**Supplemental Digital Content 7: Study methodological characteristics and results for the association between muscular endurance composite scores and MSK-I in males and females**

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| **Author, Country, Population** | **Quality** | **Sample Size** | **Follow-Up** | **MSK-I Type** | **Fitness Test** | **Strength of Association** | | |
| **Crude Association** | **Association with Adjustments** | **Direction of Association** |
| Kuikka et al. (40),  Finland, Military | Good | M=128,584 | 180 to 362 days | Knee Injury | CSa | -- | ***Highest quartile:***  ***Hospitalization for Knee Injury:***  OR=1.6 (1.2-2.4)  ***New Meniscal Tear:***  OR=3.5 (1.04-12.2)  ***ACL/PCL Tear:***  OR=2.6 (1.04-6.5) | **- -** |
| Mattila et al. (45),  Finland, Military | Fair | 138,031  (M=135,987  F=2,044) | 8 monthsc | LE Injuriesd | CSa | NS | NS | ≠ |
| Mattila et al. (46),  Finland, Military | Excellent | 152,095  (M=149,750  F=2,345) | 8 monthsc | Overuse  (Bone Stress Injury) | CSa | ***Lowest Quartile:***  HR=1.4 (1.1-1.9) | NS | + |
| Taanila et al. (60),  Finland, Military | Good | M=1,411 | 180 days | A/T & O | Muscle Fitness Indexb | ***Lowest Quartile:***  ***Acute:***  HR=1.6 (1.1-2.4)  ***Severe acute:***  HR=2.6 (1.1-6.3)  ***Lowest 2 Quartiles:***  ***Overuse:***  HR=1.5 (1.1-1.9)  HR=1.7 (1.3-2.3)  ***Severe overuse:***  HR=2.1 (1.3-3.3) | NS | **+** |
| Physical Fitness Index | ***Lowest Quartile:***  ***Severe acute:***  HR=1.9 (1.1-3.4)  ***Severe overuse:***  HR=2.4 (1.7-3.4)  ***Lowest 2 Quartiles:***  ***Overuse:***  HR=1.3 (1.1-1.5)  HR=1.8 (1.5-2.2) | ***Lowest Quartile:***  ***Overuse:***  HR=1.4 (1.1-1.8)  ***Severe overuse:***  HR=1.7 (1.1-2.7) | ++ |

M=Male, F=Female, LE=Lower Extremity, CS=Composite Score, A/T & O= Acute/Traumatic & Overuse, HR=Hazard Ratio, OR=Odds Ratio, NS=Non-Significant

aComposite score comprised of horizontal jump distance, number of sit-ups, push-ups, pull-ups, and back lifts.

bComposite score = (12 minute run distance + 100 \* Muscle Fitness Test points) / 200.

cAverage military service.

dLower extremity injuries requiring hospitalization.

++, Significant multivariate association between low ME/MS and increased MSK-I risk

+, Significant univariate association between low levels of ME/MS and increased MSK-I risk

- -,Significant multivariate association between high levels of ME/MS and increased MSK-I risk

- ,Significant univariate association between high levels of ME/MS and increased MSK-I risk

≠, No significant association