



# Advanced Fitness Pilates In Pregnancy Certification

With Rachel Holmes  
and Kelly Reed-Banks

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Fitness  
Pilates





## **ADVANCED FITNESS PILATES FOR PREGNANCY**

**BY RACHEL HOLMES & KELLY REED-BANKS**

### **Introduction**

We are so pleased that you have chosen to upskill your knowledge and take your teaching to this advanced level with us.

This course will provide you with a thorough understanding of the relevancy of Fitness Pilates to pregnant women and outlines the benefits, as well as correct and effective Fitness Pilates exercises for them in all three stages of their pregnancy.

We will look at pregnancy in relation to the physical, physiological and emotional impact. Why Fitness Pilates is a good choice for pregnancy, the steps to take with participants before commencing a workout, signs to look for during exercise and generic guidelines that should be strictly followed throughout the journey.

We have also incorporated a section within this certification to help you aid participants who are trying for a baby in the pre-conception unit which also covers IVF treatment. This will help you support your clients in class and help them get in the best possible health & shape ready to fall pregnant.

Finishing off with what to expect in each trimester, together with a corresponding workout plans, we have also included a session plan for the final last 2 weeks of pregnancy which covers breathing, pelvic floor exercises, mindset and meditation to enable you to be able to teach your pre-natal client right up to giving birth.

However, it is vital that you understand that as a Fitness Pilates instructor, no matter what level of training you have had, you will be required to work alongside your participant's health care professionals and gain knowledge from their information.

Always make sure that clients have been cleared to exercise with you and offer 1-2-1 or small group sessions with pre-natal clients rather than to participate in your mainstream, large classes.



### **What you receive from this Advanced Certification Course:**

- Fully in depth training manual including extra information on pre-conception, physiological changes in the body and Fitness Pilates workouts for each trimester.
- Online learning portal which includes videos on Functional Movement & pelvic floor engagement through movement techniques as well as 'Do's and Don'ts Fitness Pilates exercises for each phase of the pregnancy.
- Nutrition, mindset, meditation & Fitness Pilates exercises for pre-conception as well as the last 2 weeks of pregnancy.

### **Assessment Criteria**

In order to successfully achieve your Advanced Fitness Pilates for Pregnancy certification you will be required to complete the following:

Gain full marks on the open book exam paper - this paper consists of 40 multiple choice questions

Submit a detailed case study for 1 Pre-natal client, including:

- Detailed consultation with par-q & lifestyle questionnaire.
- A session plan for just 1 class for their 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> Trimester.
- Evaluation of all 3 sessions on why you have chosen the exercises you have and how your client got on, including any changes you had to make to their session.

We have a template you can use for your session plans or you can create your own, however we cannot supply you with an example health questionnaire as this is part of your assessment.



### **Fitness Pilates & Pregnancy**

Pregnancy is a very special time in a woman's life and can affect each person differently both mentally and physically. The newness of this experience and all the issues that surround it can be nerve-racking and sometimes overwhelming. It is a time of uncertainty and a time that women may feel out of control.

Fitness Pilates represents a tool to use as a coping mechanism in this time of flux. It is one of the safest forms of exercise for mother and child and by doing Fitness Pilates regularly, women will provide the best physical and emotional environment for themselves and their baby. It promotes a feeling of beauty, grace and inner calm. It will not only help during the delivery but will help women to recover more quickly afterwards. This method of conditioning will allow women to bring balance back into their lives physically, physiologically and emotionally.

### **Physically**

A woman's body and in turn her posture, changes dramatically throughout the pregnancy, so maintaining good posture pre and post pregnancy offers so many benefits - reduced stress and strain on the structures (muscles and joints), reduction in muscle tension, and improved blood supply. Women become more flexible, they have greater strength and become more coordinated than before they fell pregnant.

- There will be more stress on the abdominals due to the pressure of the baby
- The pelvis will be moving in order to prepare for the labour, resulting in much more of an anterior tilt.
- There will be increased lumbar lordosis due to the weight of the baby at the front of the body
- Constantly growing breasts will result in increased thoracic kyphosis
- Pecs will tighten and the scapula will abduct
- Feet will sometimes swell and flatten
- Varicose veins from weight gain and pressure from the baby
- Leg cramps from the hormones and fluid
- Incontinence from the added pressure from the baby on the pelvic floor
- Nerve compression syndrome from fluid retention ie carpal tunnel
- Increased stress levels from the hormone cortisol
- Diastasis recti from hormones, weight gain and growing uterus
- Cervical pain and headaches from postural changes, dehydration, over heating and ligament laxity
- Thoracic pain from postural changes and the expansion of the rib cage
- Indigestion and heartburn
- Low back pain from postural changes, hormones, ligament laxity and weight gain
- Pubic symphysis dysfunction from ligament laxity and postural changes
- Rib pain from the pressure of the baby on the rib cage
- Nocturnal low-back pain
- Sciatica from postural changes and ligament laxity
- Sacro-iliac dysfunction from postural changes and ligament laxity



## **Low back pain and pregnancy**

The most common complaint is that of low back pain. Formal study of the incidence of low-back pain in pregnancy has been very limited. The overall prevalence of back pain during the 9-month period is thought to be approximately 50%.

Pain can begin before week 12 and continue up to 6 months post-partum.

Low-back pain during pregnancy can be classified into three types:

- **Lumbar pain** can occur with or without radiation to the legs. True sciatica is rare and thought to account for a small percentage of low-back pain in pregnancy.
- **Sacroiliac pain** is felt distal and lateral to the lumbar spine near the posterior superior iliac spine, and may radiate to the posterolateral thigh, usually to the level of the knee and rarely to the calf. It is four times more common than lumbar pain. Symptoms of sacroiliac joint pain typically continue several months after delivery. It is thought that 20% to 30% of pregnant women experience both lumbar and sacroiliac pain.
- **Nocturnal pain** occurs in the low back only at night while recumbent.

## **Why does her back hurt?**

Understanding the normal musculoskeletal changes that occur during pregnancy is useful for targeting and treating the sites of a client's back pain.

**Lumbar pain:** Lumbar pain during pregnancy can stem from multiple sites, most commonly the facet joints, para-spinal muscles, supporting ligaments, or discs.

Posture changes that occur during pregnancy help the woman maintain balance in the upright position as the foetus grows. The increasing weight is





distributed primarily in the abdominal girth. After 12 weeks of pregnancy the uterus expands out of the pelvis and moves superiorly, anteriorly, and laterally. The abdominal muscles become less effective at maintaining neutral posture (shoulders back, avoiding hyper-lordosis) because the growing uterus stretches the muscles, reducing their tone. Initially, however, studies have shown that lumbar lordosis remains the same or increases only slightly. The centre of gravity as a whole shifts more posteriorly and inferiorly as the spine moves posterior to the centre of gravity.

As pregnancy progresses, the hormone relaxin, which allows pelvic expansion to accommodate the enlarging uterus, increases tenfold, reaching its peak at the 14th week. Joint laxity is more pronounced in multiparous women than it is during the first pregnancy. In the lumbar spine, joint laxity is most notable in the anterior and posterior longitudinal ligaments, both of which are pain-sensitive structures. As these static supports in the lumbar spine become more lax, they can't as effectively withstand shear forces, and discogenic symptoms and/or pain from the facet joints may increase.

As the abdominal muscles stretch to accommodate the growing foetus, their ability to help stabilise the pelvis decreases. The burden shifts to the paraspinal muscles, which become strained at a time when they may be shortened from the increased lordosis of the lumbar spine.

**Sacroiliac pain:** In the pelvis, joint laxity is most prominent in the symphysis pubis and the sacroiliac joints. The symphysis pubis widens throughout pregnancy from its normal width of .5 mm to a maximum of approximately 12mm. With widening comes the possibility of vertical displacement of the pubis and rotatory stress on the sacroiliac joints. In the non-pregnant state, the sacroiliac joints are extremely stable with tight anterior and posterior ligament support and a sigmoid articular surface that limits movement. During pregnancy, however, movement in the





sacroiliac joints can increase dramatically, causing discomfort when the pain-sensitive ligamentous structures are stretched.

**Nocturnal pain:** Some women have night back pain exclusively, others have both night pain and lumbar or sacroiliac pain. There are many theories about why night pain develops. One theory is that muscle fatigue accumulates throughout the day and culminates in back pain at night. Another is that daylong bio mechanical stress from sacroiliac dysfunction or mechanical low-back pain from altered posture produces symptoms in the evening. Circulatory changes during pregnancy may also contribute to low back pain at night. The enlarging foetus compresses the inferior vena cava when the woman is supine, which may divert blood flow to the ascending lumbar veins, the vertebral venous plexus and the para-spinal veins. The intravascular volume increases when the pregnant woman is supine may contribute to engagement of the collateral neurovascular structures, producing low-back pain at night.

### **How can Fitness Pilates help Physiologically?**

Fitness Pilates helps balance hormone levels and promotes an inner harmony so that the body is operating at its best and as one efficient unit. When you become pregnant, your hormone levels change and the hormone commonly referred to as 'the death hormone' (cortisol) increases, causing many physical illnesses and even more psychological discomfort. With cortisol levels unnaturally high and any stress causing them to rise higher, the physical and emotional danger during pregnancy is increased significantly.

That is why Fitness Pilates can benefit women enormously as the most immediate benefit from a work out is the overwhelming feeling of stress relief. The reason for this calming effect is primarily a re-balancing of hormonal levels.



After completing a Fitness Pilates class, cortisol levels drop significantly – so significantly that it will be below normal pre-pregnancy levels. For the mother this means she will be more calm, being more able to cope with responsibilities and whatever comes her way and for the child, it provides an ideal environment, free of stress-causing hormones and the unhealthy effects of that stress. Although no studies have been performed on why this drop in cortisol occurs, we can assume it is due at least in part, to proper breathing.

### **Emotionally**

Fitness Pilates allows women to feel more in control of their life, more mentally balanced, more open to change and possibility and better equipped to come at life from a place of strength and assuredness.



### **What are the benefits?**

We know that Fitness Pilates is a technique that emphasises spinal stabilisation, pelvic floor control, breathing and posture. This makes it an ideal exercise partner for the new mum or indeed the mum to be, especially in the area of strengthening the pelvic floor. Figures state that 1 in 3 women will become incontinent following childbirth, due to weak and ineffective pelvic floor muscles. It is important to note however, that for some women (mainly dancers, elite sportswomen and gymnasts) their pelvic floor can be too strong and overworked which, in some cases, may result in a Caesarean having to be carried out. It is therefore important in these cases to focus on relaxing the pelvic floor to avoid this procedure if at all possible.

Pilates also focuses on the abdominal area and helps those muscles physiologically in a number of ways. Women who practise Pilates during pregnancy not only have fantastic muscle tone but are far less likely to experience muscle separation during delivery. This muscle development in the abdomen will provide better support and will allow the spine to elongate. As the spine elongates, the chest will rise and these improvements to posture will give the foetus more room. It will also make women much more comfortable and less susceptible to lower back pain.

After delivery, women will experience a sensation like having a hole in their lower stomach area. Because of the strengthened abdominal muscles, the 'hole' will feel much smaller than if they hadn't done Pilates. Pilates is also unique in that it will help women achieve a flatter tummy more quickly after delivery, even if they didn't have a flat tummy before they became pregnant. With Pilates, they will not create bulky muscle to show off size. Rather, the strength of the muscle encourages them to step up their activity and will improve their coordination and balance and everyday they do Pilates, their energy will be enhanced throughout the day.



## The Eight Principles

**Concentration** – This is important in order to focus the mind on exactly what the body is doing and which parts of the body we are referring to. This technique will be especially beneficial when pregnant so as not to incur any injuries and also during labour. As the ability to concentrate on a particular area of the body improves, the quality of movement dramatically enhances.

**Control** – control is key to the quality of movement and Pilates is about specific and intentional movements. Once women have the basic understanding of the movements, they will be able to execute them gracefully and with control – even during the most awkward stages of pregnancy.

**Centring** – this centre is the place that connects the abdominal muscles with the small of the back and is the place around which anything rotates or revolves. Strength in this area during pregnancy is particularly essential and can emanate dramatic changes in the way women stand, move, walk, carry themselves and physically relate to the world around them.

**Precision** – Pilates is a combination of art and science. By being precise and exact in the movements will result in the best possible results and have huge benefits whilst pregnant. Women will work more effectively and with purpose. It is the precise control that is demanded from the body that will magically free up the mind!

**Flowing movement** – there is really no time when the movement stops. Like a perfectly choreographed dance, each movement flows into the next. This will help women to feel in control and confident when at times everything else in their new pregnant life can seem out of control.



**Breathing** - Most but not all women have some difficulty breathing when they are pregnant - especially in the second and third trimesters. Some women have a shortness of breath, some women feel their babies stretch and move and this movement invades their lungs. Whatever the case may be, Pilates will help to increase lung capacity and diminish shortness of breath, at the same time creating more room for the baby within the body. Learning to breathe into discomfort when the baby moves, when the mother has muscle spasms and cramps, when experiencing contractions and when in labour, will help with relaxation. That relaxation will empower the body's natural ability to do what it has to do and the likelihood of hyperventilating during labour, injuring oneself by pushing and experiencing feelings of light-headedness will all be dramatically reduced.

If nothing else, concentration on the breath will allow a shift of focus away from discomfort onto something else, putting the mother back in control. To breathe is to live!

**Alignment** - One of the key issues during pregnancy concerns balance, so achieving 'perfect alignment' throughout the body, creates balance. There are many explanations for the diminishing ability to maintain balance. Women will add 25-30% to their total weight over the nine months of their pregnancy, with the majority of that weight around the tummy, so their centre of gravity will be changing rapidly. This can be unnerving and mean women become much more tentative. This tentativeness is compounded by two other factors: the natural hormonal balance taking place within the body and how that hormonal release affects mental state. A protein called sex-binding globulin regulates how much of each hormone is delivered where and how much of each hormone the body will hold. Pregnant women have relatively more oestrogen and less testosterone than usual. Testosterone aids



in balance, spatial orientation and hand-eye coordination. When doing Pilates, testosterone levels rise and will remedy most balance issues.

Balance can also be more general – when we achieve physical balance, we do achieve a sense of beauty and balance brings with it a natural harmony, both within ourselves and in the world around us. Nature likes nothing more than symmetry!

**Commitment** – this is definitely an area that will be the hardest to maintain during the weeks when the body changes and women just don't feel up to it, but dedication and consistency when practising can have a profound effect. The more they commit to improving their life, the easier they want the pregnancy to be and the more they want to improve the quality of life for the child they are carrying, the greater and more profound the experience will be. The greater the will, the greater the rewards.



### **First things first**

Before commencing a client with a new programme, it is imperative to review their initial questionnaire if they are already a client or ask them new, more specific questions if they are a new client. Their answers will help to devise an even more specific and tailored programme and avoid the risk of causing any harm to mother and/or child. These questions could include:

- Past history of pregnancies (miscarriages etc)
- Past labour history (caesareans, vaginal, breech, complications, length of time etc)
- Past history of mother's labours and medical history
- Any bleeding
- Heart palpitations
- Diabetes/anaemia

The client history is perhaps the most useful tool in differentiating the cause of pregnancy-related back pain. Clients should be asked to describe the location, nature, and duration of their pain.

Women with lumbar back pain have pain while weight bearing and seated for prolonged periods.

Women who have sacroiliac pain will describe pain in the posterior pelvis and deep in the gluteal area. Those who have sacroiliac pain as their primary complaint generally have low-back pain longer throughout the pregnancy than those who have only lumbar low-back pain. The pain is exacerbated by any prolonged posture, especially during weight bearing. The client also will describe pain that occurs while turning in bed at night.





Women who have nocturnal pain often describe a low-back cramp that is similar to the low-back ache of menstruation. It may be severe enough to awaken them from sleep. Unlike clients who have sacroiliac or lumbar pain, women with nocturnal pain will not describe pain from turning in bed.

### **Risk factors**

If the client has suffered/is suffering from any of the following, the risk factors for exercising whilst pregnant will be higher:

- Thyroid disease
- Diabetes
- Anaemia
- Bleeding
- Breech position in 3<sup>rd</sup> Trimester
- Hypertension
- Sedentary lifestyle
- Previous diastasis
- Obesity or extreme malnourishment
- Cardiac arrhythmias or palpitations
- Foetal growth retardation
- History of sudden labour.

Based on their answers, it will be obvious as to what exercises will become contra-indicated. It is also important to constantly monitor the client throughout each trimester in case they suddenly contract any one of these complications as the months go by.

### **When to say NO**

The following is a list of reasons for clients to definitely not exercise whilst pregnant and these should show up in your initial consultation with them as well as your regular monitoring of your client:



- Placenta previa
- Previous miscarriage
- Instruction from GP/Gynae/Obstetrician etc
- Previous long-term labour
- Incompetent cervix
- Pregnancy induced hypertension
- History of spontaneous abortions
- Ruptured foetal membrane
- History of cardiac disease
- Inadequate development of foetus or placenta.

### **Pre Conception Fitness Pilates**

You may have many clients who actually start coming to your Fitness Pilates classes as they want to get pregnant and this is a great niche market to run specialised classes or courses in.

We want to give you as much information as possible within this Advanced Fitness Pilates certificate so Pre Conception Fitness Pilates is a must.

The rule of thumb with exercise during pregnancy is that you can usually continue whatever you were doing before. So if she wants to do Fitness Pilates during her pregnancy, she needs to start before she becomes pregnant so she has a good understanding of her core strength, flexibility, and back strength before her body starts to change.

Practising Fitness Pilates as part of her pre-conception programme can have great benefits. We have listed these below to help you inform your clients but also help you market your courses –

Benefits to Pilates BEFORE Pregnancy:

1. **Develop a strong, resilient pelvic floor and core, including the diaphragm with proper breathing techniques** - This will help her not only fall pregnant but then during her pregnancy, during labour and most importantly post-natal.
2. **Reduce or eliminate common pains and complaints that arise during pregnancy such as back pain and extreme fatigue.**
3. **Physical changes are better tolerated** - She may have mixed feelings about gaining weight and other changes that happen to the body, such as stretch marks, may be better tolerated due to her positive psychological state – a common effect of regular, 'feel-good' exercise.
4. **Fitness Pilates focuses on movement from the core** - This guarantees that the 50% of increased blood-flow is directed towards the baby, rather than away from the core when working on individual muscles.
5. **Reduce chance of developing Diastasis Recti, Pelvic Organ Prolapse, and incontinence after pregnancy.**
6. **Quicker recovery** - Postnatal body will be better able to bounce back due to the proper conditioning of the muscle tissue and fascia that stretch during pregnancy.
7. **Client can continue Fitness Pilates through her first trimester (with dr. approval) making the first trimester much more manageable.**

It is also important to give her some advice on her nutrition which will aid her pre-conception and support the work that you are doing with her in Fitness Pilates so below is just some basic nutrition information you can implement with her.

- Eat foods high in antioxidants – since oxidative stress can hinder both eggs and sperm, foods should be chosen that are high in antioxidants; I hate to say it, but this is especially true in older women to counter the effects of aging on the eggs. Fruits and vegetables are probably the best sources of antioxidants – make juices or smoothies to get maximum nutrition and number of daily servings.
- Eat organic – there are so many reasons to eat organic – fewer pesticides and chemicals is one; but equally importantly, if a food is certified organic it cannot contain any GMO's. I think GMO's are one of the scariest things facing our nutritional health these days, so you want to do everything in your power to avoid them. Chemicals and toxins can clog our bodies up, put stress on our livers and create inflammation – all of which can hinder hormone balance and fertility.
- Eat grass-fed, free-range, pastured meats and poultry – red meat is not inherently bad, and can actually be an important source of iron and protein, two things that are key for fertility and pregnancy. However, grain-fed beef is lower in nutrition and higher in saturated fat than grass fed, leading to more inflammation in the body and posing a greater health risk. Grass-fed meat is a good source of omega-3 fatty acids along with being a good protein source. It is also important to make sure meats and poultry are not treated with any antibiotics, or any hormones – both of those things can disrupt fertility too.
- Eat cold-water fish – cold water fish such as wild salmon is a great source of protein and omega-3 fatty acids. These healthy fats reduce inflammation and promote fertility. Under no circumstances would I suggest farm-raised fish which are fed grains and other nasty unhealthy things; and be watchful of high-mercury fish such as tuna.
- Eat eggs at least twice, preferably three times, per week – eggs are a great source of protein, vitamins and minerals, but perhaps more

importantly for fertility, they are a source of cholesterol. We're all so conditioned nowadays to think of cholesterol as a bad thing, but all of our steroid hormones are built from cholesterol – including our cortisol, DHEA, testosterone, oestrogen and progesterone. It's important to make sure we have enough of the building blocks to be able to create healthy levels of hormones.

- Minimise sugars and refined carbohydrates – sugars and simple carbs do nothing to promote health or fertility. They cause large fluctuations in blood sugars, which is particularly bad for those suffering from PCOS. They also suppress immune function, leaving us more susceptible to infections, and less able to deal with environmental threats that might come along.
- Avoid gluten – this can be a tough one, but gluten is so hard for many people to digest and process, and can trigger auto-immunity in the body. Auto-immune processes can be a contributing factor in infertility. At the very least, make sure to get a good test done for gluten intolerance
- Minimise soy unless it is fermented – soy is a source of phytoestrogens that can bind with oestrogen receptors and throw off our own hormone levels. Tempeh, miso and other fermented forms of soy are not so bad.
- Minimise alcohol and caffeine – Again, not totally excluding those things, but limit coffee to one a day and tea to two a day; and save the wine for special dinners and social events. We want to keep her adrenals happy, yeast levels down and blood sugar balanced as much as possible.



**Example Fitness Pilates class for Pre-conception**

Instructor: Kelly Reed-Banks	Class: Fitness Pilates	Time Of Class: Pre-conception Fitness Pilates	
Duration: 60 minutes	Venue:	Number Of Participants:	
Equipment: Mat, band, IPOD doc			
<p><u>Set Up: Begin standing in barefoot. Align feet, knees, hips, pelvis, ribs, arms, shoulders, neck and head. Introduce lateral breathing for relaxation and a focus tool. (4 minutes)</u></p> <p><u>Mobility warm up (6 minutes) circle ankles, circle shoulders, side bends, opposite arm to leg reaching back, knee raises into circling hips and opposite arm, squats, roll down, Calf Stretch in plank and press up, Roll back up, spine twist.</u></p>			
<u>Time</u>	<u>Exercise</u>	<u>Modifications</u>	<u>Progressions</u>

<u>On all fours 6 minutes</u>	<u>Superman- Lifting one hand off the floor. (cat peddles) develop into opposite Arm to leg – full Superman</u>	<u>Lie in prone position (if have bad wrists)</u>	<u>Extend arms and legs or add opposite legs</u>
<u>Prone work 8 minutes</u>	<u>Alternate leg raises (single swim leg)</u>	<u>Rest head on the floor Lift from toes to knee off the floor. (bend knee)</u>	<u>Double leg, double leg with back extension.</u>
<b><u>Supine 15 minutes</u></b>	<u>Swimming – arms and legs rested on the floor. Bent arms Alternate opposite arm to leg.</u>	<u>Stay with just one arm or just one leg.</u>	<u>Extend arms and back extension</u>
	<u>Back extension in Frontal plane</u>	<u>Back extension in sagittal plane</u>	<u>Lifting opposite leg</u>
	<u>Half roll back</u>	<u>Use hands on the floor or a band</u>	<u>Develop into a full Roll up or Extend arms overhead</u>
	<u>Single knee drop</u>	<u>Keep 1 foot on the floor</u>	<u>Add in Pec Dec arms</u>
	<u>Table tops Tap Downs</u>	<u>Keep 1 foot on the floor</u>	<u>Extend opposite arm to leg</u>
<u>Side Lying 5 mins</u>	<u>Shoulder bridge</u>	<u>Only come up half way to mid back</u>	<u>Extend arms overhead as you come up, keep arms overhead until coccyx hits the floor on the roll down and then bring arms down</u>
	<u>Side lying – open door</u>	<u>Use a block or pillow under head, pull arm into bow and arrow rather</u>	<u>Take into full chalk circle</u>
	<u>Repeat on other side</u>		
<u>Stretch 10mins</u>	<u>Shell pose, stretching out back Lying in prone bending the knee to stretch out back</u>		





**Trying for a baby can be a very stressful experience for many women so you may wish to include some mindset and relaxation at the end of your Fitness Pilates classes as well.**

### **Once she has fallen pregnant**

#### **Generic guidelines for instructors to follow and implement**

Providing the client is fit and healthy and ready to commence their workout, there are a generic set of guidelines that as an instructor, should be followed when working with a pregnant client:

- Don't start them on anything new (certainly not until second trimester)
- Do not let them become overheated or exercise until they can't catch their breath to speak
- Keep them well hydrated
- It is important to encourage clients to get plenty of rest, eat well before exercising and look at increasing their daily caloric intake
- Discourage the consumption of alcohol and caffeine
- Avoid exercise in a supine position after the first trimester. (Supine positions may interfere with cardiac output to the foetus.)
- Upper body exercise is encouraged as it does less to divert blood flow away from the foetus than lower body exercise.
- Avoid movements with forward flexion of the thoracic spine and you should not elevate the chest and head into the sit up position because the linea alba separating the two sides of the abs opens creating a diastasis. Forward flexion increases the diastasis. Still bring the navel to spine and close the diastasis as much as possible.
- Avoid extreme rotational movements of the spine, as there is a (small) chance of causing the placenta to tear away from the uterus.
- The transverse abdominal muscles should be exercised throughout pregnancy, as they are partly responsible for helping to push the baby out.



- Avoid positions and movements that present a challenge to balance in order to prevent falls.
- Continue strengthening and re-balancing the muscles around the joints - still trying to centre the body as it goes through many postural changes
- The overall intensity should be mild to moderate as pregnancy hormones "relax" ligaments and joints, making your client more susceptible to strains and sprains.
- Take care when changing positions from sitting to standing.
- Modify intensity of exercises according to how they feel on a session by session basis.

### **Warning signs to look for during the workout**

Exercise should be immediately stopped if the client experiences any of the following:

- Bleeding
- Extreme nausea
- Sharp pain in the chest or abdomen
- Headaches
- Dizziness
- Severe breathlessness
- Palpitations
- Excessive swelling
- Very hot or clammy
- Amniotic fluid leaking
- Difficulty walking

### **Physical changes in a pregnant woman**

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

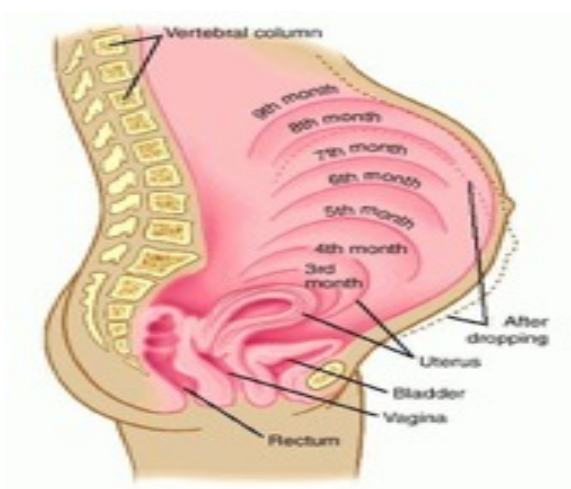
#### **Hormones During Pregnancy:**

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 changes that you need to be aware of as a Fitness Pilates 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

**Fitness Pilates exercises to instruct:**

**ALL 4'S – Superman**

- Lengthens the spine and torso, creating space for the expanding uterus
- Strengthens the core
- Strengthens balance and proprioception – the awareness of your body moving through space

**Standing lateral bend**

- Creates space through the torso
- Emphasises lifting through the sides rather than collapsing

### Standing Swoop

- Loosen up tight shoulders (upper trapezius) and activate the lats (latissimus dorsi)

### Side lying Open Door

- Release tight shoulders
- Opens chest and back muscles

## 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:

#### Rectus Abdominis

#### **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
  - o the internal organs intact and

- o 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 of 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 fascia 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
  - o Low-back pain
  - o Pelvic pain
  - o Umbilical hernia
  - o 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 Pre & Post Natal Fitness Pilates 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).

### **The 'Rec Check' – Checking for Diastasis Recti**

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.



4. 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**

### **Pilates Concepts**

To correct Diastasis Recti, we have to 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.

1. **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 practise 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.

**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.

### **3. The pelvic joints loosen, and weight bears down into the pelvis**

Discomforts associated with these changes:

- Pelvic Pain
- Pubic Symphysis Dysfunction
- Sciatica
- Back Pain

### **Pelvic Pain- Symphysis Pubis Dysfunction (SPD)**

As early as the first trimester of pregnancy, a woman may begin to feel pain in her sacrum.

As the foetus grows and the uterus expands entering the second trimester, more pains expand into the body, including pelvic and hip pain.

Walking, standing, sitting, rolling over in bed, can all be painful due to the shifting and loosening of the hip and pelvic joints.

**This loosening is preparing those hips to be able to give birth**

To understand pelvic pain we need to understand the pregnant pelvis and what is actually happening to it.



## **1. Hormones Relaxin and Progesterone**

These remarkable hormones are responsible for:

- the loosening of the joints and ligaments, particularly in the hips and pelvis - the sacroiliac joints and pubic symphysis joint.

While this is absolutely necessary to accompany the growing foetus and expanding pregnant uterus, and ultimately the birth, the instability causes pain in the hips and pelvis.

- These hormones also cause lax joints and ligaments in other areas of the body, resulting in issues such as a pregnant woman's susceptibility to sprained ankles.

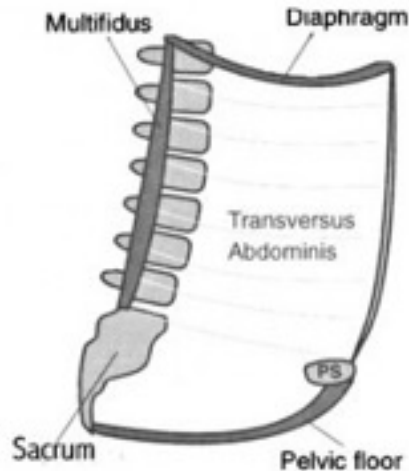
## **Basic Anatomy of the Core**

Bone and Ligament Structures of the Core:

- The Pelvis
- Sacroiliac Joints
- Pubis Symphysis
- Lumbar vertebrae and supporting ligaments (Thoracolumbar Fascia)
- Uterus and Pelvic Ligaments

## **4 Primary Muscles of the Core -deepest core muscles**

- Diaphragm



- Transverse Abdominals
- 4 Primary Muscle of the Deep Core - Crucial to understand how they all work together.
- Pelvic Floor Muscles
- Multifidus

### **Secondary Muscles of the Core**

- Glutes
- Hamstrings
- Adductors
- Latissimus Dorsi

We are going to go over the anatomy of the pelvis. But keep in mind that to relieve pain, the deep core muscles have to be involved. Our body parts work together.

### **The Sacrum**

This fused vertebrae, posterior (in the back of) of the pelvis, provides maximum stability for the spine when positioned neutrally.

In pregnancy, the top of pelvis tends to tilt anteriorly (forward), causing the sacrum to tilt up and the low back to sway into an exaggerated arch



(lordosis). Pelvic tilts will help your prenatal client find *her* neutral during pregnancy, bringing the sacrum back to its most stable position.

### **Sacroiliac Joints**

These joints attach the sacrum to the hip bones, normally allowing limited movement in the sacrum. During pregnancy, these joints loosen (due to the hormones relaxin and progesterone) causing hyper mobility, contributing to the pelvic pain problem.

### **Pubic Symphysis Joint**

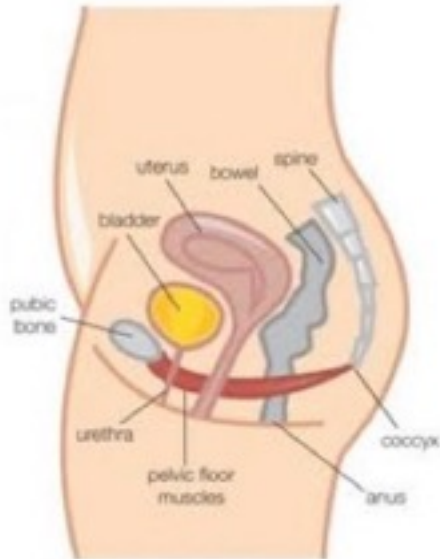
This is a normally a somewhat flexible band of cartilage that links the two halves of the pelvis together, allowing independent movement of the hip bones while walking.

### **LOOSENING OF THIS JOINT IS THE PRIMARY REASON FOR PELVIC PAIN.**

In women, the pubic symphysis is created wider and more flexible than in men to allow the pelvis to stretch during child-birth.

### **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 a Fitness Pilates 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. Fitness Pilates exercises to not only aid her pregnancy but to make her fit for purpose once she has had baby.





Fitness Pilates 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

#### **4. The pregnant woman's centre of gravity shifts forward**

Discomforts associated with this change:

- Shoulder pain
- Upper back pain
- Low back pain

#### **Pregnancy Breathing in Fitness Pilates – 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)*

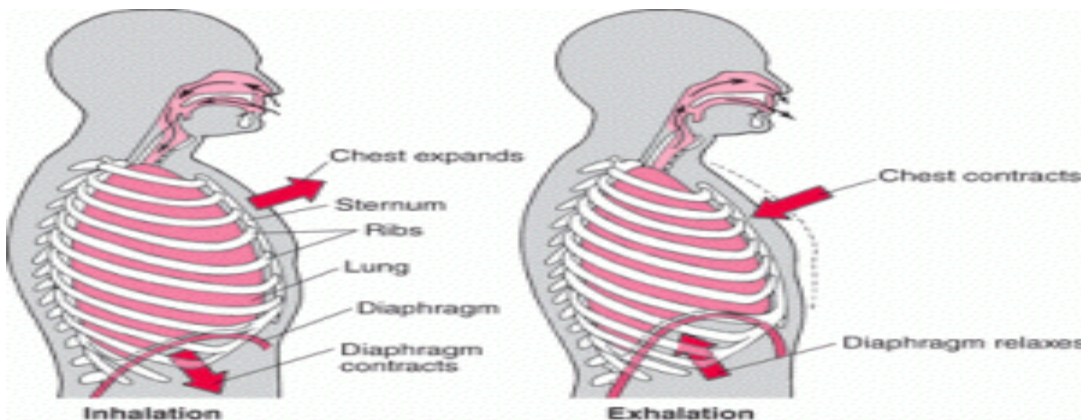
In addition to these system changes, are the physical changes happening within the torso. As the uterus expands upward, the diaphragm is pushed upward (along with the other organs in the way such as the stomach and

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.**



### **Exercise During Pregnancy First Trimester 0-12 Weeks**

The 1st Trimester is considered from conception to 14 or 16 weeks. This is considered the most vulnerable time during pregnancy, only because miscarriage is more likely to happen in this trimester compared to the 2nd and 3rd.

Previously, the **ACOG (American College of Obstetrics and Gynaecologists)** has given the guideline that women should not begin any new type of exercise in the 1st trimester, because of the higher risk of miscarriage, from the idea that anything unfamiliar to the body causes risk. BUT, the ACOG recently updated their research, and released a new set of guidelines for exercise during pregnancy stating that:

*If you are healthy and your pregnancy is normal, it is safe to continue **or start most types of exercise.***

and that...

*Physical activity does not increase your risk of miscarriage, low birth weight, or early delivery.*

***So as a Fitness Pilates instructor if you are training a prenatal client in her 1<sup>st</sup> Trimester these are your main key focus points –***

**Goal:** Establish a routine to continue throughout pregnancy

**Focus:**

- Core Strength and Stability -Particular attention to the transverse abdominals, diaphragm, the pelvic floor, and the glutes (which stabilise the pelvis,)
- Strength and control with ease of movement
- Squatting – multiplane
- Posture -Neutral spine,
- Flexibility, and ease of movement



- Lateral Thoracic Breathing – Exhale on Exertion
- Sufficient understanding of the pelvic floor

### **Physical Symptoms**

- Nausea and fatigue
- Tender, swollen breasts
- Increased urination and constipation

### **Special Considerations!**

- Check with Doctor that she is ok to exercise
- Use common sense
- Educate client
- Have client listen to her body

### **Contraindications:**

- Injury
- Acute illness
- Vaginal bleeding with or without cramping
- Sudden onset of new pain, especially in abdomen or pelvis.

### **Exercise list for 1<sup>st</sup> Trimester**

- Roll down into modified press up
- Squats in 3 planes
- Squats in asymmetric
- Lunges in all 3 planes
- Knee to stand lunge
- Cat to cow pose
- Superman
- Modified Thread like a needle
- Prone lying back extension
- Square

- VW
- All side lying work
- Half roll back into pelvic tilt
- Seated ab work with mini ball behind back (no rotation if **Diastasis Recti**)
- Seated spine twist (if no Diastasis Recti)
- Seated spine stretch
- Supine Table top (short period of time)
- Knee drop
- Leg slides
- Modified knee rolling

#### **Use of Fit Ball**

- Pelvic tilt with feet over ball
- Supine knee roll with legs over all
- Seated pelvic tilt on ball
- Seated walk out into bridge on ball
- Seated arm work with band or weights whilst sitting on ball
- Have ball in between feet, laying supine and squeeze

#### **Band work**

- Standing squats with band around thighs – all planes and asymmetric
- Standing arm work with band under 1 foot eg bicep curl, lat raise, dumb waiter
- Standing scapular retraction with band in a loop around hands
- Seated rows with band around feet, mini ball behind if required
- Seated bow and arrow for scapular retraction
- Seated bicep curl and tricep extension
- Seated dumb waiter with band either around feet or under hips



- Seated tricep extension above head with band under hips

**Mini Ball work**

- Standing work with mini ball in between thighs
- Standing squats with mini ball in between legs
- Forward lunge with glute squeeze with mini ball in hands
- Tricep push backs holding ball in hands behind bottom

All seated work with mini ball behind back (no twisting or rotational work if

**Diastasis Recti** is present)

- Ball in between knees for knee roll (feet on floor)
- Ball in between knees for shoulder bridge
- Side lying with ball in between ankles, squeeze lower leg up
- Side lying clam with ball on lower leg to cushion top knee
- Use ball under top hand for side lying work
- Ball in between knees for modified thread like a needle
- Ball in between knees on side lying open door

Example class for 1<sup>st</sup> Trimester

Position	Exercise	Modifications	Progressions
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<p>Standing</p>	<p>Multiplane Squats – stepping asymmetric as well as lateral with forward reaches on all levels Stagger lateral squats adding vibration to engage pelvic floor, use multi-level forward reaches  Forward lunge with glute squeeze</p>	<p>Reduce range of movement  Reduce range of movement, perform with hands on hips  Standing glute squeeze – lifting alternating leg</p>	<p>Increase range of movement and perform with band around thighs  Carry foam roller in arms (as baby)  Carry Foam roller as above</p>
<p>On all fours</p>	<p>Roll down, Roll up into swoop</p>	<p>Standing swoop without Roll Down</p>	<p>Place Mini ball in between thighs for deeper pelvic floor engagement Extend arms and legs or add opposite legs</p>
<p>Seated</p>	<p>Superman- Lifting one arm off the floor. develop into opposite Arm to leg – full Superman Take arm and leg out onto diagonal  Seated V sit with mini ball behind for support, have feet on floor or together with</p>	<p>Lie in prone position (if comfortable) Or lift just arms or legs  Move legs in more comfortable position</p>	<p>Add weight or band in hands  Increase range of motion</p>





### **Second Trimester 14-27 week**

- The second trimester is considered the most comfortable stage.
- The body has become adapted to the hormonal changes; nausea and fatigue have usually subsided.

### **PRECAUTIONS TO TAKE:**

- Prenatal client may be uncomfortable on her back towards the later part of the 2nd trimester due to the weight of the uterus pressing on the vena cava artery. Symptoms are shortness of breath, dizziness
- Limit lying flat to about 3 minutes at a time. Let her be the judge of that. She may be fine lying for 10 min.
  - Modify lying down exercises by either sitting up, or propping heart above the belly or "heart over baby"
- Relaxin and Progesterone, the hormones responsible for the loosening of the joints and ligaments, begin to rise, leaving her vulnerable to sprains and falls.
- Clumsiness is common due to a drop in testosterone. Be aware of this when giving exercises that test balance.

### **FOCUS:**

- Good understanding of lateral Breathing, neutral spine & bracing
- Squatting
- Latissimus dorsi and pelvic floor engagement (part of Brace the Baby)
- Adjusting to centre of gravity and baby grows.

So as a Fitness Pilates instructor if you are training a prenatal client in her 2<sup>nd</sup> Trimester these are your main key focus points

**Goal:** Strengthen and Build Endurance with a moderate level of exertion

- Growing Foetus



- Rapid weight gain
- Expanding Uterus Focus
- Core Strength and Stabilisation
- Control of Pelvic Floor
- Squatting and Gentle Hanging
- Proper Posture and Neutral Spine
- Lateral Thoracic Breathing
- Functional Exercises working in different planes of motion
- "Brace the Baby" "Free the Baby"
- Latissimus Dorsi exercises

### **Physical Symptoms**

- The second trimester is known as the most enjoyable of the three trimesters.

### **Special Considerations!**

- Supine Hypotensive Syndrome
- Joint Instability
- Diastasis Recti
- Balance Issues/Clumsiness - Spatial Awareness
- Lordosis-Anterior Pelvic Tilt-excessive arching

### **Instructors make sure:**

- Check with Doctor that she is still ok to exercise
  - All women unique
- Beginning Exercisers vs. Advanced and Athletes
- Moderate Level of Endurance
- Use common sense
- Educate client
- Have client listen to her body



### **Exercise list for 2<sup>nd</sup> Trimester**

- Half Roll down into hands on thighs and cat stretch
- Staggered lateral squats
- Squats in asymmetric
- Lunges in sagittal and frontal
- Knee to stand lunge
- Lunge to glute squeeze holding foam roller
- Modified press up into shell pose
- Cat to cow pose
- Superman – single arm or leg or both if able
- Modified Thread like a needle (no rotation)
- Standing back extension
- Standing Square
- Standing VW
- All side lying work
- Seated pelvic tilt
- Seated leg slide with mini ball behind back
- Seated feet – flex and point
- kneeling spine stretch over ball (shell pose but with arms on ball)
- Plank up (seated and push hips up to reverse plank)

### **Use of Fit Ball**

- Seated Pelvic tilt with ball behind back
- Seated pelvic tilt on ball
- Seated walk out into bridge on ball
- Seated arm work with band or weights whilst sitting on ball
- Modified hundred with ball behind back, lift one leg
- Seated Mini ball squeeze between knees with fit ball behind back



**Band work**

- Standing squats with band around thighs – all planes and asymmetric
- Standing arm work with band under 1 foot eg bicep curl, lat raise, dumb waiter
- Standing scapular retraction with band in a loop around hands
- Seated rows with band around feet, mini ball behind if required
- Seated bow and arrow for scapular retraction
- Seated bicep curl and tricep extension
- Seated dumb waiter with band either around feet or under hips
- Seated tricep extension above head with band under hips

**Mini Ball work**

- Standing work with mini ball in between thighs
- Standing squats with mini ball in between legs
- Forward lunge with glute squeeze with mini ball in hands
- Tricep push backs holding ball in hands behind bottom

All seated work with mini ball behind back (no twisting or rotational work if

**Diastasis Recti** is present)

- Ball in between knees for knee roll (feet on floor)
- Side lying with ball in between ankles, squeeze lower leg up
- Side lying clam with ball on lower leg to cushion top knee
- Use ball under top hand for side lying work
- Ball in between knees for modified thread like a needle
- Ball in between knees on side lying open door

Example basic class for 2<sup>nd</sup> Trimester

Instructor: Kelly Reed-Banks	Class: Fitness Pilates	Time Of Class: 2 <sup>nd</sup> Trimester Fitness Pilates
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Duration: 60 minutes	Venue:	Number Of Participants:	
Equipment: Mat, band, IPOD doc			
<p>Set Up: Begin standing in barefoot. Align feet, knees, hips, pelvis, ribs, arms, shoulders, neck and head. Introduce lateral breathing for pelvic floor focus tool using band around rib cage. Exhale on Exertion</p> <p>Mobility warm up (6 minutes) circle ankles, circle shoulders, side bends, knee raises into circling hips and opposite arm, squats, Diagonal roll down, Calf stretch against a wall</p>			
Position	Exercise	Modifications	Progressions

<p>Standing</p>	<p>Multiplane Squats – stepping asymmetric as well as lateral with forward reaches on all levels</p> <p>Stagger lateral squats adding vibration to engage pelvic floor, use multi-level forward reaches</p> <p>Forward lunge</p> <p>Standing sloop</p>	<p>Reduce range of movement</p> <p>Reduce range of movement, perform with hands on hips</p> <p>Standing glute squeeze – lifting alternating leg</p> <p>Decrease range of movement</p>	<p>Increase range of movement and perform with band around thighs</p> <p>Carry foam roller in arms (as baby)</p> <p>Carry Foam roller as above</p> <p>Place Mini ball in between thighs for deeper pelvic floor engagement</p>
<p>Seated</p>	<p>Seated V sit with mini ball behind for support, have feet on floor or together with knees apart</p> <ul style="list-style-type: none"> <li>• Take alternating arms up</li> <li>• Take both arms out</li> <li>• Take alternating legs away (keep leg</li> </ul>	<p>Move legs in more comfortable position</p> <p>Or keep hands on floor and just move legs</p>	<p>Add weight or band in hands</p> <p>Increase range of motion</p>



### **Third Trimester 28-40 Weeks**

- The third trimester is the most physically uncomfortable of the 3 trimesters.
- Low-back pain and pelvic pain are common due to the weight of the uterus.
- Fatigue may return from the 1st trimester. Exercise is the number one remedy for fatigue.

### **PRECAUTIONS TO TAKE:**

Precautions for the 3rd trimester are similar to the 2nd trimester:

- Your Pre-natal client may be uncomfortable on her back due to the weight of the uterus pressing on the vena cava artery. Symptoms are shortness of breath, dizziness
- Limit lying flat to about 3 minutes at a time. Let mum be the judge of that. She may be fine lying for 10 min.
  - Modify lying down exercises by either sitting up, or propping heart above the belly or “heart over baby”
- Relaxin and Progesterone, the hormones responsible for the loosening of the joints and ligaments, begin to rise, leaving mum vulnerable to sprains and falls.
- Balance issues are common due to a drop in testosterone. Be aware of this when giving exercises that test balance.

### **PRECAUTIONS UNIQUE TO THE 3RD TRIMESTER:**

- As the due dates comes close, the uterus starts to contract, presenting a risk of abnormal bleeding.
- Make sure your prenatal client has clearance from her doctor or midwife to continue to exercise through the 3rd trimester.
- Excess pressure on the feet can be an issue. Limit the amount of time she is on her feet. Alternate between standing and sitting exercises.



- **Diastasis Recti** (abdominal separation) becomes more prevalent as the uterus pushes the abdomen out. See the above information on this and make sure you have taught her how to detect it.

So as a Fitness Pilates instructor if you are training a prenatal client in her 3rd Trimester these are your main key focus points

**Goal:** A workout preparing for labour, birth, recovery, and motherhood including mindset, meditation and relaxation

- Moderate Level
- Labour and Delivery
- Preparing for Life with Baby

**Focus:**

- Core Stability and Flexibility And Support and Release of the Pelvic Floor
- Scapular Stability-Latissimus Dorsi strength
- Lateral Thoracic Breathing
- Squatting and conscious and unconscious Pelvic floor work
- Labour and Delivery
- Motivation - Mum may feel less motivated to work-out. Encourage her to be consistent with her work-outs, as it is vital to sustaining energy through the rest of the pregnancy, prepare her for labour and birth, AND she will recover much quicker than if she had not been working-out.
- Life with baby – mindset & actual physical needs like - Lifting and Lowering the car-seat, picking stuff up off of the floor with a baby on your hip, posture while wearing a baby-carrier





### **3rd Trimester Symptoms**

- Fatigue Returns
- Dizziness
- Cramps
- Pelvic Pain

### **Special Considerations!**

- Overstretching
- Excess pressure on the feet
- Moving from one position to the next
- Diastasis Recti
- Clumsiness

### **Instructors make sure:**

- Check with Doc
- All women unique
- Beginning Exercisers vs. Advanced and Athletes
- Moderate Level of Endurance
- Use common sense
- Educate client
- Have client listen to her body

Clumsiness is common due to a drop in the hormone, testosterone. Take this into consideration when giving exercises.

### **Exercise list for 3<sup>rd</sup> Trimester**

- Half Roll down into hands on thighs and cat stretch
- Staggered lateral squats

- Squats in asymmetric
- Single leg squat to bend
- Knee to stand lunge
- Lunge to glute squeeze holding foam roller
- Double leg squat with reach above head and to side
- Diagonal Roll Down
- Modified press up into shell pose
- Cat to cow pose
- Superman – single arm or leg or both if able
- Modified Thread like a needle (no rotation)
- Standing back extension
- Standing Square
- Standing VW
- All side lying work with lower leg bent underneath
- Seated pelvic tilt
- Seated leg slide with mini ball behind back
- Seated feet – flex and point
- kneeling spine stretch over ball (shell pose but with arms on ball)
- Plank up (seated and push hips up to reverse plank) if able

### **Use of Fit Ball**

- Seated Pelvic tilt with ball behind back
- Seated pelvic tilt on ball
- Seated hip circle, side to side and front to back
- Seated Swoop forward and back for chest and back release
- Seated arm work with band or weights whilst sitting on ball
- Gentle spine twist seated on ball
- Foot work sitting on ball – flex and point, rotations, eversion and inversion
- Seated Mini ball squeeze between knees with fit ball behind back



- Ball on wall – standing squats with use of weights if required
- Double leg squat with ball in hands – lift above head

### **Band work**

- Standing squats with band around thighs – asymmetric
- Lateral breathing with band around ribcage either seated or standing
- Standing arm work with band under 1 foot eg bicep curl, lat raise, dumb waiter
- Standing scapular retraction with band in a loop around hands
- Seated rows with band around feet, mini ball behind if required
- Seated bow and arrow for scapular retraction
- Seated bicep curl and tricep extension
- Seated dumb waiter with band either around feet or under hips
- Seated tricep extension above head with band under hips

### **Mini Ball work**

- Standing work with mini ball in between thighs
- Standing squats with mini ball in between legs
- Forward lunge with glute squeeze with mini ball in hands
- Standing tricep push backs holding ball in hands behind bottom
- All seated work with mini ball behind back (no twisting or rotational work)
- Side lying with ball in between ankles, squeeze lower leg up
- Side lying clam with ball on lower leg to cushion top knee
- Use ball under top hand for side lying work
- Ball in between knees for modified thread like a needle
- Ball in between knees on side lying open door
- Example Basic class for 3<sup>rd</sup> Trimester

Instructor: Kelly Reed-Banks	Class: Fitness Pilates	Time Of Class: 3 <sup>rd</sup> Trimester Fitness Pilates	
Duration: 60 minutes	Venue:	Number Of Participants:	
Equipment: Mat, band, IPOD doc			
<p>Set Up: Begin standing in barefoot. Align feet, knees, hips, pelvis, ribs, arms, shoulders, neck and head. Introduce lateral breathing for pelvic floor focus tool using band around rib cage. Exhale on Exertion</p> <p>Mobility warm up (6 minutes) circle ankles, circle shoulders, side bends, knee raises into circling hips and opposite arm, squats with mini ball or fit ball, Half roll down into standing cat stretch with hands on thighs , Calf stretch against a wall</p>			
Position	Exercise	Modifications	Progressions

<p>Standing</p>	<p>Multiplane Squats – stepping asymmetric as well as lateral with forward reaches on all levels</p> <p>Stagger lateral squats adding vibration to engage pelvic floor, use multi-level forward reaches</p> <p>Forward lunge</p> <p>Standing sloop</p>	<p>Reduce range of movement</p> <p>Reduce range of movement, perform with hands on hips</p> <p>Standing glute squeeze – lifting alternating leg</p> <p>Decrease range of movement</p>	<p>Increase range of movement and perform with band around thighs</p> <p>Carry foam roller in arms (as baby)</p> <p>Carry Foam roller as above</p> <p>Place Mini ball in between thighs for deeper pelvic floor engagement</p>
<p>Kneeling</p>	<p>Modified press up to shell pose</p>	<p>Use fit ball or mini balls</p>	<p>Take knees wide</p>
<p>Seated</p>	<p>Seated V sit with mini ball or fit ball behind for support, have feet on floor or together with knees apart.</p> <ul style="list-style-type: none"> <li>• Leg slide</li> <li>• Mini ball between knees and squeeze</li> </ul>	<p>Move legs in more comfortable position</p> <p>Or keep hands on floor and just move legs</p>	<p>Add weight or band in hands</p> <p>Increase range of motion</p>



**Last two weeks before birth**

We have filmed content on your instructor portal about the last two weeks before birth including mindset, meditation and breathing techniques which you can use with your prenatal client.

This time before birth of the baby it is vital that your client has the right mindset ready to go into labour and then after giving birth.

Maybe offer small group or 1-2-1 meditation and breathing classes for these clients?

There will be the preconceptions about giving birth, and because of what society has told them for a long time, they will fear giving birth.

So we need to help them de-construct their mindset and make them realise that giving birth can be beautiful.

When a woman is scared or fearful she will release different hormones in the body which actually can delay labour or make it worse. It can make the body more tense, which will result in this cycle –





So teaching a pregnant woman to relax through pain will increase a positive experience during labour. Please check out the videos of how to do this online.

### **Liability and Teaching Pregnant Women**

When it comes to liability, pregnant women are not different than non-pregnant women.

- The liability changes if the foetus gets hurt.
- Every independently contracted instructor needs to have liability insurance.
- Every client needs to sign a liability waiver.

To make sure you are covered, your liability waiver needs to have the following questions answered:

**1. Are you pregnant? Yes or No**

**2. If yes, have you consulted with your physician before beginning pregnancy Pilates? Yes or No**

**3. Do you acknowledge, understand, and accept the risks of performing any exercise while pregnant? Yes or No**

Your health screening questionnaire that you use with your prenatal client needs to be thorough too.

Make sure that you update this on a regular basis so you have the most up to date information on your client as she develops through her pregnancy.



## Recap over Assessment Criteria

In order to successfully achieve your Advanced Fitness Pilates for Pre and Post Natal certification you will be required to complete the following -

Gain full marks on the open book exam paper - this paper consists of 40 multiple choice questions

Submit a detailed case study for 1 Pre and post natal client, including

- Detailed consultation with par-q & lifestyle questionnaire.
- A session plan for just 1 class for their 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> Trimester & a postnatal session.
- Evaluation of all 4 sessions on why you have chosen the exercises you have and how your client got on, including any changes you had to make to their session.

We have a template you can use for your session plans or you can create your own.  
We cannot however give you a template for the health questionnaire as this is part of the assessment criteria.

So now you have read through this manual, watched all the videos in your online instructor portal you are ready to complete your assessment.

Please submit your open book exam paper and case study to [kelly@choreographytogo.com](mailto:kelly@choreographytogo.com)  
Or post to

Kelly Reed-Banks  
12 Hawthorn Way  
Burwell  
Cambs  
CB25 0DQ

If you have any questions please do not hesitate to contact [kelly@choreographytogo.com](mailto:kelly@choreographytogo.com)





### **Conclusion**

Here at Choreography To Go, we feel that Fitness Pilates is an absolutely fantastic workout for women when they are pregnant. It is safe, fun, varied and works the exact part of the body that is the one thing we all worry about never returning to 'normal' – our stomachs!

Not only does it give your client confidence and control whilst going through the pregnancy, but it gets them back in shape faster than any other form of exercise after the delivery.

We believe the Fitness Pilates exercises can be extremely beneficial throughout the nine months and the focus that is brought to the functional pelvic floor is invaluable and essential for pregnant and post-natal women.

There is also a very serious side to this though too and it is absolutely imperative that the guidelines outlined throughout this manual are adhered to when working with clients to ensure the safety of them and especially their child. It is far better to be over cautious and leave things out if unsure than running the risk of harming mother and/or child.

Rachel and Kelly wish you all the very best for the future in teaching Advanced Fitness Pilates for Pregnancy and we really hope you have enjoyed completing the certification with us.