

McCAW ON CORE

Dramatically improve your performance by strengthening your core.

In this article performance specialist **Allistair McCaw** of **Athletes' Conditioning** explains the importance and advantages of having core strength.

No matter what your level, ability or age, he outlines how you can dramatically improve your performance on court and the way you feel in your daily life by simply exercising on a swiss ball to improve your core.



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For the last few years, the fitness buzz has been about core training. Simply understood, core training is the strengthening of the muscle groups that stabilize your skeletal structure. Every movement you do originates from the core, the area of your body consisting of the abdominals and lower-back muscles.

We all know of someone (possibly even yourself) who has experienced lower back pain or injury caused from playing a sport or taking part in an activity that involves some sort of movement.

According to a recent study lower back injuries make up more than 37% of all injuries that occur in sports like squash, tennis and golf. The main thing these sports have in common is that they require the athlete to have a strong core due to the multiple planes of motion used in swinging a racket or club.

"The core is the body's centre of power"

When mentioning the word core, most people think about having an abdominal six pack. However, for the squash player, the main goal should be injury prevention, stability, mobility (rotation) and better movement.

To optimise your performance in squash you need not only a strong core, but also strong hips and shoulders. Movement does not come just from your arms and legs, it also comes from what they're attached to. Studies on tennis players show that a strong core will give you at least a 40% better chance of not having shoulder problems.

MOBILITY AND STABILITY

Mobility and stability form the fundamentals of every sport that involves movement. Proper squash training uses power, stability, mobility, balance and agility in three planes of movement. This multi-directional training uses numerous joints and groups of muscles. The swiss ball is a simple training tool that is ideal for squash players as it challenges the body in these different dimensions and strengthens the core muscles.

CORE TRAINING

When designing programs for my athletes, I like to include core training at least three times a week in their schedule. At Athletes' Conditioning we call it 'Prehab'— taking care of possible breakdown areas or injuries before they happen. In combination with the swiss ball, core exercises are also performed with medicine balls, dumbbells, the 'Bosu ball' and mat work.

ROTATIONAL POWER

An area of high importance for the squash player is core rotational power. Core rotational power is the ability to rotate (turn) or transfer weight explosively in a transversal pattern with the help of the hips and torso.

When I started working with Dutch champion LJ Anjema, I included more core rotational exercises into his training program and he felt the difference instantly. LJ experienced more power in his strokes, improved his multi-directional movement and felt less strain on the shoulder/rotator area.

Also with LJ being a tall (1m89) and well built athlete, his stronger core muscles enable him to expend less energy by moving more efficiently.

STABILITY AND BALANCE

Other advantages of having a stronger core are that it helps correct postural imbalances, prevents injuries and develops efficient functional movement patterns. A well trained core holds the body stable and balanced, whether it is stationary or in dynamic motion.

"Work your body from the inside out"

THE SWISS BALL

The thing I love about having my athletes work on the swiss ball is that it involves their full focus and concentration. I have seen some very impressive muscular athletes look like drunk sailors trying to balance on the ball doing a simple exercise. Keeping one's balance and

stability on the ball requires recruiting multiple muscles and full concentration. It's a very thoughtful, awareness centered activity and helps develop a mind-body connection.

Exercises can be made more challenging by adding things like balance discs to really test an individual's core stability.

As explained all movement originates from the centre and with this in mind I like to remind my athletes that they need to work their bodies from the inside out!

"The outer appearance of a person's body does not necessarily reflect the inner strength of their core."

Not only do squash players benefit from increased functional strength of all of the muscles of the core, but core strengthening is for anyone who simply wants to improve their lifestyle by having a healthier and stronger body. I have a client who is 67 years of age who had back problems until he discovered the benefits of working out on a swiss ball and now swears by it!

I can promise you that just doing 15 minutes of core exercises on a swiss ball three times a week will dramatically improve the way you feel and enhance your daily sporting and recreational activities.

The best news is that a swiss ball is versatile, practical and affordable. You can do your exercises in front of the tv, at the office or at the gym. Prices range from £10 to £30 for the more durable balls. For more information contact me at Athletes' Conditioning.

Benefits of a stronger core

- Improved posture
- Improved muscle strength and endurance
- Improved direction change
- Improved joint and muscle position sense
- Improved movement efficiency
- Improved dynamic balance

Swiss ball precautions

- Clean ball of sweat to avoid slipping off
- Avoid sharp objects and a rough under surface (floor)
- Start gradually and get a feel for the ball before progressing
- Individuals new to exercise should have a physical check-up

Before you start

Choosing the proper ball size is important. When you sit on the ball, knees should be bent to 90 degrees with your feet flat on the floor.

Sizing

Ball size: Individual Height:
 55cm 155cm – 172cm
 65cm 172cm – 183cm
 75cm 183cm – 200cm

SWISS BALL EXERCISES

1. ROLL-OUT

Start position: Kneel behind the swiss ball with your arms extended and palms flat on ball.

Procedure: Roll the ball forward, maintaining a flat back and drop your chest towards the floor. As you are rolling out change the hands from palms down to palms facing each other at finish.

Target areas you should feel: Upper back, lower back and a stretch in the abdominals.

Beginner: 1 x 10

Intermediate: 2 x 15

Advanced: 2 x 15-20



2. EXTENDED ARMS CRUNCH

Start position: Lie supine (face up) on the ball, arching your entire torso over the ball. Arms are fully extended behind the ears with hands in a cross-over grip hold.

Procedure: Lift the shoulders off the ball and perform a crunch from the top of your torso. Exhale at the top for a count of 4 seconds and then return to start position.

Target areas you should feel: Abdominals and a stretch along the spinal erector (back).

Beginner: 1 x 10

Intermediate: 2 x 15

Advanced: 2 x 15-20



3. SUPINE REVERSE CRUNCH

Start position: Lie with your back on the floor and hook the ball between your hamstrings and heels.

Procedure: Roll the ball up to your chest, rolling your lower back off the floor, bringing your knees into your chest.

Target areas you should feel: Lower abdominals (rectus abdominis).

Beginner: 1 x 10

Intermediate: 2 x 15

Advanced: 2 x 20



4. REVERSE LEG LIFTS

Start position: Lie prone (face down) on the ball with hands and feet on the floor.

Procedure: Keeping the upper body still, fire the glute muscles so that the legs lift away from the floor.

Target areas you should feel:

Lower back and glute muscles.

Beginner: 1 x 10

Intermediate: 2 x 15

Advanced: 2 x 20



5. SWISS BALL Y

Start position: Lie prone on the ball with your feet placed behind you against an immovable object like a wall.

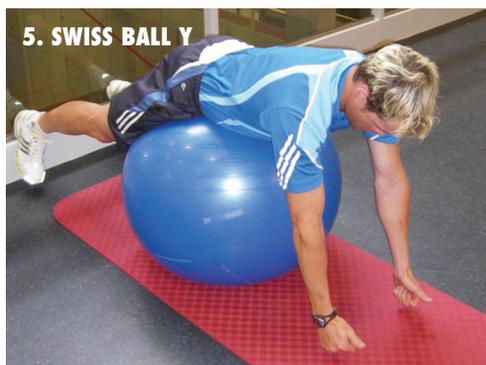
Procedure: Whilst lifting your chest away from the ball, lift your arms above your head to form a Y. Hold this position for 2 seconds before returning to start position.

Target areas you should feel: Front of shoulders and lower back.

Beginner: 1 x 8

Intermediate: 2 x 12

Advanced: 2 x 15



CORE TRAINING PROGRAMME FOR SQUASH

6. SWISS BALL T

Start position: Lie prone on the ball with feet against a wall.

Procedure: Whilst lifting your chest away from the ball, lift your arms above your head to form a T. Hold this position for 2 seconds before returning to start position.

Progression: As above, but with a twist to the left before returning to start position. Repeat to right side.

Target areas you should feel: Upper back between shoulder blades and lower back.

Beginner: 1 x 10
Intermediate: 2 x 15
Advanced: 2 x 20

7. BI-LATERAL ARM-LEG RAISE

Start position: Lie prone on the ball with both arms and feet on floor.

Procedure: Lift your right leg and left arm, extending them both out straight whilst extending your back. Hold this position for 2-4 seconds. Then return to start position (feet and hands on floor) and repeat to other side.

Target areas you should feel: Lower back, glutes and shoulders.

Beginner: 1 x 10
Intermediate: 2 x 15
Advanced: 2 x 15-20

8. SINGLE LEG LIFT

Start position: Lie prone on the ball with hands resting on the floor and elbows at 90 degrees.

Procedure: Keeping body still, raise your leg away from the ball. Hold this position for 5 seconds then return to start position and repeat on other leg.

Progression: After completing a leg raise, place leg back onto the ball and perform a push up.

Target areas you should feel: Lower back and glutes.

Beginner: 1 x 6 per leg
Intermediate: 2 x 8 per leg
Advanced: 2 x 10 per leg

9. LYING BRIDGE

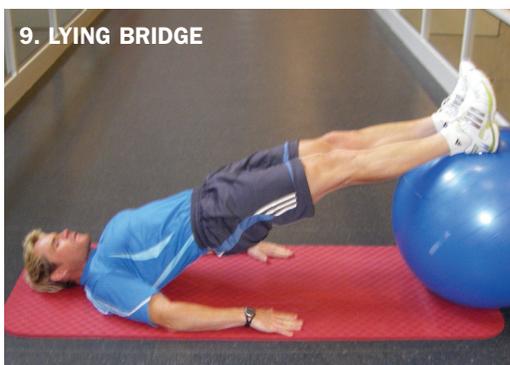
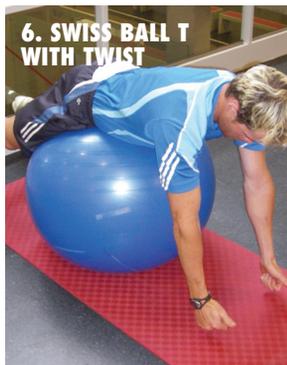
Start position: Lie supine on the floor with your heels resting on the ball.

Procedure: Firing the glutes, raise your hips and lower back off the ground until only your upper back/shoulders remain on ground. Hold this position for 5 seconds. There should be a straight line between your ankles and shoulders.

Progression: The second photo demonstrates the advanced version of the lying bridge by tucking one leg into your chest.

Target areas you should feel: Hamstrings and lower back.

Beginner: 1 x 10
Intermediate: 2 x 10
Advanced: 2 x 15



CORE TRAINING PROGRAMME

| | Beginner | Intermediate | Advanced |
|-----------------------------|---------------|---------------|----------------|
| 1. Roll out | 1 x 10 | 2 x 15 | 2 x 15-20 |
| 2. Extended arms crunch | 1 x 10 | 2 x 15 | 2 x 15-20 |
| 3. Supine reverse crunch | 1 x 10 | 2 x 15 | 2 x 20 |
| 4. Reverse leg lifts | 1 x 10 | 2 x 15 | 2 x 20 |
| 5. Swiss ball Y | 1 x 8 | 2 x 12 | 2 x 15 |
| 6. Swiss ball T | 1 x 10 | 2 x 15 | 2 x 20 |
| 7. Bi-lateral arm-leg raise | 1 x 10 | 2 x 15 | 2 x 15-20 |
| 8. Single leg lift | 1 x 6 per leg | 2 x 8 per leg | 2 x 10 per leg |
| 9. Lying Bridge | 1 x 10 | 2 x 10 | 2 x 15 |