buggybeat
Outdoor Cross Training For Parent & Baby

Post Natal Information for Buggy Beat Instructors

Congratulations Buggy Beat instructor on developing your knowledge further. This unit is designed to give you up to date information on postpartum anatomy and recovery so that you can give your post-natal clients the very best care possible.

So, first of all, we need to look at the physical changes that happen within a pregnant woman which may affect her postnatal.

Physical changes in a pregnant woman

During pregnancy, the woman's body goes through significant changes:

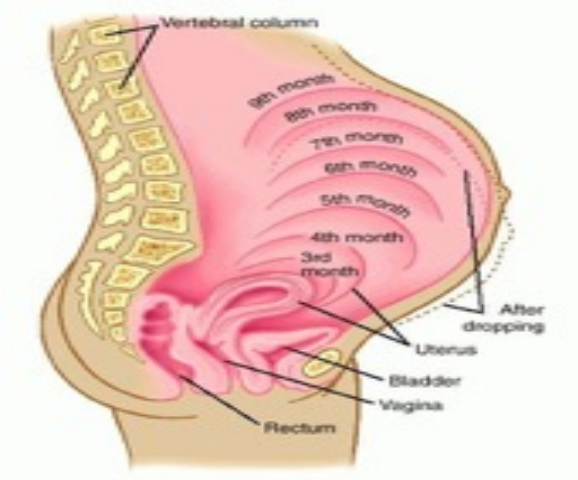
Hormones During Pregnancy:

The pregnant body is inundated with a variety of hormones that drastically change the way the body functions, affecting the way a woman moves and feels.

Oestrogen, Progesterone and Relaxin work in sync

- to loosen joints and ligaments,
- relax the smooth muscles, such as the uterus and pelvic floor,
- increase blood flow to the pelvic area,

These changes take place to accommodate for the woman's rapidly changing and growing body, to support the growing foetus and to prepare for the birth.
As the baby grows and the uterus expands, the body accommodates.



Below are the major changing that you need to be aware of as an instructor:-

1. **The organs are pushed up and compacted**

Discomforts associated with these changes:

- Shortness of breath due to diaphragm and lungs being slightly compressed.

We can help her by instructing lateral breathing

- Constipation due to colon being pushed up

We can help her by giving her some advice on nutrition, eating smaller meals and lots of fibre to help get things moving!!

- Shoulders become tight due to all of the organs pushing up into the chest cavity

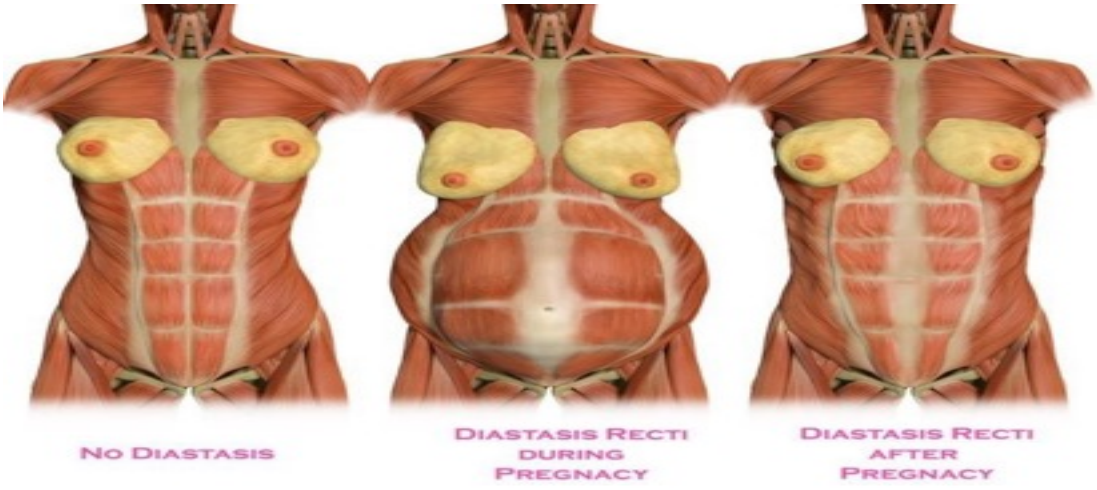
We can help her by giving her exercises to release this as listed below

The AMAZING uterus will increase its capacity by 1,000 times by the end of a full-term pregnancy causing the organs to compact and push up against the ribs

2. **The abdominals stretch, sometimes causing a major separation between the rectus abdominis (diastasis recti)**

Discomforts associated with this change:

- Back Pain-the rectus abdominis help to stabilise posture
- Umbilical Hernia
- Loss of functional strength in the core



Diastasis Recti is a symptom of faulty movement patterns, usually set forth before pregnancy.

When a woman becomes pregnant, connective tissue becomes lax, and the growing uterus pushes the abdominals outward.
If the connective tissue between the rectus abdominis is weak (the linea alba), and the muscles of the abs are not properly conditioned -weak or too tight, the linea alba will stretch beyond what is normal.
Within Fitness Pilates, to teach bracing, the baby will offer women the opportunity to properly condition the abs, and work on their posture during pregnancy – safely and effectively.
Diastasis Recti can be restored through healthy movement patterns that are instructed with proper supportive posture. Bracing the baby and neutral spine teaches the fundamentals of proper posture necessary in preventing or restoring a rectus abdominis split.

To understand Diastasis Recti, we need to understand the Rectus Abdominis Muscle in detail:

<u>Rectus Abdominis</u>

Two Primary movements:

- Flexion (Roll-Ups, Abdominal Contraction "crunch", Roll-Downs (standing)
- Posterior Pelvic Tilt (C-Curve)

Provides Support:

- Notice in the picture below how long this muscle actually is, and where it connects.
- Proper posture depends on the rectus abdominis to keep the pelvis neutral, rather than tilted forward (anterior pelvic tilt) (lordosis). Why this pelvic tilt is common in pregnant women.
- The rectus abdominis muscle assists with breathing and plays an important role in Rectus Abdominis, respiration when forcefully exhaling, as seen after exercise
- These abdominal muscles also help in keeping
    - the internal organs intact and
    - in creating intra-abdominal pressure, such as when exercising or lifting heavy weights, during forceful defecation **or childbirth**

- Diastasis means ‘separation’, recti meaning ‘the rectus abdominis’
- Linea means ‘line’, alba means ‘white’

It is important to point out that we are referring to diastasis recti during and after pregnancy. Diastasis recti can occur in anyone who has an excessive amount of intra-abdominal pressure, and insufficient core strength (pelvic floor and transverse abdominal strength.)

What causes the separation during pregnancy?

- As the uterus grows, intra-abdominal pressure causes the abdominals to stretch
- The separation can occur in different areas along the linea alba, although it is more commonly found near the belly button.
- Pregnancy hormone, relaxin, causes the muscles and ligaments to relax, allowing for the abdominals to stretch, and the linea alba to separate much more easily than if this hormone was not present.
- If the linea alba tissue is not sufficiently conditioned, which happens over time with proper exercise and movement (and nutrition), it will separate beyond what is normal, causing the Diastasis Recti.

Remember that the linea alba (connective tissue) attaches from the sternum to the pubic bone. That’s the whole length of the core.

Now, think about all the movements that pull on the linea alba throughout our lives:

- In a car, reaching from the driver’s seat to the back seat,
- twisting the torso during exercise, dancing, etc,
- kicking the legs,
- doing back-bends

- doing front bends-abdominal exercises-crunches, roll-ups
- pushing with force and pulling with force
- even roller-coaster riding
- sneezing, giving birth, gaining weight
- sitting too much or standing too long in one place (sedentary lifestyle)- working in an office, driving long distances, working behind a counter for hours on the feet.

The list could go on and on ……

Movement throughout our lives contribute to the amount of force and pressure put on the linea alba, (the facia holding the abs together.) The linea alba was created to be flexible with movement. It is when movement is excessive, and the linea alba is not in optimal shape (which comes from properly conditioning the core) that problems arise.

Why should I be concerned about diastasis recti?

- Diastasis Recti that is not properly attended to can result in
    - Low-back pain
    - Pelvic pain
    - Umbilical hernia
    - tummy pooch postpartum, what some call the "mummy tummy"

How do I know if my client has Diastasis Recti?

Years ago, pregnant women were taught the Rec Check by their midwives, but unfortunately this is something of the past now, so it is down to you as the buggy beat instructor to help.

A Diastasis Recti during pregnancy causes a bulge any time pressure is forced out from the inside, usually during an abdominal exercise.

But this can also be apparent **Postpartum** (after pregnancy) or with other clients who have not been pregnant. So with anyone who you may think is experiencing Diastasis Recti - Do the 'Rec Check'(Rec standing for rectus abdominis).

<u>The 'Rec Check' – Checking for Diastasis Recti</u>

1. Lay supine, knees bent, feet flat on floor

2. Hold head in hands and lift shoulders and head off of the floor. This engages the rectus abdominis muscles, allowing to check for a split.
3. With 2 fingers, feel the linea alba (middle of the rectus abdominis) for
    a. any **separation** (the diastasis recti) in the following 3 locations: **Above, On, and Below** the belly button to the pubic bone.
    b. the **depth** within the separation
    c. Come down from the contraction every couple of seconds.
4. If the split is **more than 2 fingers wide, diastasis recti is present**.
    a. Eliminate flexion exercises (roll-ups, The Hundred, sit-ups) until it is corrected.
    b. Focus on transverse abdominal work – using Frontal & Sagittal plane moves but not twisting, posture, Functional pelvic floor.
5. If the split is **less than 2 fingers wide,** it is safe to begin gentle curl-up or flexion exercises.

How to Correct Diastasis Recti in Pregnant Women with fitness concepts.

To correct Diastasis Recti, we must correct daily movement deficiencies. The following exercises are basic concepts that will give you the foundation you need when working with women diagnosed with Diastasis Recti.

Brace the Baby - The pregnant woman's version of bracing the abs.

What it does:

- Corrects faulty postural alignment to optimal postural alignment.
- Teaches how to optimally activate core muscles and use them efficiently.
- Teaches how to relax core muscles efficiently.
- All of the above keep the linea alba from over-stretching, keeping Diastasis Recti in check from getting worse, and on the road to correction.

How to do it:

1. Stand up tall, lengthening the spine to the ceiling,
2. Line up the bottom of the ribs with the pelvis (so the ribs do not flare)
3. Inhale deeply, allowing the air to fill down the sides and back of the ribs
4. Exhale, bracing the baby (tense the abdominals, brace). Your pelvic floor will engage straight away. Keep the pelvis neutral (don't tuck). This action contracts the

transverse abdominals and pelvic floor creating a total support system for the foetus.

5. Feel equal weight on your feet, pressing down into the floor. You should feel a vertical, oppositional pull through the spine, up through the top of the head, and down through your feet. Don't let the ribs collapse.

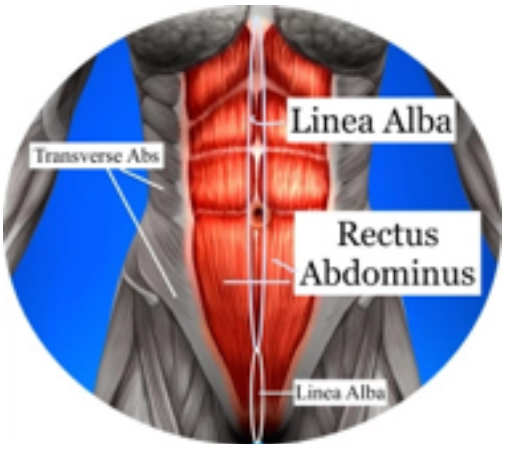
6. Continue with lateral thoracic breathing feeling the spine lengthen every time you exhale.

7. Then reverse the process, *relaxing the abs* with every exhale. Don't force the belly out, just let it release. This may take some practice for women who are used to holding in.

Knowing how to relax the abdominals is just as important as learning how to contract the abdominals

Exercise to avoid with Diastasis Recti

Think about movements that disrupt the alignment from the sternum (chest) to the pelvis.



Now, think about all of the movements that tug on the linea alba.

- In a car, reaching from the drivers seat to the back seat,
- twisting the torso during exercise or dancing
- kicking the legs,

- doing back-bends
- doing front bends-abdominal exercises-crunches,
- pushing with heavy force, pulling with heavy force
- sneezing
- sitting too long or standing too long in one place
-

THINK ABOUT MOVEMENTS THAT DISRUPT THE ALIGNMENT FROM THE STERNUM (CHEST) TO THE PELVIS

Twisting is a big one. Avoid twisting exercises and focus on exercises that keep the sternum and the pelvis in the same plane of motion.
Crunching is the second. Avoid Sit ups, Squats, Crunches as these strengthen the outer layers, which can overpower and make the TVA Relatively weaker.
Lack of strength and functional control in the TVA is the most common downfall for all new mums. Most women who have tried to recondition their abs the traditional way, with lots of crunches, end up with unsatisfactory results. Their abs grow stronger, but never flatten which can make the abdominals or below the waist, protrude and stay round.

The postpartum body is in recovery. You want to condition the pelvic floor and transverse abdominals back to 'normal', or without carrying a child.
Always make sure your client has been cleared by her doctor to exercise again.

Hand to Knee-Postpartum

1. This exercise engages the pelvic floor, transverse abdominals and the obliques. You are going for 2 finger widths or less, but in the end, the most important factor is how optimal the trunk is moving
2. Inhale in a neutral pelvis
3. Exhale pulling the belly to the spine and engaging the pelvic floor, lifting the head and shoulders, staying in neutral.
    a. Press the hand to the inside of the opposite knee
    b. Apply equal resistance to both
    c. Release and repeat 4-5 times *The release is just as important as the resistance

The exercise above is not *the* exclusive DR fix. It is one exercise that helps in the rehabilitation process.

Can a C-Section *cause* diastasis recti?

A C-section is performed by:

– Cutting through the fascia-or aponeurosis-of the abdominal wall, and

– Pulling apart the muscles, including the rectus abdominus.

So, in theory, a C-section delivery could cause a DR.

BUT, the protocol of most doctors is to stitch the fascia back together, taking care of any parting of the rectus abs.

SO, IT WOULD BE BENEFICIAL TO TREAT A MOM WHO HAS HAD A C-SECTION, THE SAME AS A MOM WHO HAS DR, AS THE CONNECTIVE TISSUES NEED TO HEAL AFTER THEY HAVE BEEN MANUALLY PULLED APART.

Medical Complications That Require a Caesarean

- Prolonged labor/ failure to progress in labor
- Multiple Births
- Breech position of the baby
- Changes in the fetal heartbeat
- Mother's age
- Mother is overweight or obese
- Prior abdominal surgery
- In addition, women can elect to have a Cesarean delivery.

Possible reasons for an elected C-section:

- Profound fear of "natural childbirth"
- Convenience/Time constraints for the mother and/or physician
- Understanding what your clients go through during birth is helpful in designing a postnatal program.

Timeline of a healthy C-Section recovery:

12 Hours Post-Surgery new mum is bed-ridden.

12-24 hours –

- can sit up with assistance. The incision is incredibly painful.

- The abs must stay dormant for the next 2 weeks to allow the internal and external incisions to heal properly.
- To compensate for lack of abdominal assistance, you must engage the pelvic floor and lattisimus dorsi muscles and use your arms when getting up off of the bed and laying down onto the bed.

So what can your participant start doing?

- Lateral Thoracic Breathing
- Pelvic Floor contracting and releasing

24-32 hours –

- she can stand and walk and is encouraged to do so.
- Risk for blood clots in the legs is high, so walking helps to reduce this risk.
- Laughing hurts! Bending over hurts from the incisions. Put a pillow against the belly to reduce this discomfort.
- Sitting in a chair tends to be most comfortable, because it is easy to get up from and down to.

So what can your participant start doing?

- In addition to the above, Walking the hallways, slowly.
- Use the legs and gluteals to control sitting and standing.

32-48 hours –

- the pain from the incision is tolerable.
- New mum can shower, and prepare to leave the hospital, with her doctor's release.
- The uterus is swollen, and it looks as if mum is 7 months pregnant.
- The doctor will recommend no abdominal exercises for 2 weeks to allow the incision to heal. The concern is the internal incision which, if it opens up, can cause infection, and prolong recovery time.

So what can your participant start doing?

- In addition to the above, begin raising the arms above the head and while keeping the ribs closing down.
- Alternate one arm and the other while sitting, and then one arm and the other.

- **It is important to practice this to prepare the core to stretch without disrupting the incision – more of a reason to keep the ribs closed**

48 hours – 2 weeks – CRUCIAL recovery time.

- Recruit help from partner, friends, or family.
- If mum can get through these 2 weeks taking the doctor's instruction: to not use the abs, no ab exercises, no lifting anything heavier than the baby, she should heal quickly. **It's when a woman does not follow docs instructions that she causes herself a prolonged recovery.**
- Make sure mum has help with baby, either from partner, friends, or family!

So what can your participant start doing:

- In addition to the above, mum can go on longer walks.

From 2 Weeks – 6 weeks, recovery continues at a rapid pace.

The body's ability to make a human being and then be able to recover quickly is supernatural!

So what can your participant start doing?

- In addition to the above, mum can start passively activating the TVAs during exhale breathing, and begin supporting her everyday activities again using the TVA's
- Still keep the lats and arms and pelvic floor doing most of the support.

6 Weeks to 6 Months

It is a misconception that women can go back to their regular workouts pre pregnancy at only 6 weeks postpartum.

- It took her body about 9 months to make her child. It will take the body *at least* this long to completely recover.

So what can your participant start doing?

- With doctor's clearance, mum can start modified Fitness_Pilates sessions
- Brisk Walking

6 Months to 2 Years

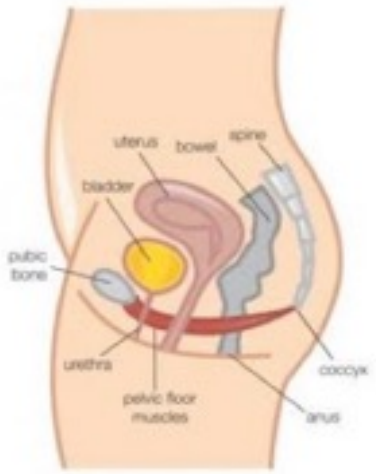
- **According to Tom Meyer's of Anatomy Trains, and the expert on fascia, it takes connective tissue 6 -24 month to regenerate itself.**

So what can your participant start doing?

- Training should be focused around conditioning the facia through stretching and dynamic sessions, in addition to muscular strength and endurance.

Pelvic Floor

The pelvic floor is a group of small, long muscles that create a sling-like support in the pelvis.



Pelvic Floor

These muscles connect to the joints of the sacrum, coccyx, and hip bones.

A strong, flexible, well-conditioned pelvic floor helps to:

- stabilise the upper torso and hip area,
- prevents incontinence,
- supports the weight of the uterus, bladder, and bowels,
- makes the bladder and bowels functional.

The pelvic floor works with the transverse abdominals to provide optimum stability of the core, helping to reduce the chance of diastasis Recti.

Training the Pelvic Floor

It is important as an instructor that we teach our pregnant participant to train her pelvic floor both consciously and unconsciously.

Think function when training the pelvic floor and ideally using standing.

Exercises to train the pelvic floor:

- Multiplane squats with multi-level forward reaches
- Staggered squat – adding some vibration in
- Resistant band squats with bands tied around thighs – with multi-level forward reaches
- Unassisted forward lunges – carrying foam roller (as baby)
- Forward lunge with glute squeeze
- Superman with open leg in frontal plane
- Side lying work with band around feet or thighs

Pregnancy Breathing – exhale on the exertion.

- The pregnant body goes through a number of miraculous changes to accommodate growing a brand new life inside of it. One of those changes is in the respiratory system.

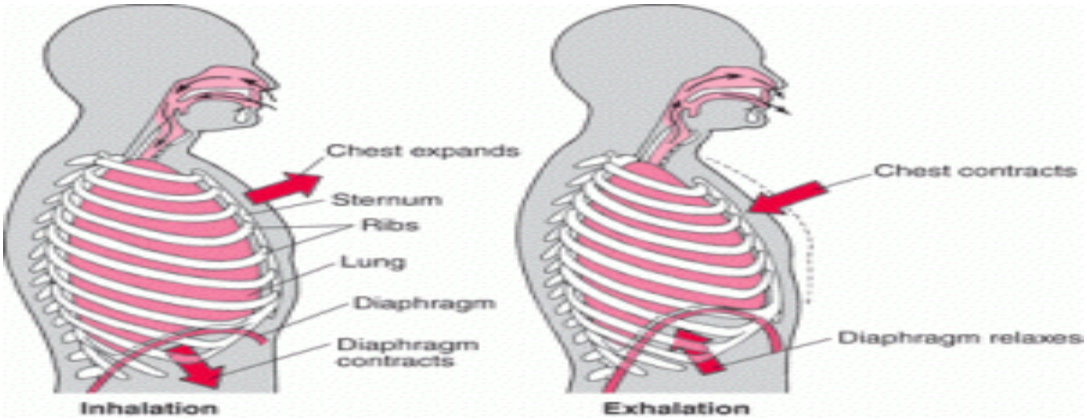
- *At rest the amount of air breathed increases by 40-50% or more because of an increase in the depth of each breath. This is a result of elevated levels of progesterone, which initiates over-breathing, by increasing the sensitivity of the respiratory centre in the brain to carbon dioxide. (Dr. Clapp, 28)*

- In addition to these system changes, are the physical changes happening within the torso. As the uterus expands upward, the diaphragm is pushed upward (along with the other organs in the way such as the stomach and colon) and the ribcage expands. This is why Lateral Thoracic Breathing is beneficial, allowing for efficiency of breath.

- First, we want to make sure that your pre-natal client has her ribs lined up properly with the pelvis-that she is not thrusting, or pushing the bottom ribs out, which is more common during pregnancy. You will need to observe this in your client and correct accordingly.

- During inhalation, the diaphragm contracts downward. (See Pic)

- • During pregnancy, there is not room for the diaphragm to properly contract, so to compensate for this, we breath into the back and sides.

- 

- You should have been taught how to lateral breath on your Fitness Pilates certification course, but it is slightly different for a pregnant women as she cannot brace her abs the same way so we talk about bracing (or cuddling) the baby.

How to Lateral Breathe:

- 1. Inhale through the nose, filling the lungs by focusing the breath into the back like you are filling a balloon

  – Back and sides of the ribs should expand
  – Allow the chest to rise

- 2. Exhale through the mouth, deflating the lungs like you are deflating a balloon

  – Lengthen Spine
  – Back of the ribs should pull back in
  – Belly sinks back further, bracing (cuddling) the baby

We exhale on the exertion when teaching Pre or post-natal clients. Why?

- Because on the out-breath, the respiratory diaphragm will rise, the abdominal wall will contract, the lumbar muscles and connective tissue will contract also and the Pelvic Floor will tension and the reverse occurs on the in breath

At Choreography To Go, we like you to know why you are instructing a certain way and the reason we give a lateral breath pattern is to:

- **-** create space in her torso for the growing baby by lengthening the spine and stretching the ribcage.
- - to take more efficient breaths providing more oxygen for mum and baby,
- - to relieve stress by calming the nervous system.
- This exhalation kicks in a protective mechanism for the entire core and improves the transfer of load through the tissues and needs to be re-taught in the Post Natal period until it becomes automatic because if a woman is lifting all day either holding her breath or bearing out and down onto a healing Diastasis or a weak Pelvic floor.

The Uterus after childbirth

Immediately after delivery the uterus shrinks temporarily to stop bleeding caused by the placenta separating from the uterus after giving birth.

After about 12 hours, it returns back to the size after delivery. 24-48 hours after the belly looks about 7 months pregnant and then continues to shrink at a rapid rate over the coming weeks. The uterus returns back to normal over the next 6-8 weeks and will be faster if she breastfeeds.

Pelvic Floor Recovery

Proper recovery of the pelvic floor involves the diaphragm. Incorrect breathing can lead to the diaphragm becoming too tight and strong, so unless the diaphragm releases it will never, no matter how strong, hold against the diaphragms strength.

As your participant EXHALES her diaphragm should ELEVATE, tummy should be flattening, Pelvic Floor should be activating and under tension, low back should be activating and under tension. Check this is actually happening as it often is not when the woman returns to exercise and take time to coach and help her get this is lying, seating and eventually standing before you every dream to start loading with exercise.

Every women heals differently, one woman may completely heal within 6 weeks where another may take months. Each women needs time, time to heal and you must work with each client individually giving them the best possible advice individually. The best assessment for returning back to the world of exercise is if she is having a physical relationship with her partner again without pain.

'ENGAGING YOUR CORE' THE WHOLE TIME… MAKES IT WEAKER, NOT STRONGER

You can't achieve core strength or good core function if everything is 'switched on' the whole time – muscles need to be able to work through their full range of motion, to fully relax and function at full length, as well as to contract naturally according to what they are being asked to do.

If something is already pulled as tight as it can go, but then it needs to contract to withstand sudden increased pressure – there's nowhere to go, right? That's why a hypertonic (too tight) pelvic floor leaks, and it's why a permanently sucked-in tummy pooches and sags when you stop sucking in long enough to take a breath.

The core muscle system is designed to switch on when needed. So when you lift, push, pull or perform any moment (whether in a workout or in life) that increases intra abdominal pressure – that's when your Transversus Abdominis muscle should kick in, when your core muscles engage.

As discussed above, when this system isn't working (as it isn't for many Mums) we have to focus and re-train it very consciously as first. But the aim, the goal, is a core that turns itself on when needed, and relaxes when not.

Here are our top take away tips for working with postpartum women:

- Help your client to slowly progress and build the core strength required to train properly and effectively after having babies.
- Be aware of the signs of Diastasis Recti and a weak pelvic floor. Both these issues can be worsened with certain high impact exercise and lifting.
- Find out as much about your postpartum client as you can. Don't be afraid to ask her questions regularly, get a comprehensive health questionnaire and make sure this is up to date with as much information from her as possible.
- Teach her how to relax her diaphragm and breath properly.

- Avoid Crunches, sit ups, Planks for postnatal clients and instead focus on a holistic approach with clients, functional movement patterns and movements instead.