

**EXERCISES DO NOT
REDUCE KNEE LOAD**

In patients with knee osteoarthritis (OA), increased load on the knee joint while walking is known to increase the risk of structural deterioration. The precise effect of hip adductor and abductor muscle function on knee loading is unclear, but Bennell and colleagues have demonstrated that an exercise program to strengthen these hip muscles did not decrease knee load, suggesting that this type of intervention does not influence disease progression in knee OA.

The investigators randomly allocated 89 patients aged over 50 years with medial tibiofemoral knee OA and varus malalignment to participate in a home exercise program monitored by a physiotherapist, or to continue their usual activities. Given the short duration of the study, structural deterioration was not assessed directly (for example with MRI or radiography), but past studies have shown that the magnitude of the knee adduction moment (KAM, an indirect but reliable measure of medial compartment load) at baseline can predict disease progression in medial compartment OA.

After 13 weeks, three-dimensional gait analyses revealed no difference between the two groups in peak KAM or other biomechanical variables, despite substantial gains in hip muscle strength in the exercise group relative to the control group. Of note, the strengthening program did lead to substantial improvements in pain and function.

Despite the observed symptomatic benefits, however, the results of this study do not support the use of hip muscle strengthening as a disease-modifying intervention in knee OA. Given the complex relationship between hip muscle strength, movement patterns and knee load, it remains to be determined whether other forms of exercise or other interventions that aim to alter gait might reduce knee load and thereby reduce the risk of disease progression.

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Original article Bennell, K. L. *et al.* Hip strengthening reduces symptoms but not knee load in people with medial knee osteoarthritis and varus malalignment: a randomised controlled trial. *Osteoarthritis Cartilage* doi:10.1016/j.joca.2010.01.010