

## Looking After Your Back

Instructing climbing can generally be said to be a low level activity for most of us with periods of inactivity interspersed with the occasional need to suddenly pull really hard. This combination means that injury to your back will not be of a repetitive nature (as with the majority of the general populace) but a specific strain or sprain.

A few assumptions have been made in writing this article:

- The 'workplace' is, for you the crag, the mountain or the wall.
- You are generally fitter and healthier than the general populace for whom most articles about back pain are written.
- You have a passing interest in knowing how your body works and general anatomy.
- This is not a training or improving performance article.

Lower back pain is an injury to your lumbar spine and is covered extensively in countless articles so will not be talked about here. For more information visit: <http://www.nhs.uk/conditions/back-pain/> or visit your GP or local physiotherapist if you have a lower back problem.

Injury to your upper back is less common but the relationship between the large muscles extensively used in climbing and your thoracic spine makes climbers prone to trauma and pain in this area.

Your thoracic spine extends from the little bump at the base of your neck to (in effect) your waist. It consists of 12 vertebrae and each have a rib attached which create a cage to protect your heart and lungs and a frame to provide support to muscles. Virtually all the twisting movement in your back is done by your thoracic spine.

You have many spinal muscles – try to think of them in layers:

- Deep – muscles attaching between vertebrae.
- Intermediate – muscles attaching between vertebrae and other structures i.e quadratus lumborum (QL) and rhomboids.
- Superficial – your big 'visible' muscles which cross your joints and move your limbs i.e. latissimus dorsi (lats) and the trapezius (traps).

Determining which muscles you have injured is best left to a professional but to avoid injury you can adopt some simple strategies:

Identify activities which are likely to cause you a problem (I've done some below) and incorporate an injury avoidance activity such as a warm up and/or mobility exercise:

- Jugging up a rope – easily avoid injury by jogging to the top of a crag, some light arm work such as tying a rope then jogging back down.
- Spotting – if done as part of the session you may have just have led a warm up routine so no problems there.
- Hauling – more difficult this as you have probably spent the preceding period sat waiting for your client to overcome the problem so we need to consider other strategies.
- Coiling a rope – at the end of the day, tired? Make sure you do it over your neck to avoid putting a relatively small load through a long lever.

Wear your harness correctly – your waist belt is designed to provide support to your lumbar region in the event of the harness being weighted. Wearing it too low (as is often the case) will put excessive strain through QL.

Use a chest harness – I always carry one and use it if I am to enjoy an extended period of time hanging in a rope.

Consider direct belays – semi-direct belays particularly cause a lot of twisting and you may find yourself working with heavy loads at your end range. Sat on the edge with the ropes to your side giving a quick ‘boost’ to your client will put strain through your deep & intermediate spinal muscles.

Look at your posture in standing and sitting:

- In standing are your strong climbing muscles causing you to develop a rounded upper back or flat lower back (*fig 1*), winging scapulas (*fig 2*) or protracted scapulas causing you to ‘ape’ (*Fig 3*)? These are all signs of muscle imbalance and could lead to recurring injuries.
- When sitting avoid positions where your knees are higher than your hips as when sat on a rucsac discussing gear. This tilts your pelvis back and stretches your QL and deep spinal muscles and puts more emphasis on your superficial muscles to maintain your posture.



Fig 1



Fig 2



Fig 3

Avoid carrying too heavy a load – even for ‘training’ purposes. Most back pain is a result of long term repetitive damage so avoid.

Know how to fit your rucsac correctly. There is a bit of a quandary here because it is often useful to wear the waist belt of your rucsac above your harness rather than around your pelvis just above your hips – hopefully at these times the rucsac is relatively light and won't put too much strain on your back.

As practicing climbers we actively seek to put our bodies through stress for enjoyment; most of the time we do not exceed the limits of our bodies' tissue tolerance – but sometimes we do and when we do we still have to go to work and we do not have the luxury of ‘light duties’. Maintaining our fitness and strength not only makes us healthier and less prone to injury but ensures our client's safety and with this in mind you must consider injury avoidance as a professional responsibility.

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