

## Ergonomics Issues Regarding Text Messaging and PDA Use



With the increasing use of personal digital assistants (PDA) and other text messaging devices, more attention is being given to repetitive motion injuries of the thumb. PDAs such as the BlackBerry tend to have small keyboards which people frequently use exclusively with their thumbs. Unfortunately thumbs don't have a lot of dexterity. If you consider a full-sized keyboard, the dexterous fingers do all the typing and the thumbs only hit the large spacebar. Thumbs are better used as stabilizers for gripping rather than repetitive motion such as typing or even playing video games.

In 2005, the American Society of Hand Therapists issued a consumer alert, warning users of small electronic gadgets that heavy thumb use could lead to injury. According to Dr. Alan Hedge, director of the Human Factors and Ergonomics Research Group at Cornell University, "if you persist in typing a lot of information with your thumbs, you risk injury". Over-use of the thumb can aggravate arthritis as well as contribute to musculoskeletal disorders such as trigger thumb and de Quervain's tenosynovitis which are forms of tendonitis.



### Tips to avoid over-use injuries of the thumb:

1. *Don't type so hard.* Using excessive force can be fatiguing so don't type any harder than necessary to activate the keys.
2. *Be brief.* Let people know you are replying from your PDA or that you are away from the office and you will send more information when you return. You can enable most PDAs to automatically add a note that the email was sent from a mobile device.
3. *Alternate muscles.* If possible, use more fingers to type so you aren't relying solely on your thumbs.
4. *Utilize larger keyboards.* If you type extensively on your PDA, invest in a full size keyboard to plug into the device.
5. *Alternate input method.* Try using a stylus to write or a pencil eraser to type in order to give your thumb a rest.
6. *Take breaks.* Try to limit your duration of use and take frequent breaks. Stretching your hands can improve blood circulation and help reduce fatigue.

7. *Avoid repetitive and forceful thumb movements.* Be cautious with any device that requires repetitive thumb motions such as video game controllers, thumb operated trackballs, and hand tools with thumb controls.
8. *See a physician.* If you experience pain or discomfort while using your PDA, see your doctor as soon as possible.

Mindy B. Smith, MEng, CPE

This article was reprinted with permission from an ErgoSmith Consulting, LLC newsletter.