

Alex Price (on right) is a physiotherapist, triathlon coach and founder of AP10 in Wollongong, NSW. He has worked with the AIS and NSWIS triathlon teams for the past five years. ap10.com.au

THE ART OF RUNNING

Developing proper run technique is easier said than done. Demonstrating on pro triathlete **Shane Barrie**, Australia's **Alex Price** shows *220 Triathlon* how working on run skills can help keep triathletes footloose and injury-free



Considering the importance the run has on the overall time and performance in a triathlon, it may be surprising that it is often the most overlooked discipline in terms of proper technique training. In this article, Alex Price not only talks about what are the key skill elements shared by the best runners in triathlon, but also 'how' working on your ground game will not only help improve your run form, it will also improve your efficiency and reduce your risk of injury. Paying attention to the process of running, your technique, what you need to focus on and how you can improve it is a very valuable tool athletes should use every time they strap on their shoes.

“KEEP THE ARMS NICE AND RELAXED. IT IS IMPORTANT NOT TO CROSS OVER YOUR ARMS IN FRONT OF YOUR BODY”

1 ARM SWING
Keep the arms nice and relaxed and close to your body. It is important not to cross over your arms in front of your body. This helps to keep your chest open so your breathing is easier and reduces over rotating. Make sure you also keep your hands and shoulders relaxed.

2 STRAIGHT AND TALL TORSO
Think about this like someone is pulling upward on a string that is connected to your head. This will prevent you from slouching, and improve your biomechanics throughout. It is especially important as you get tired, as this is when people tend to slouch, which increases your energy expenditure.



ARM POSITION
Keep arms relaxed, not crossing over excessively

STRONG PELVIS
Vital to run technique and form

STRAIGHT AND TALL THROUGH TORSO
Imagine a string being pulled up from your head

KNEE STABILITY
Knee should be straight over second toe during landing

FEET NOT CROSSING MIDLINE

CRAB WALK

This is an excellent exercise for both running and riding, working on both stability and strength around the pelvis and lower back.



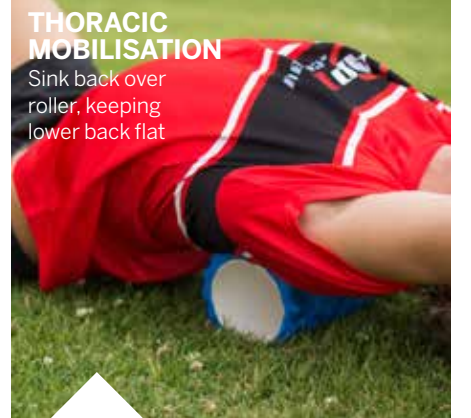
KNEE
Keeping knee pushing out against band to keep in line with big toe

KEEPING IN A QUARTER SQUAT POSITION, TAKE SLOW SMALL STEPS TO THE SIDE, 5 TIMES UNTIL FATIGUED

3 KNEE STABILITY
This is one of the most common causes of injury for runners. If you are not strong through the gluteals the knee can track inwards slightly when your foot lands. This can cause hip pain, knee pain, shin splints, plantar fasciitis and many other common running injuries. To prevent this work hard on the clam and quarter squat exercises.

4 STRONG PELVIS
The less movement through your pelvis when your foot lands, the better. When your pelvis is 'sloppy' on foot landing there is an increase in energy lost, which quickly adds up to lost speed over a triathlon.

5 NO CROSSING OVER MIDLINE
Ideally your feet should land in line with the hip joint and not cross over the midline of the body. Crossing the 'midline' is typically a sign that the athlete is not strong enough through their gluteals and stomach to support the pelvis on initial foot contact. This cross-over is a compensation that some adopt, which again can increase the risk of injury and reduce efficiency. To prevent this, again work hard on gluteal strength and activation, along with visualising keeping the feet slightly wider on initial contact.



THORACIC MOBILISATION
Sink back over roller, keeping lower back flat



ELBOW BEND
Keep the elbow angle less than 90 degrees at the back of the arm swing

6 THORACIC SPINE
Your thoracic spine is the region between the bottom of your rib cage and your neck. Keeping this part of your back upright and strong allows for relaxed rotation and arm swing. People are often stiff through this area, especially those who work behind a desk or do a lot of driving. Thoracic mobilisation using a roller is great to keep mobility. Keep your lower back flat and rest back over the roller for one minute, in three different positions. This also helps your swimming to achieve a better stroke length and high elbow position.

7 ARM SWING
The arm swing in endurance running does not provide 'drive' like sprinting, but provides balance and rhythm. Slightly increasing the elbow bend at the back of the swing helps the elbow to act like a pendulum and makes running more efficient.



HEAD POSITION

Look forward and down slightly, about 15 metres in front

THORACIC SPINE

Keep very tall and strong, no slouching at all

STRONG STOMACH

Keeping slight tension, not allowing your stomach to 'open'

HIP EXTENSION

The angle of your hip just before your foot lifts off the ground is vital to running well

FOOT CONTACT

Allow your foot to come into contact with ground, rather than resisting it, keeping your foot relaxed



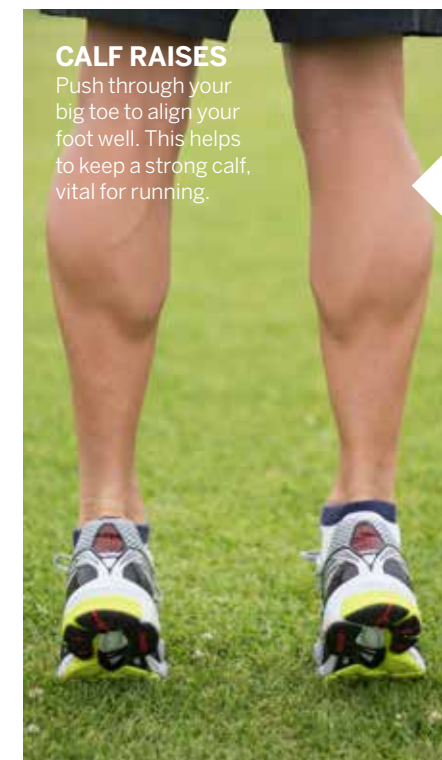
Aim for 90-110 degrees of elbow bend at the back of the arm swing. Visualise a string attached to the back of your elbow and it being pulled back. Alternatively, imagine squeezing a golf ball in the small of your elbow at the back of the swing.

8 HEAD POSITION

Head position is very important in controlling your body position. Look too far forward and you will lean back and slow yourself down, too close and you will be slouching and applying a braking force to your stride! It is ideal to look about 10-15 metres in front.

9 STRONG STOMACH

Having a strong stomach assists in improving pelvic control and 'drive' for the



CALF RAISES

Push through your big toe to align your foot well. This helps to keep a strong calf, vital for running.

run gait. Keeping a stable pelvis also means the gluteal muscles can be used more efficiently, while allowing you to 'wind up' your connective tissue. The connective tissue then acts like a spring to recoil and drive your leg through to the front using less energy. A functional way to develop this strength is the supine cycling exercise. Lie on your back, focus on keeping your back flat (i.e., preventing that forward rotation of the pelvis) then slowly extend your legs out one at a time. Do this to fatigue 3-5 times.

10 HIP EXTENSION

The greater the degree of hip extension you can achieve while controlling your core, the faster you will run! To improve hip extension, regularly do hip flexor stretches. Dynamic stretches are best just prior to training – short holds (three-second holds), with static stretches (30-second holds) best for post training.

11 FOOT CONTACT AND CADENCE

The location of initial foot contact with the ground is paramount to good run technique. The foot contacting the ground in front of the hips leads to an increase in braking forces on landing, therefore slowing you down and increasing injury risk. Therefore it is not about *how* your foot lands (heel vs. midfoot strike) that is most important, but *where* it lands. In order to prevent overstriding, work on increasing your cadence or steps per minute, by taking nice quick steps. Additionally, keeping the foot nice and relaxed and allowing your full foot to come into contact with the ground allows you to use the best shock absorber there is – the arch of your foot.

12 FOOT CLEARANCE

Keeping your foot from lifting too high off of the ground increases efficiency by reducing energy expenditure. The smaller the 'arcs' to get the foot back to the front, the more efficient you are. **220**

KEY TIPS TO APPLY DAILY

Alex Price believes time and pace are not the only things athletes should keep track of during run training. He feels not enough time is spent on paying attention to run form. Alex shares eight essential tips on how to improve your run game and help make your next triathlon your best yet.

THINK LIKE THE ROAD RUNNER

Focus on what is happening behind you, rather than gripping the ground and pulling it back. This will improve hip extension and push-off drive.

CADENCE, CADENCE, CADENCE

A great way to monitor this is to use foot pod linked to your GPS – this gives you real time feedback, which is especially useful when you are fatigued, as this is when cadence can easily drop off.

WALK

Incorporate short walk breaks regularly in your runs, especially when you are fatigued and always in long runs. This gives your nervous system time to take a break and will refresh your technique afterward. This not only reduces injury risk, but also helps in learning better technique, without any reduced aerobic benefits. Walk about 30 seconds every 10 minutes and stretch if you are feeling tight.

ACTIVATE

Do some core and gluteal exercises before you head out the door. This will wake the correct muscles up and get them ready to work.

SURFACE

Always look for soft surfaces, even if they are a bit uneven. The soft surface reduces impact forces and the uneven ground means you will be more careful about foot placement, resulting in better technique and awareness.

MAKE TECHNIQUE AND BETTER MOVEMENT A PRIORITY

It will not only help to reduce injuries, but also improve your efficiency.

ANALYSIS

Have an experienced coach or physio to look at and analyse your run technique. This way you can identify what you are doing wrong and how to develop it.

DEVELOPMENT

If you are looking to improve or reduce injuries, sit back and develop a plan of what and how you are going to change. Otherwise you will be likely to get the same results or injuries in the next season.