

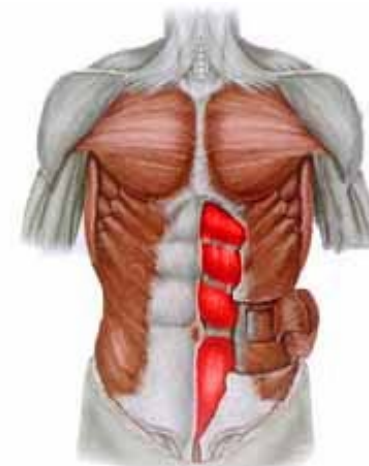
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## Strength and Stability Exercises for the Core Muscles



Your body's core is the area around your trunk and pelvis. When you have good core stability, the muscles in your pelvis, lower back, hips and abdomen work in harmony. Strong core muscles make it easier to do most physical activities such as bending down to tie your shoes, swinging a golf club, and power lifting. Weak core muscles leave you susceptible to poor posture, lower back pain, and muscle injuries.

Core exercises are an important part of a well-rounded fitness program. This instruction manual will include a variety of calisthenic exercises categorized by:

- Extension & Flexion
- Twist & Rotation
- Isometric Contraction
- 

### Core Exercise Guidelines: F.I.T.T.

**Frequency:** 2-5 times a week

**Intensity:** Since all exercises are mostly done using your own body weight, you should focus on higher repetitions of 12 or more. Isometric contractions should be maintained for duration of time. (Ex. 20-30 seconds)

**Time:** 2-3 sets

**Type:** Body weighted exercises. During each exercise you should contract your abdominal muscles as if you were expecting to get hit in the stomach. Also, remember to use proper breathing techniques inhaling and exhaling on opposite movements. **Do not** hold your breath!

*Some exercises include the addition of a medicine or exercise ball.*

### Progression

Here are some suggestions on how to increase the difficulty of each exercise as they progressively get easier:

- Increase the number of repetitions.
- Increase the weight of the medicine ball.
- Maintain isometric contraction for a longer duration of time

\*\*Certain exercises will specifically address methods of increasing the difficulty of the exercise.

## Leg Lifts

- Lie on your back, keeping your lower back pressed into the floor. (Do not arch the back)
- Raise both legs off the floor holding this position for several seconds.

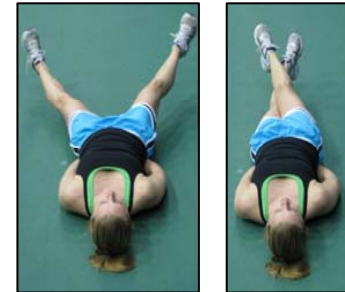


\*\* The smaller the angle between your legs and the floor, the more difficult the exercise

## Leg Lift Variations

**Flutter Kick:** With legs elevated, alternate moving legs up and down.

**Scissor Kick:** With legs elevated, alternate between separating and crossing legs.



## Leg Raises

- Support the body resting the elbows on the pads.
- Position back on the back support.
- Raise the knees to the chest, holding this contraction for several seconds.



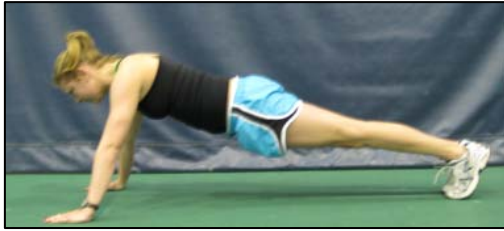
## Hanging Leg Raises

- Hang from a chin bar with arms fully extended.
- Raise the knees to the chest, holding this contraction for several seconds.



# Push Ups

- Place your hands shoulder width apart, anchoring your weight in toes while keeping a flat back.
- Contract your abdominal muscles and lower your body by flexing the elbows until a 90° angle is formed.
- Return to starting position by fully extending arms.



# Push Up Variations

Push Ups on Exercise Ball (Top): Perform the same movement with feet on top of exercise ball.

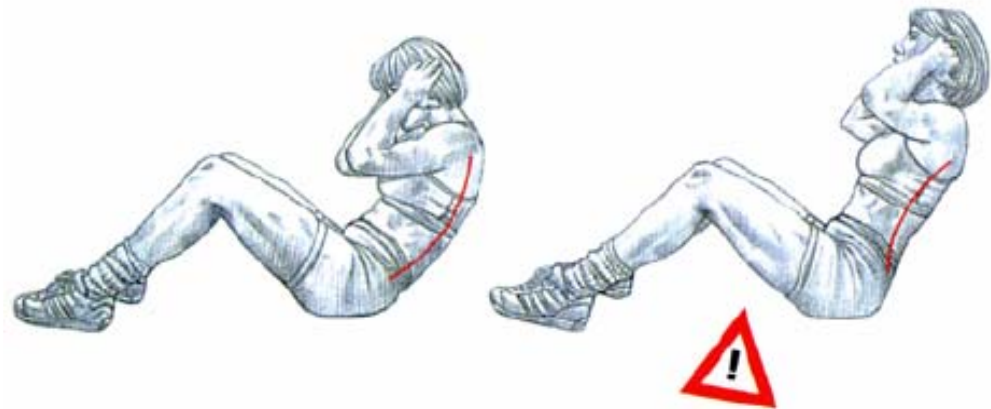
Medicine Ball Roll-Over Push Ups (Bottom): Place medicine ball under right hand and perform push up. Roll ball to the left hand. Repeat push-ups alternating medicine ball from one hand to the other.



# Flexion

## Sit Ups & Crunches

When performing exercises for the abdominal muscles, round the back.



Correct position, rounded back

Incorrect position, arched back

If the back is not rounded while performing exercises for the abdominals, increased force will be placed on the vertebral column. This increased pressure can cause lower back pain or more serious injuries.

Procedures to follow when performing a proper sit up or crunch:

- Inhale and raise the shoulders and torso off the ground
- Exhale at the end of the movement
- Place the hands behind the ears rather than the head, to prevent pulling on the neck.
- The wider the elbows, the more difficult the movement.

# Variations of Sit Ups & Crunches

## Side Crunch

- Lying on your back with your knees bent at a 90° angle, rotate your torso to the right. Position your hands behind your ears or one hand on the abdomen.
- Flex the abdominal muscles raising the shoulder and torso off the floor.
- After completing one set, repeat the same procedures on the left side.



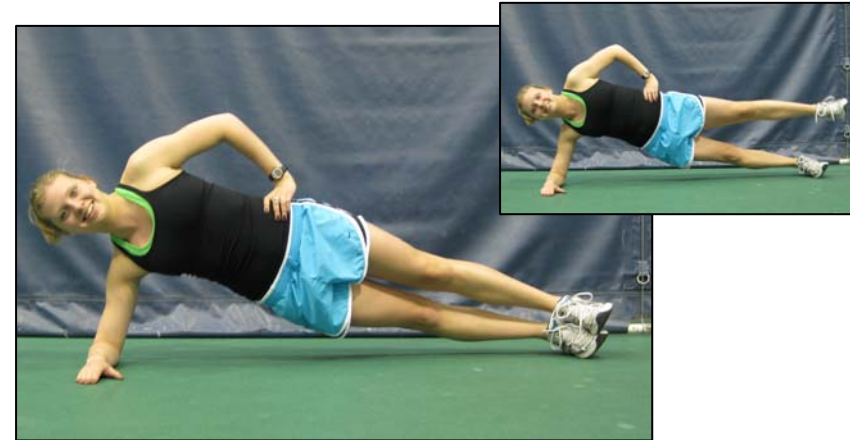
## Crunch on an Exercise Ball

- Sit on the front of the exercise ball with your feet flat on the floor.
- Slowly lower the upper torso to the lowest point in which you are still able to maintain balance on the exercise ball.
- Flex the abdominal muscles and return to sitting position.



## Side Planks

- Rotate hips forward supporting body weight on right forearm (other arm can rest on hip).
- Make sure body is in line and not letting your hips fall. The same should be repeated on the left side.
- The same hold can be done with both arms fully extended (below).
- \*\* To increase the level of difficulty, try raising top leg.



Side Plank with Arms Fully Extended



# Isometric Contraction

## Prone Planks

- Lie face down on the floor, support upper body on your forearms and raise your lower body up onto your toes.
- Keep a flat back and relaxed neck muscles while contracting your abdominal muscles.



\*\* To increase the level of difficulty, try raising one foot slightly off the ground (top) or extending one arm out in front of you (bottom).



## Sit Ups on an Incline

- Hook your feet under the foot padding and lie back on the bench. Cross your arms over your chest or rest your hands behind your ears.
- Flex at the hips and raise your torso. Focus on using your abdominal muscles to lift your body.

\*\* The steeper the angle of the bench, the more difficult the exercise will be.



\*\* A medicine ball can be added to any of the previously mentioned exercises to increase resistance.

## Sit Ups with Medicine Ball

- Lying on your back with knees bent at a 90° angle, hold medicine ball with both hands at chest level, elbows out.
- Curl the torso until shoulder blades are off the floor, maintaining medicine ball at chest level.



\*\* To increase the level of difficulty, hold medicine ball with both hands above head, with arms extended but not locked.

# Flexion Exercises on a Ball

- Starting position: Begin both exercises by assuming a push-up position, feet on top of the ball, elbows fully extended but not locked.
- Position feet, knees, hips and shoulders in a straight line.



## Hip Flexion

- Assume starting position. Maintain elbow extension and raise the hips slightly while flexing the hips and knees to roll the ball forward until they are fully flexed.
- Extend hips and knees and return to starting position.



## Pikes

- Assume starting position. Maintain elbow extension and flex the hips to roll the ball forward until toes are on top of the exercise ball and hips are directly in line with shoulders.
- Extend hips and knees and return to starting position.



## Roll-Outs

- Kneel on the ground, with wrists and forearms on the ball. Your torso and upper legs should be perpendicular forming a 90° angle.
- Contract your abdominal muscles and roll the ball forward along your forearms as far as you can go while still maintaining a flat back.
- Roll the ball back returning to starting position.



# Wall Toss

- Position yourself a distance from the wall. This position will depend on your strength and coordination.
- Begin with the medicine ball by your hip.
- Rotate from the torso, and toss the ball at the wall, keeping feet flat on the ground.
- Cushion the catch by rotating to the same side.
- Alternate sides.



# Reverse Wall Toss

- Position body, back facing the wall, a distance away from wall.
- Begin with medicine ball in front of you.
- Toss the ball at the wall behind as you rotate your torso.
- Prepare for the catch and rotate back to center.



## Seated Oblique Twist

- Balance on sit bones with knees bent and feet off the ground.
- Rotate from side to side slowly.
- Exercise may also be done without a medicine ball.



## Wall/Partner Twist

- Hold a medicine ball at waist height.
- Rotate slowly from the torso keeping feet flat on the floor.
- On each rotation touch the ball to the wall or hand it to a partner.

## Down Low-Up High

- Select appropriate med ball weight.
- Begin standing, reach diagonally down towards ankle by bending knees.
- Reach diagonally up towards ceiling as high as possible, getting a good stretch.



# Extension

## Back Extensions on an Exercise Ball

- Lie face down on the ball with the upper half of your torso off the ball.
- Position your toes on the floor for balance.
- Put hands behind your ears and raise your torso off of the ball by extending the spine.
- Hold for several seconds, and return to starting position.



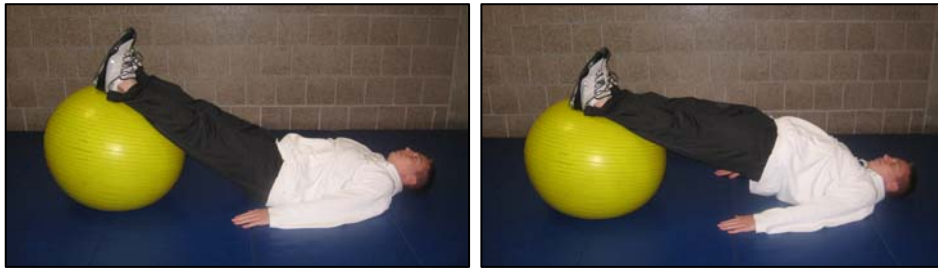
## Hip Extensions on an Exercise Ball

- Lie on the ball so that it is under your hips and stomach.
- Place your hands on the floor and extend your legs so your toes touch the floor.
- Keeping your back straight and legs together, lift legs until they are parallel to the floor. Feet, knees, hips, and shoulders should be in a straight line.
- Hold for several seconds, and return to starting position.



# Supine Hip Extensions

- Lie on your back with heels on top of the ball.
- Keeping your abdominal muscles contracted, slowly lift your hips off the floor (squeezing the glutes) until your body is in a straight line.
- Hold for several seconds, and return to starting position.



\*\*To increase the level of difficulty, lift the hips and then raise one leg off the ball.



# Hot Lizards on an Exercise Ball

- Lie on the ball so that it is under your hips and stomach.
- With the right toe down, extend your right arm up, keeping your left hand on the floor, while also extending your left leg.
- Fully extend each limb
- Hold for several seconds and then switch sides.



# Superman

- Lie on your stomach with arms and legs stretched out and fully extended.
- Lift your arms and legs off the ground.
- Hold position for a set duration of time, lower to starting position and repeat.



# Twist & Rotation

## Barbell Twist

- Rest barbell on shoulders with overhand grip.
- Keep feet on the ground about shoulder width apart.
- Slowly twist from side to side.



## Oblique Twists

- Place exercise ball under bent knees.
- Keep shoulders on the ground.
- Slowly twist from side to side.

