# Going Beyond the Glove to Stay Hand Safe

## The Hand is an Exceptional Part of the Body

The Wrist & Hand are Made Up of:

- *27 bones;*
- *29 major joints;*
- *At least 123 named ligaments;*
- *34 muscles which move the fingers and thumb:*
- *48 named nerves;*
- *30 named arteries and nearly as many smaller named branches.*

The hand is designed to perform many complex movements. You use your hand and fingers to hold and manipulate objects. You use your hand to communicate with others when talking and you use your hand to experience sensations: hot or cold temperatures, soft or rough textures and dry or wet sensations.

The hand can perform gentle and precise movements such as holding a pen to write a letter, threading a needle or when playing guitar. At the same time, our hands enable us to perform heavy labour - assisting when digging a hole with a shovel, when using a jackhammer to break up concrete or when gripping to carry heavy objects.

So an injury to the hand has a significant impact on day to day life and capacity to work. Take the humble pinkie for example. It is often thought of as the least used or needed of all fingers, but it actually plays a vital role in gripping and grasping objects. Grip strength reduces by a third without the pinkie.

## Think about what would happen if you lost an entire hand, let alone a finger!?

Every year, there are approximately 8400 hospital admissions due to wrist and hand injuries that occur in the workplace. This represents 38% of all the workplace injuries that require hospitalisation.

Industries that have the greatest risk of hand and wrist injuries are:

1. **Manufacturing** (59% of all workplace injuries requiring hospitalisation from that industry);
2. **Construction** roles (43%);
3. **Wholesale and Retail Trade** roles (41%).

Men are at greater risk than women due to a greater participation rate in jobs in these industries. The age bracket most affected by hand and wrist injuries is 15-44 years of age. The most common injury types are open wounds due to cuts, followed by fractures. The most common mechanisms of injury were the use of sharp edged tools, the operation of machinery or tools which were faulty, locked or not properly guarded, or the preparation of food using appliances or knives.

## The five most common risk factors for acute occupation hand injury are:

- *Unusual performing equipment/ materials;*
- *Using a different work method to complete a task;*
- *Completing an unusual task;*
- *Being distracted;*
- *Rushing.*

## If the glove fits?

Glove use is only one component of a comprehensive hand injury prevention approach. The best strategy includes:

- *The identification and elimination of sharp hazards;*
- *Engineering controls;*
- *Safety warnings;*
- *Training in high-risk situation awareness and;*
- *Proper selection and timing of glove use.*

Glove use reduces the risk of acute hand injury by about 60% but only in the presence of other controls. In 19% of hand injuries gloves did not protect against mechanical energy being transferred to the hand. Gloves reduce the risk of lacerations and puncture injuries, but not crunch, fractures, avulsions or amputations (Sorock et al., 2004). Glove use alone is more effective than safety training alone in reducing the incidence of acute hand injury but neither strategy is as effective as a combined approach.

## What Is The Best Way To Help Workers To Remember Hand Safety?

There are many ways to help workers to remember their hands whilst working. At KINNECT, we like to keep in mind the PINCH Principle:

### Prepare & Plan

- Consequences
- Visualise
- Hierarchy of Controls

### Implement Correct Equipment

- Correct tool for the job
- Correct glove for the task

### Note Where Your Hands Are

- Be aware of pinch points, sharp edges, crush hazards, hot surfaces and chemicals

## Communicate

- Improves performance
- Increases awareness

## Have a Break

- Fatigue control
- Micro breaks
- Minimise repetitive movements or sustained positions