

nitude of correlation was interpreted as: 0–0.1 trivial, 0.1–0.3 small, 0.3–0.5 moderate, and >0.5 large.

**Results:** No substantial correlations were found between FMSsum7 and performance tests for both genders combined. For females, moderate correlations were observed between the FMSsum7 and Yo-Yo test ( $r=0.39 \pm 0.34$ ; correlation coefficient  $\pm 90\%$  confidence limits), and the agility test ( $r=-0.41 \pm 0.32$ ). Small to moderate relationships were present between the FMSsum7 and the push up, yo-yo and CMJ tests in the male subjects, but correlations were unclear given large variability. Both the push up strength test and the FMS push up screen ( $r=0.30 \pm 0.26$ ) and the sit and reach test and the straight-leg raise screen ( $r=0.43 \pm 0.23$ ) had a moderate correlation in both genders combined. The sit and reach test had a large relationship with the straight-leg raise screen in male subjects ( $r=0.50 \pm 0.32$ ).

**Conclusion:** FMS scores are moderately correlated with endurance and agility in females, and lower body flexibility in males. Deficiencies in some basic movement patterns may reveal potential areas of improvement for physical performance and assist coaches and support staff in training prescription.

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### The effects of intensity and type of resistance training on muscle force generation capacity immediately- and 6 hours post-training

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**Introduction:** The assessment of muscle force generation capacity (MFGC) is effective in determining muscular fatigability following resistance training and its association to prevalence with injuries. Subsequently, the purpose of the current study was to examine the intensity and type of resistance exercises on MFGC immediately- and 6 hours post-training.

**Methodology:** Male participants ( $n=12$ ) performed high intensity whole body (HW), low intensity whole body (LW) and high intensity lower body only (HL) sessions in random order across three sessions. Exercises for HW and LW sessions were performed in the order of inclined leg-press, bench press and flat bench rows whereas the HL session solely consisted of inclined leg-press. The upper body and lower body exercises were performed with 4 and 6 sets, respectively. Exercises for HW and HL sessions were performed with 6 reps and 3 minutes rest between each set whereas exercises for the LW session were performed with 20 reps with 1.5 minutes rest between each set. MFGC of the right knee extensors were assessed prior to, immediately- and 6 hours following each of the resistance training session with an isometric dynamometer. A two-way (session  $\times$  time) Friedman test was used to determine differences in MFGC.

**Results:** Peak and average forces were significantly greater during pre- compared to immediately post-LW session ( $P<0.05$ ) and average force was significantly greater during pre- compared to immediately post-HL session ( $P<0.05$ ). No significant differences in peak and average forces were found between pre- and 6 hours following LW and HL ( $P>0.05$ ), between pre-, immediately- and 6 hours following HW ( $P>0.05$ ) and between LW, HL and HW for immediately- and 6 hours following training ( $P>0.05$ ).

**Discussion and conclusion:** A significant reduction in MFGC immediately following LW session indicates that a systemic effect was induced, exemplifying greater muscular fatigue compared to post-HW session. Similarly, a significant reduction in MFGC following HL session was found despite comparable MFGC between pre- and immediately post-HW session. These discrepancies in results may be because upper-body exercises were performed after leg-press causing a 30-minute window between the leg-press and the MFGC assessment for HW session. Subsequently, such findings indicate that physical activity may be performed immediately following high intensity- and 6 hours following high volume low intensity resistance training sessions constructed specifically for the current study with minimal risks of injuries.

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### Effects of wheelchair Tai-Chi training on sitting balance of individuals with spinal cord injury

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**Introduction:** After spinal cord injury (SCI), many people are confined to wheelchairs. Sitting balance is of importance for these individuals in order to perform several functional daily activities. Wheelchair tai chi (WTC) is an exercise which is primarily focused on shifting center of mass during seated position. Therefore, it may help to improve sitting balance in individuals with SCI. Purpose: The purpose of this study is to examine the effect 8-week WTC training on both static and dynamic sitting balance of individuals with SCI.

**Methods:** Thirty individuals with level of SCI below T1 were randomly assigned to either the WTC group (meanage 27.6 SD 3.8, meanwt 55.6 SD 8.4 kg, meanht 167.6 SD 10.0 cm) or Control group (CON)(meanage 27.2 SD 4.9, meanwt 58.3 SD 13.1 kg, meanht 166.4 SD 13.8 cm). The WTC received the training for 8 weeks. Center of pressures (COP) excursion and velocities in both antero-posterior (AP) and mediolateral (ML) directions were assessed to determine static and dynamic balance during a baseline (pre-test) and