

A LITTLE BEND GOES A LONG WAY

TRAINER'S GUIDE



PURPOSE:

This **WALK OFF WITH ONE** help make the individual aware of why a little bend in their knees will drastically reduce stress to the muscles, ligaments, and discs in their lower back.

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INTRODUCTION

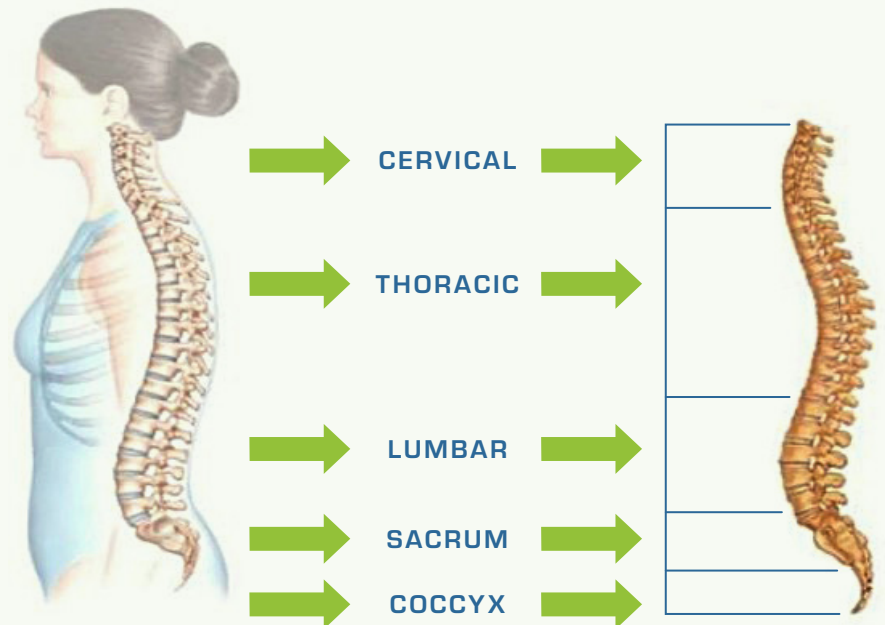
We are focusing on how a little bend in the knees during lifting can drastically reduce lumbar stress by redistributing load through the lower posterior chain. Particularly the glutes, quads, and hamstrings will absorb the force instead of overloading the lower back. When we keep our knees straight the lumbar spine moves into excessive flexion, stressing the posterior ligaments, lumbar disc, and increasing risk of muscle injury. The biomechanical advantage of a knee bend maintains the lumbar lordosis curve and encourages core activation.

ANATOMY



DEMONSTRATION

Having a lanyard or necklace on, perform lifting an item with knees straight. Repeat movement with a slight bend in your knee. If the lanyard or necklace moves away from your body during the lift, it indicates that your torso is hinging forward excessively, a result of keeping your knees too straight.



HOW TO HINGE AT THE HIPS:

- 1** Keep knees slightly bent

- 2** Shift weight into your heels & “sit back” into your hips

- 3** Maintain a neutral spine

- 4** Bend at the hips

- 5** Chest up – Hips back – Knees over toes

Resources:

Taylor, William R., et al. “Tibio-femoral loading during human gait and stair climbing.” *Journal of Orthopaedic Research* 22.3 (2004): 625-632.