

Flexibility for Adventure Racing

Okay, I know you have heard it before: “you need to stretch or you will get injured, if you don’t stretch before and after each session you are asking for trouble!!” If I had a pound for every time an athlete has said to me “I should stretch more regular, I just need to find time” I would be able to maintain a comfortable living standard, but is stretching all it’s cracked up to be?

What is the reason for stretching?

If you read sports science & training articles you will be aware that the traditional beliefs and reasoning for pre and post event stretching have been questioned a great deal in recent years. Various studies have suggested that stretching routines can reduce the ability of the muscles to produce power and pre-event stretching can increase the risk of injury during specific sporting activities.

Types of stretching

Before we go any further, let’s categorise the different types of stretching and the manner in which they are performed:

- Pre-event stretching – carried out prior to exercise as part of your warm up and preparation.
- Post-event stretching – carried out following exercise as part of your cool down.
- Maintenance stretching – carried out during the week at any time as a method of maintaining your flexibility.

Pre-event stretching

Carried out as part of your warm up to prepare for exercise and theoretically reduce the risk of injury, recent research has suggested that pre-event may actually increase the risk of injury. Ligaments are responsible for ‘strapping’ your joints and making them stable, muscles do a similar job to a lesser extent. Tight muscles will provide firmer strapping, lax muscles will lead to greater joint instability, not ideal when running over rough ground. For sports which require joint stability, sports specific warm ups are becoming more popular, go for a 10 minute jog over rough ground, this will prepare your muscles and joints more specifically than touching your toes!

Post-event stretching

Stretching after exercise is still considered safe and beneficial and post-exercise is an ideal time as the muscles are warm and more pliable. Most people stretch following exercise to prevent muscle tightness and soreness the following day, it is important at this point to define ‘tightness and soreness’. Following a hard exercise session muscle connective tissue (tissue coating outside of muscles) can become tight, stretching can provide relief. By contrast, hard exercise can damage the actual muscle fibres, this causes pain

and tenderness. If the muscle tissue is damaged it will be tender to touch, warm and may even become inflamed, you may have noticed that following an adventure race you can put weight on during the initial 2-3 days, which disappears as your muscle pain subsides. This weight gain is caused by inflammation of muscle tissue and your legs may look 'puffy' as they are retaining water.

If your muscles and connective tissues are tight, stretching will feel beneficial, if your muscle tissue is damaged then stretching will make little difference and may actually do more harm. If you wake up the morning after a fell race during which you descended like a maniac and your legs are painful to touch, exchange stretching and a massage for an ice bath!

Maintenance stretching

Maintenance stretching refers to general stretching exercises that you can carry out during the day as part of your weekly routine, stretching doesn't have to be limited to pre and post workout or event.

By finding the time to stretch throughout the week you can help to avoid injuries and enable yourself to train with minimal discomfort. To ensure that you optimise your time, each stretch should be chosen carefully.

Stretch 1: Quadriceps (specifically rectus femoris) & hip flexors

Why: The quadriceps are used constantly for cycling and running and the rectus femoris (RF) muscle takes most of the strain. Other quadriceps stretching exercises do not target the RF and tightness can lead to knee pain and lower back pain. Tightness and shortening of the RF tilts the pelvis forwards and is often the cause on tight hamstrings and quadriceps cramps (especially when running downhill). The cycling hip position encourages RF shortening.



Key coaching points:

- Keep torso vertical
- Do not arch lower back
- Do not allow front knee to go past end of foot

Stretch 2: Piriformis stretch

Why: The piriformis muscle runs horizontally through your backside muscles and is responsible for controlling hip & thigh movement. During both running and cycling your feet and knees tend to roll inwards, the piriformis applies a braking effect and prevents excessive inwards movement. Over time (especially if you are an inward roller) the muscle becomes tight and creates pain in the centre of the buttock, outside of the hip and can create sciatic pains.



Key coaching points:

- Shin approximately parallel with floor
- Push knee gently downwards
- Lean forwards to increase stretch

Stretch 3: Gluteus stretch

Why: The gluteus muscles are used a huge amount during running and cycling to generate force and also as joint stabilisers. If you have tight gluteus muscles this could cause problems when cycling (leaning forwards) such as outer hip pain or lower back pain.



Key coaching points:

- Keep foot on floor
- Hug the leg tightly into your chest

Stretch 4: Lower back pain

Why: Your lower back muscles are used for core stability during all activities and are placed under great strain when cycling for long time periods. A tight lower back will lead not only to lower back pain but may also create outer hip pain and tight hamstrings.



Key coaching points:

- Keep shoulder blades on floor
- Twist from the lower spine rather than simply rolling the body

Stretch 5: Medial rotator stretch

Why: Poor posture, hunched kayaking and climbing all create tight medial rotator cuff muscles at the shoulder joint. This medial rotator stretch will improve posture and reduce the risk of anterior shoulder pain.



Key coaching points:

- Arm out to side, elbow bent at 90 degrees
- Keep torso facing forwards
- Gently pull forwards on pole with lower hand to rotate shoulder backwards

Stretch 6: Chest and outer back stretch

Use this stretch in conjunction with the medial rotator stretch to improve general shoulder girdle positioning and reduce risk of anterior shoulder pain.



Key coaching points:

- Keep elbows straight
- Arms touching ears
- Do not allow back to arch

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