the CKCUEST, all muscles were moderately to highly active, with SA (range: 64 – 87%MVIC) and IS (range: 42 – 85%MVIC) being the most active ones in both moving and supporting hand. Moderate to high activity was recorded for all muscles on both sides during the ULRT. For the SET, muscle activity progressively increased with increasing speed for both dominant and non-dominant performance.

Conclusion Our results provide specific EMG based information which allows clinicians to better understand PPT performance, enhancing selection of appropriate PPTs that match their patients' needs to return to sport.

59 DISORDERED EATING, EXERCISE ADDICTION AND MUSCLE DYSMORPHIA MAY PREDICT LOW ENERGY AVAILABILITY IN FEMALE ATHLETES

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Low energy availability (LEA) describes a complex state of insufficient energy intake to support normal physiological function, after exercise energy expenditure has been accounted for. LEA is a common challenge in athletes and can stem from a range of causes. The aim of this study was to compare the occurence of disordered eating (DE) as well as other less studied traits, e.g. exercise addiction (EA) and muscle dysmorphia (MD), in Icelandic female athletes considered at risk of LEA vs not.

Elite and sub-elite female athletes (n=60, age 24.1±7.8) from various sport disciplines completed the Low Energy Availability in Female Questionnaire (LEAF-Q), Eating Disorder Examination – Questionnaire Short (EDE-QS), Exercise Addiction Inventory (EAI), and Muscle Dysmorphic Disorder Inventory (MDDI).

Average total LEAF-Q score was 7.8±4.7 and 46.7% had a score ≥8 (considered at risk of LEA). According to the other questionnaires 20% were at risk for EA, 13.3% for MD and 11.7% for DE. Athletes at risk of LEA had higher EAI (21.6 ±3.5 vs 18.2±4.5, p=0.002), EDE-QS (8.6±6.9 vs. 4.5±5.5, p=0.014) and MDDI scores (31.9±7.6 vs. 27.1±7.5, p=0.017) compared to those not at risk. The proportion of athletes at risk of EA was higher in the group at risk of LEA vs not (32.1 vs 9.4%, p=0.023) but observed differences in