THE HOP FOR DISTANCE TEST
Standing barefoot behind a starting line, the participants are asked to hop as far as possible on the leg of the most painful hip and to land on the same foot, with both arms behind the back [2] (Supplementary Figure 1). The length of the best out of three attempts is measured from the starting line to the posterior aspect of the heel of the landing foot. The hop distance is measured in centimetres with inflexible measuring tape and normalised to height [1]. An attempt is discarded and repeated if balance cannot be maintained for 2-3 seconds after landing. If the participant improves more than 10 centimetres between the second and third hop, additional hops are performed until an increase of less than 10 centimetres is measured. Prior to the test, the outcome assessors will demonstrate how the test should be performed, and the participants are given two practice tests. The intra-rater reliability has been reported as excellent (standard error of measurement (SEM) is 3 centimetres, and the intra-class correlation coefficient (ICC) is 0.98) [1].

THE Y BALANCE TEST™
The Y balance test kit™ (PhysioSupplies, Groningen, Netherlands) is used (Supplementary Figure 2), and a reliable test protocol will be followed [3]. While maintaining single leg stance on the leg of the most painful hip, the participants are instructed to stand on the leg in the centre of the platform behind the red line. The participants are instructed to reach with the free limb in the anterior direction for three attempts, followed by three attempts in the posteromedial direction and then three trials in posterolateral direction, all named in relation to the stance foot. The participants are instructed to push the distance indicator as far as possible in each direction and return to the starting position (single leg stance). The entire surface of the foot must remain in contact with the platform throughout the entire duration of the movement. The maximal reach distance of the three attempts for each reach is measured down to half a centimetre. The maximal reach distance is normalised to limb length by dividing reach distance with limp length (anterior superior iliac spine to the most distal portion of the medial malleolus). The greatest reach distances for each of the directions are summed to yield a composite reach distance. An attempt will be discarded and repeated if: 1) the unilateral stance fails, 2) contact with the reach indicator fails, 3) the reach indicator is used for stance support, 4) the reach foot is not returned to the starting position under control or 5) the heel on the platform is lifted. Prior to the test, each participant will be given six practice tests in each direction. The intra-rater reliability has been reported as excellent (standard error of measurement (SEM) is 2-3 centimetres, and the intra-class correlation coefficient (ICC) is 0.85-0.98) [3].
ISOMETRIC HIP MUSCLE STRENGTH TEST

Hip muscle strength is measured isometrically with a dynamometer (Commander Echo MMT, JTECH Medical, Salt Lake City, UT, USA) in the most painful hip using an external belt fixation [5] (Supplementary Figure 3). A reliable test protocol will be followed [4]. Hip muscle strength is measured with a make test in hip flexion, extension and abduction (in a random order). The test positions are sitting for hip flexion, prone for hip extension and supine for hip abduction. The participants are instructed to exert a five-second maximum voluntary contraction against the dynamometer. The best out of four attempts in each direction will be registered together with torque as Nm/kg by multiplying with limb length and dividing by body weight. In hip extension and abduction, limb length is measured from the anterior superior iliac spine to five centimetres proximal to the lateral malleolus. In hip flexion, limb length is measured from the anterior superior iliac spine to five centimetres proximal to the basis of patella. Prior to tests, participants will be given two practice submaximal contractions; one into the tester’s hand and another against the dynamometer. The inter-rater reliability has been reported as good (standard error of measurement (SEM) is 0.12-0.25Nm/kg, and the intra-class correlation coefficient (ICC) is 0.72-0.92) [6].
REFERENCES


