

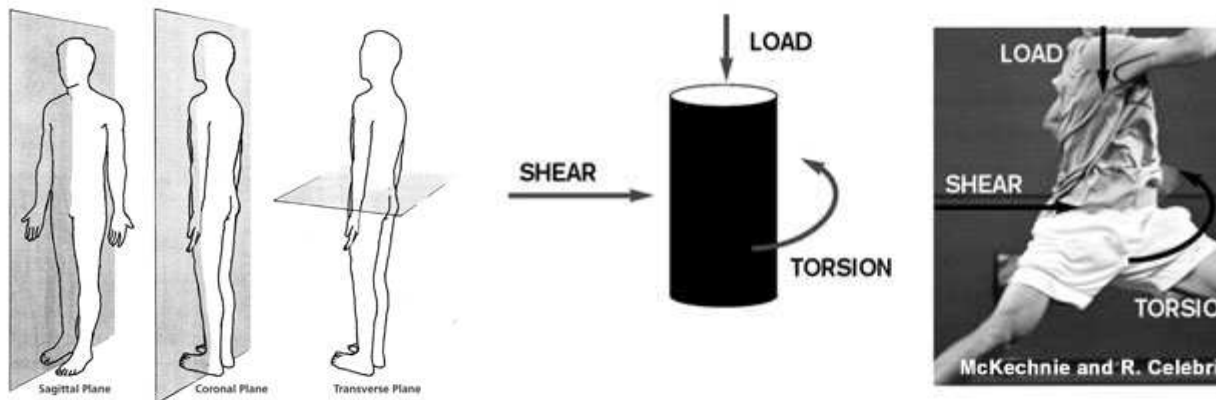
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## Connect the Core (Part 1)

By Carl Petersen & Martha Sirdevan

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Connect your upper and lower core with these exciting, functional, sport specific and fun exercises. Augmenting your normal strength workouts with exercises using a physio ball and stretch bands will help get and keep you Fit to Play in three dimensions. These exercises are versatile, practical, transportable and affordable and strengthen the upper and lower core (trunk) muscles in all directions of motion.



Tennis requires stability, power, co-ordination and agility in all three planes of movement to protect the entire back against load torsion and shear. Connect the upper and lower core with 3'dimensional training using numerous joints and groups of muscles passing through multiple planes of motion. This type of training will improve stability of the hips, trunk and shoulder girdle and give you more dynamic strength to perform.

### What is the Upper & Lower Core?

The upper & lower core muscles are those that attach in groups and functional slings from the hips through the pelvis and torso to the shoulder girdle. They help to provide a stable platform for the extremities to work off of and protect your entire back and pelvis against injury during activity.

### Benefits of Connect the Core: 3-D Ball & Band Training:

- improve posture
- improve muscle strength and endurance
- improve athletic performance
- improve joint and muscle position sense (kinesthetic awareness)
- improve stability in a hip extended position

- improve ability to dissociate upper and lower extremities
- improve dynamic balance
- improve movement efficiency

**Ball Precautions**

- avoid placing ball near heat or in direct sunlight
- avoid sharp objects and jewellery
- start gradually and get a feel for the ball before progressing
- physical check-up for individuals new to exercise

**Stretch Band Precautions**

- avoid placing stretch bands near heat or in direct sunlight
- avoid sharp objects and jewellery
- start gradually and get a feel for the resistance of the stretch band before progressing or increasing the tension
- regularly inspect stretch band for wear and tear and replace as appropriate

**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. The hips should be bent to almost 90 degrees but should be resting equal to or slightly higher than the height of your knees. Choosing the proper stretch band strength is important. Visit a reputable Sports Training supply store to select the appropriate length and strength. Longer is always better as you can choke up or shorten it. Start with a lighter resistance than you think you need as the stretch band provides continuous resistance and is often more difficult than you think.

**Warm-Up First**

Before starting this or any exercise routine do some light dynamic warm up exercises like leg swings, high knees and crossover runs. This type of warm-up is important prior to beginning any activity and must be included as part of the training routine. Next Fire the Core muscles with dying bug and bridge & ¼ twist exercises.



Do 2 x 10 reps front and back and side to side



Do 2 x 10 repetitions



Do 2 x 10 per side



Do 2 x 5 per side

The following exercises are designed to Connect the Core by utilizing 3-dimensional functional exercises that use ball and bands to challenge stability and add resistance in functional movements



Do wall squats while squeezing a ball between knees and working mid back with a stretch band. Repeat 2-3 x 10-15 reps slowly and gradually go deeper as strength improves.



Place stretch bands around thighs to add resistance as you do the squats by driving hands up and forward. Light resistance is all that is needed. Repeat 2-3 x 10-15 reps slowly



Start by holding a physio ball at above head height against the wall in a split squat position. Squeeze the ball lightly and pull down to chest height. At the same time flex the hip so your knee comes up and across at waist height. Repeat 2-3 x 10-15.



### Cooldown

Should include some conform stretches. Try stretching all muscle groups used in the strength routine. Be sure to key in on those that tend to get short and stiff like the hamstrings, hip flexors. Try holding each stretch for 15-20 seconds and repeat 2-3 times. Some stretches can be done with the physio ball. Use your imagination and the ball as a stretching partner.

### Rules of Core Strength:

- Always start with dynamic warm up and 'Fire the Core' routine to re-educate the lower abdominals to work in a pre-anticipatory way.

- A few non-fatiguing core exercises should be done prior to any training activity.
- This is especially important after a lay off, after an injury or when you have been mal-aligned or have low back or hip pain and stiffness.
- Approach traditional sit-ups with caution as the elbow-knee movement places a lot of strain on the low back.
- Rest intervals of 1-2 minutes between sets work best. Use this time to do some light stretching, balance drills or work on a different muscle group.

**Credit:** McKechnie and R.Celebrini - "Hard Core Strength: A practical application of Core Training for Rehabilitation of the Elite Athlete", vancouver, BC, April 2002

#### **Exercise Waiver**

Always check with a healthcare professional before beginning any exercise program. For specific medical or training problems advice and treatment, athletes, parents and coaches should personally consult with the appropriate professional. All matters regarding your health require medical supervision. The editor, authors, publisher and Fit to Play specifically disclaim any liability, loss or risk, personal or otherwise which is incurred as a consequence, directly or indirectly, of the use and application of any of the contents of this article.

Carl Petersen BPE, BScPT

Carl Petersen P.T. is a Partner and the Director of High Performance Training at City Sports & Physiotherapy Clinics. He and the coach/exercise model Nina Nittinger have recently co-authored a new book Fit to Play-Tennis [www.fittoplay.com](http://www.fittoplay.com) or by calling (604)899-4411. Martha Sirdevan is an Associate Physiotherapist at City Sports & Physiotherapy Clinics [www.citysportsphysio.com](http://www.citysportsphysio.com) and an avid runner.

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