



B2: Understand your body

Posture and Ergonomics

What is posture?



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Posture is the way we hold or position and use our bodies whether it's **static posture** – the way we sit or stand or lie down – or **dynamic posture** – the way we hold or move ourselves during activity.

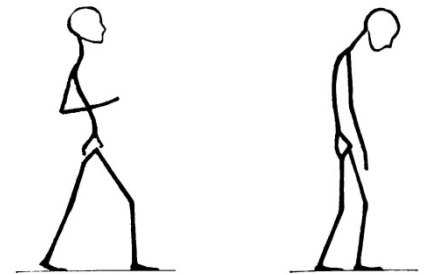
“Posture is an infinitely complex symphony of harmonious cooperation from each and every muscle in the body.” Todd Hargrove
(www.bettermovement.org/blog/2010/three-essential-elements-of-good-posture)

Are there good or bad postures?

Not really... It depends on what you are doing in the moment, and will potentially change from one moment to the next.

Helpful postures should do 2 main things;

1. Allow our body to be efficient, if we are at rest we should be using minimal energy.
2. Enable our ongoing activities, and not provide any restrictions or barriers i.e. allow us to make the next move with ease.



Why is posture important to think about?

Past experiences

We will all have been affected by our experiences from the past. Many of us will have been told to “sit up straight”, “don't slouch”, etc. and will have a sense of ‘good’ and ‘bad’ posture. This can lead to the thinking that ‘poor’ posture is the cause of the pain condition you are now dealing with.

Lifting loads

Of course ‘acute back injuries’ can be caused by moving and handling, or lifting at work, e.g. working in hospital or care work, or working on a building site and there is a lot of guidance provided now by the Health and Safety Executive about safe moving and handling practices in the workplace. However, poor posture in and of itself is not associated with the development of persistent pain conditions.



Changes in posture because of pain

Even so, developing a persistent pain condition can lead to further changes in posture and activity which are likely to exacerbate pain and so it is valuable to consider posture in this context.

For example you may be conscious that if you have pain in one side of your body you tend to protect that side and over use the other side, e.g. putting more weight through one leg. Or the way that you move and hold yourself may have changed, for example you may avoid fully extending an arm that is painful or you may hold/fix a part of your body such as your lower back when bending or reaching up. Whilst these changes in posture may appear sensible in avoiding pain, such



compensating behaviour is likely to cause long-term changes to the parts of the body involved causing **weakness** or **tightness** to predominantly the 'soft tissues' of our body – which includes our muscles, tendons (which attach muscles to bones) and ligaments (which hold and stabilise joints together).

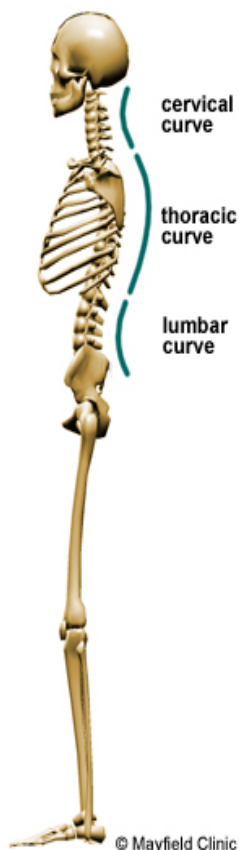
- **Weakness** in our soft tissues will cause both static and dynamic posture and movement to become more effortful, and muscles will tire quicker. This will cause the protective responses of the nervous system and muscular system, which includes pain, to kick in quicker.
- **Tightness** or shortening of soft tissues will restrict movement and limit movement and function which may also lead to more 'grumpy tissues and joints'.

Both of these have practical implication for our activities, such as struggling to lift your arm to brush or wash your hair, difficulty lifting your legs to dress or get in/out of the bath, etc.

Posture and mood

You may have noticed that mood can affect your posture, for example if you are feeling low you may slump, and if you are feeling confident you hold your head that bit higher.

However you may not know that research has proven that mood and posture is a 2 way street i.e. the amount and quality of movement and posture can affect your mood and emotions. This knowledge shows us that we can *'use our moves to improve our mood!'*



Role of the spine

Look at the structure of the spine. It comprises a curved column of bones with cushioning discs in between, all connected by a network of ligaments, tendons and muscles.

Not only is this 'column' the central point to which our legs and arms attach and are moved by groups or large muscles, it also supports a significant weight – our head, shoulders, arms and hands. The average adult head alone weighs 4.5-5kg (10-11lbs).

So the spine and its curves and cushioning discs are designed this way to provide:

- Shock absorption as we move, and
- Efficient distribution of the weight it carries

Now consider what happens when your posture changes. So many of the things we do day-to-day cause us to bend or lean forward; whether it is reaching for something (dynamic posture) or using a computer, tablet or phone (static posture). Look at how your posture has changed from being upright – where the weight of the head is supported by the spine – to flexed (bending forward). The weight of your head is now being supported by your neck and upper back muscles. If you combine this with the tension we often hold when for example, using a computer, or tension that may be there because of guarding against or anticipating pain, it is no wonder that pain increases.



Ergonomics

Ergonomics is the design and arrangement of things (equipment, furniture, etc.) and environments to maximise safe, easy and efficient activity and posture.

It is most commonly associated with the workplace but is relevant to everyday life, such as the chairs and seats you use at home, the cinema, on buses, in cars as well as in the office.

Ergonomics is important and relevant to the management of persistent pain because it is about adapting your environment to promote your health. Whereas so often the things and environments you use cause difficulty and aggravate pain.

Social models of disability suggest that it is the environment (both physical and social) that disables people, not the person's physical or mental health and function.

The problem is that so much of the things we use are made for the 'standard' or 'normal' person. So straight away, even in the absence of health problems we can be 'disabled' by our environment. Take the 6'2" person whose office chair and desk are designed for the average height person.

You will already have found ways, without necessarily thinking about it, to adapt your environment to help manage pain and physical limitations, for example taking a cushion to sit on at the restaurant, replacing your vacuum cleaner with a light-weight model, etc.

However, some of the environmental factors are social; such as feeling uncomfortable asking for help to pack or load your supermarket shopping because your pain can't be 'seen', or the bus drivers who won't stop unless you've started walking down the aisle, even though you've pushed the button!

Either way, society won't change unless people decide to buck the trend and ask for the things and help they need or use aids that help them manage their pain.

- Often ways to adapt the environment involve simple things, such as the cushion you take with you.
- Sometimes you might need specialist equipment, such as are provided for the home by Social Services, or in the workplace by Access to Work (see the reference section for details on these).
- Adapted or ergonomic gadgets and aids (e.g. electric tin and jar openers, ergonomic computer mice, etc.) are now more accessible; being sold by mainstream high street and online retailers.

The underlying message is that it's down to you to make changes or ask for help, but you are not alone and services such as ours are happy to support you as you do this.