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Study of posture and muscle activity during typing and mousing at the Ergoport workstation compared with a computer workstation set up according to the guidelines and standards laid down by Worksafe Australia

## SUMMARY

For both studies, subjects had bipolar surface electromyographic (emg) electrodes attached to their skin over the upper trapezius, sterno-cleidomastoid, anterior deltoid and wrist extensor muscles. Overuse of upper trunk muscles contribute to postural decompensation, hyper-kyphosis, scapular protraction and associated tendon and nerve related damage.

Time-and-motion and posture analyses were also conducted.

It was concluded that muscular stress was reduced in all upper trunk muscles tested when using the Ergoport.

For subjects using the Worksafe recommended workstation set up, the increase in muscular stress whilst typing and mousing was 40% and 67% more in the case of the Upper Trapezius muscles, 15% and 19% more in the case of the Sterno-cleidomastoid muscles and 14% and 21% more in the case of the Anterior Deltoid muscles respectively, in comparison with those using the Ergoport.

Worksafe guidelines recommend that the elbows are kept by the sides of the torso during general keyboard use. The Ergoport promotes this position. A split keyboard with a 15 degree angulation would bring the wrists close to neutral for typing. During mousing there was less Ulnar Deviation at the Ergoport.

An increase in typing speed, general comfort and upright posture were promoted by the use of the Ergoport in comparison with the Worksafe Australia recommended workstation.

**Professor Richard Smith PhD** 

Research Manager, School of Exercise and Sport Science, The University of Sydney. 12th February 2001

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