

Exploring lumbar and lower limb kinematics and kinetics for evidence that lifting technique is associated with low back pain.

The Objective:

The notion that lifting with a squatting technique (straight back, bent knees) is protective of low back pain still exists within society and continues to drive workplace lifting advice. However, there is limited evidence to support this notion, which this study explored further

What They Did:

After recruiting a group of people with and without low back pain, biomechanics associated with lifting technique was measured, while low back pain intensity was measured simultaneously. Participants were then required to complete a 100 lift task – 25 lifts of an empty box and 75 lifting a box weighing 10% of their bodyweight, with lifts comprised of both symmetrical and asymmetrical lifts from the floor

What They Found:

Interestingly, the group with low back pain displayed a lifting technique that was slower and more “squat-like” – with a straighter back and more bent knees – when compared to the group that did not have low back pain.

Also, within the low back pain group, there was no correlation between lifting biomechanics and pain intensity when performing the lifting task

Clinical Implications:

- ◆ People with a history of low back pain tend to lift in a way that has been considered to be protective of low back pain – i.e. bent knees and straight back
- ◆ People who had jobs that involved manual handling for >5 years did not lift with the technique associated with general lifting guidelines – i.e. bent knees and straight back
- ◆ This study raises further questions about how to best protect the back when lifting, and challenges traditionally held beliefs that lifting technique is a risk factor for low back pain

Reference

Saraceni, N et al. (2021). Exploring lumbar and lower limb kinematics and kinetics for evidence that lifting technique is associated with low back pain. *PLoS One*.

