Supplemental Digital Content 1: Incremental isometric wall squat exercise test.

Each participant performed the isometric exercise (IE) training session at a prescribed knee joint angle, in order to elicit an appropriate training intensity. This was determined via beat-to-beat haemodynamic (heart rate and blood pressure) responses to an incremental isometric wall squat test described below.

Participants were required to rest their back against a fixed wall with their feet parallel, shoulder width apart, and their hands by their side. Participants were instructed to lower their back down the wall, and make small adjustments to their feet position until the required knee joint angle was reached whilst maintaining a vertical lower limb and an erect trunk.

Knee joint angle was measured using a clinical goniometer (MIE Medical Research, Leeds, UK). The goniometer was placed on the side of the participants left knee joint to measure the internal angle between the femur and fibula. The fulcrum was aligned with the lateral epicondyle of the femur, the moving arm was placed on the lateral midline of the femur using the greater trochanter for reference and the stationary arm was on the lateral midline of the fibula using the lateral malleolus and fibular head for reference. A spirit level was attached to the stationary arm to ensure that the lower leg remained vertical during exercise. The goniometer was secured to the participants lower and upper leg using elasticated Velcro strapping.

The test consisted of five consecutive 2-minute stages. Participants started in position at the first knee joint angle of 135°, and were guided to reduce the angle by 10º every 2-minutes (125º, 115º, 105º, and 95º) (Figure S1). Each participants feet position was measured from the back of the left heel to the wall and their back position was measured as the distance from the ground to the lower back, which was defined as the lowest point of contact that the participants back had with the wall. Participants were encouraged to breathe normally to avoid the Valsalva manoeuvre. Participants were not permitted to stand or rest between angles, and maintained the wall squat until volitional exhaustion or completion of the 10-minute test. Verbal encouragement was given throughout and participants were informed of the elapsed time. Rating of perceived exertion (Borg CR10 scale) was recorded at the end of each stage and/or test termination, to obtain a subjective indicator of effort.

Heart rate and blood pressure were monitored continuously during the test using a plethysmographic device (Task Force® Monitor, CNSystems, Graz, Austria) to ensure participants remained within safe exercising limits defined by American College of Sports Medicine.

The mean heart rate for the last 30-seconds of each completed incremental stage was recorded. Prior research has demonstrated that knee joint angle produced an inverse curvilinear relationship with heart rate (Goldring *et al.*, 2014). As such, knee joint angle was plotted against mean heart rate for the last 30-seconds of each stage. The inverse curvilinear relationship produced was used to calculate each participants knee joint training angle that would elicit a target training heart rate of 95% peak heart rate as used in prior research (Devereux *et al.*, 2010; Wiles *et al.*, 2010).

This calculated knee joint angle was then held during four 2-minute isometric wall squat contractions, separated by 2-minutes of rest, constituting a single IE training session.

References

Devereux GR, Wiles JD & Swaine IL. (2010). Reductions in resting blood pressure after 4 weeks of isometric exercise training. *Eur J Appl Physiol* **109,** 601-606.

Goldring N, Wiles JD & Coleman D. (2014). The effects of isometric wall squat exercise on heart rate and blood pressure in a normotensive population. *J Sports Sci* **32,** 129-136.

Wiles JD, Coleman DA & Swaine IL. (2010). The effects of performing isometric training at two exercise intensities in healthy young males. *Eur J Appl Physiol* **108,** 419-428.