



Non-prescribed wrist braces may not prevent hand and arm injuries at work

What are *wrist braces*?

Wrist braces are devices that immobilize the wrist, and may fasten by drawstrings, plastic clips, or Velcro. There are many different off-the-shelf wrist braces (also called *splints*) available on the market. They vary in design and price, and are usually made of leather, cloth, plastic, or elasticized material. Some have reinforced metal bars to keep the wrist straight.

How are wrist braces used in the workplace?

Some workers wear off-the-shelf, *non-medically prescribed* wrist braces or splints to prevent pain or injury to the wrists, hands, or arms. Others start wearing an off-the-shelf wrist brace after they feel wrist pain, thinking they can prevent further injury by immobilizing their wrist.

Do wrist braces prevent hand and arm injuries?

The evidence suggests that wearing non-prescribed wrist braces does *not* prevent injuries to the muscles, tendons, and nerves in the hands and arms. In particular, wearing a brace is not likely to prevent injuries such as tendonitis (inflammation of a tendon) and carpal tunnel syndrome (injury to a nerve passing through the wrist). In fact, wearing a non-prescribed brace may worsen symptoms or contribute to a strain in another part of the arm.

When should you use a wrist brace?

Wear a medically prescribed brace that your doctor, physiotherapist, or occupational therapist advises for a specific injury or disease. Usually, medically prescribed braces are custom made rather than bought off the shelf, and are recommended for resting the joint so that healing can take place. Such braces are often tailored to the patient's needs and condition, and are often prescribed for night use.

Use a brace at work if your doctor agrees that immobilizing the wrist in your particular job will not make the injury worse or lead to other types of disorders.

Non-prescribed wrist braces are not personal protective equipment (PPE).

WorkSafeBC does not consider non-prescribed wrist braces to be personal protective equipment (PPE) as referred to in the Occupational Health and Safety Regulation. Non-prescribed wrist braces are not likely to prevent injuries from occurring – in fact, they may increase the risk of injury.

Prevention programs prevent hand and arm injuries.

A more effective way to prevent hand and arm injuries is to have a comprehensive occupational health and safety program in your workplace. An effective program will help:

- Identify where and why injuries are occurring
- Assess the exposure of workers to risks such as repetitive movements, awkward postures, and forceful gripping
- Eliminate or minimize the risks by changing equipment, tools, workplace layout, or work organization

Wearing wrist braces may lead to:

- **Stress on other joints**
Bracing a joint such as the wrist may increase stress on other joints (for example, the elbow and shoulder) because the other joints must compensate for the lack of motion in the braced joint.
- **Muscle weakness**
When a joint is immobile, muscles around the joint are not used and may become weaker. When the brace is removed, weakened muscles may be more prone to injury.
- **Joint immobility**
Keeping a joint immobile for a long period (weeks) can result in a reduced range of motion in that joint. This may leave a worker more prone to injury when the brace is removed.
- **Other problems**
There is evidence that a brace may increase pressure within the wrist, which may actually increase the risk of injury. When working with a brace, workers may have to use extra force because they have limited motion, which can also increase the risk of injury.