

A 21st century condition

Do advances in technology mean the emergence of repetitive strain injury on epic proportions?

Juliet Stephens looks at just what the condition is, and whether we are prepared

On 31 December 2005, 165 million text messages were sent in the UK as we entered 2006. With good wishes for the new year, we imagine. The bad news is that this kind of behaviour could be contributing to a serious emerging health problem that can develop at any age, irrespective of fitness.

Repetitive strain injury (RSI) is a musculoskeletal condition that is caused by repeatedly performing certain movements, which damage the body's tendons.

For some, RSI is no more than an occasional annoyance, but for others it can mean severe disability, loss of employment and excruciating pain. RSI is easy to prevent and very difficult to cure, so early action is crucial to stop deterioration.

RSI is an umbrella term used to describe a number of specific musculoskeletal conditions, which includes tendonitis, tennis elbow and carpal tunnel syndrome. It most commonly affects fingers, hands, elbows and shoulders.

Although some people refer to it as upper body limb disorder we will stick to RSI in this article as the generic term seems more applicable – for a small minority, it isn't restricted to the upper limbs.

Symptoms include aching, burning, tingling and numbness. Carrying, gripping and twisting can be painful, and driving, shaking hands, even getting dressed can become problematic. For most people, RSI is relatively minor condition, but if left untreated it can cause severe disability.

Chris Hogg was diagnosed with diffuse RSI (also known as non-specific pain syndrome) in 1987. He describes his condition at its worst. 'I was in chronic, horrible pain. I was taking so many painkillers it was making me vomit, and no position could give me any relief.'

Work and play can both be at fault

Tendons are the rope-like structures which connect muscles to bones to work the joints in the body. They move inside a lubricated sheath, like a nylon cord passing through a straw.

Any task that involves repeated localised movements, be it in sport, gardening, DIY or playing a musical instrument, can irritate the tendons. They get inflamed as a result, and

become more like hairy twine, grating against the straw as it moves, causing pain.

Work and play can both be at fault. In only 50 years, our lives have been taken over by gadgets and computers. The mini muscle movements involved in typing at a keyboard, playing a computer game or writing a text message are having a significant effect on our bodies.

Computer games can be powerfully addictive and most are designed to lure the player to reach the next level, score more points, collect more golden rings or shoot more enemies. They can involve hours in an unnatural position carrying out repetitive micro-movements, punching keys on tiny consoles. Children tend to be more sedentary nowadays – motivating them to change their behaviour and take regular breaks is tough.





Work-related injuries are the most common cause of RSI. Primarily brought on by bad posture and overuse of computers, they are exacerbated by stress. In 2001, 5.4 million working days were lost due to RSI conditions – a serious economic impact.

The message for young people is to start protecting yourself now

Chris describes his working environment when he was diagnosed with RSI: 'There was a recession on and we were working like galley slaves for 10 or 12 hour nightshifts, hunched over the desks. Jobs were scarce so you didn't have a choice, you had to do it,' he remembers. His left arm was affected first, but the pressure to keep his job meant Chris struggled on, compensating for the stabbing pain in his left shoulder by using his right hand for everything, even changing the gears of his car.

'I lost nearly two stone in six months, through stress and lack of

sleep. My batteries were so low, something had to give,' he says. He was out of work for three years having been made redundant due to his condition.

Employers are starting to have to take this issue seriously. They have a legal duty to safeguard the health and safety of their workers and provide training courses in good posture. They must also provide suitable equipment, like split keyboards, foot or palm rests, voice-activated software and contoured mice, where necessary.

RSI can be a huge obstacle to productivity and employers who invest in awareness will save money in the long run.

If you suspect you may have RSI you should go to your doctor and get a diagnosis and suitable treatment. But you should also speak to your line manager and union representative if you have one. It is a good idea to record your symptoms in your employer's accident book. Employers are required by law to have one and it will be vital evidence should you ever have to claim compensation.

Prevention is better than a cure, and employers are required to educate employees about correct posture and safety in the workplace. Bronwyn Clifford is an occupational physiotherapist and qualified ergonomist (an expert in finding equipment to suit someone's needs) who specialises in RSI.

Computerisation is still a relatively recent phenomenon, so it is difficult to measure the impact, but Bronwyn has identified an increase in incidences of RSI for 20-somethings, who have been brought up using computers at school, at work, and in their leisure time.

Unlike other experts who would write off a generation to RSI, Bronwyn thinks RSI in younger people is more likely to be prevented. 'Acting on early symptoms is crucial and young people will either be under the beady eye of a concerned parent, or will grow up with a greater awareness of the impact of technology,' she says.

'The message for young people is to start protecting yourself now,' says Bunny Martin, director of [p12](#)

EPICONDYLITIS

Most commonly known as 'tennis elbow', or 'golfer's elbow', epicondylitis is the result of repeated strain on the muscles of the forearm, that extend the wrist and fingers. It is not associated with arthritis, or any other condition.

It usually starts with an ache in the forearm, and pain will worsen with certain movements. Any activities that involve twisting or extending the arm can cause the condition to flare up.

Resting, and limiting the activities which have caused the strain are a good idea to start, and behavioural changes will also help. Physiotherapy and the use of elbow supports are also useful.

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the Body Action Campaign to raise awareness of RSI. 'RSI damage is rarely permanent with children and simple preventative measures, including a wider variety of leisure activities, will solve the problem.'

Your chances of accessing the right treatment depend somewhat on your doctor's knowledge and skills. 'I was diagnosed with diffuse RSI in 1992,' says Kevin Fleisch. 'At that stage it was a mystery condition. I had to search through medical libraries to read up about it because the doctors would not – or could not – give me any information. The RSI Association was very helpful, but unfortunately they have had to close due to a lack of funding.'

A survey of people with RSI by the Trade Union Congress found that only half of respondents felt that their GPs believed RSI was a real condition, and cases of RSI are often diagnosed incorrectly, if at all.

Meena Johnson had been having problems with her wrist when she was using her computer at work, but her GP was unsympathetic: 'She basically said it was all in my head. She told me to take some ibuprofen and it would go away. I had to demand a referral to a physiotherapist.' The physiotherapist recognised that Meena's pain at work was being caused by RSI, and taught her some useful exercises to increase mobility.

'Getting ergonomic office equipment, like a contoured mouse, also really helped,' says Meena, who no longer experiences any RSI pain.

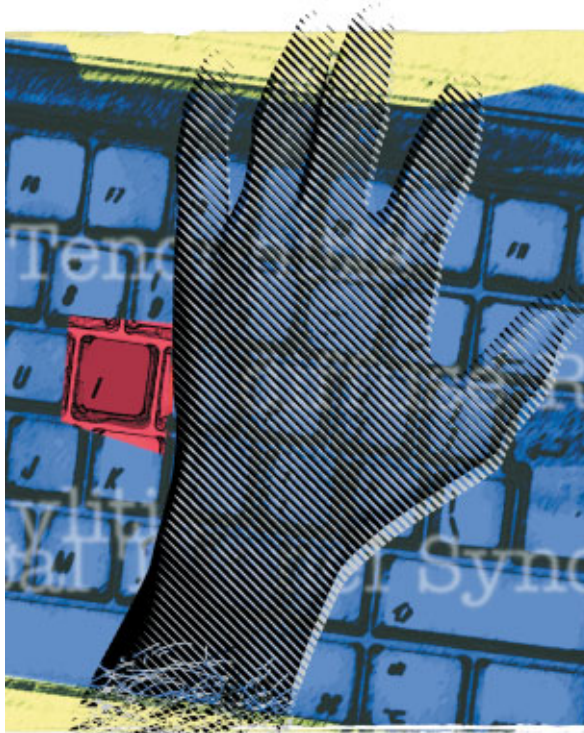
There isn't one specific medication that can be prescribed to treat RSI.

DIFFUSE RSI (NON-SPECIFIC PAIN SYNDROME)

Diffuse RSI reveals no actual signs of tendon injury, which makes it a controversial condition, and can make diagnosis problematic. Research at University College London suggests that diffuse RSI is caused by nerve damage, similar to other painful neurological conditions. Your doctor will look for tenderness or swelling, associated with other RSI conditions, and a blood test may be conducted to rule out conditions such as rheumatoid arthritis.

Symptoms include aches, pain, numbness, tingling, weakness and cramps. Unlike other forms of RSI where the pain and inflammation is localised, diffuse RSI pain may spread up the arm, to the shoulder. The neck and back may be stiff, and some patients describe temperature and colour changes in their hands.

It is generally accepted that an integrated, holistic approach, including self-management, physiotherapy, yoga and pilates, is most effective.



Basic things like posture and using ergonomic equipment can make a world of difference

As it is caused by straining tendons through repeated activity, it is important to balance tasks to work different muscle groups.

'Basic things like posture, taking breaks and using ergonomically designed tools and equipment can make a world of difference,' says Bronwyn. 'Undoing bad postural habits takes time, but the investment pays off in terms of reduced pain and tension'.

Kevin has learnt to be aware of his condition. 'You have to adapt – I do regular exercises to keep my joints and tendons supple, and I've got certain gadgets, like tap turners, electric tin openers and ergonomic knives and toothbrushes,' he says.

Taking a holistic approach to treatment is beneficial, especially with diffuse RSI, when there is no physical evidence of tendon injury.

The Alexander technique and tai chi are popular complementary therapies. The emphasis is on consciously preventing bad habits, such as stiffening and tightening the joints and doing things with tension or aggression in the body. They encourage balance and flow in the body through good posture and alignment. 'It is better to be a bird than a bulldog,' laughs Bronwyn, pointing out the benefit of being upright rather than hunched.

Also popular, are Pilates and yoga which strengthen core muscles to support the body. Exercises are co-ordinated with breathing which can help with general relaxation. It is important to take these pursuits slowly, to avoid straining the body and causing injury.

These exercises can help people manage the frustration of not

TENDONITIS

Movements which pull on the tendon can aggravate it, tightening it until the tendon fibres start to tear and the sheath that the tendon passes through can become inflamed. It is common in office workers from overuse of a keyboard. Sometimes it results from arthritis, and in rare cases may be caused by infection.

Symptoms vary from a dull ache and stiffness at the point of the pressure, to a burning that surrounds the whole joint around the inflamed tendon. The pain is usually worse during and after activity, and the tendon and joint can become stiffer the following day.

Treatment and stretching exercises can usually help. Tablets may ease the pain, splints may ease the inflammation, and sometimes steroid injections are prescribed, but the problem will not go away unless the cause of injury is addressed.

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being able to do what was once easy, having to stop work, or give up a passion or a hobby – which is all too real for some people.

‘I felt like I’d lost my identity,’ says Chris, ‘I stopped thinking of things to do, because without the use of your arms, you can’t do anything. Even going out for a meal, it is so humiliating when your wife has to cut your food up because you can’t do it for yourself.’

Stress causes the body to tense up, which exacerbates RSI, so emotional discipline is as important as stretching exercises and rest breaks from work. Exploring different relaxation techniques, including yoga and meditation, can provide huge benefits in suppressing anger,

CARPAL TUNNEL SYNDROME

The carpal tunnel is a passageway in the wrist containing tendons. These manipulate the fingers and thumb and the median nerve, which transports messages from the hand to the brain. The carpal tunnel is very sensitive to pressure, and when the tendons are inflamed the median nerve gets squeezed. Arthritis, fluid retention and diabetes are among the causes for tendon inflammation.

The most common symptoms are numbness, burning or tingling in the fingers, often at night. Pain may extend up the arm, into the elbow and as far up as the shoulder and neck. The dominant hand tends to be most affected, and partial relief can be gained by shaking or massaging the hands.

Painkillers, anti-inflammatories and rest are the most common treatments, and a splint may be used in order to restrict movement in the wrist. Identifying activity which is the cause, such as DIY, housework or using a mouse can avoid pressure on the nerve. Surgery is an option in very severe cases.


With early diagnosis we can prevent many problems

just as focusing the mind on a puzzle or problem to solve can help alleviate hopelessness.

Chris returned to work after three years’ unemployment. Although it was initially a bumpy ride, his resolve and strength of mind spurred him on. Eleven years after returning to work Chris has finally found relief from his diffuse RSI – he has been prescribed a very small dose of amitriptylene. Primarily used as an anti-depressant it was discovered that in small doses it could have the side effect of dampening certain pain receptors in the brain.

Chris is now building up his strength in the gym, and loving life. ‘It’s exhilarating,’ he enthuses. ‘I am making up for lost time.’

Despite the concern about the possible future impact of RSI, Bronwyn remains optimistic. ‘Increased awareness is key, and with early diagnosis we can prevent many of these problems, reducing the need for treatment later on,’ she says. Left untreated, RSI can be very destructive. Therefore it is vital to act quickly if you spot symptoms.

As more data about the impact of RSI on young people can be gathered, it can be tackled in a co-ordinated way. For the time being, the growing market in ergonomic gadgets and tools, greater awareness of employer’s and our own responsibilities and greater knowledge of RSI can go some way to stopping this condition before it starts. 

For further information, contact Arthritis Care’s free, confidential helpline on 0808 800 4050 (open 10am-4pm weekdays).

RSI is caused by straining tendons through repeated activity, so avoid using the same muscle groups repeatedly.

Chris Hogg (inset): having found a medical solution, he is making efforts to become stronger physically



Main photo: Lea Paterson/Science Photo Library

GOOD POSTURE WHEN SITTING AT YOUR DESK

- Allow your shoulders to relax and roll backwards.
- Thighs and forearms should be parallel (or sloping down, away from the body).
- Feet should be approximately one foot apart, on the ground or a footstool.
- The monitor should be 18-28 inches away from you.
- Hold the mouse lightly.
- Learn keyboard shortcuts.
- Use a light touch on the keys.
- Increase the font size on your computer so you can read from a distance, without having to lean in and slouch over the desk.
- Keep your phone and your mouse on opposite sides, so you balance the body.
- Get up from your seat and move around once an hour.
- Exercise your joints and tendons with gentle stretches and rotations.