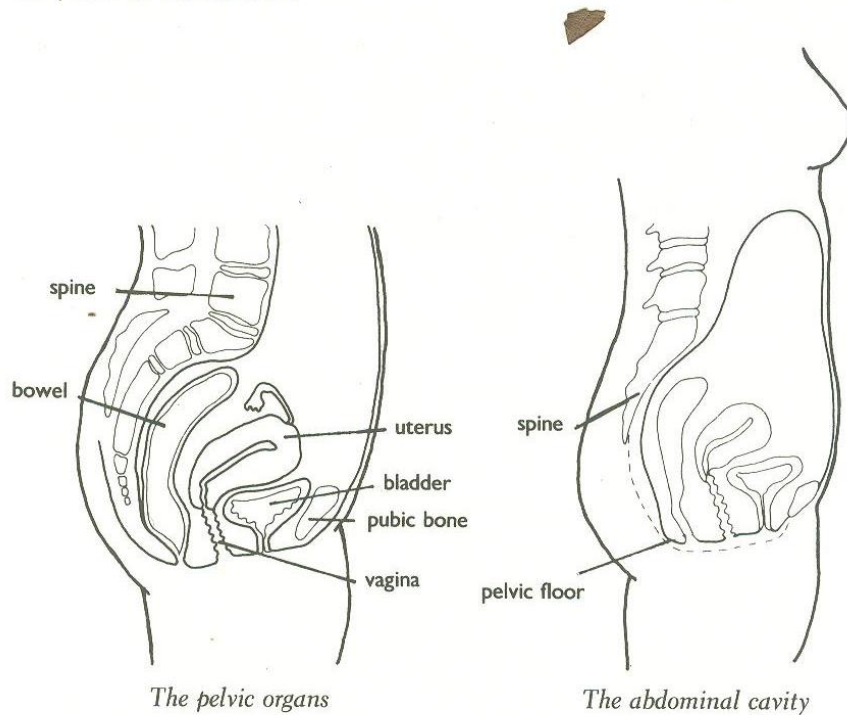


Excerpts from

Active Birth

The New Approach to Giving Birth

by Janet Balaskas

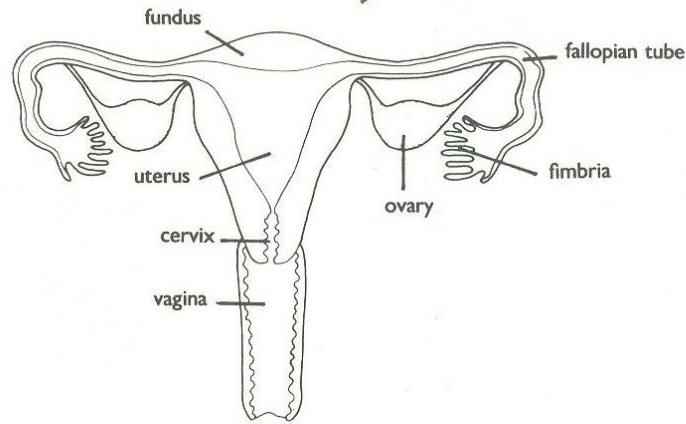


its cavity, and, at the appropriate time, expelled by it through your vagina into the outside world.

The average length of pregnancy is considered to be 40 weeks from the first day of your last period. During this time your uterus increases in size to about 12 inches by 9 inches by 9 inches. Its weight increases from 3½ ounces to over 2 pounds at full term, and the amount of fluid it contains grows from a quarter of a teaspoon to approximately 1½ pints.

During the first 16 weeks of pregnancy, the expansion of your uterus is caused almost entirely by the growth of its tissues owing to hormonal stimulation. The uterus becomes a thick-walled organ, circular in shape and protected and cradled by the bones of your pelvis. Around 16 weeks you will begin to feel the “quickening” movements of your child within the womb.

About the twentieth week the organ’s tissue growth almost ceases, and the uterus thenceforth expands because the muscle fibers are stretched by the growing child. At the very end of pregnancy the lower segment of the uterus stretches most, which is why a low-lying placenta will tend to rise



The maternal organs

as the uterine walls lengthen at the base. The walls of the uterus become thinner, and in the latter half of the pregnancy you can feel your child's body quite easily from outside. Your uterus becomes more oval in shape and moves up into your abdomen as your child grows.

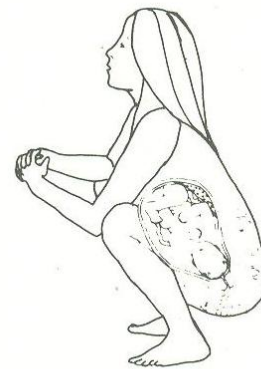
As the uterus enlarges, its position changes. At 12 weeks the fundus, or top of the uterus, is just above your pelvic inlet. At 16 weeks, the fundus is nearly halfway to your navel, which it reaches at the eighteenth week. At 36 weeks, the top part of your uterus is lying just below your diaphragm, at the level of the lower end of your breastbone. During the last few weeks it drops a little lower as your baby settles into position for birth.



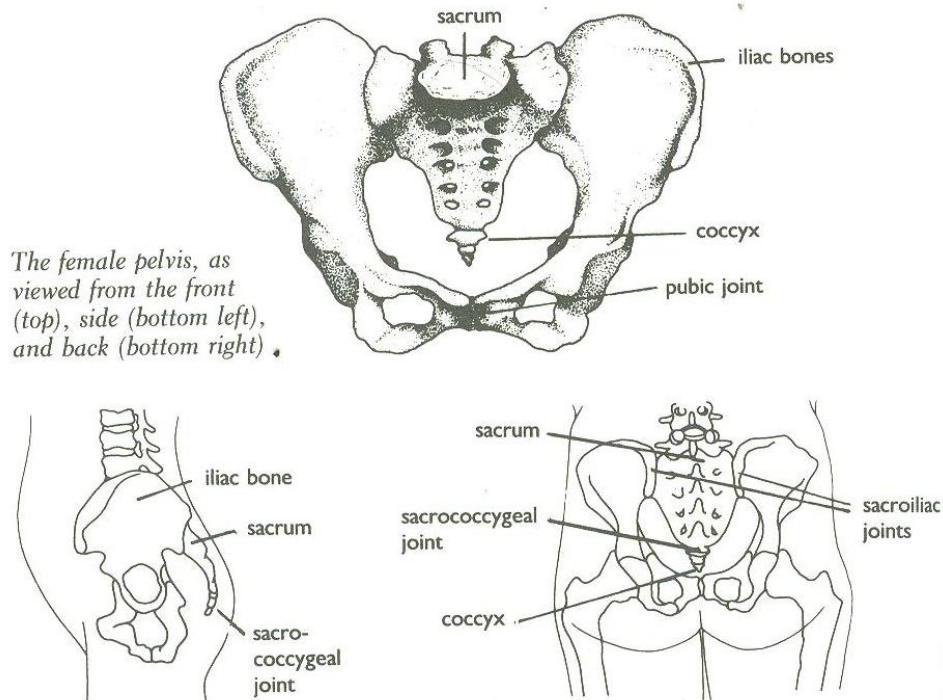
12 weeks



20 weeks



40 weeks



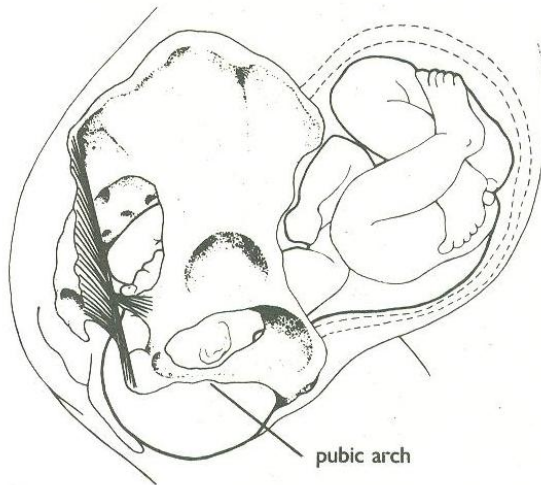
The female pelvis, as viewed from the front (top), side (bottom left), and back (bottom right).

THE PELVIC BONES

Your pelvis is the part of your body most directly involved with giving birth. It is the bony passage through which your baby passes as it is born. During pregnancy your body produces hormones that soften the joints to increase their flexibility and thereby assist the birth of your child. By regularly practicing the exercises recommended in the next chapter, you can make the most of this natural flexibility and be at your physical best for giving birth.

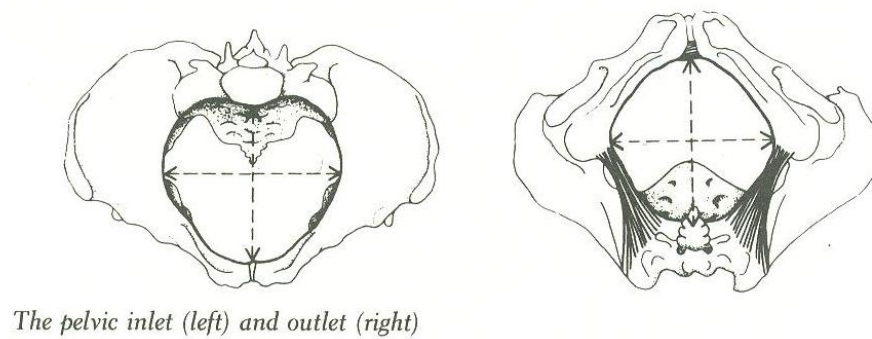
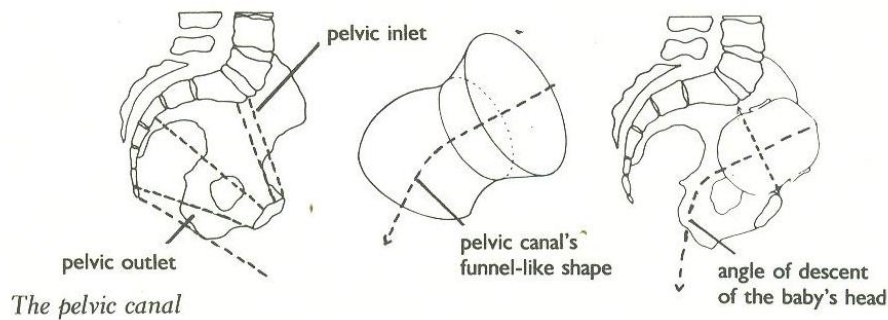
Try this:

1. Kneel on the floor and explore your pelvis from the outside. Place your hands on your hips (*a*) and find the iliac crests—two bony points at your sides—and follow their curved rim with your thumbs around to the back. Feel your pubic bone in front, your sacrum (the back wall of the pelvis) and coccyx (tailbone) at the back.
2. Sit on your hands and feel your two buttock bones (*b*).



3. Kneel, then lift up one foot so that you are half-kneeling and half-squatting. Explore your pubic arch. Feel its curve extending from your buttock bones under your pubic bone. Your baby's head will pass under this arch as it is born (c).

Your pelvis is shaped internally like a curved funnel—exactly the right shape to accommodate your baby's head as it passes through during labor. When you examine the structure of a female pelvis apart from the rest of the body, from above you see the pelvic inlet in which your baby's head



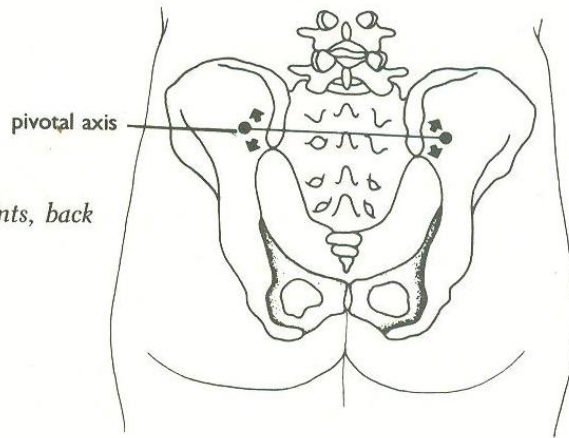
will engage, ready to be born; and from underneath the outlet through which it passes at birth.

Your pelvis has four major joints: the pubic joint, two sacroiliac joints, and the sacrococcygeal joint.

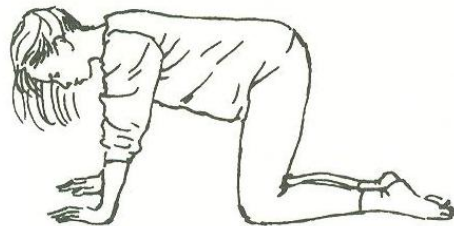
The pubic joint, in front, can open by as much as half an inch during labor to make room for your baby's head.

The two sacroiliac joints are at the back. These joints expand from side to side and also move in a pivot-like way to increase the area of the pelvic canal and adapt to the shape of the descending head of your baby as it passes through the pelvis.

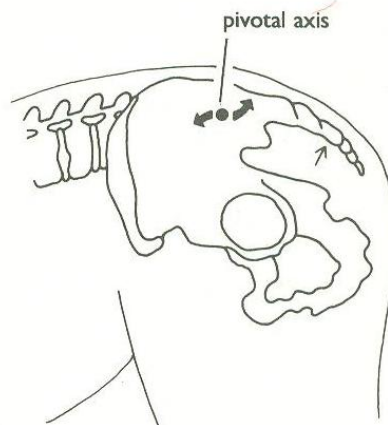
The sacrococcygeal joint is between your coccyx and your sacrum. This joint loosens during pregnancy so that your coccyx can move out of the way as your baby is born. When you bend forward, as in squatting or the all-fours position, your sacrum and coccyx lift up, opening and expanding the pelvic outlet. When you bend backwards or recline, you narrow the pelvic outlet by as much as 30 percent. This is one of the reasons reclining is the worst position for giving birth.



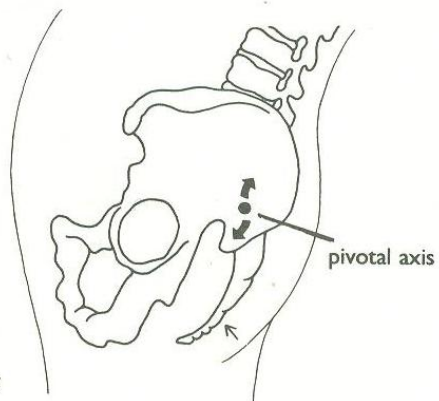
The sacroiliac joints, back view



When you bend forward, the sacrum lifts up and the pelvic outlet widens.



When you lean back, the sacrum tucks in and the pelvic outlet narrows.



THE PELVIC LIGAMENTS AND MUSCLES

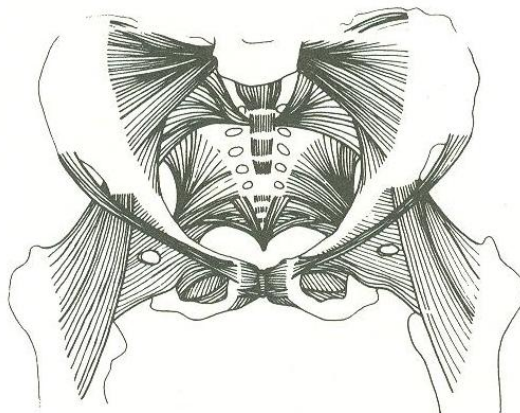
The pelvic joints are held together by ligaments, which are strong fibrous bands of connective tissue.

The sources of power of this part of your body are the muscles, which are attached to the bones and bring about movement at the joints by contracting and relaxing. The pelvic muscles include the buttock muscles, at the back, which provide strength and support for your hips, spine, and upper body and are especially important during pregnancy. At the base of your pelvis, attached to the area around the outlet, is a sling-like band of muscles that form the pelvic floor. These surround the anus, vagina, and urethra in a double figure-eight pattern. These muscles support all your pelvic and abdominal contents, and your baby passes through them at birth.

The uterus is itself a powerful muscle. It is attached by strong ligaments to the pelvic bones, and is also supported from underneath by the pelvic floor muscles.

Other muscles that are attached to your pelvis are the abdominal, back, and leg muscles. Your pelvis supports and distributes the weight of your upper body, and protects and supports your uterus and growing baby.

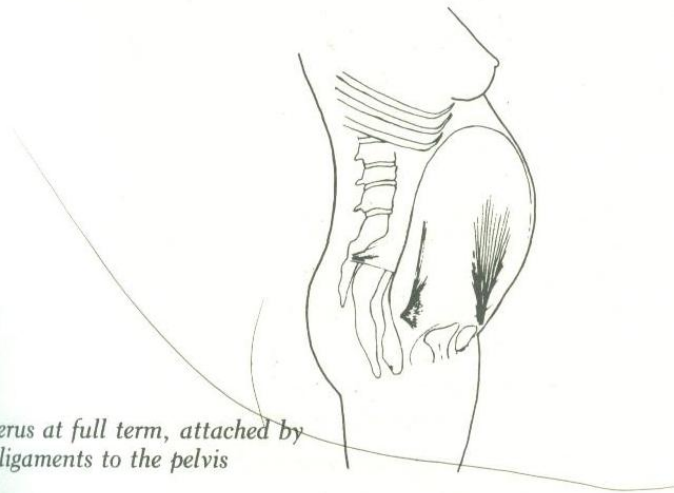
Correct tilt of the pelvis during pregnancy is crucial for good posture, for the safe carriage of your child, and for ensuring a good birth. The exercises for pregnancy concentrate on the pelvis and include all the major joints of the body.



The pelvic ligaments



The pelvic floor, as seen from above (left), from the side (center), and from below (right)



The uterus at full term, attached by strong ligaments to the pelvis

THE SPINE

Your spine is made up of a column of bony vertebrae that extends from the coccyx, or tailbone, at the base; includes the fused vertebrae that make up the sacrum (the back wall of the pelvis); extends to the vertebral column, which begins with the first lumbar vertebra in the lower back; and continues all the way up your back to the smaller vertebrae, which make up the neck and support your head. In the joints between the vertebrae are spongy discs that act as shock absorbers and permit movement of the spine.

With its natural curves, your spine is capable of a range of versatile movements. A healthy spine can bend backwards or forwards; it can twist or go from side to side; and it can combine several of these movements

times in Europe, developed in India, and is now widely practiced all over the world. It is a way to both relax your body and quiet your mind. Most important, yoga, correctly practiced, brings your body into a harmonious balance with the force of gravity, to which our bodies are subject at all times. You can learn, with the help of your breathing and without force or strain of any kind, to let go of unnecessary tension and stiffness in your joints and muscles.

In the preceding chapters, we have seen how the normal physiology of the birth process can best take place when you position your body in harmony with gravity. Each time you practice the exercises recommended in this chapter, you will be developing this instinctive body sense. This will guide you during labor, giving you confidence and faith in your own power. You will be better in touch with your instincts and better able to let go of the fear and tensions that can inhibit the involuntary birth process. It will be easier to accept the change of consciousness and to tolerate the intense sensations that occur as your body opens up to give birth. In the midst of the most tumultuous and painful contractions you will be able to calm yourself by focusing on your breathing, as you will have learned to do in your yoga practice.

Yoga can help you to flow with the challenging transformation of pregnancy and birth. It can bring you greater self-awareness, and it can also increase your awareness of your child's presence inside your body. When you experience the silence within yourself during yoga practice, you will become more aware of the powerful bond between you and your baby. This awareness will enhance your unconscious communication with the baby throughout pregnancy. And by making you more aware of the miracle of creation taking place within and through your body, the exercises can prepare you to love and nourish your baby in the years to come.

HOW DOES YOGA WORK?

Practically speaking, yoga provides a system of exercises to help you recover the natural range of movements your body is designed to make, in harmony with the force of gravity, and to help you maintain structural fitness.

When posture is poor, the body has become “disconnected” from its foundation and has lost its harmonious relationship to gravity. Tension accumulates in the upper body, which becomes top-heavy. Stresses result

in pain and disruption of the muscular and skeletal balance, generally accompanied by a psychological feeling of being ungrounded. Hence, rounded shoulders, hunched back, twisted or distorted spine, protruding jaw, shortened neck vertebrae, and stiff legs are all common postural problems that together are a hidden epidemic in our society. Most of us, without being aware of it, end up carrying a load of unnecessary tension, actually bound up in our muscles and joints. This state of affairs is brought about by the stresses and strains of modern life, sedentary lifestyles, loss of contact with nature, poor postural habits and physical education, and the suppression of emotions, all of which are commonplace today.

Yoga gets to the root of tension in the body and gives you an opportunity to release it. Good posture depends on a harmonious balance between your body weight and gravity. Yoga involves first becoming aware of the way your body is supported by and rests on the ground, in whichever posture you assume. For example, if you are standing, you feel your weight dropping downwards onto the floor through your heels (rather like a tree spreading its roots), or, if you are sitting, you feel your pelvis become heavy and the lower part of your spine relax downwards as your weight drops down onto your sitting bones. This is what it means to become “grounded.” It gives you a feeling of both physical and psychological stability.

With a secure foundation in the base, your neck, shoulders, and your upper back are well supported, and can thus become light and free. The more firmly your body rests on the ground, the more loose and relaxed it can be above. Like a tree, then, your spine extends in two directions: from the waist down it lengthens towards the Earth, and from the waist up it lengthens towards the sky, as branches and leaves grow towards the light.

Once you have this sense of strong foundation, the next step is to focus on your breathing rhythm. This will help you to still your mind and focus your awareness inwards, to find what I call your “center.” Then you can work with the natural “wave” of the breath. You can learn to direct the exhalations mentally downwards, with gravity, towards your “roots,” while your inhalations become passive and bring a feeling of lightness upwards from a stable base, thus lengthening the spine. This may sound confusing or odd before you actually try it, but with a bit of practice you can begin to feel how this happens naturally, when your posture is well balanced.

So yoga is not merely about learning various positions. The essence

lies in rediscovering your sense of harmonious orientation to the Earth, through focusing on your breathing and the way your body weight balances with the force of gravity. By “grounding” and “centering” yourself through yoga, you can regain a graceful posture and free yourself from tension, pain, and anxiety. This is especially helpful during pregnancy and also continues to be useful when you are in labor and giving birth, without your having to think about it.

Whereas some yoga positions involve a combination of movements that affect different parts of the body simultaneously, a simple forward bend will help us to understand how the underlying mechanical principle of yoga-based exercise works.

A forward bend is a positional exercise to encourage passive relaxation of the hamstring muscles at the back of the legs. In this position the hip joints act as a hinge. As you bend the weight of the trunk falls forward, drawn downwards by gravity until it meets with resistance from the hamstrings. Then the weight of the upper body, helped by gravity, encourages the hamstrings to stretch and lengthen.

Try this:

1. Stand upright with your feet about 12 inches apart and parallel to each other. Allow your weight to settle on your heels as you exhale, until you feel your feet are well grounded. Clasp your hands behind your back.
2. Now, without bending your knees, bend forward slowly from your hips, keeping your arms behind your back and your spine straight.
3. Hold for a few seconds, breathing deeply, and then come up slowly.

You no doubt felt a stretching sensation in the muscles at the back of your legs as the movement caused them to lengthen and relax. If the exercise was painful, you are probably wondering why, if the muscles were relaxing. The reason is your lifestyle so rarely requires such full movements that the hamstring muscles at the back of your legs have shortened and lost their elasticity, restricting your ability to move forward.

Nature has designed your body to be able to fold over like a jackknife, with your belly and chest flat against your thighs and the palms of your hands on the ground in front of you. Of course, during the later months of pregnancy, this can only be done with legs apart to make room for your belly! (See page 74.) In this position your feet are firmly grounded, and gravity draws your trunk forward like a lever from the hips. Your spine should be completely relaxed while the front of your body contracts and the hamstring muscles lengthen and extend. Breathing deeply for a

few moments while in the position allows you to release the tightness you feel in your legs and to lengthen and relax your spine, until with practice you can make the movement with greater ease.

You will probably find, as you experiment with other movements, that a state of chronic tension exists throughout your body to some degree, affecting some areas more than others. The most effective way to become more relaxed and supple is by beginning to make the neglected movements we were designed by nature to make. It is simply a matter of spending some time each day practicing them. Gradually stiff muscles will lengthen and regain their elasticity, and joints will become more mobile as tension is released.

The program of yoga-based exercises that follows will cultivate relaxation and flexibility in a safe, unstraining way. Pregnancy is a unique and marvelous time to let go of habitual tensions and to allow your body to become more relaxed. If you've never exercised before, you may find some of the positions difficult at first. But gradually, with practice, you'll loosen up.

The Benefits of Yoga-based Exercise

1. As your muscles become more supple and your joints more mobile, the muscular balance that supports and moves your body improves. Muscles work in teams; while one team is relaxing and lengthening, the other is contracting and shortening. When you balance the opposing teams of muscles, your joints articulate better and your posture automatically improves. This ensures that you carry your baby correctly and helps to prevent backache.

2. Breathing well depends on good posture. When your pelvis and spine are in good balance and your shoulders are relaxed, your chest cavity can expand easily so that breathing is unrestricted. This ensures good oxygenation of the blood for you and your baby throughout pregnancy.

3. As you become familiar with the exercises you will find movements that alleviate the minor discomforts of pregnancy, such as heartburn, pain in the hip joints or in the ribs, cramps in the legs, or headaches.

4. Your circulation depends upon your muscles. They act as pumps, making the blood flow through your body and returning the blood to your

heart. If a muscle is tight, then the blood vessels running through it are constricted and your blood circulation (and indeed, indirectly, the circulation to your baby in the womb) is also restricted. The exercises can help to ensure that your baby is getting everything needed to grow healthy and strong. They can also prevent or lessen problems associated with poor circulation—varicose veins, hemorrhoids (piles), and fluid retention. Finally, the exercises tend to lower the blood pressure, and can thus help to prevent problems associated with rising blood pressure (see chapter 7).

5. Yoga-based exercises help to combat fatigue. If muscles are shortened and movement is restricted, the flow of energy is “blocked.” After a session of exercise you will feel invigorated and refreshed, and over time this feeling will increase. Your pregnancy can be a time when you feel healthier and more energetic than ever.

6. The most comfortable yoga positions in pregnancy are very similar to positions women instinctively assume in labor. So, by practicing the exercises, you will have cultivated ease and comfort in the natural positions for birth used by women through the ages, without needing to think about it very much. You will be able to move freely and instinctively; your body will know what to do. Yoga will help you to be more deeply in touch with your own center. It will be easier to surrender to the powerful forces within your body during labor.

7. As stiffness lessens, your body becomes free of pain.

8. You will gradually become familiar with the discomforts and even the pain of going beyond your usual limits. As labor and birth will demand going beyond your normal limits of pain endurance, positioning your body to go beyond your normal limits of movement during pregnancy prepares you gradually for this kind of effort. The exercises will teach you to surrender to the forces within your body. This is the best possible practice for labor; it will help you to cope with the intensity of the sensations of your contracting uterus, and will also help to reduce the pain by enabling you to relax and accept the feelings rather than tensing up against them. As one mother said—

“By exercising, I learned how to be at one physically and emotionally with the changes that would inevitably lead to the birth of my child. The teaching enabled me to ‘go with’ my body, even when the pain was a burden. I was physically and also mentally prepared for everything that was to happen to me, and I approached the final events with excitement and real confidence.”

9. Whatever happens during labor and birth—even if complications arise—practicing yoga-based exercises throughout pregnancy will have been the best way to prepare for a speedy recovery.

THE EXERCISES

Choose a time of day when you have a little time to yourself—first thing in the morning, or perhaps last thing at night. It is best not to eat a large meal beforehand. You will need a carpeted space with one free wall, two pillows, and a low stool or pile of large books.

The exercises are arranged in eight sequences, which include six basic exercises to be practiced daily, or as often as possible (these are marked with asterisks and labeled “Basic” I to VI). The whole program should take about 1½ hours to complete, but you may devise your own personal program concentrating on the basics and then adding others according to preference or need.

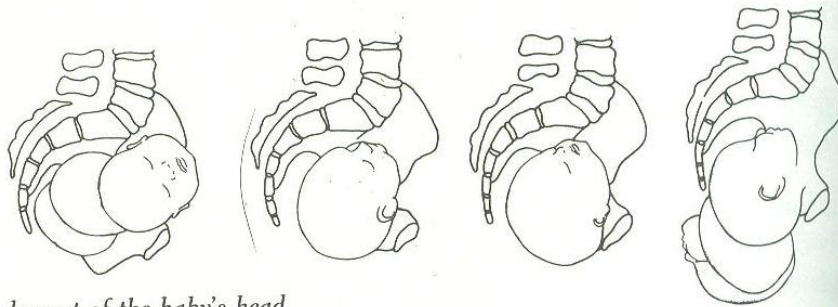
For best results, start doing these exercises as early in your pregnancy as possible—any time after the twelfth week, unless your doctor advises you that it is all right to start sooner. However, it is never too late to benefit.

Start off in any easy way, holding each position for as long as you are comfortable, gradually lengthening the time as you become familiar with the movements. Start with a few of the movements, and gradually build up until you are able to go through the full program. The first thing you may feel when you start is your own stiffness, so expect to spend two or three weeks getting to know the exercises. Gradually, as you loosen up, the movements will become pleasurable. You will probably find that some of the movements fit comfortably into your daily habits, that there are some you can practice while watching TV, reading, or talking to friends, and some you would like to concentrate on. Provided you pay careful attention to the instructions and cautions, all the exercises are safe for pregnancy. Once they are familiar to you, you may safely spend longer periods in each position. If any exercise is uncomfortable after you have tried it for a while, then leave it out and concentrate on the others. At first you will find that you can go up to a certain point, and then you begin to feel the stretch. Reach this point and stay with it, breathing deeply, until the stretching sensation eases. Gradually your range of movement will increase, and your body will become more flexible and relaxed.

What Happens to Your Baby

Before the onset of labor your baby's head will probably engage in the pelvic brim. The widest diameter of the top of his or her head, from the crown to the forehead, will be lying in the widest diameter of your pelvic inlet, which is from side to side. As your cervix dilates, the baby's head gradually descends further into the pelvic cavity.

As it descends, your baby's head exerts pressure on the cervix; this pressure assists and promotes dilation. The dilating uterus pulls up around the baby's head like a glove as the baby goes down into the pelvic canal. By the time you are fully dilated, it will have drawn up around the baby's head as far as the ears and opened wide enough for the baby's body to pass through.



The descent of the baby's head

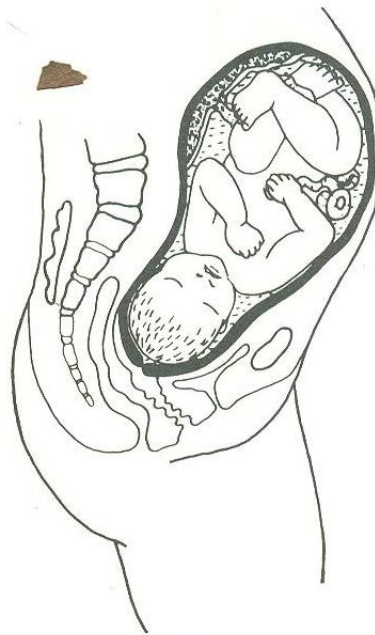
What Happens to You

When labor starts, the early contractions will draw up the cervix so that it thins out and becomes ready to open. Sometimes this thinning takes place in the days before labor actually begins—particularly with second and subsequent babies. You may have prelabor in the 24 hours or so preceding the birth, with mild contractions that stop and start periodically. Eventually the contractions will begin to take on a regular rhythm.

The “classic” labor starts with regular contractions, 20 to 30 minutes apart and 20 to 30 seconds long. After some time, as your cervix dilates, they progress to 15 minutes apart (30 to 35 seconds long), then 10 minutes apart (35 to 40 seconds long), 5 minutes apart (40 to 45 seconds long), 3 minutes apart (45 to 50 seconds long), until finally, at the end of the first



Before labor begins: the baby in the womb at term.



Labor begins: the cervix effaces and becomes thinner as early contractions draw it upwards.



Early first stage: the cervix opens.



Late first stage: the cervix draws up around the baby's head.

stage, when the cervix is almost fully open, the contractions are 60 to 90 seconds long with half a minute between them.

However, very few women have a classic labor. The patterns and rhythms of labor vary greatly. Some women have contractions that are 10 minutes or 5 minutes apart throughout.

Whatever the rhythm of your labor, the contractions will become more powerful, longer, and closer together as your cervix progressively opens and dilates from 0 to 10 centimeters (full dilation is 10 centimeters). You or your midwife can feel the cervix dilating by vaginal examination with the hand, which is why you often hear the expression “four or five fingers dilated.” (If labor is progressing well, however, it is wise to do as few internal examinations as possible, as they increase the risk of infection. Sometimes they are not necessary at all!) As you approach full dilation the contractions are at their most intense and you are nearing the time when your baby will be born.

The length of the first stage can vary enormously, from one or two hours to two or three days with contractions stopping at times. However, the average length of the first stage for a first birth is 8 to 16 hours.

Modern hospitals are reluctant to allow a labor to take longer than 24 hours and often use a Pitocin drip to accelerate a long labor. One of the benefits of active birth is that contractions tend to be more regular and efficient and labors shorter. Nevertheless, it is normal for some women to dilate very slowly. If you have plenty of rest in between contractions and progress is gradual, though slow, there should be no reason to intervene provided you feel you can continue and the baby is showing no signs of distress.

Because your uterus tilts forward as it contracts, it will work most efficiently, with least resistance, if you are upright and leaning forward. Being in a quiet darkened room, with as few people and distractions as possible, will encourage more rapid dilation.

Breathing for the First Stage

Center yourself by focusing your awareness on your breathing, without interfering with it, for as long as possible. When you need to, use deep breathing, concentrating on the exhalations. Try to keep your body, especially your shoulders, relaxed.

When the contractions become very intense you may need to make a