



INJURY PREVENTION IS BETTER THAN CURE!

The key to performance is consistency. The key to consistency is remaining injury free. Athletes must not cut corners if they want to get the best out of themselves no matter what their discipline. There is so much today to help maximise performance that many simple things can be overlooked. There is a strong relationship between improving your running technique and reducing the risk of injury. Runners often suffer from injuries due to poor technique and the repetitive nature of the sport.

Through the work we have done with 'On Camp with Kelly' and many other elite level athletes, we have put together a series of tests - a Functional Movement Screen - that look at muscle balance (strength and flexibility) and movement pattern issues that athletes may have. We have made this easy to self test, and from this we have put together a series of Athlete Minimal Exercises for stretching and strengthening that all runners should be aiming to be able to achieve, in order to prevent injury.

Functional Movement Screen

Identifying physical imbalances and weaknesses is an essential part of any athlete's injury prevention and minimisation strategy. This is achieved by including regular screening assessments as an integral part of an athlete's training programme.

The Functional Movement Screen has been developed after working with elite athletes for many years and addresses the common issues seen in these athletes. It looks at muscle strength and flexibility and rotational pattern, taking into account the effect they have on running technique. It is also useful to monitor these tests in the developing athlete.

Benefits of carrying out regular Functional Movement Screens:

- Help identify if athlete is at risk of injury, especially in growing athletes or those that are training hard
- Identify physical imbalances and weaknesses that need to be addressed
- Establish a starting point and assist with setting realistic goals and training programmes
- Enable progress to be measured and monitored
- Assist coach by reinforcing the importance of an athlete correcting deficiencies as part of overall training programme

Athlete Minimal Exercises

Athlete Minimal Exercises are specifically designed to help correct imbalances and weaknesses and therefore help prevent an injury from occurring or re-occurring.

Soleus Raises (deep calf)

- Stand facing the wall, on one leg with knee bent
- Keep knee over second toe at all times
- Without moving hips, lift heel off floor and go onto toes, then lower

- Do not let knee fall in
- Build up to 3 x 25
- Go through full range, aiming for smooth movement
- Do daily after running

Gastrocnemius Raises (straight knee)

- Stand on edge of step on one leg with knee straight
- Fingers on wall for balance
- Go up and down with heel, keeping knee straight
- Go through full range with a smooth movement
- Build up to 3 x 25
- Do daily after running
- Once this becomes easy you can make it more plyometric on alternate days by going for upward speed

Abductor Strengthening (glute med)

- Lie on side, bottom knee bent up, top leg straight, knee just behind hip (you shouldn't be able to see it)
- Lift waist so small gap between floor and your waist, spine straight
- Lengthen through top hip by pushing top heel away from head
- Raise and lower top leg to hip height from the hip joint ONLY, keeping waist long (don't hitch hip)
- Don't push bottom leg into floor
- Do for 30 seconds in each of two positions - 1. with the toes pointing forward, 2. with the toes pointing towards the floor - building up to 2 sets of 30 seconds in each position



Single Leg Dip (glutes/external rotators)

- Stand side on to the wall, with feet directly under hips, elbow on the wall
- Take foot nearest to wall off floor, and turn this knee to touch wall. Maintain posture (hips do not touch the wall)
- Dip down, keeping outside knee over second toe at all times and allowing the inside hip to slide down the wall
- Return to start position, feeling glutes contract as you extend the leg
- Aim for 3 x 20-25



Glute Strengthening (glute max)

- Lie face down, pillow under hips if necessary
- Bend one knee to 90°
- Tighten abdominals to flatten back
- Squeeze glute on side of bent knee
- Lift thigh just off floor, without moving back
- Hold 10 x up to 10 seconds on each leg

Dynamic Balance (ref Joanne Elphinston)

Good functional balance is important in all sports. A good test for assessing functional balance is to stand on one leg and turn the head from side to side, saying the days of the week out loud, making sure you aren't screwing up your toes. By turning the head, speaking and breathing, you are training your balance reactions without using non-functional bracing strategies.

Stretches

Ability to Counter Rotate Trunk (ref Joanne Elphinston)

The ability to counter rotate your upper and lower back (i.e. upper back rotate left, lower back rotate right) is a vital component of normal movement that is often lost in endurance athletes and has many adverse effects on performance, technique, breathing and muscle function. The upper back is frequently stiff in endurance athletes and this will help prevent that.

- Sit with feet on the floor, relaxed posture, hands on lap
- Keep head still and rotate through lower rib cage
- Your shoulders will move as your ribs move, they shouldn't be pulling you into rotation
- Do x 20 little and often and for warm up



Quadriceps (front of thigh)

- Lie on side, bottom knee bent up level with hips
- Tighten abdominals and flatten back
- Hold top ankle so that heel is touching buttock
- Pull top leg back behind you until good stretch is felt in front of thigh
- Keep knee lower than hip and back flat
- Hold 3 x 30 seconds

Hip Flexors

- Start in a lunge position, with the front knee at 90° and the rear knee on the floor
- Hips square, abdominals drawn in
- Take weight forward onto the front leg, maintaining the alignment of the pelvis
- Put the hand on the side of the rear leg out in a stop sign (elbow at 90°, at shoulder height)
- Side flex towards the opposite side (i.e. towards the front leg side)
- Rotate back to the side of the rear leg - you should feel the stretch in the front of the hip
- Hold 3 x 30 seconds

Hamstrings

- Sit on a chair
- Perfect posture, with good lumbar arch (lordosis)
- Slowly straighten one leg, maintaining perfect posture
- Full stretch is the point just before the back starts to lose its lordosis
- Hold 5 x 30 seconds

Gastrocnemius

- Stand facing the wall, hands on the wall, feet shoulder width apart
- Feet pigeon toed, arches up, knees straight
- Lean into the wall, keeping knees straight and arches up
- Hold 3 x 30 seconds

Soleus

- Stand facing the wall, one foot in front of the other, toes pointing forward
- Dip down as if you are going to perch on a stool, bending both knees
- You are stretching the rear calf. If you drop a plumb line down from the front of the knee of the back leg to the floor, the optimum would be four fingers width in front of knee
- Hold 3 x 30 seconds

Raised Pec Stretch

- Stand facing the wall, arm out to the side, with the elbow at 90° and at shoulder height
- Turn chest and rib cage away from the wall/arm, keeping the front of shoulder close to the wall, feel the stretch in the front of shoulder
- Repeat 1. with the elbow at shoulder height, 2. with the elbow just above shoulder height
- Hold both stretches for 2 x 30 seconds

Lats Stretch

- Stand with back against the wall, back flat
- With hands by sides and elbows straight, turn palms so they face forwards
- Raise arms forward and up, keeping elbows straight and palms forward, as high as you are able while keeping the back flat
- Full stretch is to get the elbows by the ears, without the back coming away from the wall
- Hold for 60 seconds

