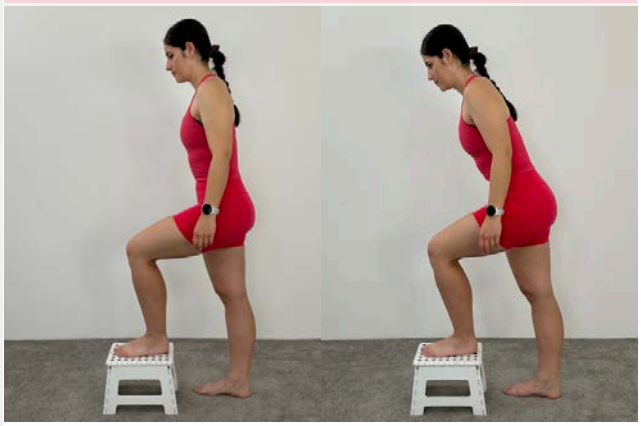
HIP FACTS FROM THE LITERATURE #95

INCREASING FORWARD TRUNK LEAN DURING STAIR ASCENT REDUCES PEAK HIP ADDUCTION & INTERNAL ROTATION

Self Selected Trunk Lean	Forward Trunk Lean



	SS Trunk Lean	Fwd Trunk Lean
Fwd lean	18°	53°
Hip F	57°	72°
Hip ADD	12°	9°
Hip IR	3.4°	2.3°

Forward trunk lean also increases hip extensor moments

SS: Self Selected; Fwd: Forward; F: Flexion; ADD: Adduction; IR: Internal Rotation

Reducing hip adduction and internal rotation during stair ascent may be helpful in reducing pain and improving function in those with hip conditions. Consider changing trunk lean in your movement training.

This study showed that increasing forward trunk lean during stair ascent reduced peak hip adduction and internal rotation - i.e., when they asked people to incline their body forward a little more, the participants used less hip adduction and internal rotation as they moved up the step.

This is great news! When we assess stairclimbing or a step up, we commonly see movement deviations such as excess hip adduction and internal rotation that may be linked with hip pain - you might notice this as a deviation of the femur, or of the pelvis - lateral pelvic drop, shift or rotation towards the lead, weightbearing femur. Such movement deviations can be particularly irritating for gluteal tendinopathy and for hip joint related pain, like osteoarthritis. (These patterns also tend to really annoy patellofemoral pain and tibiofemoral OA.)

When you assess a painful functional movement, it's great then to trial some clinically reasoned symptom modification strategies and see what impact they have. This study gives you one great strategy to try - ask the patient to lean a little further forward, and see what impact this has on their movement patterns and pain. If pain reduces and movement pattern improves, you have found a key treatment direction.

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Why does this work? The improvement in movement pattern is likely explained by increased stimulus placed on posterior hip muscles that have extensor, abductor and external rotator functions. It's a great way to get some natural stimulus in these muscles and is usually much more successful than asking people to 'squeeze their glutes'.

ACTION: Trial changes in trunk lean for those with hip pain on stair ascent.

Atkins LT, Reid J, Zink D. The effects of increased forward trunk lean during stair ascent on hip adduction and internal rotation in asymptomatic females. Gait Posture. 2022 Sep;97:147-151. doi: 10.1016/j.gaitpost.2022.08.001.