

## Hip and knee muscle function following aerobic exercise in individuals with patellofemoral pain syndrome

Ott, B., Cosby, N.L., Grindstaff, T.L. and Hart, J.M., 2011. Hip and knee muscle function following aerobic exercise in individuals with patellofemoral pain syndrome. *Journal of Electromyography and Kinesiology*, 21(4), pp.631-637.

### Setting the scene

The purpose of this study was to compare activation of the VMO, VL, gluteus medius and knee extension torque following an aerobic exercise protocol between individuals with PFPS and healthy individuals.

### What did they do?

20 healthy individuals and 20 patients with PFPS had measures of torque and muscle activation taken following aerobic exercise. A modified Balke–Ware protocol was used for the exercise intervention. Baseline and post-aerobic measurements of knee extension torque and VMO, VL, and GM activation during a single leg anterior reaching task. These measurements were only taken on the injured limb.

### TAKE AWAY MESSAGE

After exercise patients in the control group had significantly higher knee extension torque compared to the PFPS sub group who experienced pain after exercise.

There were no group differences in gluteus medius, VMO or VL activation during single leg anterior reach task between PFPS and control patients before or after the aerobic exercise. no significant changes in activation of the gluteus medius VMO or VL during the anterior reaching task between two groups.

## FOOD FOR THOUGHT

So active individuals with PFPS may experience different responses in the quadriceps and gluteus medius after exercise. Clinicians should consider the gluteus medius muscle as a potential source of altered neuromuscular function of the quadriceps muscles during exercise in patients with PFPS.