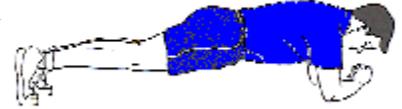


Core Stability Exercises

Static Floor Exercises

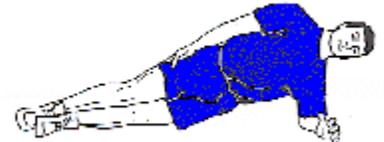
The plank

Hold a straight body position, supported on elbows and toes. Brace the abdominals and set the low back in the neutral position. Hold this position for an increasing length of time up to a maximum of one minute. Perform two to three sets.



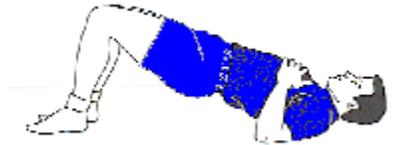
Side Plank

Lie on one side, ensuring the top hip is above the bottom hip. Push up until there is a straight bodyline through feet, hips and head. Keep the elbow under the shoulder. Lower under control and repeat on opposite side. Hold this position for an increasing length of time up to a maximum of one minute. Perform two to three sets.



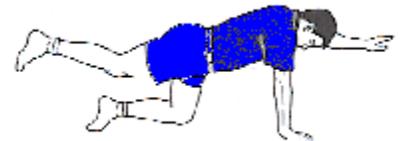
The Gluteal bridge

Lie on the floor with your knees bent. Squeeze your gluteals and then push your hips up until there is a straight line through knee and hip to upper body. Shoulders remain on the floor. Beware of raising too high or of flaring the ribs, which pushes the back into hyperextension. Hold this position for an increasing length of time up to a maximum of one minute. Perform two to three sets.



Bird-dog or Superman

Start with hands below shoulders and knees below hips. Set your low back into neutral and brace your abdominals slightly. Slowly slide back one leg and slide forward the opposite arm. Ensure that the back does not slip into extension, and that the shoulders and pelvis do not tilt sideways. Hold for up to a maximum of 20 seconds. Slowly bring your leg and arm back and swap sides. Perform 5 to 10 sets.



Dynamic Floor Exercises

Straight leg raise

Lie on your back with knees bent. Set your lumbar spine in neutral and brace the abdominals. Lift one leg up straight in the air, ensure your back does not move. Lift the other leg up keeping your back in place. Keeping one leg in the air, slowly lower the other down to the floor. Only go as far as you can until you feel the lumbar spine start to move. Placing your fingers under your back will help you to gauge when this happens. Keep bracing the abdominals and then lift the leg slowly back up. Repeat with the other leg. Perform 2 to 3 sets of 5 to 10 repetitions, alternating legs

Oblique Crunch

Lie on your back with right ankle resting on left knee. Right arm is placed on the floor out to the side. Keeping the right shoulder down, curl the left shoulder up to the right knee. Crunch at the top and return slowly, under control. Avoid 'head nodding' during the movement: keep head off the floor and look forward throughout. Perform 2 to 3 sets of 15 to 30 repetitions on each side in turn.



Side lying hip abduction

Lie on your side and set pelvis so your top hip is stacked above lower hip. Roll shoulders forward a little and brace the abdominals to control pelvic position. Lift the top leg slowly up and down, without hitching at the hip. Perform 2 to 3 sets of 20 to 30 repetitions on each side in turn



Lying windscreen wipers

Lie on your back with arms out to the sides. Lift legs straight up in the air until the hip is at 90 degrees. Set the lumbar spine in neutral and aim to keep it set throughout. Keeping legs straight and maintaining hip angle, move the legs to one side, controlling any movement in the trunk. Go as far as you can in control, keeping your upper back and shoulders on the floor. Bring the legs to a halt, pull them back up to the start position and then over to the other side, under control. The slow side-to-side movement is like a 'windscreen wiper' arc. Perform 2 to 3 sets of 5 to 10 repetitions

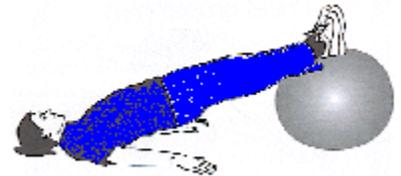
Static Swiss Ball Exercises

Sit and leg lift

Sit on a Swiss ball with hips on the top of the ball and feet hip-width apart. Ensure the size of ball is correct, so that knees are level with hips and at 90 degrees in sitting. Relax and find a neutral lumbar spine position. Set this position by lightly bracing your abdominal muscles. Think about good upper back and shoulder posture as you sit (stomach in, chest lifted, shoulders low and relaxed). It is important to hold an upright sitting position - not leaning forward or back. Once you are set, carefully lift one foot a few centimetres off the floor. Maintain your balance, lumbar and pelvic alignments as you hold the position on one leg. Hold for a count of 5 to 10. Perform 5 repetitions each side

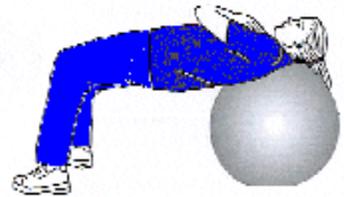
Supine Bridge

Lie on your back with heels on the top of the Swiss ball, hip-width apart to aid stability. Suck in the abdominals and squeeze up from your gluteals, lifting your hips until there is a straight line from heels to upper back. Shoulders and head stay firmly on the floor. Take care not to lift the hips too high or flare the ribs so that your back hyperextends. Hold for 30 seconds and lower. Perform 2 to 3 sets.



Gluteal Bridge

Lie on your back with your shoulders and head on the top of a Swiss ball; feet on the ground, hip-width apart for stability. Squeezing up from the gluteals, lift hips until there is a straight line running through the knees, hips and shoulders. Do not lift the hips too high or flare the ribs so that your back hyperextends. Hold for 30 seconds and lower. Perform 2 to 3 sets



Plank

Kneel in front of the Swiss ball and place elbows on the top of the ball in the centre. Slowly roll the ball away from your body until there is a straight line through knees, hips and head and your weight is being supported through your elbows down on to the ball. Once in this position it may be necessary to tilt the pelvis so that it is held in neutral with correct lumbar spine alignment. Also be careful not to

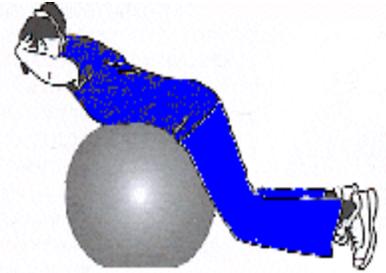


round off the shoulders: aim for a 'long spine'. Hold at the far point for 30 to 60 seconds. Perform 2 to 3 sets.

Dynamic Swiss Ball Exercises

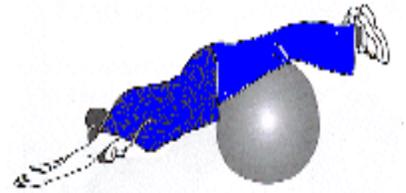
Back

Kneel over a Swiss ball with thighs and stomach in contact with the ball and head and shoulders dipping over the front of the ball. With your back straight and parallel to the floor, position the lumbar spine in neutral and then set your hips so they do not move. Allow the chest to drop and fall over the ball, flexing the upper back. Place your hands at the sides of the head, elbows bent. From this position, lift your chest up, extending your upper back until it is higher than at the starting position. Maintain abdominal contraction throughout to fix the hips and limit hyperextension of the lumbar spine. Perform 2 to 3 sets of 10 to 20 repetitions.



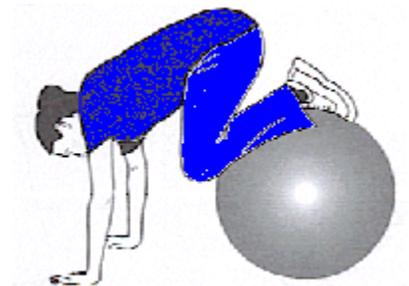
Overhead Pulls

Start in the press-up position with your shins on the ball and hands shoulder width apart under shoulders. Place knees apart slightly for stability. Set lumbar spine in neutral and ensure that the shoulders are stable with shoulder blades down and chest out. Roll backwards until your hands are above your head, maintaining straight body position and neutral low back. Brace your abdominals and pull yourself forwards to return to the start position. Perform 2 to 3 sets of 5 to 10 repetitions.



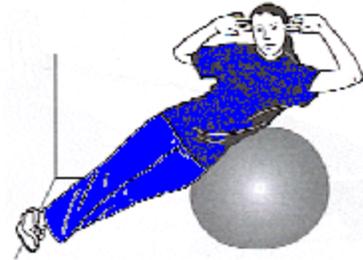
Squat Thrust

Start in the press-up position with shins on the ball, hands shoulder-width apart under the shoulders. Place knees slightly apart for stability. Set lumbar spine in neutral and ensure shoulders are stable with shoulder blades down and chest out. Pull knees to your chest and crunch the abdominals to get an extra flex of the hips and back. Slowly extend knees back, using your abdominals to prevent the hips dropping down. Perform 2 to 3 sets of 10 to 20 repetitions.



Side Crunch

Position yourself sideways on the ball, balanced on lower hip with top hip stacked vertically. Brace feet against a wall, one slightly in front of the other for stability. Ensure a straight line through legs, hips and shoulders. Place your hands, elbows bent, by your head. Lift upper body up away from the ball, crunching sideways towards your feet and focusing upon your oblique muscles. Slowly return, under control. Perform 2 to 3 sets of 10 to 20 repetitions.



Chop Rotation

Kneel, facing forwards, by the side of the pulley column. Handle attachment is set at (standing) head height. Fix the hips square to the front and set your lumbar spine in neutral. Twisting through the waist, turn shoulders towards the pulley column and grasp the handle with both hands. Pull down on the handle, rotating your shoulders away from the column and crunching down. Finish with hands by your hips and shoulders facing away. Hips remain square to the front throughout the movement. Perform 2 to 3 sets of 8 to 10 repetitions.



Lift Rotation

Technique Kneel, facing forwards, by the side of the pulley column. Handle attachment is set just below (kneeling) hip height. Fix hips square to the front and set your lumbar spine in neutral. Twisting through the waist, turn shoulders towards the pulley column and grasp the handle with both hands. Pull up on the handle, rotating the shoulders away. Finish with hands above your head and shoulders facing away from the column. Hips remain square to the front throughout. Perform 2 to 3 sets of 8 to 10 repetitions.



Pulley Crunch

Technique Kneel with back to the : pulley column, holding a rope attachment with each hand around your neck. Start with hips fully extended (i.e. kneeling fully upright) and pelvis set in neutral. Shoulders, hips and knees should all be in line and upright. Focusing on the abdominals, crunch down, pulling the weight and flexing your trunk forward. The arms simply hold on - avoid using them to assist in pulling the weight. Ensure the pelvis remains set and stable throughout: all the movement comes from the spine flexion, so there should be no hip flexion, forward lean or anterior pelvic tilt. Perform 2 to 3 sets of 5 to 10 repetitions.

Rear Sling

Stand on one leg to the side of the pulley column. Handle is attached at below-hip height. Grasp the handle with the hand on the opposite side (opposite to standing as leg). Set perfect posture and pelvic alignment. Brace the core and then pull the weight up and around the body, keeping the elbow straight, so that the arm rotates up and out. Finish with hand above your head and out to the side slightly.

The aim is to maintain perfect balance and pelvic alignment as you raise and lower the arm diagonally. Reposition to repeat exercise for opposite leg/arm.

Perform 2 to 3 sets of 10 to 20 repetitions.



Front Sling

Stand on one leg to the side of the pulley column. Handle is attached at above-shoulder height.

Grasp the handle with the arm nearest the column (opposite side to standing leg). Set perfect posture and pelvic alignment.

Brace your core; pull the weight down and around the body, keeping the elbow straight so that the arm rotates down and round.

Finish with hand next to your hip across your body.

The aim is to maintain perfect balance and pelvic alignment as you lower and raise the arm.

Reposition to repeat with opposite leg/arm. Perform 2 to 3 sets of 10 to 20 repetitions.



One-leg one-arm rowing

Stand on one leg, facing the pulley column. Handle is attached at waist height. Grasp the handle with the opposite arm (same side as lifted leg). Your hand will be out directly in front of you in the start position.

Set perfect posture and pelvic alignment, standing tall with shoulders back. Brace your core; pull on the cable, leading with the elbow in a rowing movement. Finish with hand by your side and elbow behind you. The aim is to maintain perfect balance and pelvic alignment as you perform the rowing movement.

Reposition to repeat with opposite leg/arm. Perform 2 to 3 sets of 10 repetitions.

Sit-up and throw

The athlete either needs a partner to receive and pass the ball, or should perform the exercise in front of a wall and use a medicine ball that will bounce back.

Start in the sit-up position (knees bent) with hands up ready to receive the ball. Catch the ball and begin to lower back down. Do not collapse back down, control it with the abdominals and keep hands above the head as you lower down.

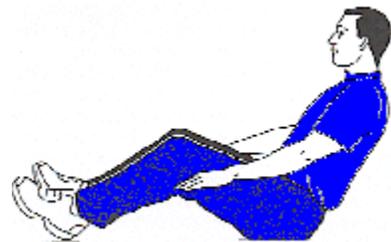
Once shoulders are touching the floor (keeping head up and eyes forward), reverse the movement. Throw the ball forward and crunch up at the same time. Follow the throwing action and complete the sit-up as fast as possible. Make sure you crunch as you throw so that the abdominals contribute to the force of the throw and help you sit up faster. Men should start with a 5kg ball; women with a 3kg ball . Perform 2 to 3 sets of 10 to 20 repetitions.

45-degree sit, catch and pass

Sit up with knees bent and lean back at 45 degrees, as shown in the picture right. Aim to hold a 'lengthened' spine, with lumbar spine in neutral, shoulders' back and neck long and relaxed.

It takes a fair amount of control and strength endurance simply to hold this posture perfectly. Aim to get this right before progressing on to the catch and pass.

Raise hands in front of your face and receive a pass from a partner, around this height. As you catch the ball you must hold the long spine position. Do not flex the low back or become round shouldered. Gently throw the ball back
Men should start with a 3kg ball; women with a 2kg ball. Complete a few passes, holding the position for 30 seconds. Perform 2 to 3 sets



Sit and twist pass

Sit up as shown in the picture above right. Your feet, knees and hips should remain reasonably still throughout this exercise, the rotation coming from your waist and not your hips.

Hold hands to one side ready to receive the ball. Catch the ball to one side and absorb the catch by turning your shoulders further to that side. Reverse the rotation turning back to the middle and release the ball. Continue rotating to the other side; receive the ball the other side and continue.

Ensure you can hold good posture throughout the movement, with a long spine and wide shoulders.

Men should start with a 4-5kg ball; women with a 2-3kg ball. Perform 10 to 20 repetitions.

Kneeling twist pass

Kneel upright with good posture (lumbar spine in neutral, chest out, shoulders low). Start with the ball in hands and twist shoulders and head round as far as you can.

Then, under control, twist around to the other side as far as possible and hand the ball to partner. Turn back to the start position, receive the ball again and continue. The aim of the movement is to rotate through the biggest shoulder turn you have.

You can allow the hips to rotate a little with the shoulders, but not too much. You should feel a stretch in the side at the end of each twist.

As you gain greater flexibility and stability you will be able to fix your pelvis square to the front and rotate through an increasingly full range of motion. Men should start with a 5-6kg ball; women with a 3-4kg ball. Perform 10 reps then take the ball to the opposite side and repeat



One leg twist pass

Stand on one leg with hips facing square to the front. Hold medicine ball in one hand slightly out in front.

Slowly twist from side to side. The rotation comes from the waist only, head turning with the shoulders.

Keep pelvis fixed square and knee in line with second toe throughout.

Men should start with a 5-6kg ball; women with a 3-4kg ball. Perform 2 to 3 sets of 10 slow repetitions. Repeat on other leg



One-leg deadlifts with rotation

Stand on one leg. Flex the free leg a little at the knee to lift it off the floor, but do not flex or extend the hip of the free leg throughout the movement, in order to keep pelvis in control. Hold the ball in front of you. Bend down, flexing at the knee and the hip.

Lower down until the ball touches the floor by your foot, all the time keeping your arms straight and without reaching excessively with your upper back (i.e. maintain a reasonably flat back).

Stand back up, pushing down through the foot to use your gluteals correctly to extend the hips. Alternate between touching the ball down on the inside and then the outside of the standing foot. This means you are internally or externally rotating the hip on alternate repetitions, challenging control of hip rotation. Keep the knee in line with second toe as much as possible throughout. Men should use a 5kg ball; women use a 3kg ball. Perform 2 to 3 sets of 5 slow controlled repetitions, build up to 10 repetitions. Repeat on the opposite leg

One-leg catch and pass

Stand on one leg with good posture (lumbar spine neutral, chest out, shoulders wide) and with hips square to the front. Hold hands up ready to catch. Receive catches anywhere within arms' reach. Make sure the passes are varied in their placement. Aim to move arms and/or turn your shoulders only, keeping the pelvis and lower limb stable. Use a 2-3kg ball that is not too big, so it is easy to catch.

Start with 30-second bouts of catch and pass on each leg. Perform 2 to 3 sets