practice is lacking a validated, reliable tool with which to measure these kinematics. This study aimed to determine the accuracy of clinical gait analysis, by investigating concurrent validity, intra- and inter-rater reliability of two-dimensional (2D) video.

**Materials and methods** 21 participants with PFP were recruited (10 males, 11 females). Synchronised three-dimensional (3D) and 2D kinematic data were collected during over-ground running. 2D videos were analysed with the Hudl Technique application using a commercially available tablet (iPad). Single measure ICCs were calculated using a two-way mixed effects model with absolute agreement. 3D peak hip internal rotation (HIR) was investigated as a covariate with backward linear regression, using the F change statistic.

**Results** There was poor agreement between 3D and 2D measurement of peak HADD (ICC 0.06) and peak KFLEX (ICC 0.42). Moderate intra-rater reliability was identified for both variables (ICC 0.61–0.65). Inter-rater reliability for peak KFLEX was moderate (ICC 0.71), but was poor for peak HADD (ICC 0.31). 3D peak HIR did not significantly explain the identified poor agreement for either variable.

**Conclusion** Poor correlation between 3D kinematics and 2D video was identified for both variables in runners with PFP, despite acceptable intra-rater reliability. Investigation of software with increased precision is warranted, to improve the accuracy of 2D video predicting 3D kinematics in the clinical setting. Clinical gait analysis using the Hudl Technique application is not currently advocated.

**Conclusions** The new protocol demonstrates excellent inter- and intra-rater reliability thus minimising operator dependence and is suitable for objective assessment. Further development of methods to identify the presence, position and size of the plantaris tendon is recommended.