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Keyboard use and musculoskeletal outcomes among computer users

A review of research into work hours and postures while using a computer keyboard. The review finds that hours and posture are associated with adverse upper limb symptoms often enough to consider that an association is meaningful. Symptoms are not the same as injuries.

This report is based on a literature review. Papers from between 1966 and Nov 2005 were assessed and analysed. Over 90% of school age children make use of computers and half of working adults use computers at work.

The aim was determine any links between symptoms and keyboard use intensity or keyboard use postures.

Papers were included if the posture was assessed by an observer (rather than self report). For intensity, any papers which reported measurements of duration, time proportion, hours per week were considered regardless of source of data.

For neck/shoulder pain 44% of papers showed a positive [cross-sectional] association between keyboard intensity and pain, 56% did not, none showed a negative association. For hand/arm pain the proportions were 54% and 46% respectively with no negative associations. The first such study was reported in 1983.

The first prospective study of keyboard use intensity was reported in 2002.

For posture, the most consistent observation was an increase in risk associated with head rotation angle. There were fewer reports of pain when the keyboard was below elbow height.

The authors conclude that exposure measurement is a key weakness of studies of proposed links between keyboard use and upper limb symptoms. As it stands there is a slight balance in favour of a conclusion that longer hours of use increase the rate of adverse hand/arm symptoms.

Comment

These conclusions are a very long way from stating that keyboard use causes injury to upper limbs. The likelihood of future research showing convincing evidence of such a causal link seems to us to be very low.
