

POSTURE



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Posture is defined as

The position in which someone holds their body when sitting or standing.

While this definition is helpful, it does not encompass the whole picture of posture. Posture will vary during every human movement and is important to be aware of, especially when walking, exercising, even in sitting. Sustaining any injury can alter our posture and set up compensation patterns in the body, that being said, postural imbalances can also create their own compensations that sometimes lead to pain and injury.

The following pages will outline posture in its entirety.

- What is "correct" posture?
- Breathing and posture
- Movement and posture
- Hypermobility
- Strengthening your posture



POSTURE:

What is it and why is it important?

Posture is one of the most powerful storytellers and influencers of the state of our muscular skeletal system.

As well as the spinal column, each part of your body has an ideal position and posture of its own. For example, how your joints are positioned and how your limbs hang from them, or if you are internally or externally rotated at the hip. This illustrates the intrinsic connection, like a spider's web, that posture has, and the cause and effect that emanates throughout every part of the body.



Incorrect posture can have a defining impact on why we may be suffering from pain and dysfunction. It can also have a knock on effect on our visceral systems. Sitting for hours with shoulders hunched or collapsed, compresses our digestive tract, diaphragm and organs, often affecting our digestion, circulation and breathing. This is the domino effect that often influences how other areas of our musculoskeletal system react further down the chain.

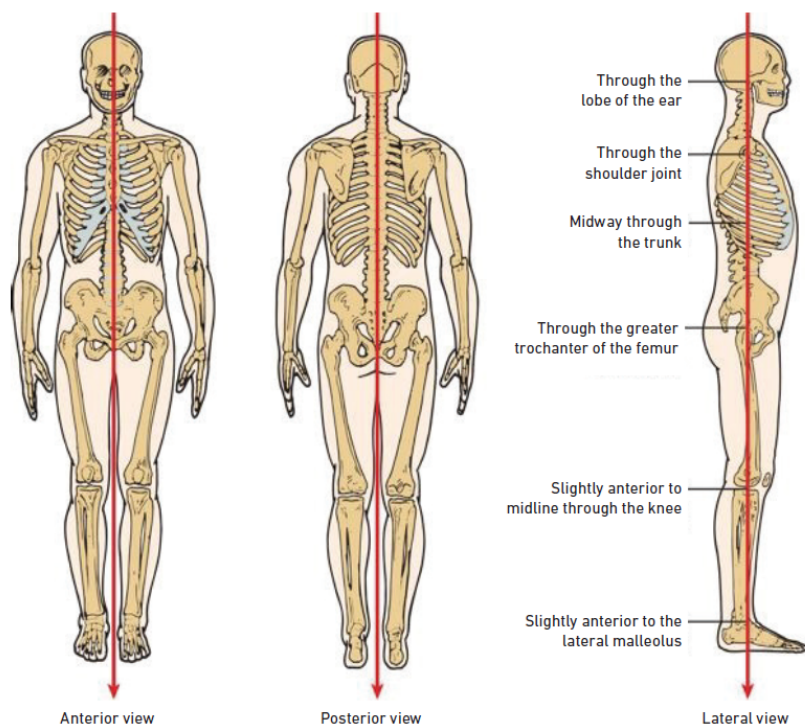


Where it starts

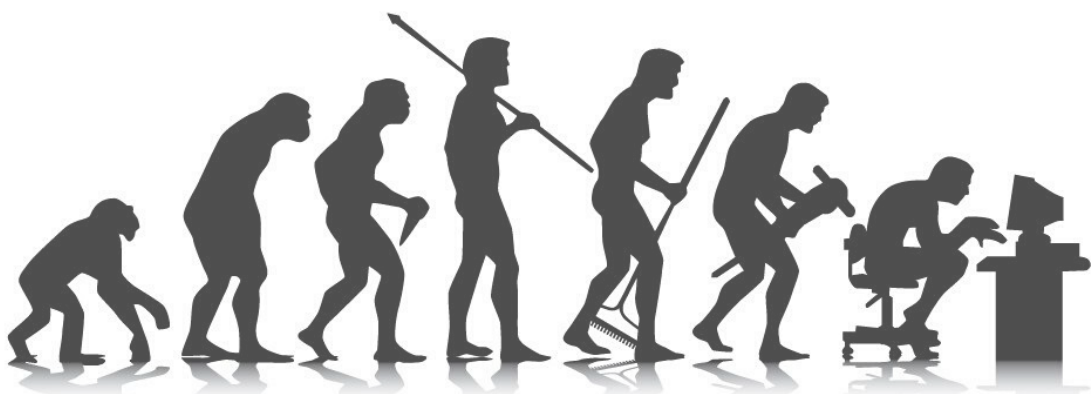


What is "correct" posture?

Generally speaking, correct posture is to have the head situated on top of the neck so that, when looking at the person side-on, the middle of the ear lines up with the shoulder, middle of the hip, and the lateral malleolus (outside ankle bone). When looking from the front (anterior) or back (posterior) of the body the head should sit square over the shoulders, and the shoulders, hips, knees, and ankles should all be even from left to right.



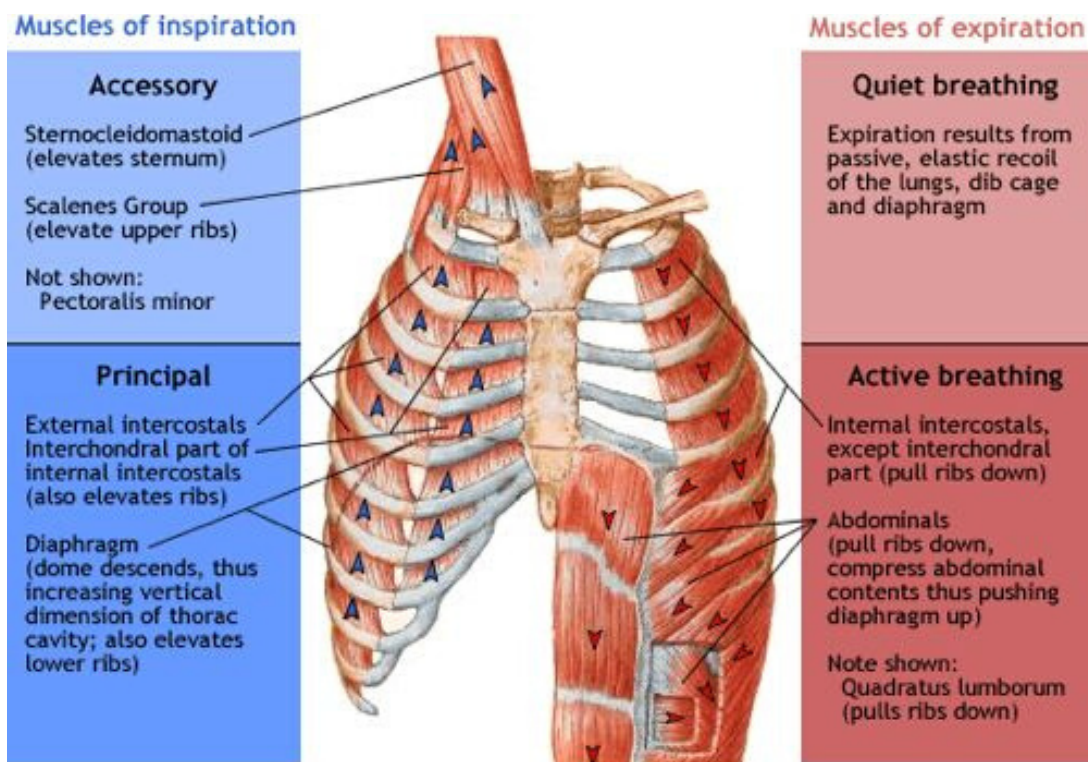
It is rare to see a person with "perfect" posture. Especially since the human species has become more and more sedentary with increasing numbers of us working at desks or spending most of our leisure time seated.



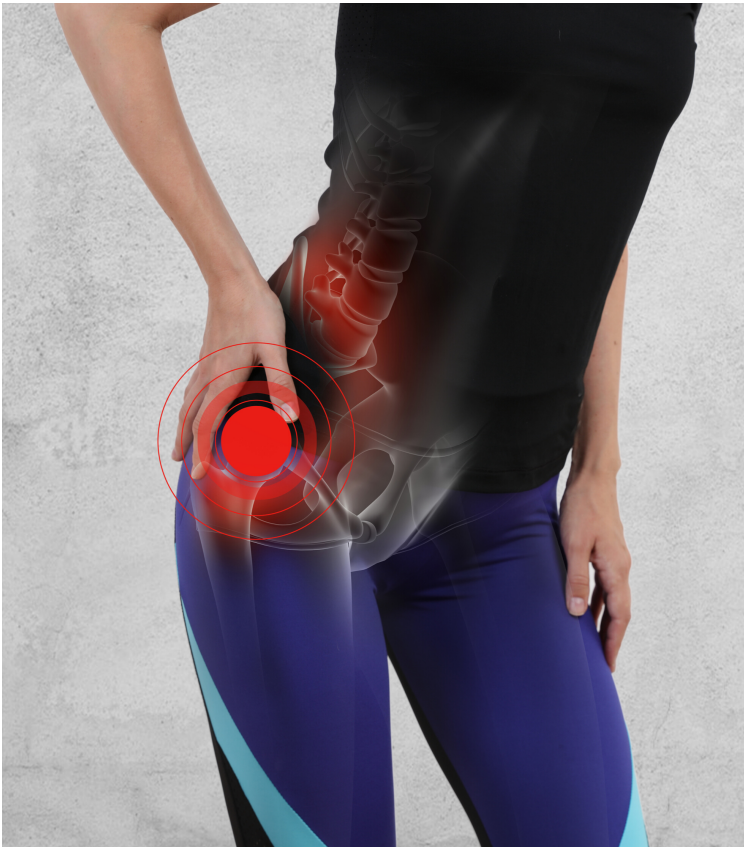
At Cool Health we see many people with both acute and chronic pain relating to poor posture and breathing patterns. From tension headaches to chronic disc issues in the neck and spine, most people haven't a clue of the close association that posture and breathing has in relation to their problem.

During inspiration, the prime movers are the diaphragm and external intercostal muscles, while the accessory muscles include muscles in the neck such as the scalenes and sternocleidomastoid. If posture is poor, the shoulders will round forward and compress the ribcage, making it harder to take in a full breath by dropping the diaphragm.

Instead, the body uses the neck muscles that attach to the sternum and upper ribs to expand the rib cage as much as they can in order to allow the lungs to take in air. This top-heavy or shallow breathing is common in our fight/flight response during stressful or threatening situations. The body does not have time to slow down and breathe deeply, so it gets air in quickly rather than fully. This puts excess strain on the muscles in the neck, promoting forward head posture and pulling the shoulders forward. The result? Pain, restricted movement, atrophied muscles, sometimes more severe disk issues.



Whether we are conscious of it or not, whenever we move, and for whatever reason, we will adopt a certain posture. Walking, running, bench pressing, squats, all of these activities (and many more) require a specific form that is unique to the movement and to the individual executing it. When we are assessing, we look at whether or not someone is compensating. For example, if you are walking with an injured hip, your body will naturally try to work out how to lessen the pain. You may weight shift to the other side of the body, you might hitch, you might rotate, anything to keep the body functioning as normal as possible, and in as little pain as possible.



The standard definition of posture does not address posture during movement. It is critical to be mindful of posture while exercising, especially under load. Breathing is something we often take for granted while moving as well. When exercising with a light load (20+ repetitions), a good rule of thumb for breathing while exercising is to couple inhalation with extension and exhalation with flexion.

In other words, whenever you are moving towards the fetal position you should exhale, and whenever you are opening up or coming out of that fetal position, you should inhale. This is because inhalation excites the extensors of the body, and exhalation excites the flexors. This breathing pattern must change when load increases significantly, such as in power lifting, however for our purposes here, retraining posture begins with lighter loads and higher repetitions.

Exercise and Posture

Even if you haven't got any particular pain or injury issues, the correct posture for your body in all exercises, whether lying, sitting, or standing, is crucial.



Example compensating during a bicep curl

If you ignore correct posture/positioning while exercising you will often compensate by trying to use momentum which can increase risk of injury. An example of this is when people swing their hips and arms in order to do a bicep curl because the dumbbells they've chosen are too heavy to lift while maintaining an upright posture. Other issues with compensation arise when the body is put into extreme positions/ end ranges of motion where the joint isn't stable, or when you use force to override your joint mobility and capacity. All this usually ends in tears.

On the plus side, by taking care of underpinning all you do through correct posture, you are more likely to stave away all kinds of injury, pain, and dysfunction whilst increasing successful performance, measured progression, significant changes in tone and shape and above all, *function*.



Example of how NOT to do a press up

Hypermobility

Hypermobility simply means overly-flexible. Very often people can feel pain and weakness as a result. People can present with hypermobile joints in some areas of the body and not others. It is commonly believed that joint hypermobility results from genetic variations in connective tissue matrix proteins, which result in stretchier tissues. Hypermobility is common (affecting 1 in every 100-200 people) and is important to take into consideration when starting any form of exercise or sport.

While there is no medication that eradicates hypermobility (painkillers and anti-inflammatories may help with pain symptoms but not the condition itself), the only effective way of managing this condition is with a customized strength based exercise programme. Exercise programmes for hypermobile patients are designed to improve muscle strength as well as stability of the joints they surround.



Stretching and some forms of yoga are contraindicated for those with hypermobility. While some specific and targeted decompression led stretching can be beneficial, it is important that this be guided by a physical therapist or corrective exercise specialist to ensure the areas needing to be stretched do not exacerbate the condition.

When it comes to creating good posture for the long term, the key is **consistency**. A little goes a long way in the beginning, and **regularly stretching/decompressing** what is tight/restricted and **strengthening** what is weak, will be the key to achieving and sustaining long lasting results. Whilst the idea of doing this may seem tedious, people are always surprised by not only how great it feels, but also how interesting the process is.

The safest and most effective way to determine what to stretch and what to strengthen is to be assessed by a qualified physical therapist or corrective exercise specialist. Most often, a visual assessment of posture and simple movements can be enough for someone with experience to determine what is needed.

In our next information document we will outline the most common postural imbalances we see at Cool Health and which stretches/decompressions and exercises have proven effective for correcting these.



Postural Imbalances



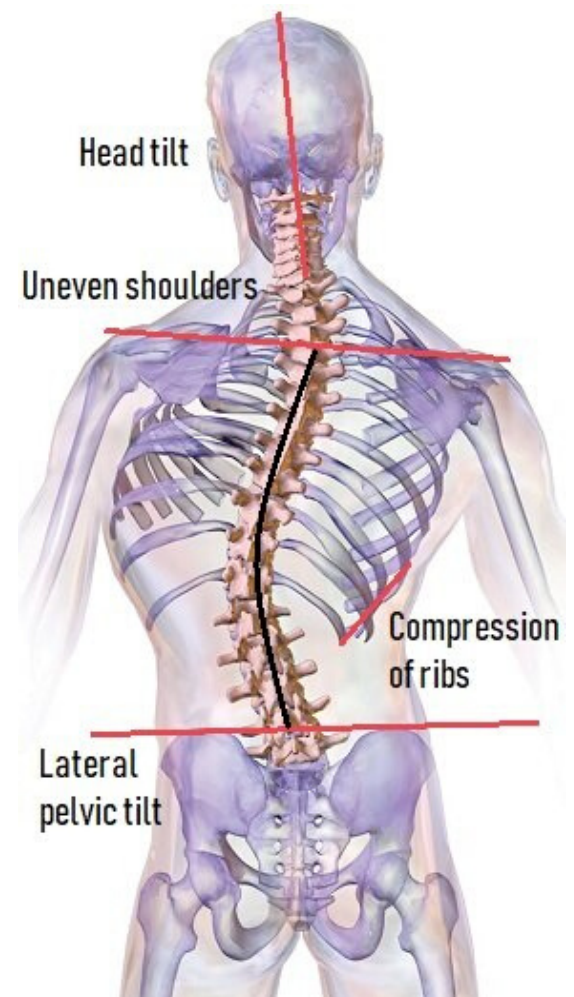
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Common Postural Imbalances

It is very rare to see someone with "perfect" posture all the time. That said, the increase our society has seen in sedentary behaviour is creating somewhat of an uphill battle for our bodies and how they are supposed to function. This document has been created to outline postural imbalances of all kinds.

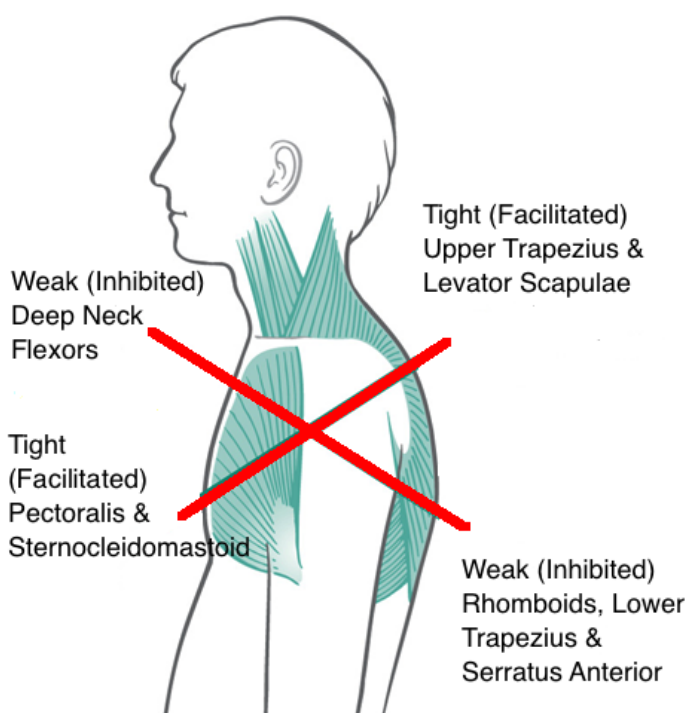
The most common postural imbalances we see in our work at Cool Health are

- Upper Cross Syndrome
 - Forward head posture
 - Kyphotic thoracic spine
 - Forward rounded shoulders
- Lower Cross Syndrome
 - Increased lumbar curve (lordosis)
 - Anterior pelvic tilt
- Frontal plane imbalances
 - Uneven hips
 - Shoulder height discrepancies
- Scoliosis
 - Functional vs Structural



UPPER CROSS SYNDROME

Upper cross syndrome is characterized by rounded shoulders, forward head posture, and often a kyphotic thoracic spine. This occurs as a result of poor posture over long periods of time, often while seated working on computers, texting and using tablets.

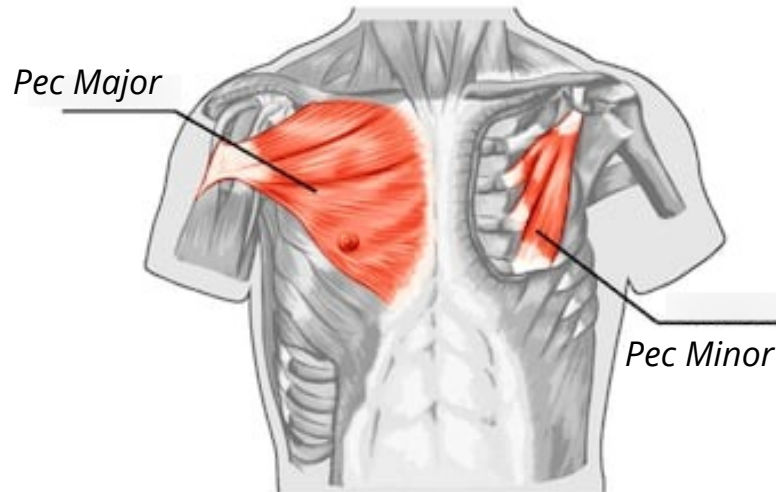


Prolonged periods spent in a slouched position lead to the pectoralis and upper trapezius becoming over-facilitated (too tight), and the neck flexors, rhomboids, lower trapezius, and serratus anterior becoming inhibited (weak). This imbalance can cause breathing dysfunction, tension headaches, digestive dysfunction or discomfort, and chronic pain.

A key point to note is that the muscles that become facilitated in this posture are the ones responsible for moving your shoulders forward in the direction of your chin, and upwards towards your ears. The muscles that are inhibited in this posture are the ones responsible for bringing the chin in/ realigning the head, and pulling the shoulders down and back.

UPPER CROSS SYNDROME

When correcting a rounded posture it is important to stretch what is short and tight, and strengthen what is weak and long.

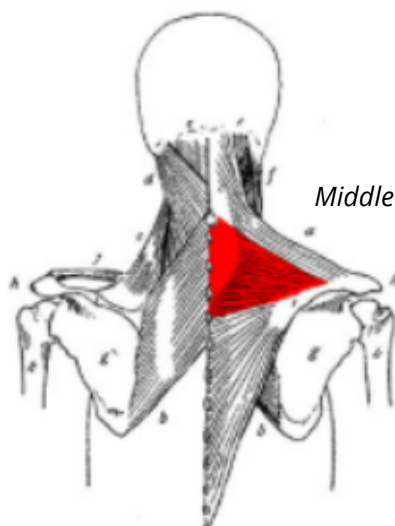


The **pectoralis minor** is one of the main culprits that, when chronically shortened, pulls the shoulders into a forward and rounded position. Below is one way to stretch this muscle.

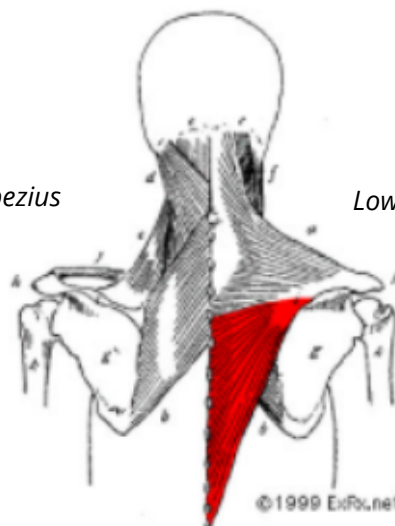
In addition to stretching the chest muscles, strengthening the **deep cervical flexors** and **mid/lower trapezius** muscles will reinforce keeping the shoulders down and back and the chin in a neutral position to reduce any forward head positioning that may be contributing to poor posture.



Example of a chin tuck exercise for the deep cervical flexors



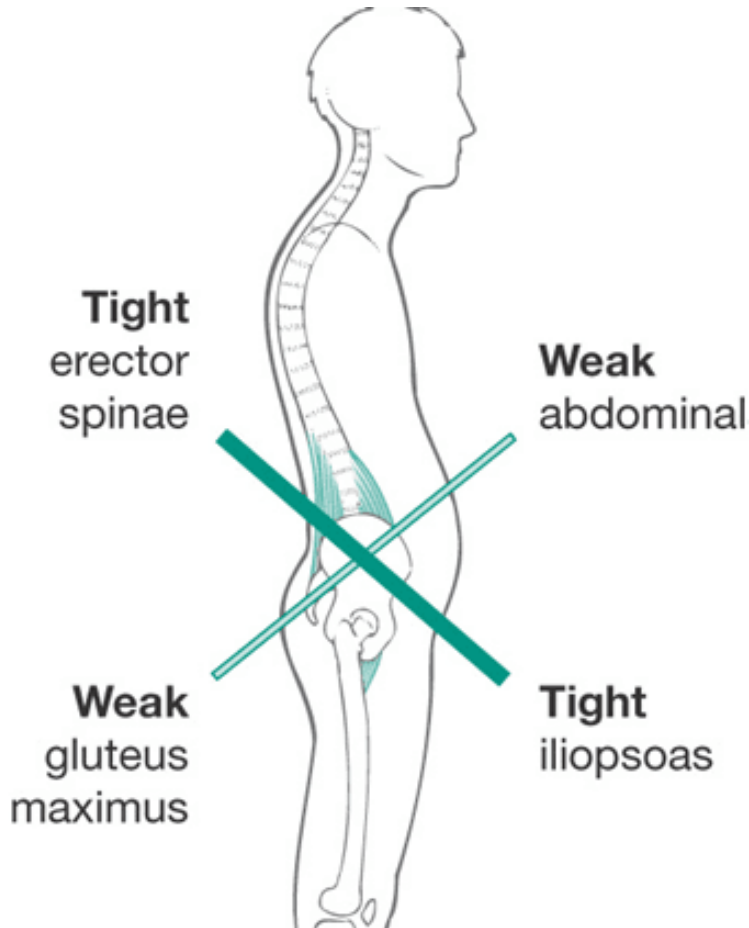
Middle Trapezius



Lower Trapezius

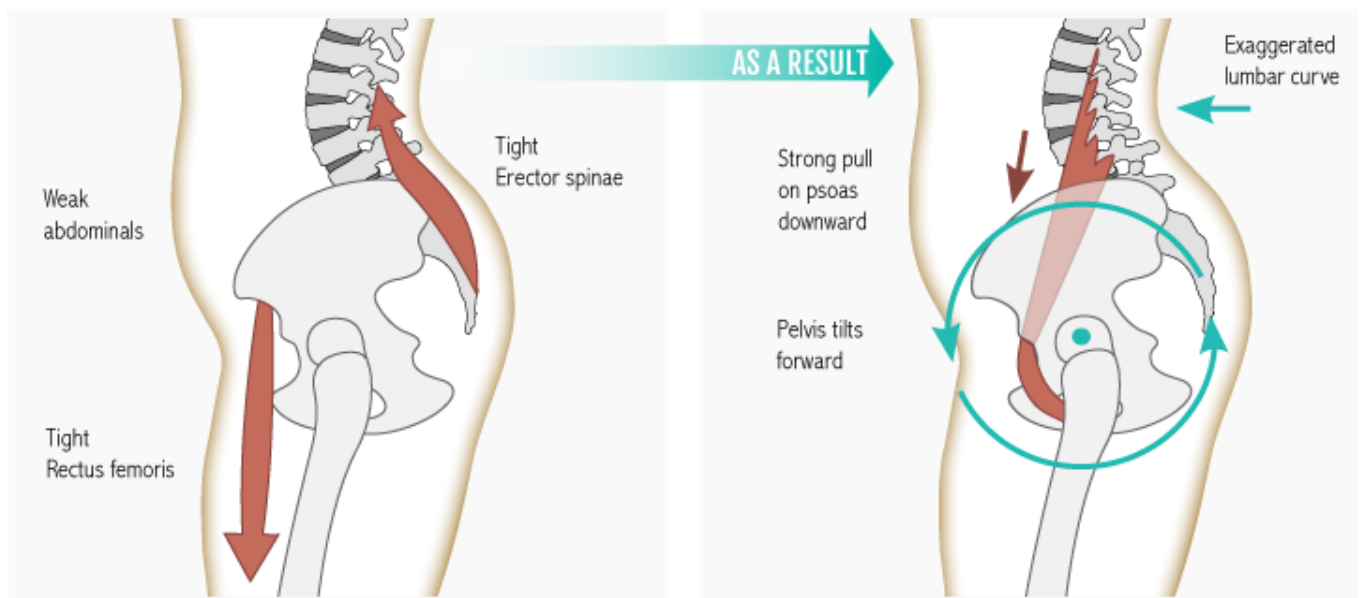
LOWER CROSS SYNDROME

Lower cross syndrome is characterized by an overly extended lumbar curve (lordosis) and an anteriorly tilted pelvis.



This anterior pelvic tilt is caused by tight/shortened hip flexors and erector spinae muscles, along with long and/or weakened abdominal muscles and glutes. This pattern is common in people who sit for long periods of time and is often coupled with an upper-cross type of rounded shoulder posture.

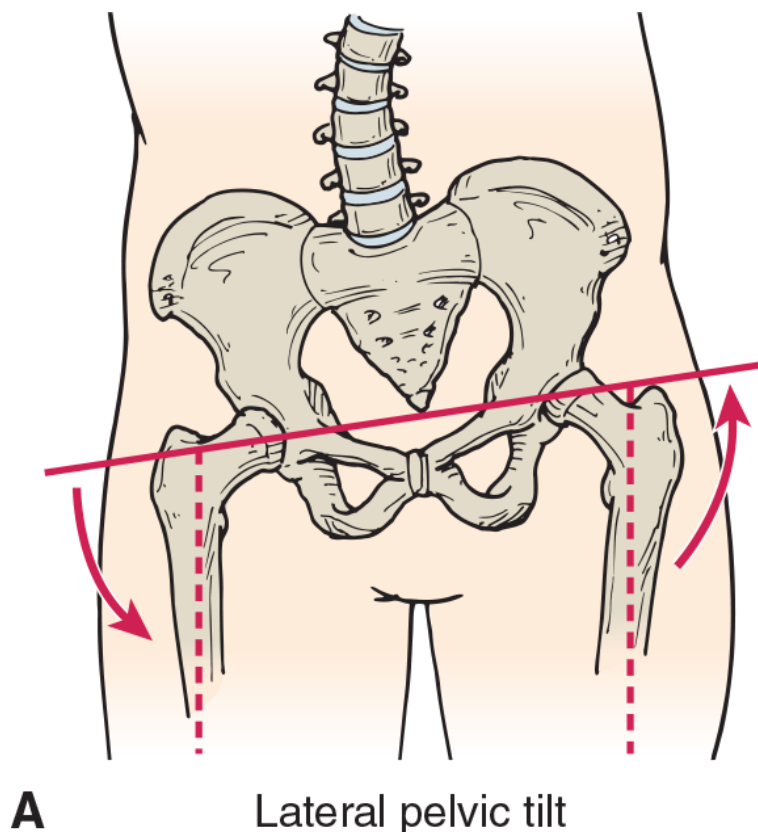
Excessive lordosis can be a common cause of back pain and while it is often caused by a muscular imbalance, it can also be caused by genetic factors affecting the spine from birth.



LATERAL PELVIC TILT (AKA HIP HIKE)

A **hip hike** occurs when one hip is higher than the other and often also results in leg-length discrepancies. This creates unilateral muscle imbalances throughout the whole body, as the shoulder on the "hiked" side will drop to compensate, and the femur on the dropped side will rotate inwards to make up for the added weight on what would be the longer leg. This can result in chronic knee, hip, and lower back pain if not addressed.

Causes of such a tilt can be anything from muscle imbalances due to ergonomic sitting positions, to injury of the pelvis or legs, or scoliosis.



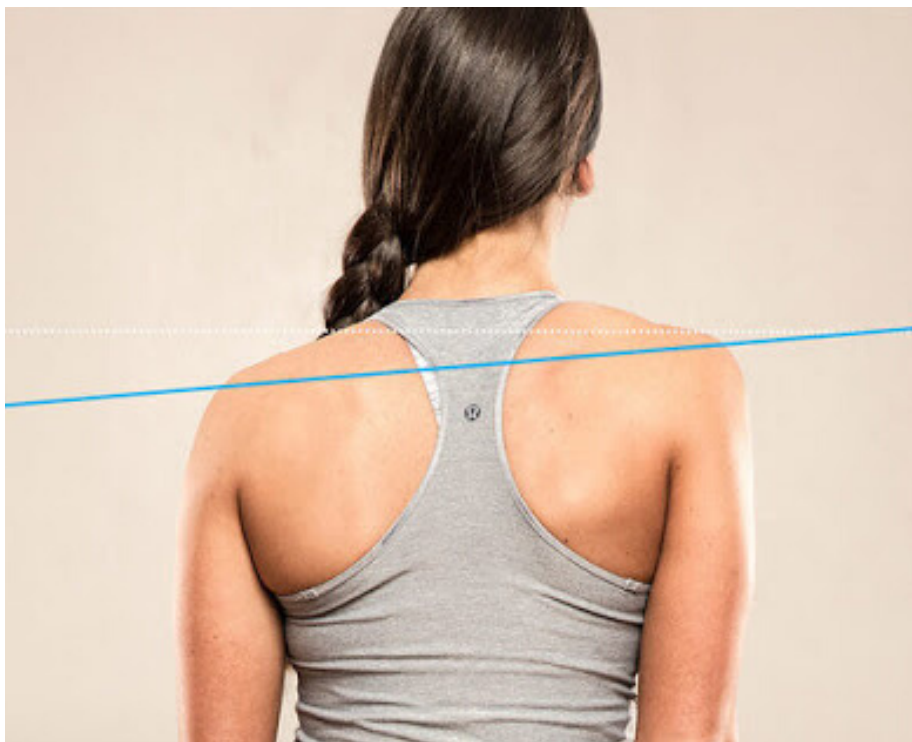
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Lateral pelvic tilt

ELEVATED SHOULDER

Often an elevated shoulder comes as a result of a few different things. This can be caused by the opposite shoulder dropping down as a result of a hip hike on that same side, from overuse of one side ergonomically (eg. always holding a bag on the same shoulder or holding the phone between your shoulder and ear on the same side), from an injury to either shoulder, or as a result of scoliosis.

In the case of injury, damage to the clavicle (collar bone), scapula (shoulder blade), ribcage, or shoulder joint itself, all result in this kind of compensation. When injury is not the cause of the imbalance it is usually a muscular compensation to uneven hips.



Scoliosis is a sideways curvature of the spine characterized by an S shaped spine, uneven hips, uneven shoulders, a head tilt, and often one shoulder blade that looks more prominent than the other. While much less common compared to conditions like upper or lower cross syndrome, it is still important to mention. There are two types of scoliosis.

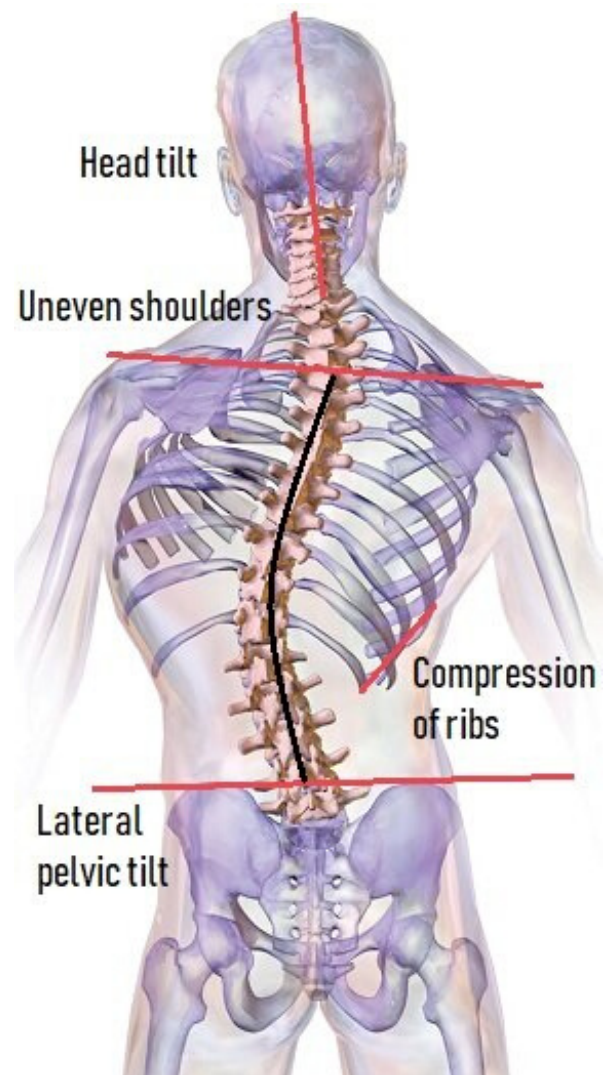
- **Functional**

- The spine *looks* to be curved but is not. This is due to an imbalance elsewhere in the body, such as one leg being longer than the other, causing the spine to compensate.

- **Structural**

- When a person's spine does have a physical curve to it. There is no clear underlying cause for this although most who have it will notice around puberty or earlier.

Once diagnosed, both types of scoliosis can be treated with physical therapy and prescribed exercise/stretching programmes depending on severity of the curve and whether it is functional or structural.



These are just some examples of many musculoskeletal issues that we see and manage every day at **Cool Health**.

Thanks for reading!



-The Cool Health Team