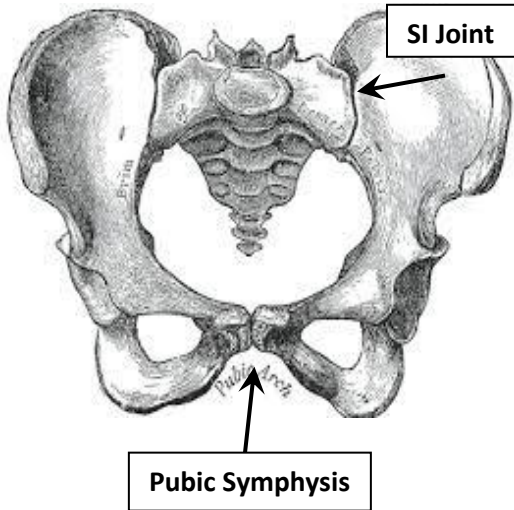


# Body Changes, Exercise, & Comfort Measures during Pregnancy

## A Guide from a Women's Health Physical Therapist

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### Anatomy & Changes during Pregnancy



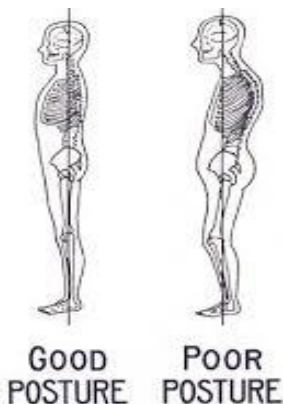
#### THE PELVIS

There are two primary joints that make up the pelvis: the sacroiliac joints (SI joints) and pubic symphysis. As pregnancy progresses, these joints become loose due to the hormone *relaxin*. This hormone is important because it will eventually cause the pelvis to widen and allow your baby to pass through the birth canal. Because these joints become lax, they are common areas where pregnant women may experience pain. In order to prevent increased stress to these areas, some tricks you can try are:

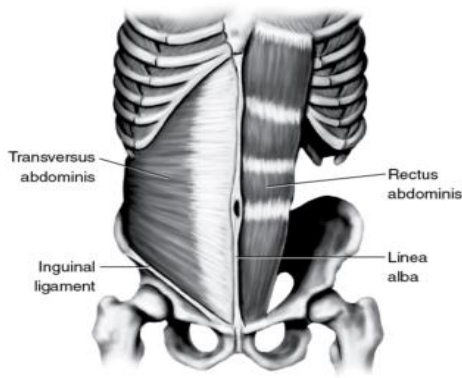
- Try taking smaller steps while walking
- Avoid stepping into or out of high spaces such as trucks or steps
- Avoid a lot of single leg activities during exercise
- Practice keeping your legs closer together when getting in and out of bed, the bathtub, or a car

#### THE SPINE

As pregnancy progresses, it is natural to gain weight in both the breasts and abdomen. While this is healthy and necessary, it can increase stress on our spine. As the breasts grow, there is a tendency for the chest to be pulled forward and the upper back and shoulders to round forward. This may cause upper back pain, neck pain, or headaches. As the belly gets larger, there is a tendency for the low back to arch in and the buttocks to stick out. This may increase stress at the lower spine and cause low back pain. The best way to prevent this is keeping your core and postural muscles strong. Good lower abdominal and pelvic floor strength is essential for support.

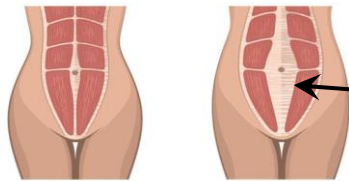


INCORRECT UPRIGHT POSTURE	CORRECT UPRIGHT POSTURE
<p><b>HEAD</b> Chin pushing forward. Eyes focus down</p>	<p><b>HEAD</b> Lift through the crown of the head and keep chin lifted and ears in line with neck.</p>
<p><b>SHOULDERS AND CHEST</b> Slouching constricts the ribcage, makes breathing more difficult and causes indigestion</p>	<p><b>SHOULDERS AND CHEST</b> Draw shoulders back and down while you lift the rib cage up.</p>
<p><b>ABS, BUTT &amp; UTERUS</b> Slack muscles hollow out the back and tilts pelvis forward causing backache, strained abdominals, and excess pressure on the bladder.</p>	<p><b>ABS, BUTT &amp; UTERUS</b> Contract abdominals to support baby, tuck butt under and tilt pubic bone slightly forward to center pelvic bowl.</p>
<p><b>KNEES</b> If pressed back you strain joints and push pelvis forward</p>	<p><b>KNEES</b> Bend knees to ease body weight over feet.</p>
<p><b>FEET</b> Weight on inner borders strains arches and calves causing leg aches.</p>	<p><b>FEET</b> Distribute body weight over center of each foot.</p>



### THE ABDOMEN

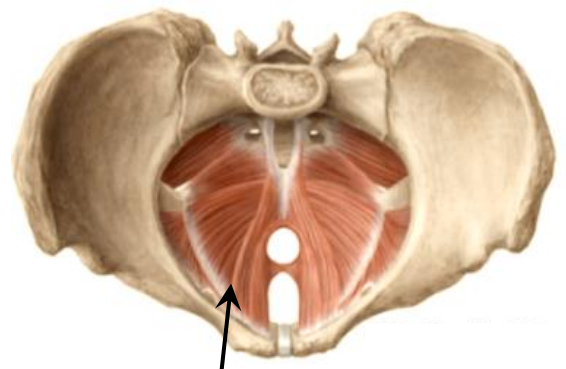
The transversus abdominis is the innermost abdominal muscle that starts and ends at the spine and wraps around the trunk. When this muscle contracts, it stiffens the spine and stabilizes the pelvis. When this muscle becomes stretched with pregnancy, its ability to support the spine and pelvis reduces, sometimes contributing to hip and low back pain. Muscles have memory, so it is important to train the core muscles before, during, and after pregnancy to ensure that the proper balance of muscle stabilization returns. *Diastasis recti* is a common condition in pregnancy where the top layer of abdominal muscles, called the rectus abdominis, separates along a vertical layer of tissue that runs through the middle of the muscle. This can be corrected with exercises.



**Diastasis Recti**

### THE PELVIC FLOOR

The pelvic floor is a group of muscles at the bottom of the pelvis that support the increasing weight of the baby and uterus, as well as play a role in bowel, bladder, and sexual function. The pelvic floor muscles are the “floor of your core.” It is important to keep these muscles strong throughout pregnancy as well as postpartum. You may practice strengthening your pelvic floor muscles by squeezing the same muscles you would use to stop the stream of urine (but **do not** perform these exercises while you are on the toilet). Practice quick contractions and 10 second holds with normal breathing. These are also known as “Kegels.” These muscles help control urinary leakage and assist in delivery.



**Pelvic Floor Muscles**

### Comfort & Positioning Techniques

Because of all these changes happening to your body, you will want to utilize as many tricks as possible to help ease the normal symptoms that come along with pregnancy.

- Use A LOT of pillows
  - Between the knees and ankles
  - Behind the low back
  - To hug in front
  - To use after pregnancy as a nursing pillow
- Frequently change positions
- Avoid sleeping flat on your back after the second trimester
- Place one foot on a stool for long periods of standing
- Use belly or SI joint support belts
- Wear comfortable shoes
- Position yourself with good posture to prevent excessive curves of the spine



Resources for these items include, but are not limited to:

- SI Joint Belts: <https://www.serola.net/product/serola-sacroiliac-belt/>
- Pregnancy Support Belts: [underworks.com/maternity](http://underworks.com/maternity) or [babybellyband.com](http://babybellyband.com)
- Lumbar Roll Pillow: <https://www.optp.com/The-Original-McKenzie-Lumbar-Roll>
- Books: “How to Raise Children Without Breaking Your Back” by Holly Herman
- Comfort Pillows: <https://leachco.com/products/snoogle> or searching “maternity pillows” on [Google.com](http://Google.com) or [Amazon.com](http://Amazon.com)
- Back-Friendly Baby Carriers: [ergobaby.com](http://ergobaby.com) or [mobywrap.com](http://mobywrap.com)



Using an exercise ball during pregnancy is a cheap and effective way to keep your body comfortable and prepare your body for delivery. The exercise ball is effective because it:

- Raises the hips higher than the knees
- Helps baby into an optimal birthing position
- Absorbs your weight and relieves back tension
- Helps with pelvic mobility
- Works the pelvic floor and core abdominal muscles
- Substitutes as a computer chair

Great places to purchase these include Target, Walmart, sporting goods stores, or TJ Maxx. For those who are 5’5” and below, you will want to purchase a 55 cm diameter ball. For those 5’6” and above, you will want to purchase a 65 cm diameter ball.

## Everyday Carrying & Lifting Techniques

Lifting, pushing, carrying, pulling, sitting, and walking are all examples of times you should be focusing on proper form and technique in order to prevent unnecessary pain. Always think of lifting your pelvic floor muscles and pulling your abdominal muscles in. Your buttocks should stay relaxed and you should not hold your breath.

- Keep your load close to your body and centered
- Maintain a neutral spine
- Bend at the knees and use the legs to lift
- Turn with your feet, not your back
- Keep a wide, front-to-back staggered stance
- Keep head and shoulders up
- Use the legs to lift, do not hinge at the waist



## Exercise & Pregnancy

According to the American College of Obstetricians and Gynecologists, women with uncomplicated pregnancies are encouraged to engage in aerobic and strengthening or conditioning exercises with an eventual goal of moderate-intensity exercise for at least 20 to 30 minutes per day on most or all days of the week.

### WHY SHOULD YOU EXERCISE?

- Improves blood and oxygen for you and your baby
- Tones pelvic floor muscles
- Increases flexibility
- Improves posture
- Increases endurance for the birthing process and caring for baby after delivery
- Helps avoid and alleviate aches and pains
- Helps coping with physical and emotional challenges of pregnancy
- Improves sleep
- Decreases leg swelling
- Helps control weight and prevent gestational diabetes

### EXERCISE GUIDELINES

- Listen to your body's natural signs to decrease intensity
- Never exercise to the point of breathlessness or exhaustion. You should be able to carry on a conversation while working out
- Drink plenty of water
- Wear comfortable, breathable clothing and good footwear
- Avoid uneven terrain during walking
- Avoid activities that involve standing on a single leg
- Include relaxation and stretching techniques
- Avoid high impact/jolting activities, or activities that have a high risk of falling
- Avoid exercise on your back greater than 15 minutes in your second and third trimester
- Avoid heavy weightlifting. Do not hold your breath with strength training.

### GOOD MODES OF EXERCISE DURING PREGNANCY

- Swimming or water walking/aerobics
- Walking
- Elliptical
- Running/jogging
- Stationary bike
- Low impact aerobics
- Pilates or yoga (but avoid hot yoga/pilates)
- Strength training

### STOP EXERCISING AND SEEK IMMEDIATE MEDICAL ATTENTION IF YOU HAVE:

- Sudden, severe, or persistent abdominal or vaginal pain
- Shortness of breath
- Chest pain
- Dizziness
- A severe headache that will not go away
- Blood or fluid coming from your vagina

***If you have further questions about strengthening your abdominal or pelvic floor muscles, or need help addressing pain in pregnancy, talk to your doctor about consulting with a physical therapist that specializes in treating these conditions during pregnancy.***



## Exercises for Spine & Abdominal Health during Pregnancy

*If any of these exercises cause pain, stop and consult with your OB or physical therapist.*

### TRANSVERSE ABDOMINIS DURING EXERCISE

It is very important to learn how to activate your lower abdominal muscles in order to protect your back and maintain good core strength. Practice turning on this muscle prior to transitioning from sitting to standing, lifting an object, rolling in bed, or getting out of bed.

- Place two fingers on your front pelvic bones and then move them towards your navel
- Imagine gently drawing your navel in towards your spine
- With a correct contraction, a light tensioning can be felt
- Think 50% of maximal muscle force
- This can be done in sitting, standing, or lying on your back



**TRY IT:** Get onto your hands and knees. Your low back should be in a neutral, flat position. While exhaling, draw your belly button towards your spine. Hold this contraction for 2-3 breaths. Repeat 5-10 times. Progress by adding leg extension or leg lift behind you.

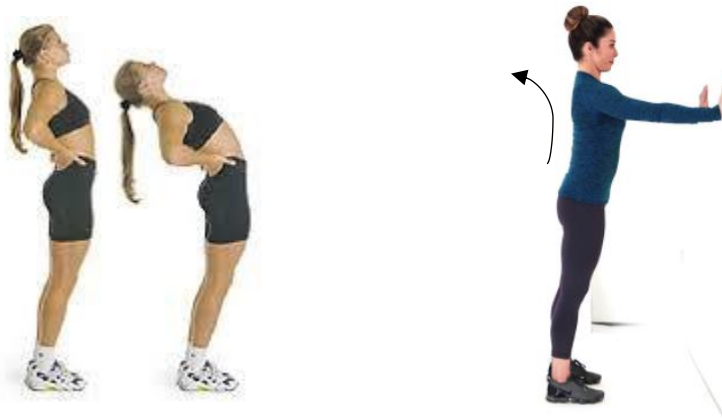


### SPINE STRETCHING

**Cat Camel Pose** – on your hands and knees, gently alternate between arching spine down and rounding it out while breathing. Repeat 10 times.



**Low Back Extension** – in standing, arch backwards to stretch your lower back. It's ok to feel a stretch at your belly. You can also place your hands on the wall as pictured below and arch backwards to give yourself more stability. Repeat 10 times.



**Thoracic Clock or Book Opener Stretch** – Lying on your side with knees bent, bring your top arm overhead like the hand on a clock and come to rest your arm behind you as if your arm is resting at the 9 o'clock position behind you. Let your upper body and chest follow your arm. Hold the stretch 30-60 seconds. Repeat 3 times on each side.



**Thoracic Extension** – Sitting in a comfortable, supportive chair, clasp your hands behind your head or neck and slowly arch backwards to stretch your middle to upper back over the back of the chair. Hold for about 5-10 seconds each and repeat 10 times.



**Pelvic Circles on Ball** – While sitting on an exercise ball, rotate your pelvis around in circles, 10 clockwise and 10 counterclockwise.

