Posture & Injury Prevention

POSTURE

What is posture?

Posture refers to the collective positioning of muscles and bones within the body. Together, these work together to allow movement as virtually every bone/joint in our body provides attachments for one or several muscles. When someone has 'good posture' there is minimal amounts of negative stress or strain placed on muscles and ligaments during movement or weight-bearing activities (i.e. resistance training).

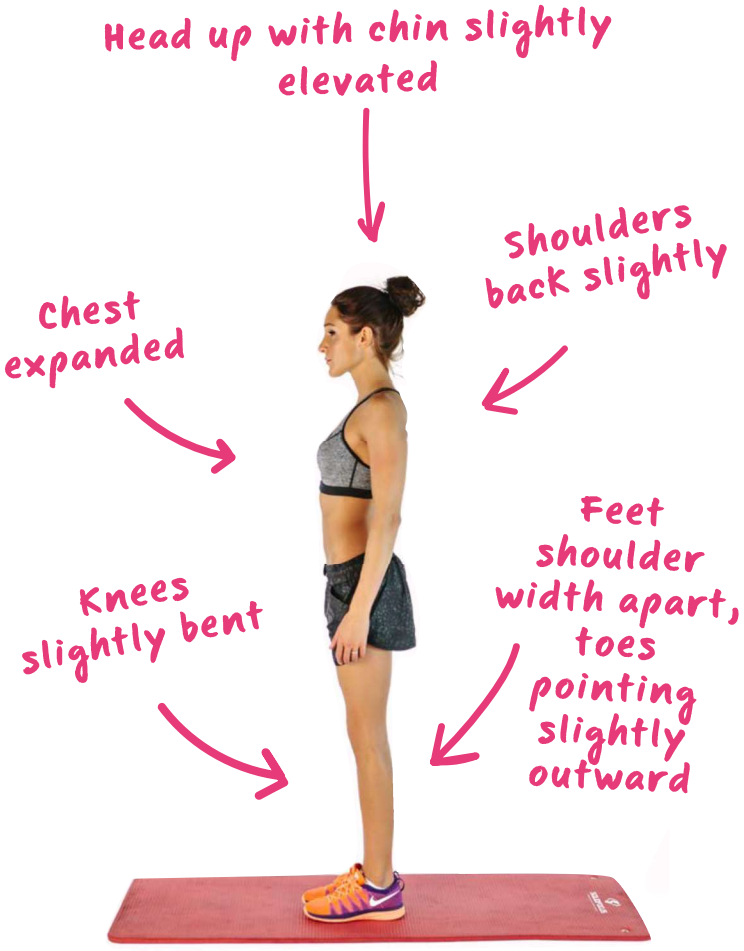
Why is it important?

Ensuring that you have good posture is important for a number of reasons. For example, good posture:

- increases efficiency of working muscles by enabling maximal range of movement
- decreases abnormal wearing down of joints, which could eventually result in arthritis
- prevents strain or overuse problems
- prevents general aching, numbness and/or stabbing pains through muscles

This highlights the importance of rehabilitation through stretching and foam rolling in order to correct posture abnormalities.

What does good posture look like?



What are some common postural abnormalities?

Posture abnormalities arise when there is an imbalance in the muscles on either side of a joint. Generally speaking, one (or more) muscles are tight and others are weak. This imbalance can significantly affect posture by changing the alignment of that joint, which in turn, can cause misalignment with other joints in your body. This could potentially lead to decreased range of motion, pain, and increased risk of injury due to strain or incorrect use. This can result because smaller muscles have started to take on the load of larger muscles.

Such imbalances can occur at virtually every joint within the body, however two common postural abnormalities of the back are *kyphosis* and *lordosis*.

Lordosis or 'sway back' is characterised by the excessive curvature of the lower spine. People with lordodic posture tend to have a defined 'C' shape in their lower spine, which may cause their glutes and stomach to poke out.

Lordosis is often caused by tight hip flexors (muscles that run along the front of your hips) and lumbar erector muscles, as well as weak glutes ('bum') and lower abdominal muscles. It is very common for people with lordosis to suffer from an aching lower back, especially during ab exercises.

Kyphosis or 'rounded shoulders' is characterised by the excessive rounding of the upper back, which leads to a 'hunchback' appearance. This posture is particularly common in big-busted women.

Kyphosis is often caused by tight pec (chest) muscles and upper abdominals, as well as weak rhomboids (muscle between your shoulder blades) and traps (back/neck muscles).

How can we improve posture?

It is possible to improve these postural abnormalities by stretching and foam rolling to help restore balance.

For individuals with lordodic posture, it is important that individuals focus on stretching their hip flexors (see page 179) and strengthen their lower abdominals and glutes through proper activation of these muscles before/during training.

For individuals with kyphotic posture, it is important to stretch and foam roll your pec (chest) muscles (see page 188) and stretch your upper abdominals (see page 184). It is also important to strengthen your back through 'rowing' or 'reverse fly' type exercises.

INJURY PREVENTION

SHIN SPLINTS

What causes shin splints?

Shin splints can cause dull, aching pain in the front of the lower leg and this can even be painful to touch. There are many causes for shin splints, most commonly these are forms of repeated loading of the ankle over long periods of time. For example, running on hard surfaces, fast paced walking uphill and so on. I will point out that it is not only the walking or running itself that is causing the problem, but the fact that your ankle is unstable whilst doing these. Causes of instability include medial (turned in) or lateral

(turned out) rotation, your feet don't absorb and exert the load of your body well, or a combination of these as well as knee and hip alignment issues.

How do we fix it?

Firstly, we need to address the problem from the ground up. The important muscles surrounding the ankles include the peroneals, gastrocnemius, soleus and tibialis anterior. These muscles work together to help you point your toe (gastrocnemius and soleus), pull your toe upwards (tibialis anterior and peroneals), and stabilise the sidewards sway of your leg when your foot lands.

Having the correct shoes is particularly important. I personally prefer wearing Asics as they are well suited to my pronated feet. As everybody is different, I recommended that you talk to someone from your local sports store to help determine which shoe is best for you. Just remember, that comfort and functionality are way more important than fashion.

From a rehabilitation perspective, I also recommend that you do the following:

- Gently foam roll the outer side of your shins
- Foam roll your calves from top to bottom
- Stretch your calves
- Do standing clave raises to help strengthen the surrounding muscle groups (3 sets of 20 reps several times per week).

Initially the pain should decrease, and over a period of 4-6 weeks, the joint should stabilise and the function will improve. Of course, there are lots of other ways to strengthen this joint, but this is a simple way to help decrease the pain and fix the joint movement issues.

As tightness in one part of the body can lead to tightness in another area of the body, it is important to also foam roll and stretch your hamstrings (back of your legs), glutes ('bum'), and quads (front of

your legs) to prevent any misalignment of the hip.

KNEE PAIN

Another common injury/complaint that arises as a result of training is knee pain.

What causes knee pain?

It is important to note that knee pain can be caused by issues with either hard tissue (i.e. bone) or soft tissue (i.e. muscle or ligaments). For this reason, it is important that you liaise with a physiotherapist or similar health professional to help determine the cause of your knee pain.

It is quite common for individuals *without* hard tissue damage to experience knee pain at some point during their training.

To understand the causes of knee pain, it is necessary that we look at the muscles that surround this joint. These include the quadriceps, hamstrings, and tensor fascia latae. These muscles enable flexion (hamstrings) and extension (quadriceps) of your leg at the knee joint, and provide structural stability to both the bones and muscles of the leg during movement (tensor fascia latae).

Over time, improper loading of the knee joint during plyometric and both HIIT and LISS training can cause instability across this joint. This instability can cause one (or more) muscles surrounding the joint to take on the load of others, causing misalignment and sometimes pain.

From a rehabilitation perspective, I recommend that you do the following:

- Foam roll your hamstrings, inner and outer quads
- Foam roll your ITB (outside of your upper leg)
- Stretch your quadriceps and hamstrings

You can now purchase foam rollers and massage sticks from my online store! Visit www.kaylaitsines.com to find out more.