STRETCH Your Abilities

Your comfort and performance can be enhanced with improvements in your flexibility. **EMMA COLSON** shows how to stretch your talents even further.

Some people may ask the question, 'Why should I stretch?' The short answer is that stretching increases the length and compliance of our soft tissue structures (ie the muscles and joints). It maintains range of motion of our joints and muscles. This allows us to move our body unimpeded by tension, tightness or restriction at a certain joint. To be flexible is to enable a fuller range of motion.

So why is stretching important for cycling in particular? There are three main reasons:

1. Stretching allows our bodies to conform to the most aerodynamic posture and hence to improve the efficiency of our power output via a reduction in front on surface area, ie the amount of your body that is exposed to the wind.

2. Stretching prevents the development of 'contractures'. In cycling there are certain regions of the body that never get stretched or elongated—this is different to running or swimming. These joints and/or muscles can develop length restriction over years of doing hours on the bike hunched up and the same goes for many of us who sit for hours at a computer at work or at school. Restriction at these regions can then impede the normal function of that joint and in some cases it can have implications for conditions such as low back pain and in the case of the thoracic spine, a reduction of the vital capacity of the lungs!

3. Muscles that are exercised need to be stretched to compliment their use in training.

Common Questions

My girlfriend never stretches and is really flexible. I stretch all the time and never seem to get anywhere? Why is that?

Flexibility is to some extent genetic and also has a sex bias. Females tend to be more flexible than males, but it is not always the case. Some genetic types are just very inflexible and will battle stiffness and poor flexibility all their lives. You cannot change genetics, but if you are one of those 'stiff' body types, you can improve your situation with stretching.

I have been told that I am hypermobile/double jointed. Do I need to stretch for cycling or is it harmful?

You are fortunate in that you may not need to work at flexibility to the same degree as other people, but you will get to know that there are still some regions of your body that do need routine stretching. You may find that your excessive mobility means that you lack stability and so have to put more time into those exercises rather than into stretching. If you follow the rights and wrongs listed later in this article, you will not harm yourself whilst stretching.

There is one muscle in my body that I constantly need to stretch. It feels good for a while but then it tightens up again. Why does it do that?

There may be some other reason why the muscle continues to tighten up. For example the hamstring muscle is commonly irritated by lower back pathology. If it is concerning to you, get your Sports Physiotherapist or Sports Physician to thoroughly assess you.

I am pretty lazy with stretching. Is there something else I can do?

There are flexibility components in swimming and other organised classes such as yoga that compliment cycling. Regular massage will help maintain flexibility. However if you are really serious, you cannot avoid stretching. Someone once said to me that it should be like cleaning your teeth.

Stretching Do's

- Do be gentle and slow with stretching, especially if you have not done much before.
- Do hold stretches to muscles for at least 30 seconds. Nerve stretches can be 'on-off' and joint stretches can be held for less time.
- Do make stretching part of your training routine.
- Do try to get at least one good stretch session per week (of around 45 minutes) maybe with some top-up during the week on your tight spots. As a guide, the AIS women's road team members used to stretch for about 90 minutes each afternoon following training sessions (although some did more than others!). Most would do some morning stretches for 20 to 30 minutes prior to training also. Alas we can't all treat our body as a temple like that!

Stretching Don'ts

- Don't rush, never rush, stretching needs to be relaxed.
- Don't do ballistic stretches. These were a fad of the 70's and they occasionally rear their ugly head. Ballistic stretching is dangerous as you may cause the muscle or joint to tear.
- Don't force the area you are stretching into pain. You should feel 'discomfort' only, not pain.
- Don't cause distal symptoms during the stretch, ie symptoms such as pins and needle in the foot—you may be depriving a nerve of its blood supply, which can cause permanent damage.
- Don't cause 'after-pain'. Stretching should feel 'tight' at the time. This should ease fairly

Supple and Aerodymanic. *One of the keys to being aerodynamic on the bike is good flexibility—without it you will never reach your potential.* **Photo: Graham Watson**

quickly following cessation of the exercise. If pain or discomfort hangs around after the stretch, you have pushed too hard.

- Don't try to stretch like your flexible friend or if in a class situation, like the other class members because they may have much better flexibility than you. Realise your own limits and then stretch them to make progress at your own pace!

Three Types of Stretches

There are three types of stretches as explained below. These stretches are demonstrated in the photographs by cyclist, journalist and cycling tour organiser, Dave Olle. Remember to stretch your body according to how you feel and don't try to match some other ideal. The only ideal to be concerned about is what is ideal for you at your current level of flexibility at any one moment. Remember that you can always improve on where you are at too.

I. Positioning Stretches:

These are to improve your positioning on the bike. These are best done just prior to a ride if possible. These will help to maintain and improve your position on the bike.

II. Power Generator Stretches:

These are probably best left until after riding or at least 30 minute prior to a race as there is some suggestion that stretching muscles prior to maximal load reduces their ability to contract.

III. Cyclist's Stretches:

These are stretches to do just because you are a cyclist and because of the nature of cycling these stretches prevent contracture of your muscles. These can be done at any time.

I. Positioning Stretches: 1A to 3B Inclusive

Photos: Darren McNamara

1A. Pelvic Tilt—knees locked

This is good for improving aerodynamic posture. Get into a 'time trial' position. Lock out the knees. Tilt the pelvis forward to increase the arch in the lumbar spine. This can be a sustained or a repetitive stretch.

1B. Pelvic Tilt—knees unlocked

As in the previous stretch, 1A, but unlock the knees. Once again, this is good for improving aerodynamic posture and it can be a sustained or a repetitive stretch.

2. Thoracic Spine Extension

This is good for elongating the back to improve aerodynamic posture. Use a roller to hinge the upper back backwards over the roller. You should feel a stretch or tightness in the mid back. Take care not to overextend the neck. This stretch can be sustained or repetitive.

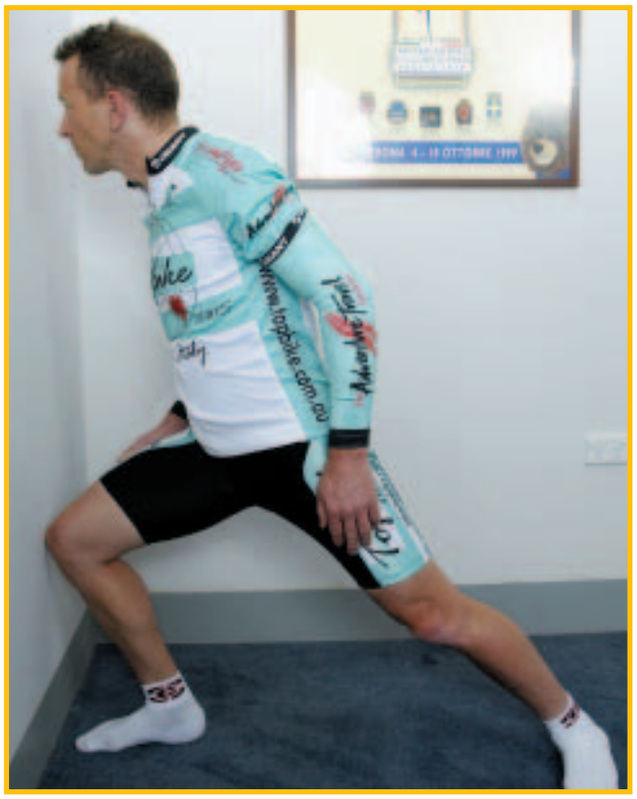
3A. Short Gluteal Muscles—start position

If these short gluteal muscles are tight they will pull the knee 'out of line' at top-stroke, potentially stressing the knee. Start with the leg bent up into the groin, then see 3B.

3B. Short gluteal muscles

Take the opposite shoulder to the knee. Feel the stretch in the buttock (not pain in the groin). You might need to play around with the position a little to get the stretch. The stretch is important for hip range of motion, and hence how far back you can sit (elongating your body). Sustain this position.

II. Power Generator Stretches: 4 to 8 Inclusive



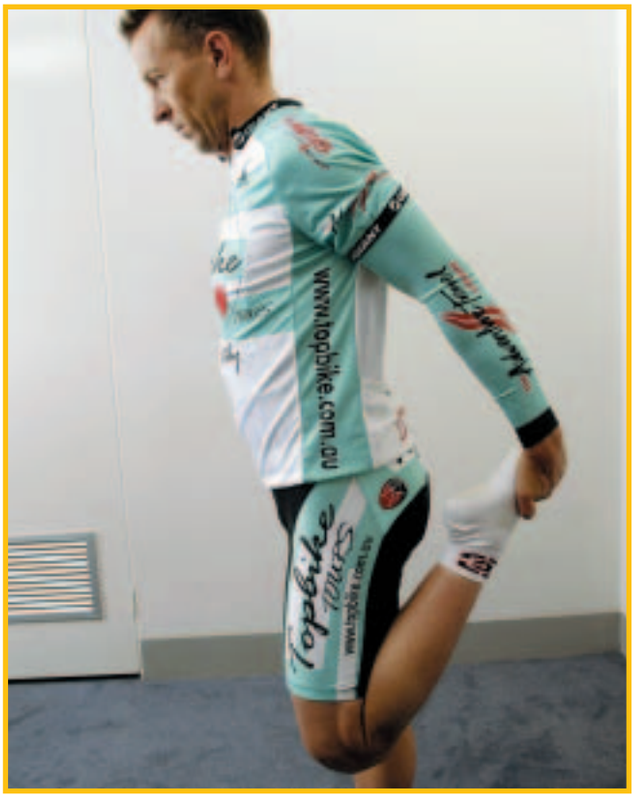
4. Soleus (Calf)—rear leg

The soleus does its fair share of work as a power generator. Lunge the bent knee over the toe and you should feel tightness at the back of the ankle. Sustain the position.

5. Gastrocnemius (Calf)—rear leg

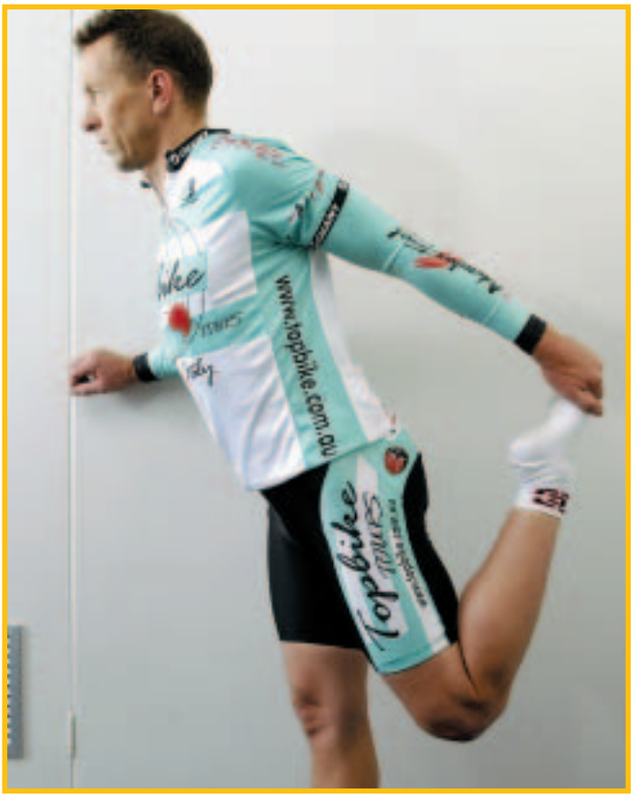
Your 'gastrocs' are also a power generator. Lunge forward with a straight knee and let the heel sink to the ground. You should feel tightness in the back of the calf. Sustain the stretch.

>> please turn to page 78



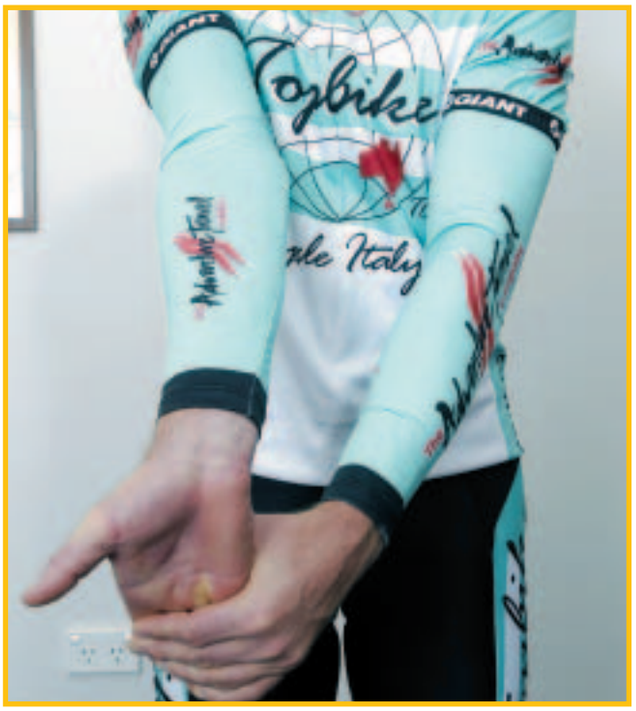
6. Quadriceps

The 'quads' need stretching to back up all the work they do in generating power. Pull the heel towards the bottom. Keep the hip straight. You should feel tightness down the front of the leg. Sustain the stretch.



7. Rectus Femoris of the Quadriceps

This is the part of the quadriceps that runs over the hip joint. Pull the heel to bottom but this time also have the hip a little extended. The stretch should again be felt in the front part of the leg.



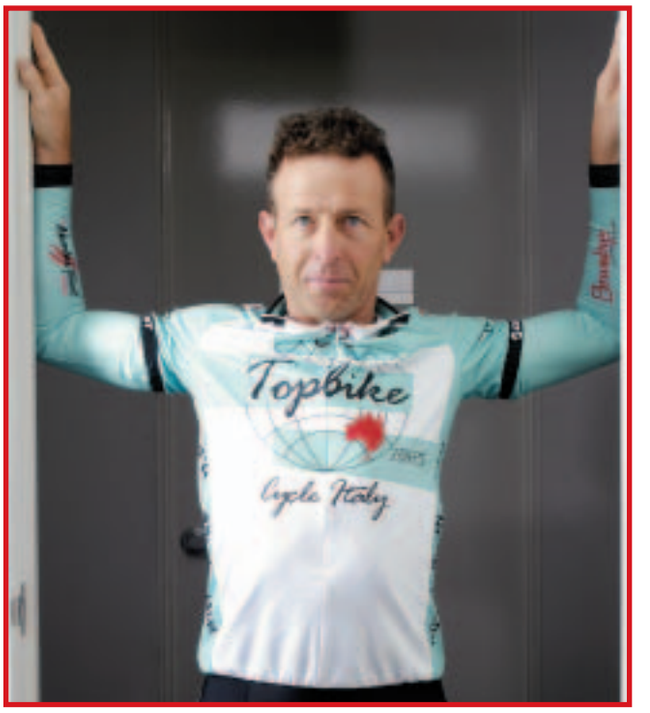
8. Wrist Flexors

These muscles do a bit of work depending on the type of riding you are doing. If they are getting really tight while you are doing easy km's on the flat then you are probably gripping the bars too tight! Face your palm up and then pull the fingers backwards to stretch the forearm. Sustain the stretch.

III. Cyclist's Stretches: 9 to 18 Inclusive

9. Neck Lateral Flexion

The lateral muscles of the neck can tighten especially if we hunch up a little too much. Sit on the left hand and then use the right hand to pull the head over to the right side. You should feel the stretch in the side of the neck. Be gentle with this stretch. Do not continue if you get any pins and needles into the arm. Sustain the stretch.



10. Anterior Chest (Pectorals)

The pectoral muscles can be working to stabilise the upper body on the bike. As you get fitter and more stable, they won't feel like they do much at all, but they still need to be stretched as they never get elongated. Let the body lunge forward as you use the door-frame to hold the arms at 90 degrees (elbows and shoulders). You should feel a stretch at the front of the chest. Sustain the stretch.

11. Back Extension

The lower back should be flat or extended (not flexed) for aerodynamics whilst riding. This stretch helps attain this position. Keep the pelvis on the ground and push the upper body up using just the arm muscles (not the back muscles). You should feel tightness in the central lower back region. Do not continue if this stretch gives you sharp pain in the lower back or if the stretch creates pins and needles. This stretch can be repetitive.

12. Back Rotation

This can be a nice one just to move the joints of the lower back in a position that they never get into with cycling. Use the left arm to pull the right knee across the body. The rest of the body is anchored by the right shoulder. Feel the stretch in the lower back. Do not do this stretch if it causes pain in the lumbar spine. This stretch can be repetitive.

13. Slump Stretch. NOTE: USE CAREFULLY!

The slump stretches just about everything depending upon what is tight (nerves, fascia, muscles and joints). Get the position in the picture until you feel a mild tension anywhere (ie back, hamstrings, neck—whatever comes first!). Once the position is attained, gently tease the toes back towards the head in an on/off repetitive motion.

Warnings:

- Do not do this stretch if it creates pins and needles or headaches.
- Do not do this stretch first thing in the morning.
- If you have had disc problems with your back, first consult your physiotherapist.

14. Hamstrings—bent leg

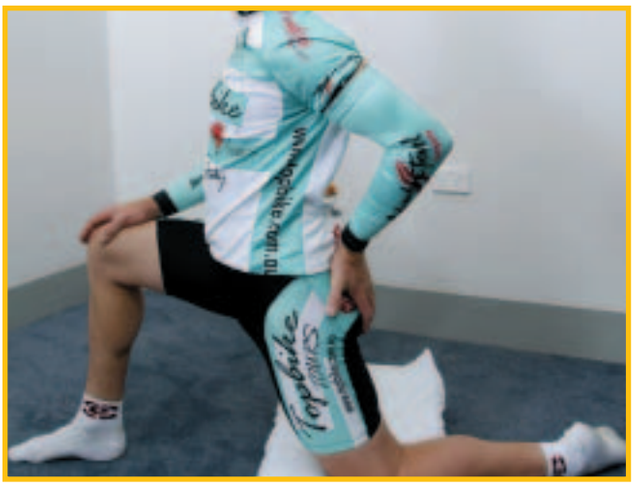
The hamstrings are always shortened with riding and so therefore they need elongation. Have your leg bent up on an object. Lunge your body forward until you feel the tension in the belly of the hamstring muscles at the back of the thigh. Sustain the stretch.

15. Hamstrings—straight leg

Stretch the same as for the bent leg stretch but keep your leg straight out. Sustain the stretch.

16. ITB Stretch

The ITB (iliotibial band) becomes tight due to the excessive development of muscle bulk in the lateral (outside) quadriceps. If very tight, the ITB can stress the knee-cap. Hold the knee at a 90 degree angle. Stretch the opposite shoulder to the knee. You should feel the stretch on the outside of the leg. Sustain this stretch. You can also use a roller to self massage the iliotibial bands. Place the roller under the leg and roll the body up and down with the roller massaging the mid section of the leg. Avoid the bone at the hip and the knee.



17. Hip Flexors

These are in need of constant attention for the cyclist as they get easily contracted and can tension the lumbar spine. Use a pillow for the knee. Push the pelvis forward. Squeeze the buttock on the same side. You should feel a stretch at the front of the hip. Sustain this stretch.