

CORE FUNCTIONING FOR FERTILITY

Along with fertility massage, core exercises help to strengthen and balance the muscles and connective tissues that hold the organs in their correct place. This has large implications for health and fertility as many important systems reside in the torso area (see below).

The immune and digestive systems could be called one and the same since as much as 80% of our immunity is formed in the digestive system (the gut). Similarly the organs, nerves and muscles of the abdominal cavity all share common pathways and communicate with each other. The reproductive system also shares many of these pathways with the guts, hence any disease or malfunctions can impact reproduction itself. This commonality helps us to understand why during menstruation many women typically have back pain or cramping in the stomach. Not surprisingly digestive problems are linked to hormone imbalances and reproductive conditions such as PCOS, Endometriosis, fibroids hence infertility. So the importance of a fully functioning core and digestive system cannot be stressed enough.

WHAT IS THE CORE?

Core muscles can be viewed as the bridge between the upper and lower body that stabilises and enables the body to perform movements optimally. The core muscles include the exterior and interior core. The exterior core includes muscles such as abdominals, external Oblique's, hip flexors, but generally most of the large muscles that help us move. The main interior core muscles include the transverses abdominus, multifidus, diaphragm and pelvic floor. These smaller muscles aid in stabilising the trunk, support the internal organs and aid in circulation. Changes in the core also lead to muscle imbalances, which often reflect in changes of posture.

The Inner Unit became a term describing the functional synergy between the transversus abdominis and posterior fibers of the oblique's internus abdominis, pelvic floor muscles, multifidus and lumbar portions of the longissimus and iliocostalis, as well as the diaphragm. Research showed that the inner unit was under separate neurological control from the other muscles of the core. This explained why exercises targeting muscles such as the rectus abdominis, oblique's externus abdominis and psoas, the same muscles exercised with traditional abdominal conditioning programs used in gyms and athletic programs worldwide such as sit ups, were very ineffective at stabilizing the spine and reducing chronic back pain.



HOW DO I ACTIVATE OR ENGAGE IT?

One of the most important things you can do to improve posture and core function is to make sure you are breathing correctly. This is done by breathing diaphragmatically.

The first thing to note is upon inhalation (breathing in), the air should expand the stomach first then move up to the chest. This activates the many trunk muscles that stabilize us, and helps us to move correctly. Practice this by putting your hand on your stomach while you breath, alternatively use this method of breathing with meditation.

The transversus abdominus is the key muscle as regards to core control. This muscle is like an inner belt and acts on the lower back and pelvis. There are two simple methods to activate this muscle.

Method 1 The simple action of drawing in the belly button towards the spine contracts this muscle, stiffens the spine and creates stability between the upper and lower extremities. In order to move safely during any movement, activating the core is paramount to avoiding back pain. The transversus abdominus should be trained to be activated whenever we move or exercise.

Method 2 The other good way to ensure activation whilst moving or exercising more vigorously is to breathe out through pursed lips during the hard part of the exercise or moment (usually against resistance or gravity). This braces the core and creates intra abdominal pressure which activates the muscles in a similar way. Get into the habit of breathing and activating the core correctly and you're moving in the right direction towards avoiding back pain. Don't forget, all the techniques above are transferable to real life too, so whether you are picking up or lifting something, the same rules apply. Use these methods on all exercises and movements.

Below is a series of simple but highly effective exercises and movements, if performed correctly will strengthen and stabilize your torso, enabling you to move more freely in a healthier manner and along with stretches improve posture.



HORSE STANCE

Continuing the theme of very useful exercises you can do in the home, to strengthen and stabilize the problematic areas of the lower back and pelvis. The Horse Stance is a great exercise if done correctly to strengthen and stabilize the above mentioned problematic areas. Stretch out the hip flexors and shoulders before starting. Read the whole section before starting the exercise.

The Set-Up

Place your wrists directly below the shoulders and your knees directly below their respective hip joint. The legs are parallel and the elbows should remain turned back toward the thighs with the fingers directed forward. Place a dowel rod along your spine and hold perfect spinal alignment. The rod should be parallel to the floor. The space between your lower back and the rod should be about the thickness of your hand.

This will not be an easy position to hold and is a great triceps workout in itself. This is the start position for the Horse Stance Vertical and Horse Stance Horizontal exercises.

It is advisable to find a spotter who can assist you with feedback about your body position. If you are not training with a spotter, it is highly recommended that you train in front of a mirror (45 degree angle) to make sure you stay in correct position throughout the exercise. When you are checking your body position in the mirror, do not move your head, just look up with your eyes.

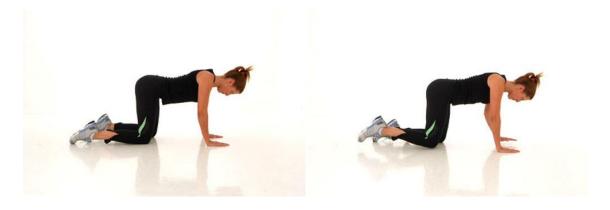


Fig. 1 fig. 2



HORSE STANCE VERTICAL

Take a deep abdominal breath and as you breathe out, draw the belly button towards the spine as you lift one hand and the opposite knee slightly off the floor. There should be just enough of a gap under your hand and knee to be able to slide a magazine into the gap. Hold this position for no longer than ten seconds, and then return to the start position. Repeat the exercise with your other side, and continue lifting opposite sides until the point of fatigue, or when you have completed ten repetitions. Try to breathe naturally during the movement, drawing your belly button in as you breathe out on the lifts. Try not to allow your weight to shift over to the support leg, which takes the emphasis of the exercise away from the back and supporting muscles

The target number of repetitions is ten reps per side with a two second hold in each position. When you are able to complete the exercise for three sets with a one minute rest between sets, you are ready to add the Horse Stance Horizontal to your program. Perform one set of the Horse Stance Vertical as a warm-up for the Horse Stance Horizontal.

HORSE STANCE HORIZONTAL

From the set-up position, slowly sweep one arm out at 45 degrees to the midline of the body with the thumb pointing towards the ceiling, simultaneously extending the opposite leg backwards as shown. Again hold this position for a count of up to 10 seconds or fatigue, whichever comes first before lowering and repeating on the other side. see figs 3 and 3a



fig. 3 fig. 3a

It is very important to keep correct alignment and position to get the most from this great exercise as this movement is all about strengthening the pelvis, lower back, shoulder girdle and surrounding structures in there optimal position. Leading to an improved posture and a strengthened core structure. Only perform the movements as far as you can maintain good form, greater range of movement will come as you improve your flexibility with your flexibility program.



THE FLOOR BRIDGE

This exercise is great for stabilization of the core and strengthens the postural muscles (hamstrings, gluteus group and lower back).

Start lying on your back with the knees bent and hands by your sides (palms up) fig. 1. Take a deep abdominal breath, and as your draw in your belly button push your hips upwards, so that your body forms a straight line between your knees and your shoulders (fig. 2), breathing out from bottom to top. The speed should be, push up for 3 seconds, hold for 3 seconds and lower for 3. Perform 1 set of 10 repetitions and build up to 3 sets of 10. When you can do 3 sets of ten, you're are ready to use the variations below.





VARIATIONS

To increase the difficulty, start as in fig. 1 and extend your right leg at the knee, so that both thighs are parallel. From this position activate the core and push up from the hips with your left leg (fig 3), hold for 3 seconds as above. The figure 4 variation is advanced and should only be used post pregnancy, once the previous variations can be performed as prescribed (at least 10 weeks post natal).

Fig. 3 fig. 4





THE PLANK

The focus of these exercises deal with the muscles on the anterior side (front) of the body, transversus abdominus, rectus abdominus and hip flexors. These exercises help to strengthen and flatten the stomach wall and aid in stabilizing the back.

Lie face down with your elbows on the floor directly under the shoulders and your forearms pointing straight ahead with palms down. The foot should be at right angles to your shin with the balls of the feet on the floor. Take a deep abdominal breath and lift your hips up off the floor so that only your forearms and feet are on the floor. Your body should now be in a straight line as if standing against the wall with heels, bottom, shoulders and head touching the wall see fig. 1. Maintain this position as you breathe out through pursed lips while drawing the belly button in towards the spine without any movement in the back. Hold for two times 30 seconds building up to a minute for each rep. To make the exercise easier, simply perform it from the elbows and knees.



Fig. 1 fig. 2

VARIATIONS

In the full plank position lift one leg off the ground (about 6 inches) and hold for about 10 seconds changing to the other leg until you lose form, at this point you stop, rest and start another set if desired see fig. 2. This puts more rotational forces on the pelvis and strengthens and stabilizers the muscles in the pelvis (core).

If you want to go one stage further, from the lifted leg position, you can then take that leg directly out to the side to increase the resistance in the core even more.

As with all the exercises it's quality not quantity.



SIDE PLANK

This exercise focuses the attention on the Oblique's, which help the body with lateral movement, stabilizes the pelvis and works in conjunction with the other core muscles.

Lie on your side with the feet together, keeping the shoulders, hips and feet in alignment. Elbows should be directly under the shoulder, with the forearm facing forwards at 90 degrees to the body, palm on the floor.

Take a deep abdominal breath; lift the hips off the ground until the body forms a straight line. Extend the outside hand straight up with the palm facing forward. Ensuring there is no bending from the hips and the head is in perfect alignment with the rest of the body see fig. 1.

Work up to holding for 30 seconds to a minute either side.

Breathing should be deep and relaxed, drawing the stomach in as you breathe out through pursed lips.

VARIATION 1:

To make this exercise slightly easier, you can bend at the knees, 90 degrees so that the force is just between your knees and your elbows see fig. 2.







THE PRONE COBRA

The prone cobra is particularly effective for reducing rounded shoulders that is often seen in the sedentary office worker and over exerciser. It also effectively conditions the long back extensors that run from the lower back to upper back, hence improving posture.

Prior to starting this exercise, stretch out the entire chest before immediately hand To start lie face down on the floor with the good alignment as in fig. 1/1a.

Take a deep diaphragmatic breath and activate the core as you contract the lower back muscles and bottom to raise the chest from the floor. Keep the feet on the ground, the extension should come from the back rather than the hips.

As you lift, rotate the arms so the thumbs go to the outside of the hand and points upwards. This brings the shoulder blades together and extends the upper portion of the Back as in fig. 2/2a. Keep your focus straight down to maintain alignment of the neck.

Hold this position for 10 seconds then slowly lower back to the starting position, breath freely at the top keeping the core activated. Rest for 10 seconds before repeating. When you can perform 3 sets of 10 repetitions of 10 second holds, reduce the recovery time to 5 seconds. When you can complete 15/20 repetitions progress to 1/2/3 minute holds





fig. 1 fig. 1a





fig. 2 fig. 2a



CORE CONDITIONING EXERCISES

Lower abdominals

The inability to coordinate pelvic stabilization along with leg movement is a common cause of back pain. The exercises below can be used to test and strengthen these essential movements.

Lower abdominal coordination test.

Please Note: If pregnant these exercises are fine during the first trimester, but medical advice should always be followed if there are any complications. Sometimes in later pregnancy women get light headed and nauseous if lying on their backs for a long time. If this is the case then you shouldn't do this exercise.

Lie on your back knees fully bent. Place one or two hands under the hollow of your back then bring your feet off the floor so that your knees are pointing straight up vertically. Tilt your pelvis backwards to flatten your back against your fingers. Hold this pressure and keep the bones of your spine against fingers as you lower your feet to the ground. If you cannot maintain the pressure on the spine, then these stabilization mechanisms need strengthening in order to prevent low back pain. Work through each level of these exercises until you can complete the desired sets before moving onto the next one.

This time lie on your back as before with your feet on the ground. Roll up a towel until it is about an inch thick and place this in the hollow of your back directly beneath your belly button.



Fig. 1 fig. 2



Exercise 1 fig. 1

Take a deep breath in, exhale as you draw in your belly button in towards your spine and gently increase the pressure on the towel by rotating your tailbone towards the ceiling, there should be gentle but firm pressure on the towel. Hold this position for up to 10 seconds then rest 10 seconds. Repeat 10 times, 2 Sets.

Exercise 2 fig.2

Resume as before but raise one foot off the floor until the knee is pointing straight up from the hip, lower back to the ground keeping a smooth steady tempo (3 seconds up, 3 down), alternate legs (1 leg moving at a time) keeping constant pressure on the towel, perform 12 – 20 reps. You should be breathing out and drawing in the navel as you raise the leg from the floor, breathing in as you lower the leg.

Exercise 3 fig. 3 & 3a

This time raise both feet off the ground with the knees pointing straight up. Exhale, draw your belly button in towards your spine as you lower your foot towards the ground, keeping constant pressure with your back on the towel. Bring the leg back to the starting position while breathing out then lower the other leg. If you feel your back arching off the towel, use smaller movements.



Fig. 3 fig. 3a

When it becomes easier to perform this exercise, touchdown with your foot further away from the body for an increased challenge, or lower both legs together. Keep the upper body relaxed all times.



EXERCISE ORDER

Horse Stance (Do number of sets before moving onto other exercise)

Prone Cobra → **Lower Abdominals** (paired together until all sets are done)

Floor Bridge → Side Plank → Plank (3 consecutive exercises until sets finished)

PLEASE NOTE THAT IT IS ADVISABLE TO SEEK ADVICE FROM YOUR HEALTH PRACTITIONER BEFORE STARTING THESE EXERCISES

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