Essential Exercises & Stretches for the Childbearing Year

Course Pack & Additional Resources

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Common Discomforts of Pregnancy and Alternatives to Drugs for Relief

The following is a guide to the common discomforts of pregnancy, their causes and cures. As a general rule, aches and pains are reduced by good muscle tone, as there is then less strain on ligaments and joints. Women are well advised to keep up some regular form of exercise and to practice good body mechanics in standing, sitting, rising, walking, climbing, reaching, lifting, etc. Walking and swimming are excellent, especially if you were not already exercising regularly prior to becoming pregnant. Adequate rest and a well-balanced diet also minimize discomforts.

**Leg Cramps**

*Cause*
- pressure of uterus on blood vessels, lessening the flow of blood to the legs
- overextension of the foot; occurs with pointing of the toes (e.g., when bedcovers are too heavy, with tightly-made bed, or when exercises are improperly done)
- sudden stretching
- fatigue or chilling
- lack of calcium in diet
- excessive amounts of phosphorus absorbed from milk and milk products, which impede the absorption of calcium

*Relief*
- stretch the cramped muscle, improving circulation; stretch should be gentle and constant, not jerky
- for foot cramp, stand on affected foot
- for cramp in calf, straighten the knee, flex the foot, hold, then relax and repeat if necessary
- for cramp in front of thigh, stretch leg backward
- for cramp in buttock, stretch leg forward
- NEVER massage a cramped muscle; it enhances the cramp
- try adding more calcium to your diet; sesame seeds, dark leafy greens, and pregnancy tea are excellent non-dairy sources

**Groin Aches or Pains**

*Cause*
- poor posture
- standing too long
- pressure of baby
- spasm of round ligaments
Relief

- do light effleurage (small circular massage) in groin area, giving a slight lift as hands come upward; do not use pressure on the down stroke
- for relief of sudden spasm, pull up leg on same side as spasm, as if tying a shoe, or lie down on affected side with leg drawn up

Ache in Back, Hips, or Thighs

Cause

- pressure of baby on small nerves inside of vertebrae and pelvis
- shift in mother’s center of gravity with accompanying poor posture; more common in multiparas with poor muscle tone; lax abdominal muscles let uterus fall forward, leading to poor posture for maintenance of balance
- softening effect of hormones on connective tissue of spine and sacroiliac joints

Relief

- pelvic rock on all fours
- careful attention to correct posture and body mechanics
- when standing, lift one foot and place it on an object so it is higher than the other foot; or stand with one foot in front of the other and rock back and forth slightly
- try a prenatal yoga class
- firm mattress
- chiropractic adjustment may help if what you are feeling is pain rather than ache or stress, or if the problem is chronic
- sciatica, or shooting pain from the buttock down the leg, may be relieved by elevating the legs in a right angle position against the wall
- take care when driving; use a pillow behind your back; adjust the car seat; stretch often on long rides

Caution: Be careful not to classify all backaches as to the same cause. Find the exact location and type of pain. Backache waist-high and to one side may indicate kidney problems. Ache in the middle of a buttock with muscle cramping may be due to a sacroiliac problem. Rhythmic lower back pain could be labor.

Fingers (tingling, numbness, swelling)

Cause

- enlargement of breast tissue high in armpit, resulting in pressure on nerves and blood vessels

Relief

- place hands on shoulders and rotate elbows in a circle
Diaphragm Pressure (cramp or stitch under ribs)

Cause
- baby high in abdomen, compressing the diaphragm against the base of the lungs

Relief
- lift rib cage by raising arms sideways and upward above the head; stretch

Dyspnea (shortness of breath)

Cause
- baby high in abdomen, compressing the diaphragm against the base of the lungs
- may indicate anemia

Relief
- sleep propped up with pillows or spend first ten minutes in bed lying on back with arms extended above head and resting back on the bed
- relief occurs later in the pregnancy when the baby engages, or moves deeper in the pelvis
- if anemia is the problem, increase natural sources of iron in diet (raisins, blackstrap molasses, wheat germ, kelp, apricots, and leafy greens – especially kale, Swiss chard, mustard, and turnip greens); drink lots of pregnancy tea; Floradix Herbs Plus Iron is a natural iron supplement available at health food stores

Dizziness, Fainting, Lightheadedness

Cause
- vasomotor changes
- pressure of uterus on greater abdominal vessels
- anemia
- decreased blood sugar

Relief
- avoid sudden changes in posture; after lying down, get up slowly, rolling to one side, then push up to a sitting position using your arms
- follow advice regarding anemia above
- do not skip meals; eat good food frequently
- avoid hot, stuffy rooms
Heartburn

Cause
- enlarged uterus displaces stomach upward
- hormones relax cardiac sphincter of stomach and slow digestion
- nervous tension, worry, and fatigue intensify problem

Relief
- eat several small meals a day instead of three large ones
- avoid greasy or highly-spiced foods and coffee
- if problem is especially bad at night, sleep propped up with pillows; don’t lie down right after eating
- avoid over-the-counter remedies, especially baking soda and Alka-Seltzer because of their high sodium content; some antacids contain aluminum which is toxic; others contain poorly-assimilated calcium
- try papaya enzyme tablets, umeboshi plum balls, raw almonds or raw cashews (a few, chewed to a pulp)
- gently massaging the stomach downward may help
- a reflexology (foot massage) treatment may help

Constipation

Cause
- diet poor in fiber
- diminished peristalsis due to pressure of enlarged uterus and the relaxing effect of hormones on the intestinal muscles
- excess iron from prenatal vitamins which the body can’t assimilate; turns the stool black

Relief
- drink more fluids, especially in the morning to aid elimination
- increase intake of fiber; have at least two servings of whole grains (real oatmeal, brown rice, millet, barley, etc.) daily and increase your intake of fresh, raw fruits and vegetables
- make sure diet contains plenty of B vitamins found in wheat germ, whole grains, and Brewer’s yeast
- walk more
- when sitting on toilet, put feet up on a small stool; relax pelvic floor
- abandon poor-quality vitamins or iron pills and search for iron-rich foods or high quality food-grown vitamins; drink pregnancy tea
- if problem persists, consult your midwife for herbal or homeopathic help and then discover a preventive maintenance plan (such as an apple and brown rice each day, or prunes at night, etc.); it is extremely important to not be constipated during pregnancy
Hemorrhoids (varicose veins of the lower bowel and rectum)

Cause
- relaxing effect of progesterone and pressure of heavy uterus on lower part of large bowel
- obesity
- lack of exercise, excessive sitting
- constipation
- straining to move bowels

Relief
- same as for constipation
- do pelvic floor exercises (kegels) regularly to simulate circulation in the pelvic area
- apply cold compresses (e.g., ice, witch hazel)
- pregnancy tea tones the vascular system

Varicose Veins

Cause
- hereditary predisposition
- relaxing effect of progesterone on walls of veins
- pressure of enlarged uterus on abdominal veins slows blood return from lower limbs, so blood tends to pool in the weakened veins
- fatigue
- standing with knees locked, causing muscular constriction which prevents proper venous return
- standing or sitting in one position for a long period of time

Relief
- avoid round garters, thigh highs, or any clothing that causes constriction and pressure on any part of the body
- change positions frequently; avoid long standing or sitting without relief
- take long walks regularly; the massaging action of muscles close to veins is good for stimulating circulation
- elevate legs several times a day; the more severe the problem, the more frequent the elevation; lie on floor with legs straight up the wall as though sitting on the wall; relax for a few minutes
- wear support hose or stockings made of elastic; put on while lying down, ideally before getting up in the morning
- never stand “at attention” with knees locked; they should always be slightly flexed
- Vitamin E capsules may aid circulation and bring some relief (do not exceed 600 IU per day)
- drink Pregnancy Tea
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- rutin, a part of the vitamin C complex, can be taken in capsule form, after the first trimester
- for varicosities of the vulva, lie with hips elevated several times a day

For More Information
Morning Sickness

Preventing Nausea in Early Pregnancy

Eating

There is a strong connection between nausea in early pregnancy and low blood sugar. Maintain your blood sugar level by eating small meals frequently (even every few hours) and by eating a protein-rich snack, such as popcorn with nutritional yeast, or brown rice with miso, or bread and tahini, before going to sleep.

Make all meals and snacks a combination of protein, complex carbohydrates, and fats. Proteins and fats slow down the digestive process, so that the digestive system can release the sugar from digested complex carbohydrates over a relatively long period of time. Examples of such meals and snacks are numerous—toasted cheese sandwiches, tuna fish and crackers, eggs and toast, peanut butter and bread, granola and milk, nuts and raisins, chicken and rice, and so on. On the other hand foods with little carbohydrate in them do not raise the blood sugar fast enough. Thus eggs alone or nuts alone, or cottage cheese alone are not good choices by themselves, especially after a long period without food. Make it a point to have them with a piece of bread, a fruit, or some other carbohydrate source.

Eat sweet fruits only with other foods or as desserts, never on an empty stomach. As noted the simple sugars are rapidly digested and rapidly raise the blood sugar, resulting in reactive hypoglycemia as the pancreas over-responds with excess insulin. Sweet fruits are full of simple sugars. They include apples, oranges, pears, peaches, apricots, cantaloupe, watermelons, grapes, and bananas. Having these in moderate amounts, as desserts at the end of a meal, usually prevents problems.

Recognize that refined starchy foods are quickly converted into sugar by the digestive tract. White bread, white pasta, white rice, crackers, french fries, potato chips, and most boxed breakfast cereals are technically called complex carbohydrates, but because of refining they are quickly digested to sugar. In reasonable amounts with protein food and a little bit of fat, they present no problem. By themselves, they can produce a reactive drop in blood sugar. The whole-grain, unprocessed sources of these foods cannot be digested as rapidly and so do not over stimulate insulin. But even these should be eaten with the proteins and fats.

Choose your desserts with consideration to blood sugar control. Fruits make the best desserts because they supply a variety of vitamins and minerals. Just be sure to eat them with protein and a little fat. Ice cream supplies protein and calcium as well as enough fat to slow the digestive processes, and so in small portions it is an acceptable dessert. Other examples of acceptable desserts include homemade pumpkin pie made with eggs, custard, and cheese cake. If you must have candy, choose a kind that contains plenty of nuts. Limit your desserts to two small treats per day.
Choose beverages that do not contain caffeine or NutraSweet. Caffeine raises the blood sugar, which explains in part why people crave it. The result, of course, is reactive hypoglycemia. Wean yourself away from caffeine gradually, over a period of a couple of weeks, or you will experience headaches. One or two cups of weak coffee or tea per day with a meal should be your absolute maximum; none at all would be better. Treat yourself instead to hot or cold herbal teas. Red raspberry tea is a mild, pleasant-tasting tea that is a favorite with pregnant women. It contains no caffeine and seldom stimulates the vomiting reflex. NutraSweet is digested into the amino acid phenylalanine in proportions far greater than occur when a natural protein food is digested. Phenylalanine is a potent stimulator of insulin, so that NutraSweet may cause hypoglycemia. Avoid NutraSweet completely.

Salt your food to taste. Table salt can help power more blood to the brain by raising the blood pressure a bit. For women with low blood pressure it can make a real difference. Salted nuts, soups, pickles, cheese and crackers, olives, and buttered popcorn are snacks that particularly help certain women. If you find that you are nauseated when you are upright and comfortable only when you are lying down, low blood pressure may be the culprit, and frequent salty snacks may perk you up.

More tips:
- Avoid spicy and greasy foods; even cooking greasy foods for someone else may nauseate you.
- Eat well before going to bed and eat a substantial snack at least once or twice during the night when you wake up for the inevitable trips to the bathroom.
- Eat unsalted crackers or matzo before getting out of bed.
- Drink a cup of Anise or Fennel seed tea when you wake up.
- Drink one teaspoon of apple cider vinegar in 8 ounces of warm water first thing in the morning.
- Get out of bed slowly in the morning avoiding any sudden movements.
- Chemical by-products of the increased hormonal activity of pregnancy, if allowed to build up in the body, can cause morning sickness. Walk a mile a day to prevent this.

Vitamins

Increase available iron and the vitamin B complex (especially B1 and B6) through diet or supplements. A vitamin B6 deficiency may cause morning sickness; supplements of 10–20 mg daily will completely relieve this nausea from this cause.

Many over-the-counter prenatal vitamins cause nausea in pregnant women. Food-grown or food-based vitamins will digest more easily and tend not to cause any nausea. Many women report a dramatic difference in their health by switching to a higher-quality prenatal vitamin. Good brands are Rainbow Light, Mega Foods “Baby and Me”, and New Chapter. You should be able to find most of these at your local health food store. They are online as well. I will warn you they are expensive but for many people well worth it.
Remedies for Morning Sickness
The following remedies are listed in order of increasing strength. The mildest remedies are often sufficient, so try those first.

- Open the window or go outside to get some fresh air.
- Drink a cup or two of Raspberry Leaf infusion each day. Sipping the infusion before getting up or sucking on ice cubes made from the infusion increases the strength of this remedy.
- Try homeopathy; get help from someone who is familiar with this system of medicine.
- Drink a tea made from dried Peach Tree leaves.
- Sip Peppermint or Spearmint infusion first thing in the morning.
- Take tablespoonful doses of Ginger Root tea anytime nausea occurs. It is especially effective for motion sickness and early morning queasiness. Or try a natural ginger ale (not too sweet).
- Wild Yam root (Dioscorea villosa) is specific and powerful for nausea of pregnancy. It is slower to work, but more effective and far safer than Bendectin (a prescription medication). Take sips of the infusion throughout the day, teaspoonfuls of the decoction several times daily, or a dropper full of the tincture in a glass of water or Mint tea once or twice a day.

Visualization for Morning Sickness
When morning sickness is severe or chronic, visualization can be used to give access to emotional aspects of the problem. Sit quietly and allow your mind to bring up images connected with the vomiting/nausea. What can’t you stomach? What do you want to clear out? What don’t you accept? Examine and acknowledge each image as it arises, then let it float away or dissolve. We are complex beings, capable of desiring and despising simultaneously; allow yourself to see what it is about the pregnancy that makes you want to throw up. Repeat the visualization once or twice a day for at least a week for best results. It is a rare woman who does not experience some ambivalent feelings about becoming pregnant; it does not mean that you will be a bad mother or that you don’t love your baby.

This article was adapted, by Alicia Montgomery, from two sources: Wise Woman Herbal for the Childbearing Year by Susun Weed and Managing Morning Sickness by Marilyn Shannon.
Your Pelvic Floor

A woman with a well-toned pubococcygeus (PC) muscle will experience an enhanced sexual response, give birth more easily with less chance of tearing, and stay continent of urine as she ages. Too much tension or tightness in the pelvic floor is as much of a concern as too little (see following article on The Pelvic Floor Reconsidered).

The PC muscle is a band or hammock of muscles that form the pelvic floor. It extends from the pubic bone in front to the coccyx or tailbone behind. In good tone, it is about three-quarters of an inch thick and extends about one third of the way up the vagina, encircling the vaginal walls. It contains many nerve endings and maintains the ability to have vaginal orgasm. When the muscle is healthy, it grips the penis during intercourse, providing greater pleasure for both partners. During pregnancy, it acts as a support for the uterus. During birth, it must be completely relaxed to allow the baby to pass through the vagina without damage to the muscle.

A flaccid PC muscle cannot support the pelvic organs properly, but is often seen in otherwise healthy and fit women. Over time, and especially after childbearing, the pelvic organs may begin to prolapse or sag (picture right below). The uterus may actually begin to fall into the vagina, necessitating corrective surgery or even hysterectomy. The angle at which the urethra connects with the bladder may be compromised, as the bladder prolapses. If this happens, the woman will experience some degree of urinary incontinence.

“Stress incontinence” is the term used to describe urine leakage during exercise (especially bouncing type of exercises such as jumping jacks, jump roping, or jumping on a trampoline), sneezing, coughing, or laughing. Some degree of stress incontinence is common during pregnancy, with the weight of the baby pressing directly on the bladder. After the birth, however, stress incontinence is a sign that rehabilitation of the muscles of the pelvic floor is necessary. This is to be expected, but a more proactive approach is recommended.
Kegel Exercises

Kegel exercises have long been thought to strengthen the pelvic floor.

- To identify this muscle, while urinating, attempt to stop the flow of urine by contracting your muscles. Do this only to identify the muscle (it is not the exercise).

- Now try to squeeze the sides of the vagina together from the bottom up. The abdominal muscles may try and engage in this exercise. Focus on relaxing the abdominal muscles as you do the Kegel.

- Now squeeze your PC muscle, imagine it tightening up, squeeze and lift more, squeeze and lift more, and hold it there. This is often referred to as the “elevator exercise.” The idea is you take the elevator up to the first floor and hold, the second floor and hold, and finally, to the third floor and hold.

- Now relax. Relax it more. Relax it more. Release completely. Notice how you can always squeeze and relax the muscle more than you thought you could.

- Do this exercise five times in a row, a couple of times per day. Kegels can be overdone! If the muscle becomes fatigued, then you have reached the point of diminishing returns and you are done with that particular session. 18–50 per day, when done correctly, should do it. 100 (or more!) fast repetitions are not what we are going for here. You are attempting to tone the muscle and keep the pelvic floor resilient. A thick, tense muscle is more likely to tear at the birth.

- It may be helpful to identify a trigger that reminds you to kegel, integrating it into your daily routine. Ideas include: waiting at a red light, waiting for the elevator at work, waiting in line at the store, and so on. Or, you can integrate a Kegel practice into your regular yoga practice or other exercise routine.
• If at first you have difficulty feeling the muscle and getting it to respond, don’t give up. Keep attempting and focusing. It may take up to several weeks to notice any difference, especially postpartum or coming to the exercise for the first time during the immediate postpartum period.

If you neglect to do Kegels during pregnancy, do NOT neglect to rehabilitate your pelvic floor postpartum. It is absolutely essential for the future health and proper functioning of your pelvic organs. Any sign of urinary stress incontinence is excellent biofeedback that the pelvic floor is not functioning properly.

The Pelvic Floor Reconsidered

Biomechanical scientist Katy Bowman explains her understanding of the pelvic floor and how it works. Watch Katy’s Pelvic Floor Demystified video here: http://www.youtube.com/watch?v=IOoTC9DpB3k

In brief, her theory is that the Kegel exercise attempts to strengthen the pelvic floor, but really only continues to pull the sacrum inward, promoting even more weakness and more pelvic floor gripping. The muscles that balance out the anterior pull on the sacrum are the glutes. A lack of glutes (having no butt) is what makes this group of women so much more susceptible to pelvic floor disorder (PFD). Zero lumbar curvature (missing the little curve at the small of the back) is the most telling sign that the pelvic floor is beginning to weaken. In other words:

weak glutes + too many kegels = PFD

Katy’s recommendation? Develop an (eventual) deep squatting habit (picture going to the bathroom while camping) to create the posterior pull on the sacrum and balance the work of the pelvic floor.

Here, Katy shares a bit about how she first discovered the relation between Kegels and PFD: “In graduate school (where I was getting my MS in Biomechanics) I focused my studies on ‘where pelvic floor disorders come from.’ I found this important because in math and engineering fields, where I came from, you can’t work on a problem’s solution until the problem is well defined. In disease research, however, there isn’t really research into the why or the how, but only on trying to figure out the remedy. In doing my research on the physics of the pelvis, movement, and how the pelvic floor works, it became clear that while the pelvic floor’s problem was weakness, it was weakness that is the result of too much tension, not weakness that comes from flopping around.”
Underlying the Kegel controversy is a very simple issue—what Katy calls an “over-generalized theory of strength.” A Kegel is a muscular contraction. For women who have a tight pelvic floor, concentrically contracting the muscles regularly will simply aggravate the tension issue. “Muscle that is either too long or too short looks the same when you measure its force production. This means that just because a muscle is weak or unable to do a bout of work does not automatically imply that concentric contraction is the correct prescription.”

Never does pelvic floor strength seem as important as during pregnancy. How can pregnant women strengthen their pelvic floor without the daily Kegel checklist? By doing exercises that lengthen the pelvic floor and increasing their own awareness of pelvic alignment. “It’s the alignment of the pelvis and sacrum that gets out of whack, so knowing where your pelvis should be as you move throughout the day (sitting, standing, and walking), done in conjunction with a few daily squats will get the full restorative effect your pelvic floor needs.”

**Learn to Squat:**

Regular squats will definitely help lengthen the pelvic floor. If you have other small children running around during your pregnancy, you are probably getting in your squats already, as long as you’re doing them correctly. Holding onto a door knob will help you until your legs are strong enough (and loose enough!) to hold you in this position for a minimum of one minute. A rolled towel or yoga mat under the heels will also make this exercise easier at the beginning. Work up to doing it with your heels on the ground.

**Note:** The picture on the left shows a tucked tailbone and rounded spine, NOT the position you are trying to achieve. Also note how far forward the knees have moved. To really open up the pelvic muscles, un-tuck your tailbone and allow your bottom to stick out (see picture on the right and note that the knees are over the ankles). This will get your pelvic bones in the right birthing (and toileting) position.

So how do you do them correctly? Here are a few tips:

- **Joint Positioning:** Because the squat we are after is really a gluteal-using one, whole-body joint positioning is essential. To get a squat to move from the front of the body (think all quads) to the back (think all glutes) is by using SHIN position. The more vertical the shin (that’s the knee joint stacked over the ankle joint) and the more untucked the pelvis, the
more glutes you’ll use. The more the knees are in front of the ankle and the more tucked the pelvis, the less glutes you’ll use.

- **Depth of the Squat:** How far you go down will be based on how well you can keep the shin and the pelvis where you want them. Most people who have not squatted to use the bathroom throughout a lifetime will find the range of motion of their “glute squat” to be fairly small. This will improve over time, especially if you’re working on changing the habits of where you hold your pelvis throughout the day.

- **Length:** The amount of time you spend in a squat also depends. The glute action is primarily used on the way up, however lingering in a squat, especially if you can relax, helps the muscles and involved joints change their tension patterns. Doing a potty-squat gives you a more natural, real-world relationship with your squat.

> Really the squat isn’t an exercise at all, but a basic human movement that we used to do all the time.

**Synthesizing Old and New Information on the Pelvic Floor**

I would like to encourage women to explore the topic of pelvic floor health. For a balanced approach, be sure and watch our videos on the pelvic floor with yoga instructor Marlene McGrath.

If you are experiencing problems with urinary stress incontinence, I recommend that you speak with your midwife or doctor about the problem. Some physical therapists are specializing in pelvic floor rehabilitation and may be in the best position to determine whether your issue is one of tension or too much relaxation and then make individualized recommendations.

A regular, conscious Kegel practice, focused on doing the exercise correctly, including emphasizing the relaxation and softening phase of the exercise, will likely be helpful for most women.
Resources

Books

The following books are good self-help manuals with reliable information for resolving discomforts of pregnancy.

- Susun Weed, *Wise Woman Herbal for the Childbearing Year*

Sandra Jordan, *Yoga for Pregnancy*.

Elizabeth Noble's *Essential Exercises for the Childbearing Year* (includes a full chapter on the pelvic floor).

Websites

Videos that demonstrate stretches for relief of sciatica:

- [http://www.youtube.com/watch?v=sFiLb6BJtG4](http://www.youtube.com/watch?v=sFiLb6BJtG4)