

# **Core Stability**

## **What is “core stability”?**

“Core stability” describes the ability to control the position and movement of the central portion of the body. Core stability training targets the muscles deep within the abdomen which connect to the spine, pelvis and shoulders, which assist in the maintenance of good posture and provide the foundation for all arm and leg movements.

## **What are the benefits of core stability training?**

Quite simply, good core stability can help maximise running performance and prevent injury. Power is derived from the trunk region of the body and a properly conditioned core helps to control that power, allowing for smoother, more efficient and better co-ordinated movement in the limbs. Moreover, well-conditioned core muscles help to reduce the risk of injury resulting from bad posture. The ability to maintain good posture while running helps to protect the spine and skeletal structure from extreme ranges of movement and from the excessive or abnormal forces acting on the body.

## **CORE STABILITY EXERCISES**

- 1. Crunches**
- 2. Oblique Crunches**
- 3. The Plank**
- 4. Oblique Plank**
- 5. Static Leg and Back**
- 6. Dynamic Leg and Back**
- 7. Hamstring Raises**
- 8. “Superman”**
- 9. Held Straight Legs**
- 10. Controlled Lowering and Raising of Legs**
- 11. Hundreds**
- 12. Leg Extensions**

These constitute only a small selection of the exercises that exist to improve core stability. None of those selected here require any special equipment, so you will easily be able to do them all at home or in your room.

## **Crunches**

- a) Lie on your back with your knees bent and your feet flat on the floor.
- b) “Crunch” or curl your stomach to lift your shoulders just off the floor.

Try not to use your hip flexor muscles to carry out this movement, or use your arms to pull up your head.

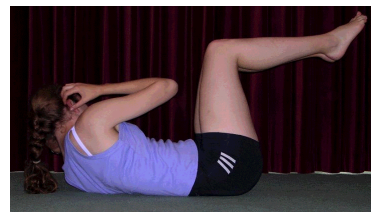
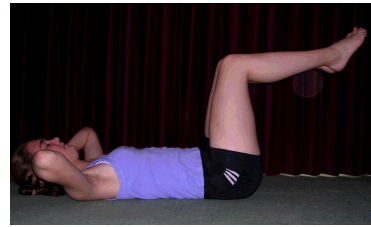


Aim to complete 3 x 30 crunches, with 30 seconds of recovery between sets.

## **Oblique Crunches**

- a) Lie on your back. Raise your legs and bend them so that you form a right angle at your hips and your knees. Place your hands gently on the side of your head.
- b) Lift your shoulders off the floor and twist, reaching your right elbow towards your left leg.
- c) Return to the floor then repeat, twisting in the opposite direction.

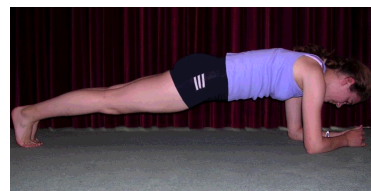
Take care not to rock. Your hips and legs should stay as still as possible, allowing your trunk to do all of the work.



Aim to complete 3 x 30 crunches (15 on each side per set) with 30 seconds of recovery between sets.

## **The Plank**

- a) Assume a front-support position resting on your fore-arms with your shoulders directly over your elbows.
- b) Straighten your legs out behind you and lift up your hips to form a dead-straight line from your shoulders to your ankles. You should be balanced on your fore-arms and toes, with your lower abdomen and back working to keep your body straight. Hold for 1 minute.



Aim to be able to hold this position for 3 x 1 minute.

### **Oblique Plank**

- a) On your side, balance on your right fore-arm with your shoulder above your elbow.
- b) With your legs out straight to the left, lift your pelvis so that you are balanced on your fore-arm and feet. Your body should form a straight line and you should feel the oblique muscles down the side of your trunk working to maintain the position.
- c) Hold for 1 minute then repeat on other side.



You may find it easier to balance if you hold your free arm out. This will also make the exercise a bit easier by altering the distribution of your weight.

### **Static Leg and Back**

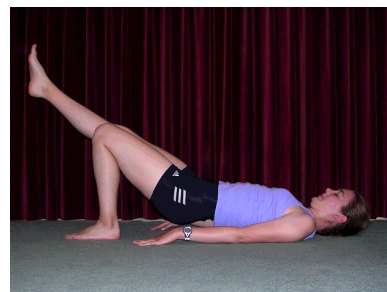
- a) Lie on your back with your knees bent and your feet flat on the floor.
- b) Lift your pelvis so that you form a bridge position with a straight line running from your shoulders to your knees.
- c) Lift your right leg off the floor and extend it so that it continues the straight line. You should be able to feel your left buttock, your back, and lower abdomen working to keep the position.
- d) Hold for 30 seconds then repeat on the other leg.



Make sure that your pelvis does NOT tilt at all while your leg is raised. Your hips should be level at all times.

### **Dynamic Leg and Back**

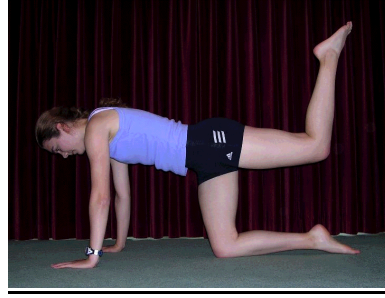
- a) Assume the same position as for the “Static leg and back”.
- b) Lower your pelvis but do not allow it to tilt or touch the floor. This should be a slow, controlled movement.
- c) Return to the original position, restoring the straight line from shoulders to toe.



Aim to complete 10 on each leg. Stop if you feel your hamstring tighten.

### **Hamstring Raises**

- a) Balance on the floor on your hands and knees. Your back should be flat and your hips parallel to the floor.
- b) Raise one leg behind you until you cannot lift it any higher without rotating your hips or arching your back. The movement should be slow and controlled.
- c) Return the leg to the floor and repeat.



Complete 15 repetitions one one leg, and the repeat on the other leg.

### **“Superman”**

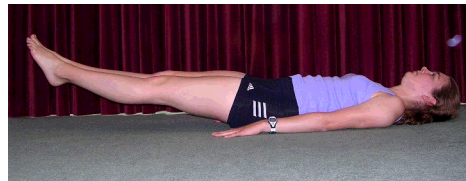
- a) Balance on the floor on your hands and knees. Your back should be flat and hips parallel to the floor.
- b) Raise your right arm out in front of you and raise your left leg out behind you, keeping it straight.
- c) Hold for 30 seconds and then repeat on the other side.



Concentrate on keeping completely still with your hips square and your back flat. (superman)

### **Static Straight Legs**

- a) Lie on your back with your legs together and your arms by your sides.
- b) Keeping your legs straight, lift your heels approximately 4 inches off the floor.
- c) Hold for 1 minute



Do not allow your back to arch. The small of your back should be flat on the floor.

### **Lowering and Raising Legs**

- a) Lie with your back flat on the floor and your legs raised above your hips.
- b) Lower your legs for 30 seconds until the heels are about 4 inches from the floor. Without allowing your heels to touch down, raise them for another 30 seconds.



Keep your legs straight and do not allow your back to arch. Try not to move too quickly.

## **Hundreds**

- a) Lie on your back with your arms by your sides. Raise your legs and bend them so that you form a right angle at your hips and knees.
- b) Keeping your arms straight and lifting your hands no more than a few inches, gently tap the floor 100 times.



Focus on keeping your hips and legs completely still and your back flat.

## **Leg Extensions**

- a) Lie on your back. Raise your legs and bend them so that you form a right angle at your hips and knees.
- b) Keeping your hips completely still, lower and straighten out one leg so that your heel is about 4 inches from the floor. The movement should be slow and controlled.
- c) Return to the original position and repeat on the other leg.



### **Things to remember when doing core stability exercises:**

- 1. Do not let your whole stomach tense up. If your upper abdominal muscles “bulge” outwards it means you have cheated by using the large rectus abdominus (six pack) instead of the transversus abdominus (lower abdominals).
- 2. Do not brace your lower abdominals too hard; a gentle contraction will suffice. You are trying to improve endurance rather than maximum strength. Only clench them about 50%.
- 3. Do not hold your breath as this is a signal that you are not relaxed. You must learn to breathe normally since you will need to breathe when you are running!
- 4. It is a good idea to do core stability as part of your cool down after running, or on a cross-training day.