Are You Sitting Comfortably?

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What is RSI?

Repetitive Strain Injury (RSI) is defined as a cumulative trauma disorder... stemming from prolonged repetitive, forceful or awkward hand movements [1]. These inefficient movements injure the soft tissues, namely muscles, tendons, and nerves. Pain, numbness, tingling, weakness, loss of coordination are symptoms of RSI. Contrary to popular belief, it is not only the hands that are at risk, symptoms can appear anywhere in the upper body such as the back, shoulders, neck, arms, headache.

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[1](Repetitive Strain Injury; a computer user's guide. Emil Pascarelli, MDand Deborah Quilter, John Wiley and Sons, 1994, p.3)

WARNING

The person giving this talk is not an MD (Medical Doctor), physiotherapist or expert in Health and Safety law.

I have used computers a fair bit, experienced mild RSI, have a PhD in Medical Engineering, observed a fair few people develop RSI and know a lot about body movement.

History of RSI

I've found it rather difficult to trivially find a history of RSI, but it has certainly been around for a while. Some occupations that require repetitive movements:

- pottery
- farming
- metal work
- music
- physical training for sport/dance

All of which have been around before computers appeared. Musicians have known about RSI for a long time, and a fair bit of the content of this talk relating to prevention and treatment is from musicians.

Official Recognition of RSI as a Medical Condition

There's plenty of it!

The University has a web page for it:
http://www.cam.ac.uk/cs/rsi/

And the press often mentions it:
http://www.theregister.co.uk/2000/07/13/can_your_keyboard_kill_you/
http://www.bbc.co.uk/health/awareness/rsi.shtml
http://news.bbc.co.uk/1/hi/health/1844459.stm

Contributory Factors

- stress
- posture
- cold
- genetic
- other repetitive movements (cycling)
- excessive physical force used during movements

Prevention

- fidget
- exercise
- diet
- hydration
- regular breaks
- relax
- workspace layout

HowTo

Sit at a desk

Pelvis above of level with your knees.

Relaxed, straight back with centre of shoulders directly above centre of pelvis.

Heels on the floor.

Use a Keyboard

Straight wrists

Do not over-stretch your hands

Learn to type!

Sit away from the keyboard

Use a Mouse

Straight wrist

Long fingers (not clawed)

Use the arm to move the mouse, not just the hand

Computing Presentation

Therapies

A lot of this advice is based upon highly empirical personal observations:

- exercise
- swimming
- movement studies
- dance
- pilates
- shiatsu
- massage
- reflexology

Exercises

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http://home.mindspring.com/~shin-on/handcare.html
http://www.cat-box.net/helen/rsi.html
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Software

Work break reminders (annoying, but useful):

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http://www.workrave.org/welcome/index.php
http://www.lcdf.org/~eddietwo/xwrits/
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Voice recognition (commands and dictation):

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http://www-tus.csx.cam.ac.uk/voice/courses.htm
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Internal Help

University Disability Advisers
Disability Resource Centre,
Keynes House
Trumpington Street
Cambridge
CB2 1QA

01223 332301
ucam-disability@lists.cam.ac.uk

Further Information

http://www.tcm.phy.cam.ac.uk/internal/computers/
ergonomics.html
http://www.bio.phy.cam.ac.uk/internal-bio/computing/
ergonomics.html
http://www.cam.ac.uk/cs/rsi/
http://www-uxsup.csx.cam.ac.uk/~dpc22/rsi.html
http://www-tus.csx.cam.ac.uk/voice/RSILinks.htm
http://www.cat-box.net/helen/rsi.html
http://en.wikipedia.org/wiki/Repetitive_strain_injury
http://www.tifaq.com/information.html
http://web.mit.edu/atic/www/disabilities/rsi/
RSIBrochure2004.pdf
http://www.acay.com.au/~mkrause/workstation_
ergonomics.htm
http://news.bbc.co.uk/1/hi/despatches/55328.stm
http://www.admin.cam.ac.uk/cam-only/offices/safety/

`publications/hsd005p/index.html#app2a`

Vision

Finally some official recognition that focusing at a fixed distance for long periods of time is bad for your eyes:

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http://www.theregister.co.uk/2004/11/17/computer_glaucoma/
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My personal experience: While working for IBM I would take the train in the morning and could clearly read signs on the opposite platform. When I finished for the day and went to the train station I could not read the train station sign on the opposite platform. Things were better again next day - temporary short sightedness?
Advice: every 20 minutes look away from the computer screen for 2 minutes.

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Help

Prevention is good and you can ask for an informal workstation assessment.