



YOUR GUIDE TO

PREGNANCY AND BACK PAIN

MUSCULOSKELETAL

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Introduction

Please take note of the following before starting any of the exercises in this guide:

- The information contained in this guide is intended to assist in managing your recovery.
- This guide is based on the latest medical research in the field and contains the best advice available to the best of our knowledge.
- This guide is complimentary to other medical services and is not intended as a substitute for a health care provider's consultation. Never disregard medical advice or delay in seeking advice because of something you have read in this guide.

● Many people have found quick and lasting relief from their pain by acting upon the information provided, but everyone decides for themselves what to do with this information. Should you doubt a particular exercise in your situation, please consult your health professional.

When consulting your health professional, it is wise to take this guide with you to show them.

Pregnancy and Back Pain

THE PELVIS

The pelvis is made up of two iliac or pelvic bones that are joined together via a wedge shaped bone called the sacrum at the back, and are connected at the front by a stiff joint known as the symphysis pubis. The joints at the back, between the sacrum and pelvis are known as the sacroiliac joints. All these joints are stabilised by a number of strong ligaments and therefore under normal circumstances very little movement occurs. The muscles that attach to this area also play a very important role in stabilising the pelvis and lumbar spine and preventing excessive movement from occurring. This helps to ensure that the pelvis can perform its role of transferring the load from the upper body to the lower body.

WHAT HAPPENS DURING PREGNANCY?

During pregnancy postural changes will occur to compensate for the weight of your baby. These postural changes that occur are necessary to help keep your weight balanced and protect your back and pelvic joints. During pregnancy, your body also produces increased amounts of the hormone Relaxin which serves to soften the ligaments in the pelvis. This results in increased movement in these joints both during and just after pregnancy which serve to make your baby's passage through your pelvis as easy as possible.

Back pain during pregnancy can be divided into two categories. The first is classed as true back pain, which occurs for the same reasons as those who are not pregnant. Muscles, ligaments and joints can be placed under increased strain from poor postures, poor lifting techniques, weak or tight muscles or injury which can in turn result in low back pain. If you are experiencing true low back pain your pain will mostly be worse at the end of the day or if you have been on your feet for a long time, due to your muscles becoming tired and ligaments stretching slightly from the weight of your body and your baby. It is common for women to have this type of back pain before becoming pregnant.

The second type of pain is a result of the changes that occur during pregnancy to the ligaments, with specific emphasis on those in the pelvic region, which can give rise to two different conditions that affect the joints of the pelvis known as **Pelvic girdle pain** and **Symphysis pubis dysfunction**.

What is Pelvic Girdle pain (PGP) and Symphysis pubis dysfunction?

PELVIC GIRDLE PAIN

The pain that occurs at the back of the pelvis in the region of the sacroiliac joint is known as pelvic girdle pain (PGP), or sometimes sacroiliac joint pain. There are ongoing investigations into the exact causes of pelvic girdle pain during pregnancy, but it is thought that the softening of the ligaments along with postural changes, muscle weakness and increases in the movement between the right and left pelvic bones and the sacrum can all result in an increase in stress on the joints, ligaments and muscles around the pelvis. The result of this increased movement in the sacroiliac joints and reduced stability in the pelvic region is inflammation and pain with most movements of daily living such as walking, lying, sitting and standing. PGP is often confused with or misdiagnosed as sciatica. Sciatica is caused by compression or inflammation of the sciatic nerve which leaves the spine in the lumbar region and travels down the leg. This compression may be caused by a damaged disc or by pressure from surrounding joints and ligaments. During pregnancy however it is rare for women who have had no previous lumbar

problems to suffer from sciatica and it is now thought that most women suffering from significant lower back or leg pain during pregnancy are suffering from PGP.

Symptoms

The symptoms for PGP include some/all of the following:

- Pain that is often on one side and concentrated in the buttock area
- It may change from side to side or be accompanied by general back pain or symphysis pubis pain
- You may experience shooting pains in your buttocks or down the back of your leg.
- Pain that is accompanied by pins and needles or numbness and extends below the knee may be sciatica rather than PGP
- Weakness in one or both of your legs
- Pain in one or both of your hips.

SYMPHYSIS PUBIS DYSFUNCTION

The symphysis pubis is the joint that forms at the front between the two pelvic bones. This is a very stiff joint that is further strengthened by a dense network of ligaments, and therefore under normal circumstances there is little movement at this joint. During pregnancy however, as described above, the increased levels of Relaxin in the body result in the ligaments softening and as a result there is an increase in the amount of movement at this joint during pregnancy and just after. Many women who experience symphysis pubis dysfunction often experience significant pain without any great separation of the joint and therefore the amount of pain is not related to the degree of separation.

Symptoms

The symptoms for symphysis pubis dysfunction include one or more of the following:

- Pain in the pubic area and groin
- Other pelvic problems such as back pain, PGP or hip pain.
- Grinding or clicking in your pubic area and pain may travel down the inside of your thighs or between your legs
- Increased pain with separating legs, walking, going up or down stairs, or moving around in bed.
- Pain is usually worse at night
- Getting up to go to the toilet at night can be extremely painful.

If you are experiencing any of the symptoms of either PGP or symphysis pubic dysfunction, it is important that you consult with your GP or women's health physiotherapist so that a full assessment of your lower back and pelvis can be performed and an appropriate treatment programme provided.

What can I do to prevent back pain during pregnancy?

Back pain during pregnancy can be helped by ensuring that you are as fit as possible before becoming pregnant. However if you are already pregnant it is not too late to start improving your fitness and especially important to start with specific pelvic floor exercises. It is important during pregnancy if you have not partaken in previous regular exercise, that you start slowly and do not over exert yourself. Some appropriate forms of exercise during pregnancy include; swimming, walking, cycling (on a static cycle), aqua natal classes, pilates and yoga. It is also important however that you consult with your GP or allied health professional before starting an exercise programme during pregnancy to ensure that you are performing exercises that are going to benefit you during your pregnancy

and that you have no contra-indications to any of the exercises prescribed. This is even more important if you have symptoms of either PGP or symphysis pubis dysfunction.

Taking part in regular moderate exercise, ensuring that you have a good upright posture, avoiding heavy lifting and following some good back care advice will help to prevent an onset of back pain while you are pregnant. If you do need to lift anything, it is important that you hold it close to your body, that you bend your knees and not your back when you pick it up, and that you do not twist to pick it up, but rather move your legs so that you are facing the object. It is important however that you do not lift anything too heavy.

What can I do to help my back pain?

● **Physical Therapy:** A physical therapist (physiotherapist, chiropractor or osteopath) will perform a full assessment on your lower back and pelvis and be able to provide you with an accurate diagnosis of what may be causing your lower back pain. They will then be able to provide you with the

appropriate treatment and advice according to your diagnosis. Consulting with a physical therapist is therefore important to ensure that the cause of your pain is identified and that you are receiving the correct treatment for it.

- **Massage:** Gentle massage to the lower back can often help to relieve tired, tight or aching muscles. This can be performed either with you leaning forward over the back of a chair with a pillow supporting your stomach or in a side lying position. Your partner can massage over the muscles that run down the side of your spine or concentrate on the lower back. A massage therapist, your midwife or a physical therapist (physiotherapist, chiropractor or osteopath) will also be able to help you further.

- **Heat and water:** A heat pack or a warm bath or shower can also help to relieve back pain.

- **Support belt:** This may be recommended by your physiotherapist to help take some of the weight of your baby off your stomach and lower back muscles.

- **A support pillow in bed:** Placing a wedge shaped pillow under your stomach as you lie on your side.

- **Exercise:** Pelvic floor and lower abdominal strengthening exercises are essential during pregnancy as they can help to strengthen the muscles which support the pelvis and lumbar region, which will in turn relieve some of the stress that is placed on the ligament, muscle and joint structures during your pregnancy. Aqua-natal and pilates classes have both been found to be extremely helpful during pregnancy

What exercises can I do?

It is important that you are aware that this is a general exercise programme for back pain during pregnancy and that if you are experiencing any of the symptoms of PGP or symphysis pubis dysfunction that you consult with

your GP or allied health professional before starting any of these exercises. All these exercises can be adjusted according to advice that you have been given by your GP or allied health profession on assessment.

Exercises

- Keep all exercises in your pain free limits.
- If you experience pain during any of the exercises, decrease the intensity of the exercises by:
 - decreasing the number of sets
 - decreasing the number of repetitions
 - decreasing the range of movement
 - decreasing the resistance
- Do all exercises slowly and breathe normally.

- Progress gradually according to your own level of comfort.
- Following exercise, stiffness or fatigue may result but should not last longer than 24 hrs. The symptoms of your injury should not be aggravated.
- As you get into your second and third trimester, it is not advised that you lie on your back for any long period of time, and therefore lying down exercises can be adjusted to perform in a standing/seated/all four position.

Exercises phase 1

STRETCHES

- Repeat each of these stretches **3 times** (on both sides if necessary).
- Hold each stretch for at least **30 seconds**.
- Hold a steady stretch, **do not bounce**.



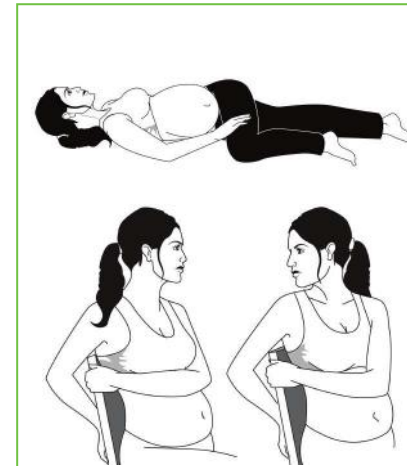
CALF STRETCH

Stand about a meter away from a wall. Place both hands against the wall with one foot further back than the other. Now lean in towards the wall, bending the front knee and keeping the back knee straight and the heel on the floor.



SOLEUS STRETCH

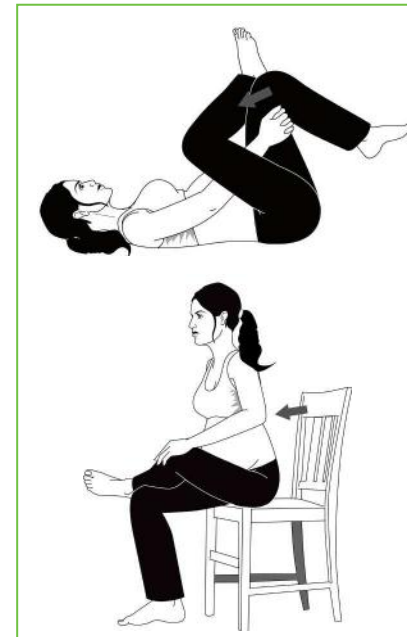
In the above position, keep back leg slightly bent. Keep heel on floor and lean into wall until a stretch is felt in the lower calf.



SPINAL ROTATION STRETCH

Lying: Lie on your back with both legs straight out in front of you and arms out to the sides. Raise one leg up and over the other one. Gently pull your knee across your body. Look in the opposite direction. Make sure that your shoulders stay on the floor.

Seated: Place your left hand next to your right hip, hold on the side of the seat, and rotate your upper body around so that you are looking over your right shoulder. Repeat the same on the opposite side.

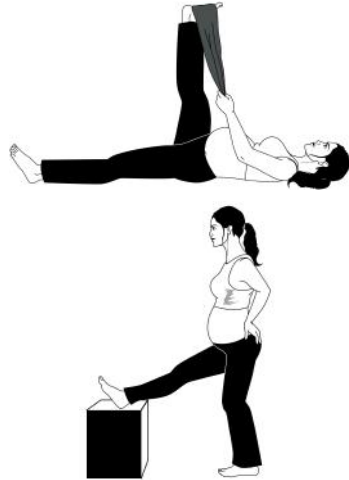


BUTTOCKS STRETCH

Lying: Lie on your back and rest your right ankle on your left knee. Using your hands lift your left leg into the air, bending the knee at 90°. Pull your left leg gently towards your body. You should feel a stretch in the upper back part of your right buttock. You can use a towel to aid you in this stretch if you are unable to reach your leg.

Seated: Sitting in an upright position with knees bent and feet on floor. Place your right ankle on your left knee, lean forwards at the hips, and press down on your right knee. Repeat on opposite side.

Exercises phase 1 (continued)



HAMSTRING STRETCH

Lying: Lying on your back, one leg straight and one knee bent. Raise the bent leg up towards your chest until your knee is in line with your hip. Now straighten the knee. You should feel a stretch at the back of your leg. You can use a towel if necessary to aid you in lifting your leg for the stretch

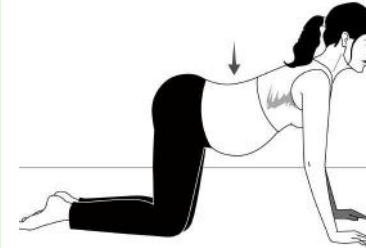
Standing: Place one foot on a step, or slightly out in front of the other. Keep the front leg straight, bend the back leg slightly, and lean forwards from the hip. Make sure you feel the stretch in your leg, not your back.



QUADRICEPS:

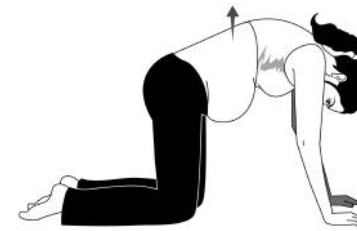
Lying: Lying on your right side, your right arm extended up to cushion your head, use your left hand to grasp your left ankle as you bend your left knee backwards. You should feel the stretch along the front of your thigh. Repeat this twice. It is important to keep the other leg bent at both the hip and the knee, so as not to hyperextend your back. A towel can be used to aid you in the stretch if you are unable to reach your ankle.

Standing: Standing on your left leg, bring your right foot up towards your buttock with your hand, bending at the knee. Make sure that your back is straight and knee is in line with your hip. Repeat the same on opposite leg.



CAT CURLS

On all Fours: Breathe out as you let the spine curve inwards, and pull the shoulder blades together. Keep the knees directly under the hips and hands under shoulders. Breathe in as tuck your chin in and starting at the top curve your back upwards. Don't hold each position.



UPPER BACK STRETCH

Kneeling down on both knees, sit back on your heels and stretch your arms out straight on the floor ahead of you. Stretch out as far as you can. Now move your arms to the side and hold and then walk them to the opposite side and hold.

Exercises phase 1 (continued)

STRENGTHENING EXERCISES

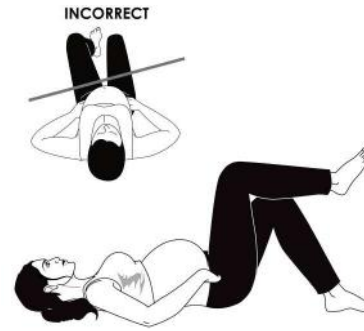
- Do each exercise within your pain free zone
- Follow hold and repetition instructions within each exercise
- These exercises can be done during the first trimester, but once in the second and third trimester, progress to those in phase 2 so that you are not lying on your back for long periods of time.



NEUTRAL AND TA/PELVIC FLOOR STABILITY EXERCISES

Lying: Lying on your back with your knees bent. Find your neutral pelvic position, which is mid way between your back being completely flat on the floor, and completely arched. In neutral your hips should be facing the ceiling. Now pull your belly button towards your spine (i.e. contract your Transverse Abdominis muscle or TA), without changing your pelvic position. You should be able to continue to breathe throughout the contraction. Hold for 10 sec. Repeat 10 times.

Seated/Standing: The above exercise can be performed in any position. In seated and standing, make sure that your hip bones are facing forwards (not down towards the floor, or up towards the ceiling) and pull belly button in towards spine.



SINGLE LEG LIFT

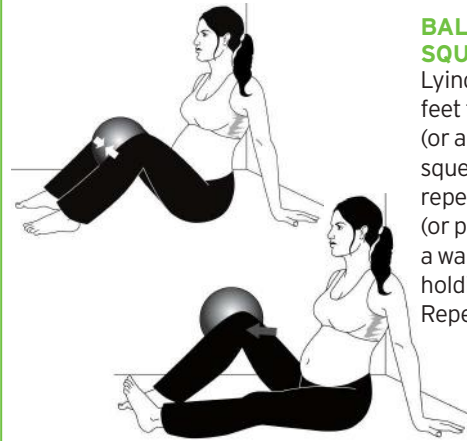
In the above position i.e. with your pelvis in neutral and TA contracted, slowly lift one foot off the ground until your knee is in line with your hip (and knee at a 90° angle). Make sure that you keep the spine in neutral and pelvis stable throughout the movement i.e. do not allow your pelvis to move from one side to the other or your back to flatter/arch. Repeat with the other leg. Alternate legs 5 times per side.



BRIDGING

With your pelvis in neutral and TA contracted (pull belly button to spine), slowly raise buttocks from floor, keeping your pelvis stable and body in a straight line. Hold this position for 10 seconds and repeat 10 times. The movement should be slow and controlled and there should be no tilting of the pelvis in any direction.

Exercises phase 1 (continued)



BALL PUSHING AND SQUEEZING

Lying on your back, both legs bent, feet flat on the floor. Place the ball (or a pillow) between your legs and squeeze. Hold for 10 seconds and repeat 10 times. Now place the ball (or pillow) between your left leg and a wall. Press out against the ball, holding the position for 10 seconds. Repeat 10 times.



LEG AND ARM EXTENSION ON ALL FOURS

On all fours ensure that hands are under shoulder, knees under hips and back flat i.e. table top position. Now pull your belly button in towards your spine, without moving your back, and slowly move one leg out behind you into the air. Hold for 10 seconds and return to start position. Now try the same with your arm, hold for 10 seconds and relax. Repeat 5-10 times on each arm and leg. Make sure with each movement that your body position is stable i.e. no dropping to the opposite side or movement of your pelvis. During pregnancy, the all four position is an excellent position to reduce the pressure of the spine and therefore this can be done regularly during the day.

Exercises phase 2

Progress to this phase once you are able to do the exercises in phase one without pain and with good control, while being able to breathe at the same time. All the exercises in this

phase can also all be done during both second and third trimesters of your pregnancy. Continue with the stretches in phase one, and revert to the standing/seated stretches.

STRENGTHENING EXERCISES

- Do each exercise within your pain free zone
- Follow hold and repetition instructions within each exercise
- During your second and third trimesters, it is important that you do not lie flat on your back for any long period of time.



BRIDGING WITH ONE LEG EXTENDED

Lying on your back, bend both knees to 90° with your feet flat on the floor. Tighten T.A. (bring your belly button in towards your spine) and lift your pelvis and lower back off the floor. Now lift one foot off the floor, hold for 10 sec, put it back down, repeat with the other foot, and then relax completely. Begin again. Keep the T.A. and buttocks tight throughout the movement to keep the pelvis stable and without dropping to the one side. Repeat 5 times per leg.

Exercises phase 2 (continued)

OYSTER EXERCISE

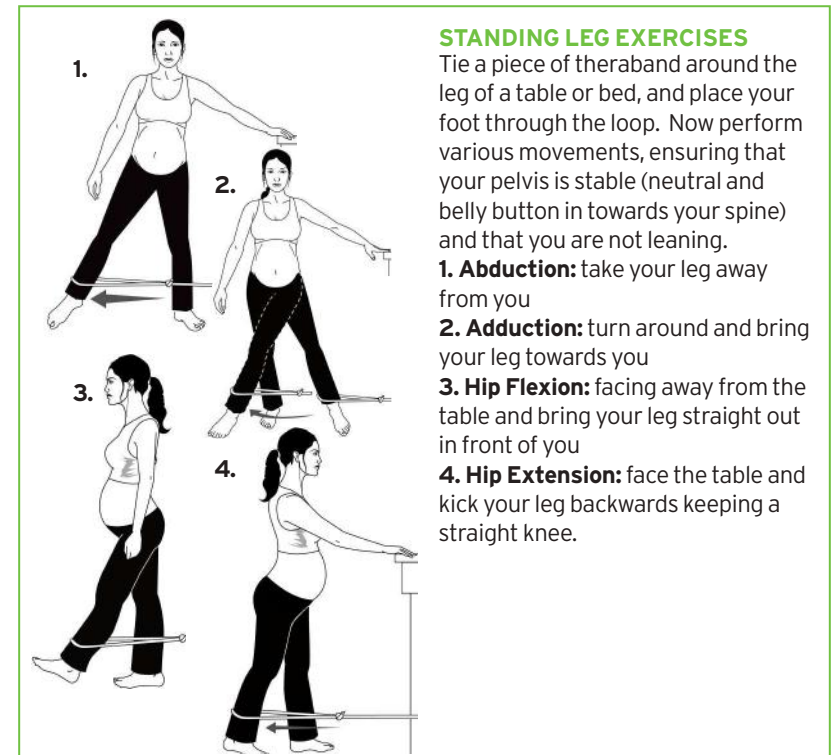
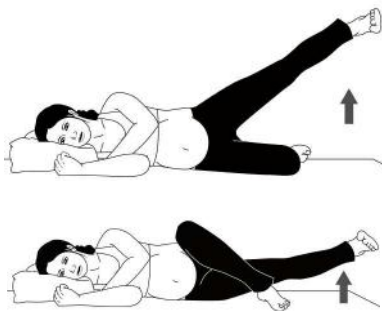
Assume a side lying position with your head supported by your arm, knees bent and a black theraband tied around both knees. Keeping the



feet together, lift the top knee up against the band as high as possible without the hips rolling backwards i.e. hips stay square and forward. Hold for 5-10 seconds. Repeat 10 times on each side. This can be done without a band if you cannot get one from your physiotherapist or local sports store.

SIDE LYING HIP ABDUCTION AND ADDUCTION

Lying on side, tighten muscle on front of thigh, and then lift leg 8-10 inches away from the floor. Repeat 2 sets of 10-12 repetitions. Now with your top leg bent over the bottom one, keeping the bottom leg straight, raise the bottom leg 8-10 inches away from the floor. Repeat 2 sets of 10-12 repetitions.



STANDING LEG EXERCISES

Tie a piece of theraband around the leg of a table or bed, and place your foot through the loop. Now perform various movements, ensuring that your pelvis is stable (neutral and belly button in towards your spine) and that you are not leaning.

1. Abduction: take your leg away from you

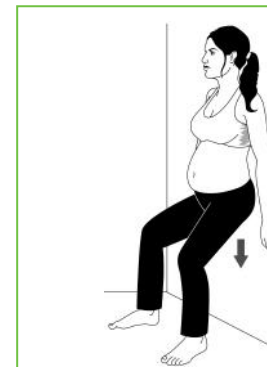
2. Adduction: turn around and bring your leg towards you

3. Hip Flexion: facing away from the table and bring your leg straight out in front of you

4. Hip Extension: face the table and kick your leg backwards keeping a straight knee.

WALL SLIDES

Stand leaning up against a wall, your feet a little away from the wall and pointing slightly outwards. Push your back against the wall. Slowly lower your body into a seated position and hold this position for 5-10 seconds. Complete 10 repetitions.



Exercises phase 2 (continued)



LEG AND ARM EXTENSION ON ALL FOURS

This exercise can be continued into phase 2. On all fours ensure that hands are under shoulder, knees under hips and back flat i.e. table top position. Now pull your belly button in towards your spine, without moving your back, and slowly raise one arm, and the opposite leg into the air. Hold for 10 seconds and relax. Repeat 5-10 times on each arm and leg.

Contact us

This guide is designed to assist you in the self-management of your injury/condition.

We are here to assist your recovery in the shortest but safest possible time. If you have any uncertainties or queries regarding the information, please do not hesitate to contact us on:

Phone 017890400999 / 07870166861
www.mdphysiotherapy.co.uk