

# ARE THEY SITTING COMFORTABLY?

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CHILDREN, CLASSROOM FURNITURE AND POSTURAL STRAIN

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WORKING SPACE

# INTRODUCTION

This article was written originally in 2001 for Primary Times. Our principal purpose in creating this version is to provide the material in a form which is easy to read on screen and doesn't require printing.

The text is unchanged and all the original illustrations are present. One illustration, omitted from the original publication for space reasons, has been added.

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# ARE THEY SITTING COMFORTABLY?

This article is concerned with a health problem which affects more or less every child who is educated at a UK school, every adult who has been through the UK educational process, every parent who cares about the wellbeing of children, every teacher who sees education as more than learning how to process information.

Let's visit a classroom in more or less any school you like, primary or secondary, state or independent, it really doesn't matter. Let's pretend we can be invisible and walk around for a few minutes, observing the children while they get on with their work. They're reading, writing, drawing, doing any and all of the tasks which make up a typical school day.

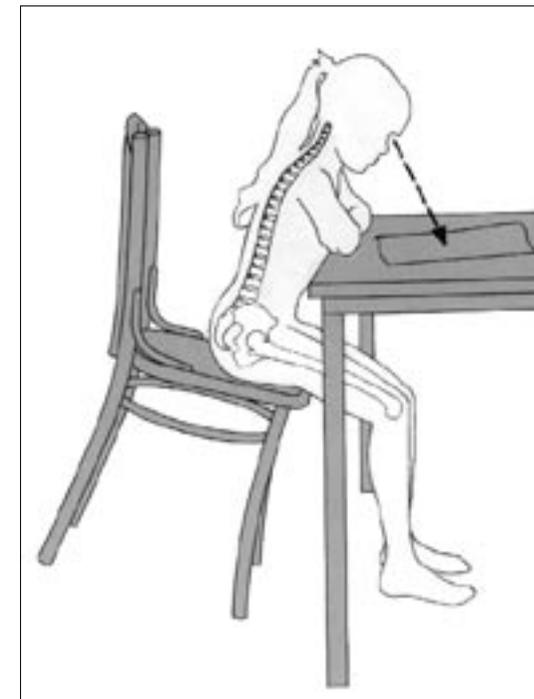
No obvious problem? Nothing out of the ordinary? Exactly – very few of us see the

problem because it is so normal that we don't question it. Let's take a closer look at those children bent over their work. Now, the chances are that most people reading this won't have thought twice about my choice of words in the previous sentence – "children bent over their work" – but look at those young bodies, those backs are indeed "bent", those necks and shoulders are stiff and contorted.

Yes, this health issue is what people usually refer to as "posture", or, more appropriately, "postural strain" and its effects. Our education system teaches children that it is normal to sit badly and to be uncomfortable, and sows the seeds of future back pain and other physical problems.

Some of us can remember using old-fashioned wooden desks which had a short, flat

Children often tip their chair forward in order to achieve a comfortable relationship with their work. The sloping seat angle this creates allows the pelvis and spine to align naturally. They are usually told firmly not to do it, but it indicates an awareness of natural and efficient body use.



wooden bench seat and a sloping desk. That sloping desk wasn't an accident, it reduced the need to bend forward by creating a more efficient angle for the eye, but we now equip our classrooms with flat tables, and chairs which make it impossible to sit without considerable strain.

Flat tables and light stacking chairs are convenient, they make it easy to change a classroom layout or move furniture to a different room. They are also very low-cost – or rather they are *apparently* low-cost as the true price is paid elsewhere, with interest, in the billions of pounds spent every year on healthcare and lost productivity related to back pain.

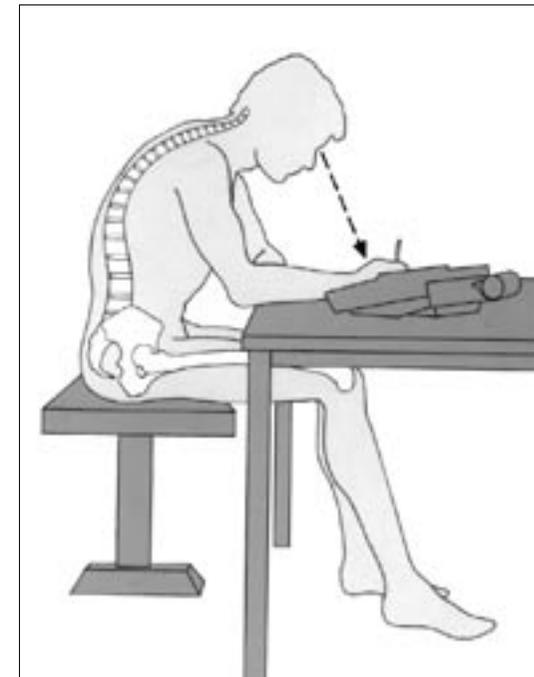
Let's consider some basic ergonomics. Ergonomics is a fancy word for something which is really just common sense. It's the science of designing things so that they work efficiently with the human body, so minimising unnecessary effort and strain.

It acknowledges that human beings come in different shapes and sizes.

Our body is at its most efficient when it is allowed to work at the centre of its natural balance and range of movement. If we sit efficiently, using our natural balance and coordination, the weight of the trunk is supported easily, there is minimum load on the spine, the hands and arms are light, and we can move very easily from our hips, which is important if we are to minimise postural strain.

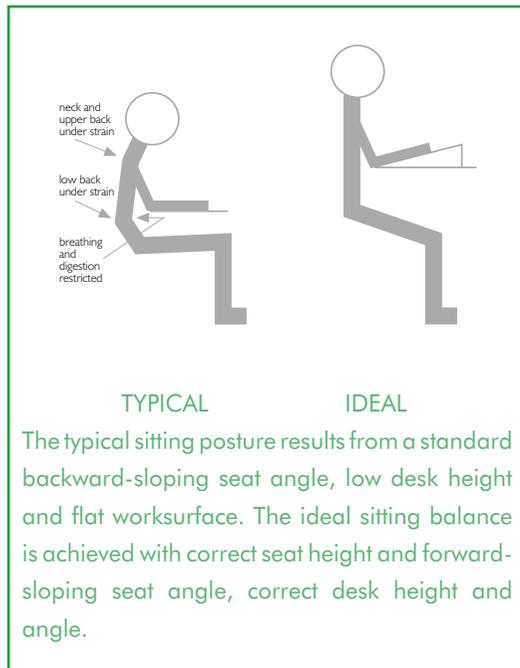
Sitting to work requires a seat height which is appropriate for our proportions and a forward-sloping seat angle which allows the pelvis to align naturally with the spine so that it can provide the essential support. A backrest is useful for sitting passively but isn't necessary for sitting dynamically – the most efficient back support is our own postural system.

A typical sitting position. The seat height, seat angle and desk height make strain inevitable.



Once we're sitting efficiently, we must position our work so that we can maintain our natural posture – look at the diagrams illustrating typical and ideal postures and note the importance of correct working height and angle.

In Denmark, considerable progress has been made in changing classroom fur-



niture to meet the true physical needs of children and the best classroom furniture is designed and made in Denmark. Useful progress has also been made in other Scandinavian countries and in Germany, France and Japan.

The UK? We haven't made any progress at all. A surprising number of people are aware of the problem, because they deal with its effects when providing treatment to adults (and a surprisingly large number of school age children) who have serious back pain problems, but this awareness hasn't yet reached our educators and politicians.

There is more to this than back pain and the other obvious negative effects of postural strain (joint, digestive and breathing problems). True physical education starts not with bat or ball, but with being at ease in our own body. Does anyone really think that being physically uncomfortable helps

children to learn, or that it supports creativity and a spirit of cooperation?

If we really care about the wellbeing of our children, isn't it time for change?



A single class of children. The tallest and shortest children are at the extreme right of the row: the difference in their height emphasises the importance of providing children with adjustable classroom furniture.



A pupil using Danish classroom furniture. The chair is height-adjustable and the seat has two sections, a forward-sloping one at the front for active sitting and one at the back which slopes backwards slightly and is used when sitting more passively. The desk height and angle are adjustable. This pupil is able to sit actively, to sit back comfortably to listen, and can even choose to work in a standing position.



# ADDENDUM 2007

The argument presented in this article is as valid now as when it was written six years ago. While our principal concern is for the wellbeing of children and the effectiveness of education, the material presented here is relevant to every adult: we are all susceptible to postural strain, we all sit and many of us sit to work. The basic ergonomic principles explained here apply to us all.

**For further information:**

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