The plan

4 WEEKS TO A STRONGER SPINE

STOP BACK PAIN FROM COMPROMISING YOUR PERFORMANCE WITH THIS 4-WEEK TRAINING AND STRETCHING PLAN

Meet the expert

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A STRONG, well-conditioned spine is a priority for any athlete looking to avoid back pain. But it’s especially important for triathletes in order to cope with the volume and diversity of demands placed upon them by training and racing. As a physiotherapist working with triathletes, I’ve noticed many common problems with specific muscle groups getting weak or tight. This training plan will give you the basic requirements to keep your back in the best condition for the sport. We’ll go through some simple stretches, exercises and drills aimed at preparing your back to swim, bike and run. The plan has a dual purpose – it’s intended to prevent injury, but also optimise your performance.

Your back needs to do different things in each of the triathlon disciplines. In the swim your back is needed to help you stay in a streamlined position and balance your stroke. On the bike it’s what allows you to achieve an aero position and for the run it’s key to the biomechanics of running economically. Due to the complex nature of the spine, pain can originate from a number of different structures. If you suffer from any form of back pain (intermittent or ongoing), it’s vital you see a GP or physio to get a diagnosis and prescriptive rehab programme. You should also ensure that continuing to train isn’t detrimental to your recovery. If you’ve been diagnosed with mechanical lower back pain or just feel that your back is your weak spot, the tips in this plan should help.

Six areas to address

- Triathletes can reduce the likelihood of experiencing back pain by eliminating the following six most common causes of it.
- Poor postural control/lumbar pelvic stability
- Incorrect bike position/set-up
- Poor running posture
- Poor running mechanics
- Work environment/posture
- Inappropriate gym and strength work

Find your lumbar neutral

A neutral lumbar spine is where your pelvis is balanced centrally. To find your neutral position, stand sideways in front of a mirror, with your hands on your hips. Roll your pelvis forwards towards the floor, then roll it backwards, directing your tailbone to the floor. Try and pay attention to the amount of movement you have either way, and find the mid point where your pelvis is halfway between the forwards and backwards extremes. The halfway point is your lumbar neutral position. It is the most stable and shock-absorbing position that you can put your pelvis and lumbar spine in, and is ideal for training and injury prevention and how it should be in the exercises described in this plan.

Your exercises

These exercises will be referred to throughout the four-week back strengthening plan. You don’t need any equipment to do the exercises but a foam roller and resistance band will be required to follow the plan.

How it works

Get your guide ready to go

Cut out the guide following the dotted outline
Fold the guide in quarters using the fold guides
Now carry it with you for reference while training

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**Stretching exercise**

**EXERCISE 1**

**HIP FLEXOR**

Stand with your feet shoulder width apart and take one stride forward so you can squat down while keeping your front knee over your foot. Keep your torso tall and push your hips forward, until you can feel a stretch in the hip flexor of the back leg. To increase the stretch reach your arm on the side of the hip flexor you’re stretching up and over your head. Repeat on the other side.

**Exercise 2**

**PIRIFORMIS**

Lie on your back with your knees raised and cross your right ankle over your left knee. Hold the thigh of your left leg and pull the knee towards you, lifting your foot off the floor. Pull the knee closer to you to increase the stretch and hold for 10-30secs. Repeat with your other leg.

**Exercise 3**

**HAMSTRING**

Lie on your back and use both hands to lift one of your legs up by holding it behind the knee. Pull your knee as close as you can comfortably to your chest. Gradually try to straighten your leg while keeping your knee close to your chest. Repeat with your other leg.
Strengthening exercise

**EXERCISE 1**

**CLAMS**

Lie on your side with your hips and shoulders in line and your knees bent at a 90° angle. Place a hand on the floor in front of your chest if you need extra support. Stack your hips so they’re on top of each other; do the same with your shoulders and ensure you remain in the lumbar neutral position throughout the exercise. Keep your heels together and slowly open your knees by rotating your upper leg from the hip socket. Open your knees as far as you can without disturbing the alignment around your hips and then return them to the starting position. Progress the exercise by first holding your knees open and then pulsing them back and forth at their widest. Repeat on the other side.

**EXERCISE 2**

**QUADRATUS LUMBORUM**

Stand with your back to the wall, reach your right arm over your head and lean to your left. Keep your shoulders, back and hips flat against the wall. Take a deep breath in as you do this and try to gently increase the stretch. Repeat on the other side.

**EXERCISE 3**

**SINGLE KNEE DIP**

Otherwise known as the single leg squat. Squat down on one leg by dropping your bottom backwards, as if you were sitting down. Concentrate on keeping your lumbar neutral position throughout and make sure the knee your supporting you remains aligned over your foot and doesn’t drift forwards. Push through your heel to return to the standing position and repeat on the other leg.

**EXERCISE 4**

**4-POINT HEEL PRESS**

Get on your hands and knees, then slowly extend your heel backwards with your toes pointing down. Ensure you maintain your lumbar neutral position throughout this exercise; if you fall out of position, start again. Repeat with the other leg. Once you can extend your leg fully while maintaining a neutral lumbar position, progress the exercise by extending the opposite arm at the same time.
The plan: stronger back

Technique

**EXERCISE 1**
**STEP WITH KNEE DRIVE**

*Step and drive* your knee into a high position and briefly hold your hip, knee, and ankle all at 90° angles. Push through your heel on the standing leg to activate the glutes on your stabilising leg. Repeat with the opposite leg.

**EXERCISE 2**
**WALKING LUNGES**

From a standing position, take one stride forward. Lower your hips to the floor, bending both knees to around 90° (the knee on your forward leg should be directly above your ankle while the shin on your rear leg should be parallel with the floor). To complete the exercise, push through your front heel and bring your forward leg back to a standing position. Make sure your lower back doesn’t arch. Repeat with the opposite leg.

### TECHNIQUE SESSION

**Week 1**
- Find your lumbar neutral position – this will be your starting position for all exercises and training in this plan
- Run the foam roller up and down your spine and your gluteal (bottom) muscles for 5 mins.
- Do all the stretching exercises and run the foam roller up and down your spine and your gluteal muscles for 5 mins.
- Do the hamstring and hip flexor stretches.
- Repeat Wednesday’s glute activation work.
- 15 min run followed by glute activation work – clams, clam hold, clam pulses, perform each exercise for 40 secs.

**Week 2**
- Do all the exercises and run the foam roller up and down your spine and your gluteal muscles for 5 mins.
- Massage or soft tissue release.
- Glute activation workout to help stabilise around the spine/pelvis. Clams, clam hold, clam pulses, perform each exercise for 30 secs.
- Do the quadratus lumborum and hip flexor stretches, and hold each stretch until you feel the muscle relax.
- Do all the stretches and run the foam roller up and down your spine and your gluteal muscles for 5 mins.

**Week 3**
- Technique session: step with knee drive, walking lunges, clams (3x 20m walking drills)
- 20 min run followed by glute activation work – clams, clam hold, clam pulses, perform each exercise for 40 secs.
- Massage or soft tissue release.
- Glute activation workout to help stabilise around the spine/pelvis. Clams, clam hold, clam pulses, perform each exercise for 30 secs.
- Do all the stretching exercises and run the foam roller up and down your spine and your gluteal muscles for 5 mins.
- 20 min run followed by glute activation work – clams, clam hold, clam pulses, perform each exercise for 40 secs.

**Week 4**
- Technique session: step with knee drive, walking lunges, clams
- Glute activation session, add resistance band as needed and perform each exercise for 40 secs.
- Massage or soft tissue release.
- Glute activation session, add resistance band as needed and perform each exercise for 40 secs.
- Do the hamstring and hip flexor stretches.
- Repeat Wednesday’s glute activation work, add resistance band as needed and perform each exercise for 40 secs.
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**Step and drive** your knee into a high position and briefly hold your hip, knee, and ankle all at 90° angles. Push through your heel on the standing leg to activate the glutes on your stabilising leg. Repeat with the other leg.