

### LOWER BACK CORE STABILITY EXERCISE

The **transversus abdominis (Ta)** and **lumbar multifidus (Lm)** muscles of the abdomen and low back respectively, are vital to core stability. These muscles act like a supportive belt; however, lack of exercise or injury can weaken them causing core instability and low back pain. With a little guidance, it is convenient and easy to perform an **abdominal hollowing exercise** to regain control of your personal lumbar support system.

- **Start** by lying on your back with your knees bent and feet flat on the ground. Keep a small curve in your low back with a gap between you and the floor. This is the neutral lumbar position that is important in both sitting and standing postures.
- **Next**, take in a deep breath and relax your stomach muscles. Breathe out and, as you do, draw your lower abdomen down towards the floor trying to force your belly button towards your spine as far as you comfortably can. *Try to make your abdomen not touch the waistband of your pants.*
- **Then**, hold the contraction for 10 seconds, being sure to breathe in and out, as you hold the tension in your lower abdomen. Remember, you don't want to take your breath in by expanding your rib cage or drawing your ribs upward. *You want to force the abdomen back away from your waistband without holding your breathe.*
- **Repeat** 6-10 times, 3-4 sessions per week. After 3 weeks, you can increase the holding time by 10 seconds per week for the next 5-6 weeks until you are able to perform the exercise for 1 minute at a time. The goal is to improve endurance rather than pure strength in these muscles. If you miss a week of doing the exercise, just redo the previous week's level and continue to work towards the 1 minute holding time. Then maintain with 2-5 sessions per week after that.

It will take practice to get the most out of this technique. The following tips will help ensure you are doing the exercise correctly. Don't let your entire stomach tense up or your upper abdominals to bulge outwards. Do not hold your breath, as you need to be able to breathe normally. Don't curl the abdomen like a sit up as this activates the large rectus abdominis (i.e. six-pack) that is not the Ta muscle. Try not to tilt your pelvis or flatten your low back, as you will lose the neutral lumbar spine you are trying to stabilize.

Once you have mastered **abdominal hollowing** lying on your back, you can perform it in a four-point kneeling (hands and knees) position, sitting, and standing. In each position, be sure your lumbar spine is neutral before you perform the hollowing movement which again is a slight curve away from the floor. **A benefit of different positions is that the movement can be done anywhere and anytime without anyone noticing.**