

WHICH KEYBOARD...?

When you type on a normal keyboard, the position of your wrists and hands can be problematic. Your wrists turn ("pronate") to place the hands flat on the keyboard; they also bend sideways -- either inwards or outwards -- to reach all the keys ("ulnar deviation"). As well, they very often turn upwards to reach the keys ("wrist extension").

The first thing we can do to minimise these problems is simply to place our keyboard differently. Because the number pad is on the right, most keyboards are asymmetrical and the centre of the keyboard is not actually located in the centre of the alphabetical keypad. So just placing the keyboard slightly to the right with the H key in the middle will tend to reduce ulnar deviation in the left hand. A better idea is to buy a short keyboard, with the number pad either eliminated or reassigned. These also enable the mouse to be placed closer to you and they are fairly cheap and easy to get used to.

However, while we may have reduced ulnar deviation in this way, we haven't eliminated it. Nor have we addressed pronation or wrist extension. And wrist extension is actually what scientists think is the most important musculoskeletal injury risk factor. To address this, a non-standard keyboard is necessary and that's where a number of different models come in.

Most of these redesigned keyboards don't cost too much and are easy to get used to. They are split on an angle to reduce both pronation and ulnar deviation. The angle can be either fixed or adjustable. Generally, a fixed-angle keyboard is cheaper: examples are the Microsoft natural and the Kensington Comfort Type slim keyboard. There's also the Logitech Wave Keyboard and the Adesso Tru-form. These last two were preferred by most users in a study carried out by Choice Computer magazine.

Adjustable-angle keyboards include the Goldtouch and the Kinesis. However, it's important that training is provided with these keyboards, because the ergonomically-correct angle may not be apparent to the new user.

WHICH KEYBOARD...?



Microsoft Natural



Adesso Tru-form



Kinesis Freestyddle Keyboard

With the Kinesis, you can not only adjust the angle to suit yourself, you can also buy accessories that further separate and angle the two halves of the keyboard — so that it looks something like a tent — to reduce pronation. Some keyboards like the Maltron also incorporate a kind of scooped-out design to reduce finger reach. Obviously, the more unusual the keyboard, the more difficult it will be to get used to. However, users who persevere will often find that they can work faster, more comfortably and with less risk of injury.

Moving on to even more unusual designs, the Safetype is a keyboard that looks a bit like an open book, where you rest your hands sideways while typing more or less blindly. This is actually the most ergonomically favourable position, but it would only suit absolutely dedicated users who are good touch typists. Another similar keyboard is the Yogitype.

A question that often arises with keyboards is whether one should use a negative tilt -- that is, slope the keyboard with the front **up** and the back **down** . Ergonomists appear to differ on this question, but many RSI experts including Dr. Emil Pascarelli recommend this position. One way of achieving this is to have a downward tilting keyboard tray. Some authoritative sources, for example Cornell University Ergonomics Web, recommend such a tray be placed below the user's elbow height, 2 to 5 cm above the thighs.

An expensive new keyboard may not be the best or only way to address problems with RSI. Using a combination of voice-operated computing, keying and mousing may be an excellent way to avoid or manage an overuse injury.



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