



Ergonomics Commentary

Number 1, September 1995
(Revised October 1995)

Back belts may not prevent injuries at work

What is a “back belt”?

There are more than 70 types of industrial back belts available. Back belts are also known as weight lifting belts, air belts, abdominal belts, and back supports and aids. They are typically lightweight elastic and fit around the waist and lower back. They are generally worn outside work clothes and can be held in place with suspenders.

Back belts aren't personal protective equipment

- The Workers' Compensation Board (WCB) of B.C. doesn't consider back belts to be personal protective equipment (PPE) as referred to in its occupational health and safety regulations.
- There does not appear to be convincing evidence that back belts lessen the hazards of strenuous or repetitious lifting, pushing, pulling, twisting, or bending.
- Studies have not shown that wearing back belts prevents back injuries from occurring — in fact, there is some evidence that wearing back belts may *increase* the risk of injury.
- The WCB doesn't support, require, or prohibit the use of back belts for injury reduction.

Studies don't support claims about back belts

Claims about the benefits of back belts aren't supported by scientific studies.

Back belts could increase the risk of injuries

There is some evidence that workers believe they can lift more when wearing a back belt. This may give workers a sense of false security and actually increase the risk of injury. Back belts may also produce strain on the cardiovascular system. Long-term use of belts may cause a loss of strength in the stomach muscles, which may then increase the risk of injury when a belt isn't worn.

Prevention programs reduce back injuries

A more effective way to reduce back injuries is to implement a comprehensive occupational health and safety program that includes ergonomic assessments of strenuous or repetitious lifting tasks, and modifications to these tasks through engineering or administrative controls.

Back belts DON'T ...

• Reduce forces on the spine

Lifting and handling of loads produces forces on the spine that can contribute to the risk of injury. No studies show that industrial back belts reduce these forces on the spine.

• Increase intra-abdominal pressure

Some believe that increasing the pressure within the abdomen counterbalances or protects against forces on the spine. Studies are inconclusive about whether back belts increase intra-abdominal pressure. Even if they did increase pressure, there is no evidence that this would reduce forces on the spine, or decrease the risk of back injury.

• Stiffen the spine and reduce bending

There is no conclusive evidence that back belts increase stiffness of the spine, or that this stiffness reduces back injuries. Back belts help reduce side to side bending and twisting. They don't reduce the forward bending common in most lifting situations.

• Remind workers to lift properly

There is little scientific evidence that back belts remind workers to avoid awkward postures and heavy loads that contribute to back injuries.

• Reduce injuries

While there are some reports of injury reduction in companies using back belts, these companies have usually also implemented training and ergonomics programs. There is no proof that back belts alone reduce back injuries.