drawn using Kinovea and an average of seven consecutive steps was calculated for each angle. The four outcome measures were clustered using K-means cluster analysis (n=2–10). Silhouette coefficients were used to detect optimal clustering.

**Results** The cluster analysis led to the classification of two distinct subgroups (mean silhouette coefficient=0.53). Cluster 1 (n=39) was characterized by higher foot inclination and tibia inclination at initial contact, higher knee flexion during midstance, and lower hip adduction during midstance compared to cluster 2 (n=14). Fifteen out of 17 (88%) shin injuries were classified in cluster 1. Other injuries were more divided over both clusters. The ratio males/females was higher in cluster 1 (44%) versus cluster 2 (27%).

**Conclusion** This is the first study to classify subgroup profiles of running kinematics in recreational runners with an RRI based on two-dimensional video analysis. Two distinct subgroups were identified. This subclassification can help clinicians in their clinical reasoning process when evaluating kinematics of runners with an RRI and developing targeted gait-retraining strategies.

### Abdominis

**Two-dimensional video analysis during running in recreational runners with and without running-related knee injury**

1Bart Dirigeren*, 2,3Peter Malliras, 1Tessa Janssen, 1Linde Ceyssens, 4Romy Vanelnderen, 1,4Christian Barton. 1Rehabilitation Research Centre, Biomedical Research Institute, Faculty of Medicine and Life Sciences, UHasselt, Agoria-Alexis, Belgium; 2Department of Physiotherapy, School of Primary and Allied Health Care, Faculty of Medicine, Nursing and Health Science, Monash University, Australia; 3Complete Sports Care, Australia; 4Australia Department of Surgery, St Vincent’s Hospital, University of Melbourne, Australia; 5La Trobe Sport and Exercise Medicine Research Centre, School of Allied Health, La Trobe University, Australia

10.1136/bjsports-2019-scandinavianabs.18

**Introduction** The aim of this study was to compare running kinematics between recreational runners with and without running-related knee injury using two-dimensional video analysis.

**Materials and methods** Forty-two recreational runners (18 injured, 24 non-injured) participated in the study. The injured group consisted of runners with anterior or lateral knee pain, resulting in altered running activity for at least one week. All participants ran on a treadmill at preferred speed. Digital videos were recorded in the frontal and sagittal plane with two iPads. Outcome measures included foot and tibia inclination at initial contact, and lateral trunk position, contralateral pelvic drop, femoral adduction, hip adduction, knee flexion and ankle dorsiflexion during midstance. All angles were manually drawn using Kinovea and an average of seven consecutive steps was calculated for each angle. Participant characteristics (gender, age, body weight, body length, body mass index, running volume before injury, running speed) and two-dimensional measured angles were compared between groups with independent t-tests (normally distributed) and the Mann Whitney U test (non-normally distributed).

**Results** There were no significant differences in participant characteristics between groups (p>0.05). The injured group exhibited significantly more femoral adduction (p=0.031) and hip adduction (p=0.004) during midstance, and significantly less foot inclination at initial contact (p=0.026).

**Conclusion** Two-dimensional video analysis discriminated kinematics between runners with and without running-related knee injury. More femoral adduction and hip adduction during midstance, and less foot inclination at initial contact may provide gait retraining targets when treating runners with running-related knee injury.

### Achilles Tendon Total Rupture Score

**Achilles tendon total rupture score should be used with caution the first 6 months after injury**

12Maria Swennergren Hansen*, 2Katarina Nilsson Helander, 3Jon Karlsson, 3Kristoffer Weisskrichner Barford. 1Physical Medicine and Rehabilitation Research-Copenhagen (PMR-C); Department of Physical and Occupational Therapy, Copenhagen University Hospital Amager-Hvidovre, Denmark; 2Sports Orthopedic Research Center – Copenhagen (SORC-C), Department of Orthopedic Surgery, Copenhagen University Hospital Amager-Hvidovre, Denmark; 3Department of Orthopaedics, Sahlgrenska University Hospital, Sweden

10.1136/bjsports-2019-scandinavianabs.20

**Introduction** The Achilles tendon Total Rupture Score (ATRS) is the most commonly used patient reported outcome in patients with an acute Achilles tendon rupture. The score...