

# Banish the pain by sitting pretty

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Tackling poor computer posture now can help prevent permanent damage in the future, writes *Susan Calnan*



According to *Anne Mangan*, director of the *Institute of Physical Therapy* in Dublin, one major cause of problems associated with regular use of computers is an incorrect seating position.

Anyone who works on a computer is likely to be familiar with the associated strains of computer-based work - the tight feeling across the shoulders, intermittent neck pain, tired eyes, lower back pain and occasional pain in the wrists and arms.

While many may discount these symptoms as inevitable stresses of the job, failure to address the root cause can lead to potential muscular or skeletal difficulties down the line, possibly even to debilitating consequences.

"Traditionally, office-based work has tended to be the Cinderella of occupational health and safety, but this is beginning to change," explains *Geralyn Downey*, an ergonomic consultant and chartered physiotherapist. "In an increasingly technological age, where the daily use of computers is now commonplace in many professions, the focus on occupational hazards associated with computer usage is growing," she says.

According to *Anne Mangan*, director of the Institute of Physical Therapy in Dublin, computer-based work can lead to a range of problems anywhere from head to toe. One major cause of problems associated with regular use of computers is an incorrect seating position.

As *Mangan* explains, everyone has a natural arch in their lower back area, known as the "lumbar curve". If this natural arch is not maintained - for example, because a person slouches in a chair, does not sit properly into a chair, or fails to have sufficient lower back support - the upper body and head will be thrown forward.

As a result, muscles in the neck and shoulder area become shortened and tightened and less pliable, increasing the potential for muscular-skeletal type problems. This can lead to referred pain, such as headaches as well as neck and shoulder pain.



*Anne Mangan*

"Any position where the upper body is pushed forward puts a lot of strain on the back of the neck because essentially the neck muscles are working really hard to prevent you from falling forward," says *Mangan*. "Over a prolonged period of time, if an individual fails to address this issue, constant shortening and tightening of the muscles can lead to arthritic-type changes, where essentially the ageing process is being accelerated."

Over time, she says, continuous tightening of the muscles can start to affect the vertebrae in the neck and back, eventually leading to more restricted movement, greater wear and tear and significant or severe pain. Probably a less obvious problem arising from a poor seating position is more limited breathing capacity. As *Mangan* explains, when the upper body is thrown forward and the shoulders are rounded, this limits the capacity of the rib cage and, in turn, the person's breathing capacity.

An insufficient intake of oxygen caused by shallow breathing can lead to greater fatigue and even in some cases chronic fatigue. One of the most common problem areas, not just for computer-based work but for all professions, is lower back pain. In relation to office-based work, *Mangan*

says, this is again often caused by poor seating habits, where the lower back is either flattened too much or is too slumped, due to lack of proper lower back support to maintain the natural curve of the spine.

This again causes the muscles to become shortened, in turn altering the angle of the vertebrae in the back, and can eventually lead to chronic pain or even a "true disc" problem.

Constant use of the computer keyboard and mouse can also lead to frequent pain or discomfort in the wrists, forearms and upper arms, warns *Mangan*. "The tendons in the back of our hands pass through little tunnels, which are well lubricated and which work beautifully, as long as we don't overuse them", she says. "However, working long hours on a keyboard can cause these tunnels become inflamed and sticky, in turn causing the tendons to stick to these tunnels. A common symptom in the back of the wrists."

Significant pain in the forearms and elbow area is another classic symptom, caused by holding the arms in a particular way for a long period of time and by repetitive movements on the keyboard and computer mouse.

In some instances, being in the seated position for long periods of so result in a shortening of the leg muscles. This can be particularly problematic for people involved in sport who are often more prone to the hamstrings or pulling calve muscles, explains *Mangan*.

While the list of potential problems with computer usage may be worrying, *Mangan* says that most problems are usually reversible, as long as they are addressed sooner rather than later.

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"Intermittent pain, discomfort or tension in the body should be taken as a warning sign that something is up rather than being ignored," she says.

"In some cases, a person may only feel the odd twinge but one day they may wake up in severe pain unable to move; while this may seem to have come out of the blue, it is usually due to a build-up of tension arising from bad habits over a prolonged period of time."

A key part of Anne's work as a physical therapist is retraining the person in the way they work. Stretching exercises, in particular, are an important tool for anyone working on computers, as it counteracts the constant contraction and shortening of the muscles caused by this type of work. Encouraging the person to take regular breaks is also crucial and Mangan recommends that anyone working with a computer gets up from their workstation at least once every hour to either walk around or to do some stretching exercises/

Ensuring that the individual's work-station is properly set up and that it adheres to the correct ergonomic criteria is also crucial.

Geralyn Downey, who works with a wide variety of companies and professions

carrying out risk assessments of their work environment, says that "work-related upper limb disorders" are an extremely common problem among those who work on computers or other types of visual display units (VDUs).

As part of her work, she carries out a systematic assessment of the employee's workstation, asking specific questions about factors such as the computer screen, keyboard, desk and chair.

Downey also recommends that people adjust the back of their chair slightly, i.e. a few degrees back from ninety degrees, to help the shoulders balance the head in the correct position. When using a mouse, she says, people should ensure that their arm is supported either by the arm of a chair or, for example, by using a gel wrist rest. As stretching the arms out without support can cause substantial pain.

"Often, people are supplied with quite good equipment, but they just don't know how to set themselves up properly," she says. A key factor in good ergonomics, she says, is the height of the person's chair as it determines how the arms and the hands work with the keyboard. For example, sitting too low down means that the person has to stretch their arms out more to reach

the keyboard and mouse; this forces people to use muscles in a very static way and can lead to significant pain in the arms and wrists.

As well as the physical effects of poor ergonomics at work, Downey also points out how long hours in front of a computer screen can have negative mental effects. In many places of work today, literally everything is done on a computer screen, even down to communicating with your colleagues via e-mail. She says.

"This can lead to a sense of isolation among workers, which is another reason why it's important for people to get up from their desks and move around for a bit; ironically, the water fountain or the coffee-making machine is becoming the new social area for people at work but this is probably good thing, as at least it gives people chance to interact with their co-leagues and also to re-hydrate themselves at the same time."

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