

FOCUS ON FACTS

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Repetitive Strain Injury

Workers in many jobs are at risk for repetitive strain injuries (RSIs). These are also known as work-related musculoskeletal disorders (WMSD) or cumulative trauma disorders (CTD). An RSI is an injury or disorder that occurs over time as a result of repetitive, forceful or awkward body movements. By being aware of the risks of RSI development and taking steps to lower those risks, workers and employers can expect:

- ▲ Worker comfort
- ▲ Worker safety
- ▲ Productivity
- ▼ Workplace injuries
- ▼ Workers Compensation claims

Where does RSI occur?

RSI generally occurs at the

- Wrist
- Hand
- Shoulder
- Elbow
- Back
- Knee
- Ankle

What are some of the symptoms of an RSI?

- Pain
- Swelling, inflammation
- Numbness or tingling sensation
- Decreased movement of a joint
- Stiffness of body part

- Symptoms worsen with time

How does an RSI develop?

They often develop over time as a result of:

Repetition: Repeated motions of a body part

High Force Exertion: Lifting heavy loads

Contact Stress: Repeated contact with the sharp edges of tools or work stations

Awkward Posture: Maintaining awkward body positions for a long time

Static Posture: Holding parts of the body in one position for a long time

What are the results of an RSI?

An RSI can damage muscles, tendons, and nerves of the neck, shoulder, forearm, hands, legs and back. Damage can also occur in other parts of the body. An RSI can cause pain, weakness, numbness or difficulty in grasping objects.

What are common types of RSIs?

The wear and tear of different body parts over time can lead to different kinds of RSIs. Where one

RSI may affect nerves, the other may affect tendons or blood vessels. Here are the names of some common disorders associated with repetitive strain injuries:

- Carpal Tunnel Syndrome
- Tendonitis
- Tenosynovitis
- De Quervain's Disease
- Bursitis
- Epicondylitis
- Trigger Finger
- Chronic Back Pain
- Ganglion Cysts
- Degenerative Disc Disease
- Hand-Arm Vibration Syndrome

Can RSI be prevented?

The risk of developing an RSI can be lowered by reducing the risk factors present on the job, such as repetition, high force, awkward posture, contact stress and static posture. The application of ergonomics can help reduce the risk of RSI development.

Ergonomics is the science that studies people and the work they do. Ergonomics helps the work fit the worker, as well as to help increase safety, efficiency, and avoid problems such as back pain, sore wrists and hands or sore shoulders.

Ergonomics looks at:

- Design of the workstation
- Design of tools used at work
- How the work is organized
- How the work is done

For more information on ergonomics, please see *Focus on Facts - Ergonomics*, published by the MFL Occupational Health Centre.

What other factors may contribute to the development of an RSI?

Conditions such as diabetes, hypertension and pregnancy

have also been shown to contribute to the development of RSI.

How can you find out if your job might put you at risk for an RSI?

If you have a health and safety committee ask them to review this fact sheet. They may be able to identify risks and make recommendations on how to reduce the risk of developing an RSI.

Report any pain or injury to your supervisor or employer.

If you have symptoms of an RSI you should see a physician. Inform

her or him if you think it may be work related.

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Risk factors and solutions

The following are risk factors and examples from the workplace that have been associated with the development of an RSI. When a body part is subject to more than one risk factor, there is a higher risk of developing an RSI.

Risk Factor	Specific Examples	General Solutions
High Force	<ul style="list-style-type: none"> • Lifting/carrying a heavy load • Pushing/pulling a heavy load 	<ul style="list-style-type: none"> • Mechanical aids such as dollies or lifts • Lifting with a co-worker • Keep equipment well maintained
High Repetition	<ul style="list-style-type: none"> • Doing the same type of work for the duration of the day • Continually using the same limbs or muscle groups 	<ul style="list-style-type: none"> • Expand job duties • Rotate to other jobs in the workplace • Take frequent rest breaks
Awkward Postures	<ul style="list-style-type: none"> • Wrists are bent in order to use tool • Back is bent forward or twisted • Neck is bent up, down or to the side 	<ul style="list-style-type: none"> • Raise or lower the work • Move the work so it is closer to you
Overhead Work	<ul style="list-style-type: none"> • Doing work that causes arms to be held above shoulder height • Using equipment above shoulder height 	<ul style="list-style-type: none"> • Work on a raised surface • Lower object being worked on
Static Work	<ul style="list-style-type: none"> • Holding tools steady for long periods • Sitting in mobile equipment for long periods 	<ul style="list-style-type: none"> • Take frequent breaks • Move around, do stretch exercises
Vibration	<ul style="list-style-type: none"> • Operating vibrating machinery, such as a drill, grinder or impact wrench (Hand-Arm) • Driving mobile equipment over rough terrain (whole body) 	<ul style="list-style-type: none"> • Wear proper fitting gloves • Reduce equipment vibration ie. maintenance • Take frequent rest breaks
Contact Stress	<ul style="list-style-type: none"> • When the sharp edge of a tool or workstation presses against a part of the body, for example when using a screwdriver with a short handle 	<ul style="list-style-type: none"> • Round edges of equipment or workstation • Pad tools or workstations
Cold	<ul style="list-style-type: none"> • Handling cold items, such as foods • Working in a cool environment, for example outdoors in the winter time 	<ul style="list-style-type: none"> • Wear appropriate warm clothing (ensure gloves are well fitted) • Heat work environment