

Manuscript Title: The integration of strength training into UK Defence Rehabilitation practice: Current trends and future challenges - A clinical commentary

Online Supplementary File 1

Physical Employment Standards (PES) ensures military personnel have the physical ability for their role so they can safely and satisfactorily complete essential tasks; this includes reducing the risk of future MSK injury. For the British Army, PES consists of a structured suite of Role Fitness Tests (RFTs). All RFTs are objective, measurable, role-related, and gender-free physical fitness standards used for selection; end of Basic Training and during Service. The PES came into effect for all Ground Close Combat (GCC) roles from April 1st 2019 (GCC roles for the Army include Infantry and the Royal Armoured Corps - RAC). RFTs for Non GCC roles are to be rolled out between 2021 and 2022. For GCC Army personnel the Role Fitness Soldier (RFT(S)) replaces the Annual Fitness Test. This means it is a critical Mandatory Annual Training Test (MATT) that GCC personnel (Army) have to pass each year. The RFT(S) consists of the following:

- 4km loaded march with 40kg within 50mins followed by 2km with 25kg in 15 mins.
- Fire and movement tactical bounds, followed by crawl and sprint
- Casualty drag (110kg bag)
- Water can carry (simulates stretcher carry with 2 x 22kg cans)
- Vehicle casevac (70kg lift)
- Repeated lift & carry (20kg bags over distance)

The RFT (E - Entry) is used as the selection standard to confirm that potential soldiers / officer cadets are at the appropriate level of fitness to commence Basic Training. RFT(E) consists of:

- Seated two-handed 4kg medicine ball chest throw
- Mid-Thigh Pull
- 2 km run (or multi-stage fitness test).

The Soldier Conditioning Review (SCR) forms part of the battery of tests that encompass the PES. SCR is a gym-based performance diagnostic tool used to monitor the effectiveness and performance of the individual and unit physical training programmes. It is age and gender-free and scaled by generic levels. SCR and is made up of six elements:

- Horizontal jump (lower limb explosive power)
- Seated two-handed 4kg medicine ball chest throw (explosive upper body power)
- Hex Bar Deadlift (lower limb strength)
- 5 x 20metre shuttle sprints (anaerobic capacity)
- Over grasp heaves (upper body strength)
- 2 km run (aerobic capacity) - Can also be done as a multi-stage fitness test or using a Wattbike as an alternative.