

## **CORE STRENGTH EXERCISES**

- The main muscles involved with Core Strength include muscles of the abdomen, hip flexors and low back postural muscles.
- It is important to maintain proper strength of these muscles to prevent and rehabilitate from low back / pelvic dysfunction and pain.
- All of these exercises should be comfortable and not produce pain or discomfort.

### **Bracing: The Key to preventing low back injuries**

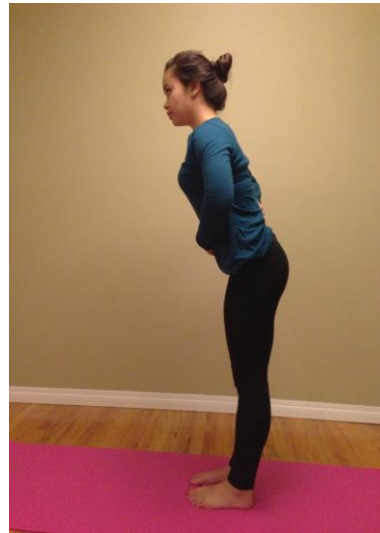
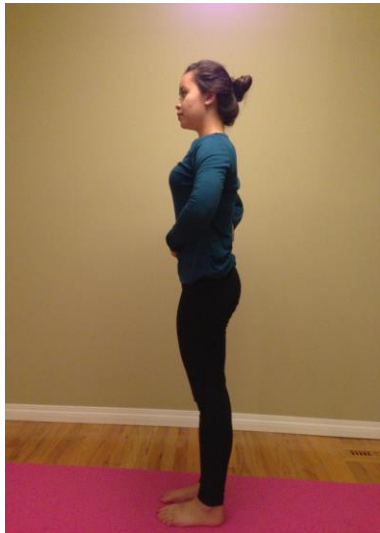
#### **Abdominal Bracing – Lying down**

- Lie down, face up with your knees bent and feet on floor.
- Contract your stomach muscles so that you imagine pushing your low back to the floor or that you are pulling your belly button to your spine.



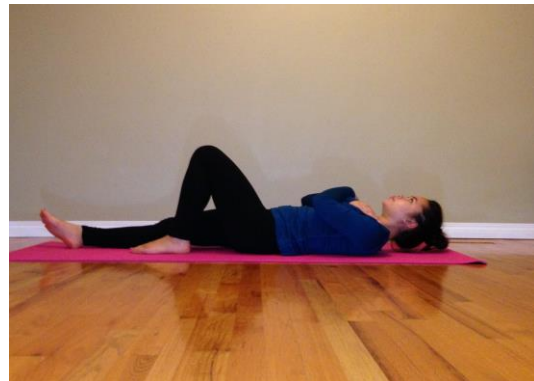
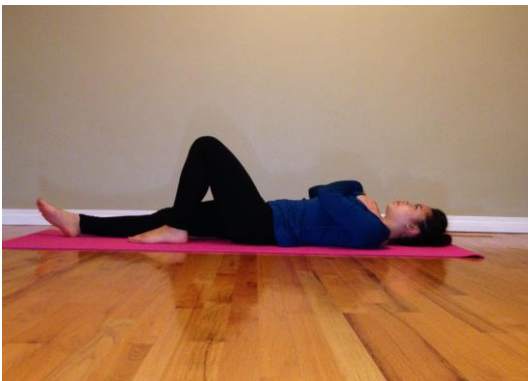
## **Abdominal Bracing - Standing**

- Stand up straight and place one hand on the small of the back and one hand on your abdomen.
- Bend Forward at the waist and feel the lower back muscles contract (extensors).
- Come back up to neutral to relax the low back muscles.
- You will feel the low back muscles contract when you contract your abdominal and gluteal muscles.



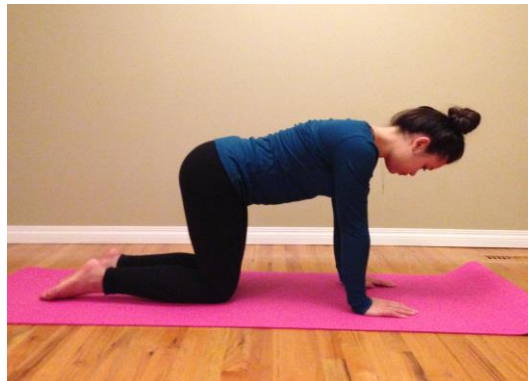
## **Bracing technique and curling**

- Lay on the ground on your back.
- One leg is bent and the other leg remains flat on the floor. Your hands can be on your chest or at your side.
- Fix your eyes on a spot on the ceiling directly above you.
- Tighten your stomach muscles.
- Holding the stomach contraction, lift your shoulder blades and head off the floor while looking at that spot on the ceiling. Hold for 3-10 seconds and repeat three times.
- Switch leg positions and repeat the technique.



### **Beginner to Intermediate position**

- Position yourself on your hands and knees with your pelvis and thighs at 90 degrees and upper back and arms at 90 degrees.
- Head should be looking straight down relaxed. This is very important because if you head is looking up it will add muscle tension to lower back as well as if your head is turned to one side.
- Low back should be straight and parallel to the ground as much as possible, not arched up or down.
- Hands should be shoulder width directly under shoulders; elbows straight.
- Knees should be hip width directly under hips.



- From this position, keeping the back straight, slowly raise the **right** arm directly in front of you and the **left** leg extended straight behind you, hold for one second, then slowly return to initial position.



- Then repeat with opposite arm and leg, so raising **left** arm and **right** leg.
- Your fitness level and physical ability, will determine how many repetitions to do.

### Alternate position (Advanced)

- Lie on your front (on a soft surface where you can have your head face down and comfortable, resting your forehead on a small rolled towel if needed).
- Begin with arms extended straight in front of you and legs extended straight behind you.



- From this position; raise your **right** straight arm and your **left** straight leg at the same time upwards 6 inches from the floor.
- Hold for one second and return to initial position.
- Repeat with opposite arm and leg so raising left arm and right leg.
- Only do if there is no pain or discomfort.



***Whenever you strengthen the back posterior core muscles, it is necessary to strengthen the front anterior abdominal core muscles.***

- Position yourself lying on your back on a soft comfortable surface such as an exercise mat or firm bed. Bend your knees and keep your feet on the floor and bend your elbows with hands on head.



### **Beginner Style**

- Bring your right elbow toward **but not touching** the left knee with your feet remaining on the ground.
- Repeat with your left elbow toward the right knee.
- Your physical ability and fitness level will determine how far you are able to come together.
- When you feel able to progress to challenge the muscles more, you can raise the involved foot off the ground; bringing the same knee towards the opposite elbow. Repeat with right elbow to left knee and vice versa.



## Advanced Style

- Exact same as beginner style except, if able to comfortably do, bring opposite feet and shoulders off the ground and contact opposite elbow to knee.



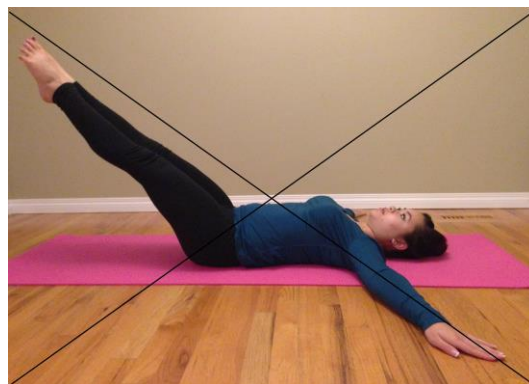
Lie on your back, hands to the side, palms down. Bend your knees and bring them up to form a 90 degree angle. Keep your back straight and press your abdomen to the floor.



Raise your legs straight up. Keeping your legs straight and low back against the floor; lower your legs only 15 degrees or about 12 inches. Hold for 1 second and bring back up. Repeat 10 times. Ensure that your low back is always in contact with the ground, don't let it come up arching.



GOOD



TOO FAR

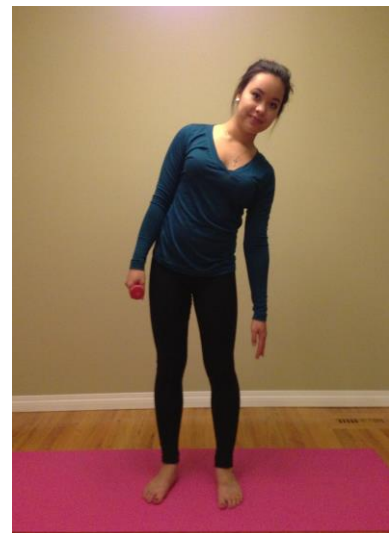
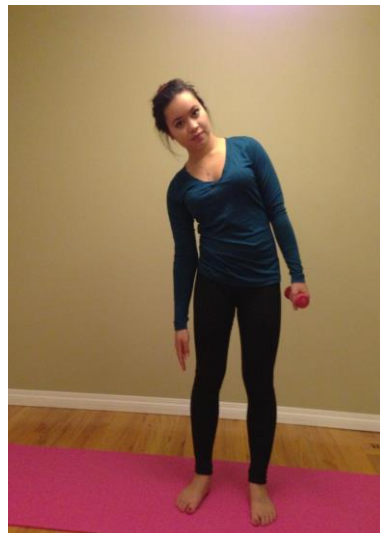
## **Back extensions**

- Lay on your stomach on an exercise ball.
- Hands at your side or behind your head.
- Extend the back backwards, slowly, continuing to breath through the motion.
- Go to your initial position and repeat the exercise until you get fatigued.



## **Side Bending from a standing position with a weight**

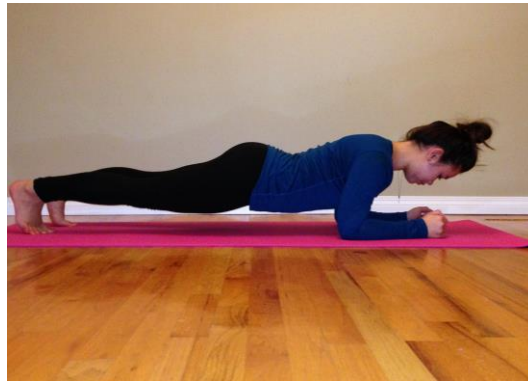
- Stand upright with a weight in one hand and the other hand at your side.
- Lean to the opposite side slowly. Do not swing your body to the side.
- Perform this around 10 reps or more, depending on how many you can do.
- Repeat with the weight in the other hand.
- Basically, you should be able to lift the weight at least 10-12 repetitions comfortably with exertion but without harmful strain. The amount of weight can vary depending on your fitness ability, anywhere from 2lbs to 25lbs.





## Planks

- Lie on the ground on your stomach
- Lift yourself up so that only your forearms and toes are touching the ground.
- Maintain this position so that your head (looking down) is in horizontal alignment with your low back, buttocks and knees.
- Hold this position anywhere from 10 seconds to 1 minute depending on your strength.



## Side planks

- Lie on your side on your forearm and on your outer heel of your bottom foot.
- Your other leg lies on top of the bottom leg.
- It is best to have your forehead, nose, belly button and inner knees all in alignment.
- Hold this position from 10 seconds up to 1 minute.
- Repeat on your other side.

