

# REPETITIVE STRAIN INJURY (RSI)



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## **IMPORTANT**

**The health information contained herein is not meant as a substitute for advice from your physician, or other health professional. The following material is intended for general interest only; and it should not be used to diagnose, treat, or cure any condition whatever. If you are concerned about any health issue, symptom, or other indication, you should consult your regular physician, or other health professional. Consequently, the Author cannot accept responsibility for any individual who misuses the information contained in this material. Thus, the reader is solely responsible for all of the health information contained herein. However, every effort is made to ensure that the information in this material is accurate; but, the Author is not liable for any errors in content or presentation which may appear herein.**

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## **Introduction**

Repetitive strain injury (RSI), also called work-related upper limb disorder in the UK, is a general term used to describe the pain from muscles, nerves and tendons caused by repetitive movement and overuse. The condition mostly affects parts of the upper body, such as the forearm, elbow, wrist, hands, neck and shoulders, and may also cause stiffness and swelling.

Thus, "repetitive strain injury" is an umbrella term for "injuries of the musculoskeletal and nervous systems that may be caused by repetitive tasks, forceful exertions, vibrations, mechanical compression (pressing against hard surfaces), or sustained or awkward positions". (*Public Employees Occupational Safety and Health Program of the New Jersey Department of Health and Senior Services*)

Not enough is known about repetitive strain injury conditions, and in particular diffuse RSI conditions are very difficult to diagnosis and to understand, especially for doctors not specialising in these conditions. It is therefore understandable that these conditions are not well understood by doctors

generally, and all too often Occupational Health doctors do not ensure that employers provide adequate protection, for their staff, from repetitive strain injury conditions.

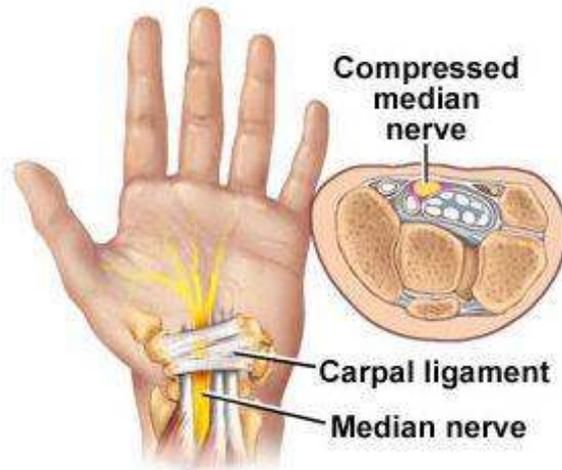
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### **Causes and Manifestation**

Research and observation has indicated that there are many and varied reasons why a repetitive strain injury may manifest, both physically and mentally:

- Carrying heavy items on a repeated basis
- Cold temperatures
- Continually engaged in forceful activities
- Direct pressure or continuous impacts to the body
- Doing an activity that involves force, such as pushing or lifting heavy objects
- Doing an activity, especially a repetitive activity, for a long time without a break or a rest
- Fatigue
- Holding a phone between neck and shoulder
- Operating vibrating equipment
- Overuse of specific muscles on a continued and repetitive basis
- poor posture or activities that require the individual to work in an awkward position
- Prolonged periods of work without a break
- Prolonged use of the hands, wrists, back, neck, etc.
- Reading or doing tasks for extended periods of time while looking down
- Sitting in a bad armchair and/or in an uncomfortable position
- Sitting in the same position for a long period of time (especially if the chair is not suited to the activity)
- Sleeping on an inadequate bed/mattress
- Sleeping with head forward, while traveling
- Stress has been indicated to exacerbate repetitive strain injuries
- Watching TV in poor position e.g. Too much to the left/right
- Working in cramped positions
- Working with a poor posture or in badly organised work area which is ergonomically unsound
- Working with, or holding the same posture for protracted periods of time

Repetitive strain injury is not limited to a specific disease group, but to various manifested conditions including but not limited to:



Above - Carpal Tunnel Syndrome (courtesy of Mayo clinic - 2006)

- Carpal tunnel syndrome (pressure on the median nerve passing through the wrist)
- Tendinitis (inflammation of a tendon)
- Bursitis (inflammation and swelling of the fluid-filled sac near the joint of the knee, elbow or shoulder)
- DeQuervain's syndrome (a tenosynovitis of the sheath or tunnel that surrounds two tendons that control movement of the thumb)
- Diffuse Repetitive Strain Injury (A non-specific pain syndrome which is very difficult to diagnose)
- Dupuytren's contracture (a condition that affects the hands and fingers, and causes one or more of the fingers (on one or both hands) to bend into the palm of the hand)
- Dystonia (writer's cramp)
- Focal dystonia (hand tremor or cramps which make writing difficult)
- Gamekeeper's thumb (irritation or injury to the ulnar collateral ligament (UCL) of the thumb)
- Ganglion cyst(s) and irritation (a swelling that appears on or around joints and tendons in the hand or foot)
- Intersection syndrome (a type of wrist tendonitis)
- Lateral epicondylitis ( tennis elbow)
- Medial epicondylitis (golfer's elbow)
- Oedema (an excessive build-up of fluid in the body's tissues)
- Radial tunnel syndrome (increased pressure on the radial nerve as it travels from the upper arm (the brachial plexus) to the hand and wrist)
- Raynauds disease (disorder of the blood vessels, usually in the fingers and toes - characterised by noticeable colour change often in response to temperature change)
- Stenosing tenosynovitis (inflammation of the flexor tendon sheath of the finger (or thumb))
- Tenosynovitis (inflammation of the fluid-filled sheath (the synovium) that surrounds a tendon)
- Thoracic outlet syndrome (condition that involves pain in the neck and shoulder, numbness and tingling of the fingers, and a weak grip. The thoracic outlet is the area between the rib cage and collar bone)

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## Symptoms

The overriding general symptom of a repetitive strain injury is pain - typically in a localised area. However, this is not always the case. For example, a pinched nerve in the shoulder or cervical region could be causal in a hand based repetitive strain injury. Consequently, it is necessary to be aware that there may be a "certain degree of linkage" between injuries.

Localised pain will typically manifest in the joints or muscles and can consequently affect the functioning of the fingers, hands, wrists, arms, neck, shoulders, and upper back, etc.



Above - RSI Localised Pain

Tingling, numbness, tightness, burning, swelling, and general soreness are often experienced along with a feeling of weakness (and in some cases immobility) in the affected area. Some individuals may experience a different colouration in the skin and/or a change in the physical shape of the affected region.

Tiredness is often associated with a repetitive strain injury, and the actual pain itself can have an additional debilitating affect. Also, the attendant discomfort can negatively affect the individual's sleeping patterns.

In the early stages of a repetitive strain injury it is common to have one or two of the symptoms during the type of activity that causes the pain (typing, holding a telephone receiver, lifting items, pushing, operating equipment that vibrates, etc.); however, once the activity has been discontinued, the symptoms also disappear.

For example, a receptionist may experience repetitive strain injury symptoms during the day whilst they are typing or holding a telephone receiver. However, once they have finished their shift (or over the weekend) they will notice that the symptoms gradually fade.

### Warning

**Although the pain may be manageable (and it may subside for periods throughout a typical day) an unaddressed RSI condition could develop into a more severe case which produces greater levels of discomfort and pain with an ever increasing frequency. The problem is that the repetitive strain injury symptoms could become irreversible if the case is allowed to sufficiently advance.**

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## Computer related repetitive strain injury

A wrong keyboard or mouse type, or a work station/area that is poorly set-up, accounts for large numbers of repetitive strain injuries within the workplace.



Above - Computer related Repetitive Strain Injury

In general terms, a computer related repetitive strain injury occurs when excess stress is placed on a particular joint, such as the wrist joint. Consequently, when that stress occurs repeatedly, the wrist does not recover quickly enough and the joint becomes irritated and inflamed. The body will automatically react to the irritation by introducing fluid into the affected area and try to reduce the stress on the muscle or tendon.

Conditions that are caused by repeatedly using the wrong office equipment include (computer related repetitive strain):

- Carpal tunnel syndrome - swelling of the carpal tunnel within the wrist
- Cervical radiculopathy - disk compression of the neck
- Epicondylitis - tennis elbow
- Ganglion cyst - lump in the wrist from leaked tendons
- Reflex sympathetic dystrophy - dry, swollen hands with loss of muscle control
- Tendonitis - tearing/inflammation of tendons

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### **Who is at risk?**

Everyone is at risk irrespective of age and social strata. Repetitive strain injury is a globally growing problem, which affects people in a diverse range of employment and activities, including but not limited to:

- Assembly and production line workers
- Beauticians
- Call centre operatives
- Carpenters
- Checkout operators
- Cleaners
- Computer operators
- Construction workers
- Garment workers

- Hairdressers
- Musicians
- Poultry workers
- Receptionists
- Sign language interpreters
- Warehouse workers
- Welders

In fact anyone at any age who performs a repetitive action could develop a repetitive strain injury.

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## Treatment

### General:

- Stop doing the task or activity that is causing the symptoms.
- Let the body naturally heal itself
- Use a heat or cold pack
- Use an elastic support or splint



Above - An Elastic Support

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## Complementary

### Tissue Salts

Ferr Phos and Mag Phos - in combination (standard dosage)

### Supplements

Vit C, high doses of Vit B6 (B-complex\* recommended), plus Magnesium

*(\*Vitamin B-complex refers to all of the essential water-soluble vitamins except for Vit C. B-complex includes thiamine (Vit B1), riboflavin (Vit B2), niacin (Vit B3), pantothenic acid (Vit B5), pyridoxine (Vit B6), biotin, folic acid and the cobalamins (Vit B12))*

Omega 3 and Omega 6 supplements have been noted to be therapeutic in such conditions

Glucosamine and Chondroitin have been noted to be therapeutic in such conditions, especially if the condition is exacerbated by arthritis

Swedish Bitters has also been noted to be therapeutic in such conditions

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### **Allopathic Approach**

- A course of anti-inflammatory painkillers, such as ibuprofen or aspirin
- Steroid injections to reduce inflammation in an affected area (this is only recommended if an area has definite inflammation from a condition, such as carpal tunnel syndrome or tenosynovitis)

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### **Homeopathic Approach (For Interest Only)**

#### **Arnica**

This remedy can be used for flare-ups of inflammation or new injuries caused by repetitive use of the fingers and wrists. The area feels bruised and sore, and cramping may occur. External application of herbal Arnica lotion or ointment may help to ease the swelling and soreness, while other remedies are used internally.

#### **Calcarea phosphorica**

When this remedy is indicated, pain is felt in the bones and nerves of the wrists and arms, and stiffness and discomfort may also involve the neck. Cold and drafts often aggravate discomfort. The person may feel irritable and sensitive, or weak from overwork and pain.

#### **Causticum**

This remedy is useful when carpal tunnel syndrome is long-lasting or recurring. The area feels bruised, with drawing, burning pains. Stiffness and a feeling of weakness and contraction may be felt in the muscles of the hand and forearm. The condition is worse from getting cold and improved by warm applications. People who need this remedy often feel best in rainy weather.

#### **Guaiaicum**

This remedy is indicated in carpal tunnel syndrome when the wrists (especially the left) are stiff with burning pain, and significantly relieved by applying ice or ice-cold water. Because of so much tightness, the person may feel a need to stretch the wrist, despite the pain.

#### **Hypericum**

This remedy may be useful if sharp or shooting pains are felt extending from the wrist. Hypericum is known for its soothing effect when body parts containing many nerves are injured, as well as in other traumatic nerve conditions.

#### **Rhus toxicodendron**

This remedy is useful when stiffness and pain are worse on initial motion and improve as movement continues. Overuse may lead to soreness, pain, and further stiffening. Discomfort is relieved by warmth and worse in cold, damp weather.

#### **Ruta graveolens**

This remedy is indicated when overuse of joints and irritation of nerves lead to tremendous stiffness. A feeling of bruising and lameness may be present, even when the wrist is allowed to rest. Weakness

in the arms and wrists, especially after repetitive tasks causing wear and tear on the joints and nerves, often indicates Ruta.

### **Viola odorata**

This remedy is useful for many conditions that involve the wrist and hand, especially the right. Pain and numbness may extend from the wrist through the hand and into the fingers, and the hands and arms may tremble. Symptoms are worse from getting cold.

### **Selection**

Select the remedy that most closely matches the symptoms. In conditions where self-treatment is appropriate, unless otherwise directed by a health consultant, a lower potency (6X, 6C, 12X, 12C, 30X, or 30C) should be used. In addition, follow the instructions for use which is printed on the label.

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