

The Problem

Use of a computer keyboard and/or mouse can lead to persistent muscle aches, tendon inflammation, nerve compression, and subsequent disability that in some cases may be permanent. It could happen to you! The MIT Medical Department sees nearly 300 people a year for problems such as these caused by overuse and/or misuse of computer workstations. The musculoskeletal system is built to have periods of activity alternating with periods of rest that allow recovery and renewal. Working at a computer station subjects certain parts of the body to static postures while other parts move incessantly. Both static postures and constant activity can cause first microscopic and then macroscopic damage to the biologic tissues.

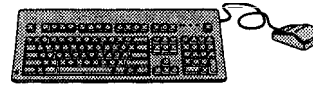
Pacing

Introduce breaks in your typing to permit recovery and restoration, and do this at a frequency that does not allow pain or discomfort to develop. No schedule of typing and rest breaks is universal, but as a general guideline, takes a 1 or 2 minute "micro break" every 10 to 15 minutes. Take a 5 to 10 minute "mini break" every hour. Every few hours, get up and do some alternative activity. Using an electronic device or other reminder is helpful to make sure that you take breaks at these intervals rather than waiting for fatigue or discomfort. During breaks, do stretches to relax muscles. (See the pamphlet "Stretch Breaks you can do at your Desk" or download Stretch Break software from <http://web.mit.edu/software>)



Technique

Use a typing technique that does not traumatize the fingers and wrists but rather involves movement of the arm as a whole. Typing technique should emphasize fluid movement of the arms to avoid angling the wrists forward, back, or side-to-side. Press the keys lightly. When not actively typing, rest hands, palm up in your lap. When a command requires key combinations, use two hands to avoid contorting the hand. Use software programs allowing "sticky keys" and macros whenever possible. Alternative ergonomic keyboards may benefit some individuals. Contact the ATIC (Adaptive Technology for Information and Computing) Lab (7-143), to try out demonstration equipment.



Exercise

General aerobic exercise, if done regularly, will sustain strength, improve cardiovascular conditioning, and quicken recovery from sedentary computer use. Learn to do a series of stretches during rest breaks that restore health and vitality to your body. As a general rule, none of these should involve movement outside the range of motion and nothing should be done that hurts. The purpose of stretching is to relax muscles and improve circulation. Arm strengthening should not be emphasized.



Keys to Prevention:

Position, pacing, technique, and exercise.

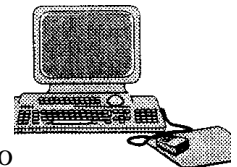
Position

- Adjust yourself and your workstation to minimize the awkwardness and stress involved in keyboard activity.
- Use a telephone headset instead of cradling the phone between ear and shoulder.
- Rest feet on the floor or on a footrest, support thigh by soft chair, support lower back.
- Let upper arms hang loosely from the shoulder, extend forearms horizontally to the floor toward the keyboard, lower and angle keyboard slightly away (negative pitch) so the wrists are in a neutral position, with mouse next to the keyboard at the same level. Do not lean wrists on any surface (including wrist rest) while typing or mousing.
- Center yourself in front of the glare-free monitor; keep eyes at a comfortable distance from the monitor, looking down at a 10-30 degree angle.



WHAT NOT TO DO Routine use of medication or braces is **not** recommended. If

you have questions about these recommendations or begin to develop symptoms, you should seek further information or medical evaluation. Slight adjustments now may avoid future complications in many cases!



Workers Compensation

Most employees and some students (if employed by MIT) who sustain a work-related RSI are eligible to have certain pre-approved care, medication, and therapy covered through Workers' Compensation Insurance. Prescriptions should be billed to the employee, and the bill subsequently forwarded to Human Resources Worker's Compensation, E19-215. In order for the incident to be covered, your supervisor must complete a Occupational Injury/Illness report available on-line and your medical provider must feel that workplace activities are a major cause of the RSI. Questions about coverage and requests for required forms should be directed to the HR Worker's Compensation, 3-9496.

For more information visit these Web sites:

MIT's RSI Information Page
<http://web.mit.edu/atic/rsi/>

Computing and Health at MIT
<http://web.mit.edu/is/topics/computingandhealth/index.html>

ATIC Lab (Adaptive Technology for Information and Computing)
<http://web.mit.edu/atic/www/>

and read these books:

Repetitive Strain Injury: A Computer User's Guide (Pascarelli & Quilter, Wylie 1994).

It's Not Carpal Tunnel Syndrome: RSI Theory and Therapy for Computer Professionals (Damany & Bellis, Simax 2000).

Books are available for loan through the Health Education Office (E23-205).

What you need	Where to get it
Advice regarding physical symptoms that do not improve with modifications	MIT Medical Dept. x3-4481 web.mit.edu/medical
Workstation evaluation, informal presentations and training	Ergonomic Evaluator x2-3477 web.mit.edu/environment
Try out alternative keyboards, pointing devices, or voice recognition software	MIT ATIC Lab 7-143, x3-7808 web.mit.edu/atic/www
Literature, pamphlets, videos, and other publications	Health Education, MIT Medical E23-205, x3-1316 web.mit.edu/medical
Chairs, workstation furniture, keyboard trays	MIT Procurement NE49, x3-8373 web.mit.edu/purchasing
Telephone headsets: pricing and information	MIT Telecommunications tele-info@mit.edu web.mit.edu/is/
Eye health and safety	Eye Clinic, MIT Medical x3-4351 web.mit.edu/medical
Assistance in arranging for reasonable accommodation	Disabilities Services Office x3-1674 web.mit.edu/dso/www
Worker's Compensation Information and Guidance	HR Worker's Compensation Office E19-215 x3-9496 web.mit.edu/hr/benefits/work_comp.html
Assistance with work conditions and job design	Your Supervisor, Administrative Officer, or Department Leader
Adaptive Computing Solutions for student on-site use	MIT ATIC Lab 7-143, x3-7808 web.mit.edu/atic/www
Confidential advisor when other resources fail or seem inappropriate	MIT Ombudsperson 10-213, x3-5921 web.mit.edu/ombud

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Repetitive Strain Injury

What You ABSOLUTELY Need to Know

Some simple ways to
protect yourself from
Repetitive Strain Injuries