Preconception

External Links and Resources

Improving Health and Fertility


• “Infertility,” Marilyn Glenville (2012). How to increase your chances of conceiving and preventing miscarriages. A helpful review, but please note this is a commercial site, and the author does have a vested interest in selling products and services. http://www.marilynglenville.com/infertility.htm.


Preconception Checkup

• http://www.aafp.org/afp/2013/1015/p499.html

• http://www.cdc.gov/ncbddd/preconception

Monitoring Fertility to Increase Conception Chances

• http://www.fertilityfriend.com


Reproductive Technology (Fertility Treatment)

• http://www.cdc.gov/ART

• http://www.marchofdimes.com/pnhec/173_14308.asp
Preconception

Improve Your Health and Enhance Fertility

As you prepare for pregnancy, remember that your emotional and physical health and the health of the father-to-be are important for a healthy egg and sperm, and a healthy pregnancy and baby!

The ideal time to begin preparations and begin improving your health is four months prior to conception, as sperm development and egg maturation both take about 100 to 120 days. But even if you’re already trying to conceive, you can improve your chances of becoming pregnant and having a healthy pregnancy by following any of the tips below.

It is not necessary to do everything we recommend! (Plenty of babies come into the world with no preparation at all on their parents’ part, and they do just fine.) So if you find any one of the recommended actions difficult to manage, don’t worry about it. However, the more of these suggestions you can follow, the better your chances of a smooth journey through conception and pregnancy.
Preconception Emotional Wellness

Decide whether you’re ready for a baby.
Many babies are a “surprise,” and their parents don’t have the luxury of thinking out all the details out in advance. But if you’re reading this before conception, take the opportunity to really think through what your life is feeling like now and how it will be affected by adding in a baby. If you will be parenting with a partner, preconception is a great time for long talks about parenting. We have a list of questions to consider: http://www.parenttrust.org/for-families/parenting-advice/parenting-tips/additional-tips/readyforbaby.

Reduce stress and focus on your emotional health.
Stress can depress your immune system, raise your blood pressure, and alter your hormonal function. And stress increases the risk of miscarriage. Try to eliminate or reduce the situations that cause you stress. Learn and practice relaxation techniques for calming yourself.

Consider seeking out support and resources for any emotional challenges you’re facing. Participating in counseling, workshops, or support groups, as well as journaling and reading self-help books are ways to explore and process emotional issues, and learn new coping skills before your baby is born.

Do things that help you feel good: exercise, sleep well, eat well, and spend time with friends.

Work on your relationship with your partner.
The stronger your relationship is before your baby is born, the more easily it will weather the challenges of parenting. Read And Baby Makes Three by John Gottman and Julie Schwartz Gottman or Becoming Parents by Pamela Jordan, attend workshops on relationship skills, or consider couples’ counseling.

Think about your finances.
It’s a good idea to start planning financially for your pregnancy now. Learn more at http://www.childbirthconnection.org/article.asp?ck=10304&ClickedLink=486&area=27.

Understand your health insurance options.
Having a baby is very expensive, so make sure your coverage is set up in advance. If you have health insurance through your work or your partner’s work, learn about your maternity care coverage in advance. If you purchase insurance through the health care exchange (at http://www.healthcare.gov), it is very important to know that the open enrollment period for a new plan is between November 15 and February 15. If you become pregnant after that period, you will not be able to get insurance for that year! If you are low income, you may qualify for Medicaid or the Children’s Health Insurance Program (CHIP). Learn more at http://www.healthcare.gov.

Learn more about insurance at http://www.PCNGuide.com in our “So Many Choices” section.
Preconception Wellness

Improving your physical health will improve your chances of conceiving and having a good start to your pregnancy. Again, it’s not necessary to do all of these things; just do what you can.

Eat a healthy diet to prepare your body for pregnancy.

- Take folic acid. Take 400 micrograms of folic acid per day (or 4–5 milligrams if you have epilepsy, insulin-dependent diabetes, a family history of neural tube defects, or are obese with a body mass index [BMI] over 35). Folic acid greatly reduces the risk of certain birth defects and miscarriage.
- Drink plenty of fluids. Plan on ½ ounce a day per pound that you weigh (for example, a 150-pound woman should drink 75 ounces of fluids).
- Take a multivitamin. Choose one vitamin that meets all your needs—taking several different kinds of multivitamins can lead to an accidental overdose of one or more nutrients.
- Choose healthy, whole foods (organic, if possible) with few additives and hormones.
- Eat more whole-grain foods and fewer refined grains. Vary your veggies and eat a variety of fruits.
- Switch from low-fat dairy foods, which may inhibit ovulation, to full-fat dairy foods. Consume other healthy fats, especially omega-3 fatty acids.

For more nutritional recommendations, see chapter 6 (Eating Well) of Pregnancy, Childbirth, and the Newborn and the Nutrients, Vitamins, and Minerals: Daily Recommendations chart in the Eating Well section of http://www.pcnguide.com. All the recommendations for a healthy diet for pregnancy will be helpful for you before conception; just don’t add any extra calories yet!

The father-to-be (and his sperm) can also benefit from a healthy diet and perhaps a multivitamin. Zinc, essential fatty acids, and vitamins C and E may be especially helpful in the preconception period.

Get to a healthy weight before conceiving.

Ideally, your BMI should be between 20 and 25 before pregnancy. (To learn your BMI, search online for a "BMI Calculator.")

If you are underweight (BMI under 18), you might have reduced fertility. While your ovaries might produce and release eggs, the lining of your uterus might not be adequate for a healthy pregnancy. If you are severely underweight, you might not be menstruating, and might be infertile. Additionally, beginning pregnancy underweight can increase your chances of preterm birth. If the father-to-be is underweight or has lost significant body weight recently, he may have decreased sperm count or function.

If you’ve had an eating disorder, work with a counselor and your physician to address any related issues prior to pregnancy.

If you are overweight (BMI between 25 and 30), obese (BMI over 30), or morbidly obese (BMI over 40), you may find it difficult to conceive and will face a more complicated pregnancy and birth. Do what you can to reach a healthy weight, and maintain that weight prior to becoming pregnant. If, despite your best efforts, you are overweight when pregnancy begins, monitor weight gain during pregnancy. Limiting weight gain to 15–25 pounds (or less than 25 pounds if morbidly obese) reduces the risk of macrosomia (big baby), gestational hypertension, and cesarean.

If the father-to-be is obese and has a poor diet at the time of conception, it may reduce fertility and may increase the chance that his child will be obese later in life.

Exercise: Begin pregnancy strong and fit.

Moderate exercise (two to six hours per week) can enhance fertility by regulating hormones, improving circulation to the ovaries and uterus (or to the testes for the father-to-be). It also improves mood and reduces stress. But don’t overdo it. Extreme exercise (such as running 100 miles in a week) can decrease fertility through impaired ovulation for women and reduced sperm count for men.
Preconception Health Care

See your dentist for a checkup before you conceive.
Have any x-rays or fillings that need to be done, but ask for the new fillings to be done without mercury (it’s not necessary to remove existing mercury fillings). Treat any existing gum disease, as it can increase the risk of miscarriage and premature birth.

See your physician for a medical checkup before you conceive.
Your physician should screen both you and the father-to-be for sexually transmitted infections (STIs) and treat if needed, as some STIs can increase the risk of infertility, miscarriage, and birth defects. Your physician should also address any medical conditions and medications that could complicate conception, pregnancy, or birth. For chronic conditions (such as hypertension, diabetes and epilepsy), try to optimize control of the condition and medication levels before pregnancy. Be sure your physician and pharmacist know that you’re planning to conceive, so they can assess current and new medications, herbs, and supplements for any potential risks and make substitutions as needed. Get up-to-date on vaccinations, including varicella, rubella, and hepatitis B.

Read “Recommendations for Preconception Counseling and Care” to learn more: http://www.aafp.org/afp/2013/1015/p499.html. To learn about medications, visit http://www.cdc.gov/pregnancy/meds/treatingfortwo/research.html.

Consider genetic screening.
Genetic carrier screening is not necessary for many people, but may be recommended to you if you or your partner are concerned about inherited diseases in your family, belong to certain ethnic groups that have a higher risk of certain genetic diseases, have had multiple miscarriages, have a child with an inherited disorder, or are over age thirty-five.

There are over one hundred diseases that can be screened for. They include sickle cell anemia, beta thalassemia, Tay-Sachs disease, and cystic fibrosis. The tests may indicate that you are a carrier of a disease: you have no symptoms but carry the gene that could pass the disease on. If only one parent is a carrier, your child will not have the disease. However, if both parents are carriers, your child will have a one in four chance of having the disease. For more information, visit http://www.acog.org/Patients/FAQs/Preconception-Carrier-Screening.
Preconception Hazards

Reduce or eliminate use of harmful substances.

Both you and the father-to-be should reduce your use of caffeine, alcohol, tobacco, and illegal substances four months before you plan to conceive.

Caffeine: Consuming caffeine in amounts up to 200 to 300 milligrams per day (one or two cups of coffee, three cups of tea or 72 ounces of soda) is generally considered safe for preconception and pregnancy by most authorities. However, there are studies that indicate even one cup of regular coffee per day can decrease chances of conceiving and increase the chance of miscarriage.

Alcohol: Drinking as little as five drinks a week can significantly reduce fertility. Alcohol use in pregnancy increases the chances of miscarriage, developmental delays, and growth retardation.

Smoking and secondhand smoke: If you and/or your partner smoke, your fertility can be significantly impaired. Once pregnant, you have a higher risk of miscarriage, premature birth or low birth weight, and are more likely to have a baby with birth defects.

All substance effects are dose-related. The more you use, the higher your risks will be. If you consume only a small amount of a substance, the potential side effects are small, so reduce your use as much as possible.

For more on harmful substances and resources to help you quit using them, visit http://www.childbirthconnection.org/article.asp?ck=10299&ClickedLink=486&area=27.

Reduce your exposure to environmental hazards.

Both you and the father-to-be should reduce your exposure to the following environmental hazards, which are linked to infertility, miscarriage, or birth defects.

- heavy metals
  - lead: traffic fumes, lead-based paint, and home renovation
  - mercury: fish containing high levels of mercury, amalgam fillings, tattoo inks, and manufacturing involving mercury
  - cadmium: cigarettes and secondhand smoke
  - aluminum: food or beverages cooked or stored in aluminum, baking powder, antacids, and deodorant
- solvents, pesticides, chemical fumes from paints, thinners, wood preservatives, glues, benzene, and dry cleaning fluids
- bisphenol-A (BPA) plastics
- carbon monoxide and anesthetic gases
- ionizing radiation (from x-rays and radioactive materials)

If you're exposed to hazards at your workplace, shower afterward and wash your work clothes separately. Ask your employer for Material Safety Data Sheets (MSDS) for more information, plus good ventilation and protective gear.

Reduce your exposures to infections.

Infections can reduce fertility and also can be harmful in early pregnancy. Wash your hands often and use gloves and other universal precautions to protect yourself from bacterial and viral infections. Use good food safety practices to protect yourself from food-borne illnesses.
Many people spend years carefully protecting against accidental pregnancies and then are shocked when they don’t get pregnant the first time they have sex without using contraception. It’s important to have realistic expectations about how long conception may take once you actually start trying. Keep in mind that it’s normal to take six months to conceive. Here are some ways to increase your chances of conceiving:

- Optimize timing. Sperm can survive within the woman for three days. Once an egg is released (ovulation), it is viable for twelve to twenty-four hours. Thus, timing intercourse in the three days prior to ovulation significantly increases your chance of conceiving.
  - For example, intercourse two days before ovulation carries a 50 percent chance of conception for a couple age 19 to 26 (30 percent at age 35 to 39), versus intercourse four days before ovulation carries a 30 percent chance of conception (20 percent).
  - To predict and detect ovulation, go to http://www.fertilityfriend.com or http://www.plannedparenthood.org/learn/birth-control/fertility-awareness to learn about fertility awareness through tracking your cycles on a calendar, charting basal body temperature, observing cervical mucus, and other methods.
- Many personal lubricants (e.g., KY Jelly, Astroglide, olive oil, and saliva) can reduce sperm motility or weaken sperm. Mineral oil, canola oil, and hydroxyethylcellulose-based lubricants (e.g., Pre-Seed) are better options.
- For the best sperm quality and quantity, having intercourse every one to two days during the fertile window may be best. If a man is abstinent for ten days or more, sperm count and quality decreases.
- Despite common beliefs, the evidence doesn’t show that using specific positions for sex or lying down after intercourse enhance the odds of conception.
Concerns about Infertility

You are not considered a couple with fertility issues until you have been trying for more than a year (or more than six months if you’re over age 40). If you have been following the recommendations above, and it is taking longer to conceive than you had hoped, you may try these options.

- Certain nutrients are particularly helpful to ingest when you’re trying to conceive, especially antioxidants: vitamins B6, E, and C, and zinc and selenium, as well as anti-inflammatory omega-3 fatty acids (for both you and the father-to-be). Amino acids L-arginine and L-carnitine are helpful for men.
  - Some herbal supplements also can enhance fertility: You can try vitex (chaste tree berry), Siberian ginseng, red clover blossom, or red raspberry leaf for women. With all supplements, it’s best to consult with a trained provider before taking.
  - Acupuncture can also aid conception, whether used on its own or in conjunction with infertility treatments. Consult with a practitioner for advice.

If the measures described here are not enough to help you conceive, you may consider using assisted reproductive technology (ART). To learn more about ART, visit http://www.cdc.gov/ART or http://www.marchofdimes.com/pnhec/173_14308.asp.

Planning Ahead: Maternity Care Choices

Your choice of caregiver for your prenatal care and to attend your birth, as well as your choice of birthplace, have a huge influence on your birth experience and your level of satisfaction with your birth. Since you will start prenatal care early in your pregnancy, it’s a great idea to research your options while you’re working on conceiving the baby.

For a caregiver, you may choose a midwife, a family practice doctor, or an obstetrician. For a birthplace, your options include home birth, free-standing birth centers, and hospitals. To learn more about these options, read the Great Starts Guide at http://www.parenttrust.org/web-store/books/ or visit www.childbirthconnection.org. For lists of questions to ask about your options, check out http://www.pcguides.com in the “So Many Choices” section.

Notes

CHAPTER 1: YOU’RE HAVING A BABY

External Links and Resources

Birth Stories
• Real Birth: Women Share Their Stories by Robin Greene (2015)
• Adventures in Natural Childbirth: Tales from Women on the Joys, Fears, Pleasures, and Pains of Giving Birth Naturally by Janet Schwegel (2005)

The Realities of Early Parenting
• On http://www.amazon.com, use the search term “memoirs of parenting babies” or “memoirs of motherhood,” and choose the ones that appeal to you!
• The Expectant Father: Facts, Tips, and Advice for Dads-to-Be by Armin A. Brott (2010). Information-packed guide to the emotional, financial, and physical changes the father-to-be may experience during the course of his partner’s pregnancy.
CHAPTER 1: YOU’RE HAVING A BABY

Your Experience of Finding Out about Your Baby

How did you find out you were pregnant?
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________

Who did you tell first? How did they react?
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________

Calculating your due date (PCN 32, SG 4)

<table>
<thead>
<tr>
<th>Standard Formula</th>
<th>Sample</th>
<th>Your Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of first day of your last period (LMP)</td>
<td>April 15</td>
<td></td>
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<tr>
<td>Minus 3 months</td>
<td>January 15</td>
<td></td>
</tr>
<tr>
<td>Plus 7 days to get your due date</td>
<td>January 22</td>
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</tbody>
</table>

Have you been given other due dates? (e.g., from ultrasound dating)? ____________________________
___________________________________________________________________

It’s normal for a baby to be born anywhere from two weeks before to two weeks after the due date. Write those dates here, so you remember that your baby might be born anytime between ________________________ and ________________________.

Connecting to your baby

When did you first hear the heartbeat? (Typically occurs after twelve weeks with Doppler stethoscope.) ________________________
___________________________________________________________________

When did you first feel your baby move? (Typically occurs after eighteen weeks.) ________________________
___________________________________________________________________

When was the first time someone else could feel your baby move? ________________________
___________________________________________________________________

___________________________________________________________________
Your Experience of the First Trimester
(From conception to fourteen weeks)

How are you feeling physically?
________________________________________________________________________
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Describe your emotions at this point: ______________________________________
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What are your friends and family members thinking about your pregnancy and baby?
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What are you doing to prepare for your baby?
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Your Experience of the Second Trimester
(From fifteen to twenty-seven weeks)

How are you feeling physically?
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___________________________________________________________________________
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Describe your emotions at this point:
___________________________________________________________________________
___________________________________________________________________________
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What are your friends and family members thinking about your pregnancy and baby?
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What are you doing to prepare for your baby?
___________________________________________________________________________
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___________________________________________________________________________
___________________________________________________________________________
Chapter 1: You’re Having a Baby

Your Experience of the Third Trimester
(From twenty-eight to thirty-eight weeks)

How are you feeling physically?
___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________
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Describe your emotions at this point: ________________________________________
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What are your friends and family members thinking about your pregnancy and baby?
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What are you doing to prepare for your baby? ________________________________
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Your Experience of the Final Weeks

How are you feeling physically? ________________________________________________________________
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Describe your emotions at this point: __________________________________________________________
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What are your friends and family members thinking about your pregnancy and baby? ________________
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What are you doing to prepare for your baby? ____________________________________________________
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CHAPTER 1: YOU’RE HAVING A BABY

Your Experience of Early Labor

Fill this out when you think you may be in labor. Note that many women have several “false starts”—they think they’re in labor, and then contractions stop, only to start again a few days later … so you may need a few copies of this page.

**Signs Labor May Be Starting** (PCN 162–166, SG 82–84)

What are your signs?

___________________________________________________________________________________
___________________________________________________________________________________

**Distractions** (PCN 172, SG 87)

What are you doing to distract yourself, stay calm and relaxed, and not get too worked up about early labor?

___________________________________________________________________________________

**Timing Contractions**

When distractions aren’t working anymore, and you need to work to cope with the contractions, time them.

<table>
<thead>
<tr>
<th>Date</th>
<th>Starting time (in seconds)</th>
<th>Duration</th>
<th>Interval or frequency (minutes since beginning of last contraction)</th>
<th>Comments</th>
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**Coping with Early Labor** (PCN 172, SG 86–87).

What are you doing?

___________________________________________________________________________________

**Calling Your Care Provider** (PCN 177, SG 85)

When did you call?

___________________________________________________________________________________

What did he or she say?

___________________________________________________________________________________
Your Experience of Active Labor and Birth

During labor, fill out as much of this worksheet as is convenient. Then, write in more notes in the days after the birth, while your memories are still fresh.

**Deciding to go to the hospital or birth center, or calling the midwife to come**

How did you know it was time? ____________________________________________

__________________________________________

How was the trip? _______________________________________________________

_______________________________________________________________________

__________________________________________

**Arriving at the birthplace or your midwife’s arrival**

What was the news on arrival? ____________________________________________

__________________________________________

**Active Labor** *(PCN 178–183, SG 89–96)*

What was it like? _______________________________________________________

__________________________________________

How did you cope? ______________________________________________________

_______________________________________________________________________

__________________________________________

What happened? _______________________________________________________

__________________________________________

**Birth (Pushing or Cesarean)** *(PCN 188–196, SG 98–101)*

What was it like? _______________________________________________________

__________________________________________

How did you feel? _______________________________________________________

_______________________________________________________________________

__________________________________________

What happened? _______________________________________________________

__________________________________________

Birth Date: ___________________________________________ Time of Birth: ____________________________

Baby’s Name: ___________________________________________ Weight: _____________ Length: __________
CHAPTER 1: YOU’RE HAVING A BABY

Your Experience of Beginning a New Family

Immediately after the Birth (PCN 195–201, SG 102-05)

What were your first thoughts and feelings after the birth?

____________________________________________________________________________________________________

____________________________________________________________________________________________________

What was happening? ______________________________________________________

____________________________________________________________________________________________________

Baby’s First Day

What did your baby look like? ______________________________________________________

____________________________________________________________________________________________________

What did your baby do? ______________________________________________________

____________________________________________________________________________________________________

What were the most challenging parts of the day? ______________________________________________________

____________________________________________________________________________________________________

The funniest? ______________________________________________________

____________________________________________________________________________________________________

The sweetest? ______________________________________________________

____________________________________________________________________________________________________

Introducing Your Baby to Your Community

Who were the first people you told about the birth? ______________________________________________________

____________________________________________________________________________________________________

Who were your baby’s first visitors? ______________________________________________________

____________________________________________________________________________________________________

Were there gifts for you or your baby? ______________________________________________________

____________________________________________________________________________________________________

Introducing Your Baby to the World

What was it like going home for the first time? ______________________________________________________

____________________________________________________________________________________________________
External Links and Resources

Learn More about Your Maternity Care Choices

- http://www.childbirthconnection.org

Find a Birth Center

- http://www.birthcenters.org/birth-center-locator

Find an Obstetrician

- http://www.acog.org/About-ACOG/Find-an-Ob-Gyn

Learn More about Family Physicians

- http://familydoctor.org

Learn More about Midwifery

- http://cfmidwifery.org

Find a Nurse-Midwife

- http://ourmomentoftruth.midwife.org

Find a Licensed Midwife or Certified Professional Midwife

- http://www.mana.org/memberlist.html
- http://cfmidwifery.org/find

Find a Childbirth Educator

- http://www.ieca.org
- http://www.lamaze.org
- http://www.bradleybirth.com
- http://www.birthingfromwithin.com

Find a Birth or Postpartum Doula

- http://www.dona.org
- http://www.doulamatch.net

Find a Lactation Consultant

- http://www.ilca.org

World Health Organization’s Baby-Friendly Award for Hospitals That Support Breastfeeding

- http://www.babyfriendlyusa.org

Information about Childbirth Preparation Classes

- http://www.transitiontoparenthood.wordpress.com
Information about Doulas


Find a Hospital: Ratings

You probably know the names of your local hospitals, and it’s very easy to learn more about them by looking at their websites. Many expectant families just choose the hospital closest to their home or the one with the best marketing department and the most appealing ads. But did you know there’s a huge range of policies, intervention rates, and consumer satisfaction between hospitals? For example, cesarean rates may range from 15–70 percent! Here are resources to learn more about your options:

- There are several sites where consumers can rate hospitals or caregivers, including general sites, such as yelp.com, local.yahoo .com and insiderpages.com, and health-care specific sites, such as www.ratemds.com, www.vitals.com, and the physician ratings on www.healthgrades.com. These are subjective ratings, and just as when you’re reading movie reviews on Rotten Tomatoes or restaurant reviews on Yelp, be sure to take everything with a grain of salt. Remember a few things: (a) people have different preferences, (b) often people who make the effort to fill out online reviews had unusually wonderful or unusually awful experiences, so you may not see many moderate options, and (c) some reviewers are stunningly ill informed and write reviews like “when I drove by, it looked nice” or “I was born there, so it must be great.”

- Many states have publically reported data about interventions, including cesarean rates and more. You may be able to find links to your state’s data via [http://www.thebirthsurvey.com/dev/Results/learn_state.shtml](http://www.thebirthsurvey.com/dev/Results/learn_state.shtml). If not, start with looking at the website for your state’s department of health—often you’ll be looking for “hospital discharge data.”

- At [www.leapfroggroup.org](http://www.leapfroggroup.org), ratings compare hospitals. However, their ratings are based on very limited criteria: percentage of babies delivered electively (for nonmedical reasons) before full-term, episiotomy rates, screening for jaundice, preventing blood clots in women with cesareans, and how many very low birth weight (VLBW) babies are cared for each year.

- U.S. News & World Report ranks the top fifty neonatal intensive care units ([http://health.usnews.com/best-hospitals/pediatric-rankings/neonatal-care](http://health.usnews.com/best-hospitals/pediatric-rankings/neonatal-care)). Of the score, 83 percent comes very specific criteria, such as nurse staffing, ability to prevent infection, babies who received breastmilk, and number of patients served. The other 17 percent is based on a survey of physicians asking their opinion about the reputation of the hospital.

- The website [http://www.medicare.gov/hospitalcompare/search.html](http://www.medicare.gov/hospitalcompare/search.html) reports results from patient surveys. Ratings compare hospitals based on how clearly staff communicated with patients, whether patients received help as soon as they wanted, whether staff explained medicines to the patient before giving it, whether the room was regularly cleaned, and so on. This data also appears on [www.hospitalscenter.com](http://www.hospitalscenter.com).

- At [www.healthgrades.com](http://www.healthgrades.com), ratings on “maternity care” reflect cesarean rate, number of maternal complications, and newborn mortality rate.

Waterbirth

- *Waterbirth* by Cornelia Enning and Barbara Harper (2013)
- [http://www.waterbirth.org/research-documents](http://www.waterbirth.org/research-documents)

Maternity Leave

Chapter 2: So Many Choices

Questions to Ask about Health Insurance

For more information, see:
• Pregnancy, Childbirth, and the Newborn, page 10; The Simple Guide to Having a Baby, page 22
• https://www.healthcare.gov/what-if-im-pregnant-or-plan-to-get-pregnant
• http://www.webmd.com/health-insurance/aca-pregnancy-faq.

If you need help paying for health care, call 1-800-311-BABY (1-800-311-2229) or contact your local health department.

Timing: Find out about your options as early in pregnancy as possible.

Obtain insurance, if you don’t already have it:
1. If possible, getting insurance through your own employer may be the best option.
2. If not, learn about your alternatives by researching both of the following options:
   • Check out the insurance plans available through your partner’s employer.
   • Go to the Health Insurance Marketplace at www.healthcare.gov or call 1-800-318-2596. (The Marketplace will tell you your options for buying insurance on the exchange. It will also tell you whether you qualify for Medicaid or CHIP, free or low-cost insurance for low-income families.)
3. Once you know your options, compare their benefits.

Find out what your insurance covers:
Check your written policy guidelines, contact your insurance company, or check with your employer’s human resources department to find out the answers to these questions:

Does your insurance cover pregnancy and birth? __________________________

What types of care providers are covered:   OB □   Family practice □   Midwives □

Is there a specific list of providers you must choose from? __________________________

What birthplaces are covered:   Hospital □   Birth center □   Home birth □

Are there certain facilities you must use? __________________________

Are there set copayments? __________________________

Is there a deductible? __________________________

Do you need to pay a percentage of the costs? __________________________

Will they cover routine prenatal care? __________________________

Will they cover prenatal tests, including ultrasound, amniocentesis, and so on? __________________________

Will they cover prescription medications? __________________________ Is there a copay? __________________________
What do you need to do to inform them of the pregnancy and birth?

Will they cover childbirth preparation classes?

Will they cover birth doula services? (Note: most don’t, but it never hurts to ask.)

Will they cover pain medication and anesthesia fees?

How long can you stay at the hospital after the birth?

What newborn care will they cover? Routine care □ Special care □ Circumcision □

Will they cover lactation consultants to help with breastfeeding?

If you do need to pay out of pocket, or pay a portion of the costs:

Call the patient account office at your birthplace or call your caregiver to find out what to expect.

What is the typical charge for prenatal and postpartum care?

What is a typical charge for a vaginal delivery with a one-day stay?

What is the typical charge for a cesarean delivery with a three-day stay?

What are the costs for pain medication for labor, or for a cesarean?

Will you be charged for nursery care for your baby, even if your baby stays in your room with you?

What will happen if your baby needs any special care?

Can you prepay the costs?

If you prepay for pain medication, can that money be refunded if you choose not to use pain medication?

After the birth:

Plan to contact your health insurance company within thirty days of your child’s birth, adoption, or placement for adoption and request a special enrollment to cover the event.
Questions to Ask about Birthplaces

For more information on birthplace options, see:
• Pregnancy, Childbirth, and the Newborn pages 11–14, The Simple Guide to Having a Baby page 68
• http://www.childbirthconnection.org/article.asp?ClickedLink=252&ck=10145&area=27

Timing: Although you can do this at any time during pregnancy, we recommend that you plan to visit or call birthplaces in your first or second trimester. Typically, caregivers have privileges only at certain facilities, so choosing a caregiver and birthplace goes hand in hand. If you have already chosen your caregiver, you can ask them these questions about the birthplace. Before you visit, review the birthplace’s website and any written materials you have; some questions may be answered there. Also, review the birth plan chapter to see what issues you may want to ask about (PCN chapter 8, SG chapter 4).

Birthplace: __________________________________________________________

Who can be with me:

Who can be with me during labor and birth? __________________________________________________________

What are the visitor policies after the birth? __________________________________________________________

What is the ratio of patients to nurses during early labor ________ active labor ________ birth ________ after birth ________ ?

Are these registered nurses or paraprofessionals? __________________________________________________________

Are doulas welcome? __________________________________________________________

Hospital routines for labor and birth:

Are birth plans encouraged? __________________________________________________________

What happens during a normal labor and birth in this setting? __________________________________________________________

What equipment is used to monitor the baby’s heart rate? __________________________________________________________

How often is it monitored? __________________________________________________________

Can I walk and move around during labor? While being monitored? __________________________________________________________

Do most laboring women have intravenous (IV) fluids? __________________________________________________________

What can I eat and drink during labor? __________________________________________________________

What nondrug methods of pain relief are encouraged? __________________________________________________________

What comfort tools are available? (Bathtub? Birth ball?) __________________________________________________________

How often is the bathtub used for comfort? ________________ Can I give birth in the tub? __________________________________________________________

What positions are suggested for the birth? __________________________________________________________

Is anesthesia available at all times? __________________________________________________________

If I have a cesarean, where will it take place? __________________________________________________________ Who can be with me? __________________________________________________________
After the birth:

What usually happens to a baby immediately after birth? _____________________________________________________________
____________________________________________________________________________________________________________

Will I be able to hold my baby skin to skin right away? ________________________________
____________________________________________________________________________________________________________

Will my baby go to the nursery or stay with me? _________________________________________________________________________
____________________________________________________________________________________________________________

May I hold my baby for the initial assessments? _________________________________________________________________________
____________________________________________________________________________________________________________

What if my baby is born early or has special problems? _______________________________________________________________________
____________________________________________________________________________________________________________

How does the birthplace help mothers who want to breastfeed? _______________________________________________________________________
____________________________________________________________________________________________________________

Are there breastfeeding specialists on staff? __________ May I call them after I go home? ______________
____________________________________________________________________________________________________________

Does the birthplace offer support after I go home? _______________________________________________________________________
____________________________________________________________________________________________________________

Questions to Ask about Out-of-Hospital Birth

If you're considering a home birth, interview your potential midwife. You can ask her the questions on the Questions to Ask about Birthplaces list above and those on the Questions for Potential Caregivers list.

Also ask these questions:

If health issues arise in my pregnancy, would you send me to a physician for consultation or recommend that I transfer my care?
____________________________________________________________________________________________________________

Which physicians do you work closely with? _________________________________________________________________________
____________________________________________________________________________________________________________

What supplies will I need for a home birth? _________________________________________________________________________
____________________________________________________________________________________________________________
____________________________________________________________________________________________________________
____________________________________________________________________________________________________________

Where do I get them? _________________________________________________________________________________________

When in labor should I call you to attend my birth? _______________________________________________________________________

How often do your clients transfer to the hospital during labor and why? _______________________________________________________________________
____________________________________________________________________________________________________________

Which hospital do you transfer to, and what have your clients' experiences there been like? _______________________________________________________________________
____________________________________________________________________________________________________________

What do you do to smooth the transfer process? _______________________________________________________________________

Do you go with me to the hospital? _____________________________________________________________________________

____________________________________________________________________________________________________________
Questions to Ask Potential Caregivers

For more information, see:
• Pregnancy, Childbirth, and the Newborn pages 14–18, The Simple Guide to Having a Baby pages 22-23
• http://www.childbirthconnection.org/article.asp?ClickedLink=247&ck=10158&area=27

Timing: It’s best to choose a caregiver before conception or in early pregnancy, so you can begin getting prenatal care. These questions may also aid you in your choice if you need to switch care providers in later pregnancy. Before you visit, review the caregiver’s website and any written materials you have; some questions may be answered there.

Physician’s or midwife’s name: ___________________________________________________________
Where were you trained? ___________________________ How long ago? ___________
How many births have you attended? _______________________________________________________
What portion of the labor and birth process do you typically attend? __________________________

Who provides care:
Will I see you or another caregiver at each prenatal appointment? __________________________
____________________________________________________________________________________
Does a nurse sometimes handle prenatal visits? _______________________________________________
Do the caregivers in your group share a similar philosophy of care? __________________________
____________________________________________________________________________________
What are the chances you’ll attend my birth? _________________________________________________
Do you think it’s a good idea to induce labor so I’ll give birth when you’re on call? ________________
Will your colleagues respect the birth plan I’ve made with you? ________________________________
Will the hospital staff respect the birth plan? _________________________________________________
Do you recommend childbirth preparation classes? ___________________ Doulas? _______ Birth plans? _______

Managing labor:
Which nondrug ways to relieve labor pain do you recommend? _______________________________
____________________________________________________________________________________
____________________________________________________________________________________
May I move around during labor? __________________________________________________________
May I eat? _____________________________________________________________________________
What positions do you recommend for birth? ________________________________________________
____________________________________________________________________________________
How many of your clients attempt natural childbirth (birth without pain medication)? __________________________
How do you support them? ____________________________________________

If I prefer to have an epidural, are there any restrictions or any reasons why I might not get it? __________________________

What are your standard orders related to IV fluids and fetal monitoring? ____________________________

Can those routines be altered to conform to my needs and desires? ____________________________

How often do you perform a cesarean birth with a first-time mother having a low-risk pregnancy? __________________________

How many of your clients—low- and high-risk—have a cesarean? ____________________________

What can I do to help reduce the likelihood of needing a cesarean? ____________________________

If I develop complications during pregnancy or labor, will you manage my care or will you refer me to another caregiver? ______

Who is that person? ____________________________

When and how often will I see you for checkups after the birth? ____________________________

How do you help mothers who want to breastfeed? ____________________________

For midwives, ask: Who is your backup physician? ____________________________

What conditions lead to a physician referral? ____________________________

If you’re concerned about whether the caregiver will respect your legal right to informed consent and refusal see:
• PCN page 8
• http://www.solaceformothers.org/tools/Informed_with_notes.pdf for a list of questions that you may want to ask.

For questions to ask doulas, see:
• Questions to Ask Birth Doulas in the So Many Choices section of www.PCNGuide.com
• http://www.dona.org/mothers/how_to_hire_a_doula.php.
Questions to Ask about Childbirth Classes

For more information, see:

Timing: It’s usually best to sign up for classes early in your second trimester. Plan to enroll in classes that will end about two to five weeks before your due date, so all the information is still fresh in your mind.

Find out your options for classes:
Most hospitals offer childbirth classes, newborn care classes, and breastfeeding classes. To find an independent educator, do an Internet search, look in local parent-child focused magazines and newspapers, or check
• http://www.icea.org
• http://www.lamaze.org
• http://www.bradleybirth.com
• http://www.hypnobirthing.com
• http://www.birthingfromwithin.com

If you have a choice of classes, contact them and ask these questions:
Who sponsors the classes? ____________________________________________________________
What is the instructor’s background and training? _________________________________________
What is the instructor’s experience with birth? _____________________________________________
What is the instructor’s experience with childbirth education? _______________________________
Does the instructor participate in continuing education in the field? __________________________
Is she certified by a reputable organization? _____________________________________________
What is the instructor/agency’s philosophy about birth? __________________________________

Does the instructor cover normal childbirth as well as complications? _______________________
Does she cover all choices and include their pros and cons? _______________________________
What topics are covered in the class? ___________________________________________________

Does she teach self-help comfort measures and natural childbirth techniques? ______________
Are pain medications covered? __________________________________________________________
Does she describe both advantages and disadvantages? ________________________________
Does the series cover postpartum adjustment, newborn care, and infant feeding? __________
How are the classes scheduled: How many sessions is the class? ____________________________
How long is each session? ______________________________________________________________
(Note: Classes that last only one or two days can seem convenient, but parents discover that they are exhausting and overwhelming. Classes that meet regularly over a longer period of time let you better absorb the information, practice the techniques, and think of questions to ask at the next class.)
How much time is spent in lecture and how much in practicing skills? ____________________________

What is the cost of the series? ____________________________________________________________

(Note: A few health insurance plans and government assistance programs cover the cost of childbirth classes.)

How many students are typically in a class? ________________________________________________

If classes are large (over thirteen couples), are there assistants available to provide individual attention? __________________________

Is the instructor available to students by phone, e-mail, or in person for questions outside of class and after the series? _______

Is there a reunion class after all the babies are born? ________________________________________
Questions to Ask Birth Doulas

DONA International is the largest and a highly respected doula association. The following questions are adapted from their website (http://www.dona.org/mothers/how_to_hire_a_doula.php). Use these for your discussion:

What training, education, experience, and certification do you have?

____________________________________________________________________________________________________

What is your philosophy of childbirth and of supporting women and their partners through labor?

____________________________________________________________________________________________________

____________________________________________________________________________________________________

When do you try to join us in labor—in early labor, later in labor, or whenever we feel we needs you?

____________________

____________________________________________________________________________________________________

Do you go to our home or the birthplace?

____________________________________________________________________________________________________

Will you meet with me before the birth to discuss my birth plans and to explore the role that you’ll play in supporting me and my partner through labor?

____________________________________________________________________________________________________

Will you visit me after my baby is born?

____________________________________________________________________________________________________

May I contact you with questions or concerns before or after the birth?

____________________________________________________________________________________________________

Do you work with one or more backup doulas for times when you’re unavailable?

____________________________________________________________________________________________________

May I meet them?

____________________________________________________________________________________________________

What’s your fee?

____________________________________________________________________________________________________

What services does it include?

____________________________________________________________________________________________________

____________________________________________________________________________________________________

What are your refund policies? (If her fee is more than you can pay, ask if she provides a sliding scale or can refer you to someone who does.)

____________________________________________________________________________________________________

Will you provide references?

____________________________________________________________________________________________________

____________________________________________________________________________________________________
Finding a Health Care Provider for Your Baby

For more information, see:
• Pregnancy, Childbirth, and the Newborn page 21.

Find out what options are available to you by asking for referrals from:
• your insurance company
• physician
• friends or family

Timing: Make this choice during the last trimester of pregnancy.

Think about which kind of care provider you would prefer:
• pediatrician (a physician who specializes in infants and children)
• family practice doctor (who could see the whole family)
• nurse practitioner (who focuses on well-child care and would refer you to a physician for any serious illnesses)
• naturopathic doctor or other alternative practitioner

Think about what kind of health-care setting you would prefer:
• private clinic
• children’s health clinic (may cost less, staffed by physicians and nurses who are completing medical training and are supervised by experienced providers; may see a different caregiver at each visit)
• well-child clinic (may be free or low-cost, run by health department; can provide well-child checkups and vaccinations; may not provide care for illnesses)

Interview
Once you have narrowed down your choices to your best option, check the website or call the clinic and ask the receptionist about health insurance coverage, your care provider’s availability for answering questions during office hours and after hours, and backup care providers.

Ask to meet with the care provider. During the interview, ask his or her opinion on these topics:

Do you support breastfeeding? _________ Formula feeding? _________ Do you have expertise in breastfeeding? _________

Do you work with lactation consultants or other breastfeeding resources? ________________________________

What are your thoughts on circumcision? __________________________________________________________________

What are your thoughts on vaccinations? ________________________________

Do you support delayed schedules? _____________________ How about the refusal of vaccinations? _____________________

How comfortable are you with the use of home remedies or alternative therapies for minor ailments and common illnesses?
____________________________________________________________________________________

When would you prescribe antibiotics? __________________________________________________________

How available are you (or your office) for phone consultation? _________________________________________

Who takes calls when you’re unavailable? __________________________________________________________

Do you have hospital privileges? _________ Where? ____________________________________________________________________________

If my child must be hospitalized, how involved will you be in his or her care? ______________________________

Will you be available to examine my baby soon after the birth (at the hospital or in my home)? __________________________

If there are inherited illnesses among your family members, you might ask the caregiver about any concerns about those. Pay attention to how your questions are answered as well as what is said. Try to find someone whose style and philosophy is compatible with your own and whom you feel you could trust.
Questions to Ask Postpartum Doulas

The following questions are adapted from the DONA International website (http://www.dona.org/mothers/how_to_hire_a_doula.php).

What training and education do you have?
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________

Tell me about your experience
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________

Have you had a criminal background check?
__________________________________________________________________

Have you had a recent TB test (for tuberculosis) and Tdap vaccination (for pertussis and other illnesses)?
__________________________________________________________________

Are you immune to the measles? Is your CPR certification current?
__________________________________________________________________

What’s your philosophy of parenting and of supporting women and their families after the birth?
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________

May we meet before the birth to discuss our needs and the role you’ll play in supporting us after the birth?
__________________________________________________________________

What additional services do you offer?
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________

May we call you with questions or concerns before the birth?
__________________________________________________________________

When do your services begin after the birth?
__________________________________________________________________
__________________________________________________________________

What’s your experience with breastfeeding support?
__________________________________________________________________
__________________________________________________________________

What’s your fee? What’s your refund policy?
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________

If you’re having twins, if you expect the baby to be premature, or if you have other special needs, ask about the doula’s experience with those needs.
Plan for Returning to Work

Think about the logistics of coordinating your job, baby care, and other responsibilities. What will be the biggest challenges?

____________________________________________________________________________________________________
____________________________________________________________________________________________________
____________________________________________________________________________________________________

What can you do in advance to ease the process? (Ask coworkers for advice on how they manage working and parenting.)

____________________________________________________________________________________________________
____________________________________________________________________________________________________
____________________________________________________________________________________________________

What are the costs of returning to work? These may include clothing, transportation, child care, convenience foods, and more visits to your baby's caregiver. (Your baby may become sick more often from exposure to ill children in child care.)

____________________________________________________________________________________________________
____________________________________________________________________________________________________
____________________________________________________________________________________________________

Will your income exceed the total costs of working outside the home and make working worthwhile?

____________________________________________________________________________________________________

Can you simplify your lifestyle and lower your cost of living to offset the loss of income?

____________________________________________________________________________________________________

Can you or your partner delay returning to work until your baby is older?

____________________________________________________________________________________________________

Can you or your partner work part-time or job share?

____________________________________________________________________________________________________

Can either of you work from home?

____________________________________________________________________________________________________

How will the parent who works feel about the other parent staying at home and vice versa?

____________________________________________________________________________________________________
Plan for Maternity/Paternity Leave

For more information, see:
• Baby Center, http://www.babycenter.com/0_maternity-leave-the-basics_449.bc
• Maternity Leave Insider, http://www.readbag.com/wombtobloom-maternityleaveinsider

Timing: Begin exploring options in early pregnancy. Then develop a strategy, so you have a well-planned proposal to present to your employer in your second trimester.

What options are available to you?
Paid parental leave: Does your employer offer it? ________________ If so, how much time is offered? ________________
What are the requirements for its use? ________________________________________________________________
Accrued time: How many days do you have available for pregnancy, birth, and baby care?
Sick days ______________________  Vacation days ______________________  Personal days ______________________
Short-term disability: Do you have short-term disability coverage through your state, employer, or union? ________________
Can it be applied to pregnancy and birth? ______ How much will it pay and for how long? ______________________
Unpaid leave: Is your employer required to offer twelve weeks of unpaid family leave under the Family and Medical Leave Act (FMLA)? ______ Does your employer have limitations on how you can use this leave time? ______________________
Bringing your baby to work: Is this an option? __________________________________________________________

Additional questions to consider:
How will leave affect your employee benefits (health insurance, seniority, etc.)? ________________________________
____________________________________________________________________________________________________
When do you plan to begin your leave? __________________________________________________________________
What can you do to make your leave time go as smoothly as possible for your employer and coworkers? ______________
____________________________________________________________________________________________________
When do you expect to return to work? __________________________________________________________________
Do you want to return to full-time right away, or work part-time at first? ________________________________

Write your plan here:
____________________________________________________________________________________________________
____________________________________________________________________________________________________
____________________________________________________________________________________________________
____________________________________________________________________________________________________

Once you have a plan, present it to your employer so you can begin negotiating the solutions that come closest to meeting your desires, while still honoring the needs of your employer and coworkers.
Quiz: Choosing the Best Birthplace and Caregiver for You

There is no single “Best Place to Birth” or “Best Caregiver.” It’s all about finding the best match for you! Long-term satisfaction with the birth comes from finding a great match between you and your care provider: shared philosophy, goals, and expectations. So if you’re a healthy woman expecting a normal birth, the first step is to ask yourself what you want, and then look for the options that best match your wishes. This quiz can help you get started. Circle your answer for each question.

What do you want prenatal appointments to be like?
A. Quick. I’m really busy and want to get in, take care of business, and move on.
B. I want to feel like I have time to ask questions, but expect to get most of my info from books and classes.
C. I want someone who will take the time I need to talk with me about things that worry me.

How comfortable are you in unfamiliar territory?
A. It’s easy for me to adapt to new places, and I’m comfortable almost anywhere, including hospitals.
B. I’m okay in unfamiliar places, as long as I have familiar faces and things with me.
C. I really feel happiest in familiar surroundings, on my own turf. I don’t like being in strange places!

What best describes your feelings about safety during labor, and what might relieve your worries?
A. I’m worried about all the things that might go wrong. I would feel safe only in a major hospital that could handle any emergency.
B. I’m feeling pretty confident about birth, but everyone I know has given birth in a hospital, so I guess that would feel safest to me.
C. I would feel safest with care providers who view birth as a natural life process, not like a medical procedure.

How important is freedom to move around and to make choices in labor?
A. I’m not worried about limitations on what I can eat, or what I can do. It doesn’t bother me to feel constrained. It’s only one day in my life.
B. I like to have freedom and choices, but I can work with limitations, if they’re medically necessary.
C. I want to be able to move when and how I want to move. I want to be able to eat if I’m hungry. I get stressed out when restricted.

Who will be at your birth?
A. I’m fine with working with a nurse I meet when I arrive at the hospital, and with having my doctor arriving in time for pushing.
B. I would prefer to have my familiar care provider with me early on in my labor.
C. I want to establish a relationship with my care providers and know exactly who to expect to attend my birth.

Hydrotherapy: are you interested in laboring or birthing in water?
A. I don’t care whether I use a bathtub during labor.
B. I think soaking in a tub during labor would be nice.
C. I would love to labor in water and have the option to give birth in water.

What pain medication options do you want to have?
A. I want an epidural available anytime that I ask for it.
B. I would prefer not to use pain meds, but I want there to be options if I decide I need them.
C. I want an unmedicated birth, and want to have people around me who know how to help me achieve that.
Where do you stand on the Natural process vs. Medical procedures continuum?
A. I am totally fine with whatever medical interventions make childbirth quicker, easier, and less painful for me.
B. I believe that birth is a natural process, but some medical procedures may help it to go smoother.
C. I want to have as natural an experience as possible, with as few medical procedures as possible.

How do you feel about cesarean?
A. I’m not concerned about how the baby comes out of me. Either a cesarean or vaginal birth is fine with me.
B. I would really prefer having a vaginal birth, but if I need a cesarean that will be okay.
C. I really want to avoid a cesarean.

What will immediate postpartum be like?
A. I look forward to being in the hospital and having nurses take care of me so I can focus on baby.
B. I look forward to getting back home after my birth to settle in with baby.
C. I don’t want to spend time in the hospital with baby: I want to be at home.

Scoring: give yourself 1 point for every A you circled, 2 points for every B, and 3 points for every C answer.
(Note: You and your partner may want to complete the quiz separately and see how your hopes and expectations compare.)

What does your score suggest will feel best for you?
10–14: You may feel most comfortable at a large regional hospital, with an OB/GYN as your care provider.
15–19: You may be most comfortable at a smaller community hospital with an OB or a family practice doctor as your care provider.
20–24: You may be most comfortable with a midwife as your care provider, either at a hospital or a birth center.
25–30: You may be most comfortable with a midwife at an out-of-hospital birth.*

* A healthy woman with few risk factors can usually choose any birthplace and caregiver that fits her and her family’s preferences. However, women with high-risk pregnancies aren’t good candidates for out-of-hospital birth and may need a hospital that can provide a higher level of care. If you would prefer a home birth, but need a hospital birth, you can search around for a caregiver who will work with you to help create as much of your ideal birth experience as possible given your health concerns.
CHAPTER 3: COMMON CHANGES AND CONCERNS

External Links and Resources

Overall Best Books on Pregnancy and Birth

• The Official Lamaze Guide: Giving Birth with Confidence by Judith Lothian and Charlotte DeVries (2010)
• Our Bodies, Ourselves: Pregnancy and Birth by Boston Women's Health Book Collective and Judy Norsigian (2008)
• Gentle Birth, Gentle Mothering: A Doctor’s Guide to Natural Childbirth and Gentle Early Parenting Choices by Dr. Sarah J. Buckley (2008)
• The Working Woman’s Pregnancy Book by Marjorie Greenfield (2008)

Websites, E-mail, and Texts

• http://www.childbirthconnection.org: excellent research-based information on pregnancy and maternity care
• http://www.marchofdimes.com: information on prenatal care, medical testing, healthy lifestyle choices to prevent birth defects and preterm birth
• http://www.aafp.org: website for parents by the American Academy of Family Physicians
• http://www.lamaze.org/YourPregnancyWeekByWeek: weekly pregnancy e-newsletter from Lamaze—“Building Confidence Week by Week”
• http://text4baby.org: free messages each week on your cell phone to help you through your pregnancy and your baby’s first year

Specific Pregnancy Issues

Common discomforts:


Sex during pregnancy:


Special Situations

Teen parents:

• The Unplanned Pregnancy Book for Teens and College Students by Dorrie Williams-Wheeler (2004)
• Life Interrupted: The Scoop on Being a Young Mom by Tricia Goyer (2004)

Parents of multiples:

• Twins! Pregnancy, Birth, and the First Year of Life by Connie Agnew, Alan H. Klein, and Jill Alison Ganon (2006)
• The National Organization of Mothers of Twins Clubs, Inc. (NOMOTC): 248-231-4480 or http://www.nomotec.org
Transgender and gender nonconforming parents:

- The following directories may aid you in finding a caregiver:
  - Trans-Birth: http://www.transbirth.com/
  - Health Professionals Advancing LGBT Equality (previously known as the Gay & Lesbian Medical Association): http://glma.org
  - Breastfeeding Network: https://www.breastfeedingnetwork.net/LGBTQ_Resources.html
  - If these directories do not locate any local providers for you, try asking for referrals from local LGBT organizations or go to the websites for local providers. If you can find a provider who uses gender-neutral language (e.g., “pregnant parent” rather than “pregnant woman”), he or she is likely to be supportive.

- “Working with Gender Variant Families” http://www.scienceandsensibility.org/?s=gender; this is a blog post aimed at educating maternity care providers about the needs of transgender parents
- Guide to Being a Trans* Ally: http://www.straightforequality.org; may be a helpful resource to share with people who are not knowledgeable about gender identity basics
- Note: Gender dysphoria can become severe during pregnancy, so consider planning for extra emotional support or seek counseling as available.

Survivors of childhood sexual abuse:

- When Survivors Give Birth: Understanding and Healing the Effects of Early Sexual Abuse on Childbearing Women by Penny Simkin and Phyllis Klaus (2004)
- Survivor Moms: Women’s Stories of Birthing, Mothering and Healing after Sexual Abuse by Mickey Sperlich and Julia Seng (2008)
- http://www.survivorshealingcenter.org

Pregnancy after a previous loss:

- Pregnancy after a Loss: A Guide to Pregnancy after a Miscarriage, Stillbirth, or Infant Death by Carol Cirulli Lanham (1999)
- http://stillstandingmag.com

Disability and pregnancy:

- The Disabled Woman’s Guide to Pregnancy and Birth by Judith Rogers, 2005
- Maternity Rolls: Pregnancy, Childbirth, and Disability by Heather Kuttai, 2010

Videos about Birth:

- Orgasmic Birth, directed by Debra Pascali-Bonaro (2008)
- The Business of Being Born, directed by Abby Epstein (2008)
- Pregnant in America, directed by Steve Buonaugurio (2008)
External Links and Resources

**Prenatal Testing**
- http://www.lamaze.org/PrenatalTests
- http://www.acog.org/Patients/FAQs/Screening-Tests-for-Birth-Defects

**Genetic Carrier Testing**
- http://www.acog.org/Patients/FAQs/Preconception-Carrier-Screening

**Substances to Avoid**

**Alcohol:**
- Alcoholics Anonymous (AA): 212-870-3400 or http://www.alcoholics-anonymous.org (or http://www.aa.org)

**Tobacco and Smoking:**
- 800-CDC-INFO (232-4636) or http://www.cdc.gov/tobacco/quit_smoking/cessation/index.htm

**Narcotics:**

**Drugs and Substances**
- Substance Abuse and Mental Health Services Administration (SAMHSA): 800-662-HELP (800-662-4357) or http://www.samhsa.gov

**Environmental Hazards and Other Exposures to Avoid**
- The Organization of Teratology Information Specialists (OTIS), http://www.mothertobaby.org: Dedicated to providing accurate evidence-based, clinical information to patients and health-care professionals about exposures during pregnancy and lactation. The organization serves to provide education, to conduct relevant research, and to support teratology information services throughout North America.
- US Food and Drug Administration (FDA): 888-INFO-FDA (888-463-6332) or http://www.fda.gov
- March of Dimes: 914-997-4488 (national office) or http://www.marchofdimes.com
- Environmental Working Group (EWG): 202-667-6982 or http://www.ewg.org
- Centers for Disease Control and Prevention (CDC): 800-CDC-INFO (232-4636) or http://www.cdc.gov

**Workplace Hazards**
- The National Institute for Occupational Safety and Health (NIOSH): 800-CDC-INFO (232-4636) or http://www.cdc.gov/niosh
- Occupational Safety & Health Administration (OSHA): 800-321-OSHA (6742) or http://www.osha.gov

**Domestic Violence**
## Routine Prenatal Examinations and Screening Tests

### I. Common Routine Exams and Screening Tests Done at Prenatal Visits

For more information about the pregnancy complications listed, see chapter 7 (When Pregnancy Becomes Complicated) in *Pregnancy, Childbirth, and the Newborn*. To learn about diagnostic tests that are used when a screening test suggests a problem, see page 139 or PCNGuide Chart on Diagnostic Tests in When Pregnancy Becomes Complicated.

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<thead>
<tr>
<th>Routine exam/test</th>
<th>Purpose</th>
<th>Comments</th>
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</table>
| Pelvic (vaginal) exam | First or second prenatal visit:  
- Confirm pregnancy and estimate size of uterus.  
- Estimate size and shape of pelvis.  
- Obtain vaginal secretions to detect infectious organisms.  
- Screen for cervical cancer (Pap smear).  
Late pregnancy:  
- Assess the cervix and station (descent) of baby.  
- Obtain vaginal secretions to detect infection. | Might not be done if you’ve had a recent physical exam.  
- See infections during Pregnancy in the When Pregnancy Becomes Complicated section of www.PCNGuide.com for a discussion of infections.  
- Having a Pap smear may cause dark brown or reddish vaginal discharge. This is common and doesn’t indicate a problem.  
- Cervical exams in late pregnancy may cause spotting.  
- Having a Pap smear may cause dark brown or reddish vaginal discharge. This is common and doesn’t indicate a problem.  
- Cervical exams in late pregnancy may cause spotting. |
| Urine test | First prenatal visit:  
- Confirm pregnancy.  
- Screen for urinary tract bacteria.  
Each prenatal visit:  
- Screen for sugar, which might indicate diabetes.  
- Screen for protein, which might indicate preeclampsia or infection.  
As indicated:  
- Detect bacteria or other infectious organisms.  
- Diagnose a urinary tract infection. |  
- See page 127 for discussion of the blood test for diabetes.  
- Infectious organisms might or might not cause infection. Other symptoms are investigated to determine infection. Early treatment could decrease risk of preterm labor. |
| Blood test | First or second prenatal visit or later, if indicated:  
- Confirm pregnancy.  
- Determine blood type and Rh factor or screen for antibodies if you’re Rh-negative.  
- Test for anemia (hematocrit and hemoglobin).  
- Test for infectious organisms or antibodies against them (syphilis, hepatitis B virus, human immunodeficiency virus (HIV), rubella (German measles)).  
- Evaluate blood glucose levels if you have diabetes mellitus. |  
- See page 128 on Rh incompatibility.  
- Other screening tests (see page 63) also involve blood samples. |
| Blood pressure check | Each prenatal visit:  
- Screen for high blood pressure, which might indicate gestational hypertension and/or preeclampsia. |  
- See page 133 for a discussion of gestational hypertension and preeclampsia.  
- Blood pressure readings can be affected by exertion or stress. |
| Maternal weight check | Each prenatal visit:  
- Detect sudden weight gain that could be due to preeclampsia.  
- Help monitor your nutritional status. |  
- See chapter 6 for a discussion of nutrition and weight gain. |
| Abdominal examination | Each prenatal visit:  
- Measure growth of the uterus (fundal height), which indicates fetal growth and gestational age.  
- Each visit in last weeks of pregnancy:  
- Estimate position of the fetus (Leopold’s maneuvers).  
- Estimate amniotic fluid volume.  
- Detect breech presentation. |  
- If a problem is suspected, an ultrasound scan is recommended.  
- See page 136 for more on breech presentation. |
| Listening to fetal heart tones (FHT) (with Doppler or fetal stethoscope) | Each prenatal visit after FHT can be heard:  
- Check that the fetus is living and doing well.  
- Check the heart rate for fetal well-being. |  
- With Doppler, FHT can be heard at about 9–12 weeks; with a fetal stethoscope, at about 18–20 weeks gestation.  
- Hearing the FHT is exciting for expectant parents and makes the baby seem more real. |
| Breast exam | Once during pregnancy:  
- Screen for breast cancer.  
- Assess condition of your breasts for breastfeeding. |  
- See pages 396–399 for conditions that influence breastfeeding. |
## II. Other Exams and Screening Tests Offered in Pregnancy

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<tr>
<th>Routine exam/test</th>
<th>Purpose</th>
<th>Comments</th>
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| Dental exam                              | Once or twice during pregnancy, see your dentist:  
- Check for tooth decay and repair, if necessary.  
- Clean teeth, which may prevent gum disease.  
- Check for infection of the gums (gingivitis). | Gum tenderness and bleeding is common in pregnancy.  
Gingivitis may worsen during pregnancy or appear for the first time (due to hormonal changes, more bacterial growth, and gum sensitivity).  
Gingivitis has been associated with preterm labor.  
Tell your dentist that you are pregnant. |
| Fetal movement counts (a.k.a. kick counts) | During late pregnancy, you count and record your baby’s movements during a brief period each day.                                                                                                           | Is noninvasive, free, and simple.  
Can be done yourself, at your convenience, in your own home.  
May raise (or lower) your anxiety over your baby’s well-being.  
See page 64 for directions. |
| Ultrasound scan (sonography or sonogram)  | Ultrasound scans can be performed at any time during pregnancy. Timing depends on the reason for testing.  
- Confirm pregnancy.  
- Helps estimate due date and fetal age by measuring structures such as the skull, femur, or crown-rump length.  
- Screen for pregnancy with multiples.  
- Screen for fetal growth problems.  
- Screen for placenta previa.  
- Screen for Down syndrome as part of the integrated screening (as described below).  
- For information about ultrasound used as a diagnostic test, see the Diagnostic Tests chart in the When Pregnancy Becomes Complicated section. | Appears safe, but it’s unknown if excessive exposure is harmful. Should only be used if medically indicated and not for “keepsake” pictures.  
Adds expense to prenatal care.  
Gives immediate results to sonographer who performs the ultrasound, but he or she doesn’t give the information to you. A physician interprets and reports results to you or to your regular caregiver.  
Accuracy varies depending on the quality of equipment, skill of person interpreting results, and gestational age of fetus.  
Vaginal ultrasound may be better for detecting some problems such as placenta previa and ectopic pregnancy and for checking cervical length to evaluate risk for preterm labor.  
May help identify your baby’s gender (or sex, if done after week 18). (Accuracy depends on fetal age, fetal position, and quality of testing.)  
May increase your anxiety if “possible problems” are reported without a way to immediately confirm results. |
| Integrated prenatal screening or sequential screening | Combines the results of sequential screening tests in the first and second trimesters.  
- To provide risk assessment for certain birth defects.  
- For integrated screening, test results usually available to you after both tests are done (about a week after the second trimester blood tests). For sequential screening, you may be given the results after each test to help you determine what further testing is needed. | Full combination of screening tests has a higher detection rate (94–96 percent!) and a lower false positive rate (~5 percent) than using only some of these tests.  
If test results are outside the normal range (e.g., your risk of Down syndrome is estimated to be higher than 1 in 270), then further testing may include a repeat blood test to confirm findings, ultrasound, genetic counseling, and/or amniocentesis.  
Useful for those not wanting invasive testing, although it does not detect all the possible inherited disorders that can be detected by amniocentesis or chorionic villus sampling. |
| First trimester screening tests:  
1. Ultrasound measurement of tissue on back of baby’s neck (nuchal translucency or NT)  
2. Blood test for a plasma protein (PAPP-A) and a hormone (hCG) in maternal serum | At 10–13 weeks gestation (ideally at 11 weeks):  
- Screen for Down syndrome and other chromosomal abnormalities. | If a trained sonographer is not available, the ultrasound is not done and only the maternal serum test is done in the first trimester, which is then combined with second trimester blood test. |
| Cell-free fetal DNA testing: a maternal blood test | After 9 weeks gestation:  
- Screens for chromosomal abnormalities, including Down syndrome. Can also test for gender and Rh factor. | Has a higher detection rate and lower false positive rate than other first trimester screening tests: however, it is not a diagnostic test, and irreversible decisions (such as termination) should not be based on the results of this test alone.  
ACOG recommends this test be done only after other screening tests indicate an elevated risk of chromosomal defects. |
Endnotes


Chapter 4: Having a Healthy Pregnancy

Common Over-the-Counter (OTC) Medications

Limit or use with caution during pregnancy. Do not take any medication without checking with your caregiver. Use as little medication as you can, for as short a time period as possible to reduce the risks.

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<tr>
<th>Drugs and products* containing them with their benefits</th>
<th>Possible side effects and pregnancy risks</th>
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<td>For pain or fever:</td>
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| Acetaminophen (Tylenol)                                 | • Appears safe in pregnancy, but check with your caregiver.  
• Reduces fever and relieves mild pain.                  |                                         |
| Aspirin                                                 | • Affects blood clotting and prolong bleeding time.  
• Reduces fever and relieves mild pain.                  | • Using within one week of delivery may increase bleeding in you and your baby.  
• Only use aspirin in first and second trimester if prescribed by caregiver. |
| Ibuprofen (Advil, Midol) and nonsteroidal anti-inflammatory drugs (NSAIDs), such as naproxen (Aleve) and ketoprofen | • Possible increase in risk of miscarriage.  
• Reduces pain, fever, and inflammation.                 | • May delay onset of labor and cause lowered amniotic fluid levels.  
• Possible increased risk of child having ADHD or hyperactivity. |
| For allergy and cold symptoms:                          |                                         |
| Chlorpheniramine (Chlor-Trimeton)                        | • May be safe in pregnancy, but check with your caregiver before use.  
• Antihistamine—reduces cold and allergy symptoms (sneezing, itching nose and eyes, etc.). | • Causes slight drowsiness. |
| Diphenhydramine (Benadryl)                              | • May be in last two weeks before birth, can harm baby’s developing eyes.  
• Antihistamine—reduces cold and allergy symptoms.      | • Is in Tylenol PM and Advil PM, which are sleep aids. |
| Nasal sprays with some antihistamines or cromones (Afrin and Nasalcrom) | • Reduce nasal stuffiness and allergy symptoms. | • Appear safe in pregnancy and have fewer side effects than antihistamines taken by mouth. |
| For cold symptoms:                                      |                                         |
| Dextromethorphan (Robitussin DM)                        | • May be safe in pregnancy, but check with your caregiver before use.  
• Cough suppressant.                                     | • Causes drowsiness. |
| Guaifenesin (Robitussin)                                | • May be safe in pregnancy, but check with your caregiver before use.  
• Common ingredient in Robitussin.                       | • Causes cough by thinning mucus. |
| Pseudoephedrine, phenylephrine, ephedrine, epinephrine, or phenylpropanolamine (Sudafed and Sudafed PE) | • Decongestants—reduce nasal congestion and stuffiness by constricting blood vessels in the nose. | • Raise blood pressure.  
• Decongestants—reduce nasal congestion and stuffiness by constricting blood vessels in the nose. | • May decrease uterine blood flow.  
• Avoid during the first trimester if possible, or consult with caregiver before use. |
| For gastrointestinal (GI) discomforts:                  |                                         |
| Antacids                                                | • Too much calcium (Tums) or other chemicals could lead to constipation.  
• Reduce heartburn and acid indigestion.                | • Maalox, Amphojel, and Gelusil appear safe in pregnancy. |
| Bismuth subsalicylate (Pepto-Bismol)                    | • Helps relieve upset stomach, heartburn, and diarrhea.  
• Contains subsalicylate, which is similar to aspirin and may cause prolonged bleeding for newborn or you if taken late in pregnancy. | • Appear safe in pregnancy, but check with your caregiver before use. |
| Bulk-forming laxatives (Metamucil and Fiberall) and Docusate | • Treat constipation. |                                         |
### Drugs and products containing them with their benefits

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<th>Drug</th>
<th>Benefits</th>
<th>Possible side effects and pregnancy risks</th>
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<td>Loperamide (Imodium AD)</td>
<td>• Helps stop diarrhea.</td>
<td>• May be safe in pregnancy, but check with your caregiver before use.</td>
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<td>• Reduces effect of prostaglandins.</td>
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<td>• May delay onset of labor.</td>
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<tr>
<td>Simethicone (Gas-X, Mylanta,)</td>
<td>• Reduces gas in stomach and bowel.</td>
<td>• May be safe in pregnancy, but check with your caregiver before use.</td>
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* Product names are examples; the list is not intended to be complete.

### Endnotes

# Hazards of Drug Abuse in Pregnancy

<table>
<thead>
<tr>
<th>Name(s) of drug and how it’s Taken</th>
<th>How drug affects you</th>
<th>Possible harmful effects from maternal use in pregnancy</th>
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<tbody>
<tr>
<td>Alcohol (swallowed)</td>
<td>• Sedation, sleepiness, or loss of consciousness&lt;br&gt;• Impairs thought processes and liver function</td>
<td>• Fetal alcohol syndrome or FAS (physical deformity, mental deficiency, and behavioral disability), intrauterine growth retardation (IUGR), long-term neurological and behavioral problems</td>
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<td>Amphetamines (pills swallowed)</td>
<td>• Called “uppers,” “speed,” or “diet pills”&lt;br&gt;• Central nervous system (CNS) stimulant, causes nervousness and loss of appetite and sleep</td>
<td>• Placental abruption, IUGR, premature birth, altered newborn heart rate and behavior, fetal death</td>
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<tr>
<td>Cocaine or crack (injected by needle, snorted through nose or smoked)</td>
<td>• CNS stimulant and local vasoconstrictor (narrowing of blood vessels)&lt;br&gt;• Highly addictive drug</td>
<td>• Placental abruption, IUGR, fetal stroke or heart attack, fetal death, premature birth, newborn withdrawal symptoms, and childhood learning problems</td>
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<tr>
<td>Ecstasy—methylene-dioxymethamphetamine or MDSA (pills swallowed)</td>
<td>• CNS stimulant causing feelings of warmth, happiness, anxiety, and/or depression&lt;br&gt;• Effects similar to those of cocaine or amphetamines</td>
<td>• Long-term learning and memory problems in childhood</td>
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<tr>
<td>Glues and solvents (inhaled or sniffed)</td>
<td>• Called “huffing”&lt;br&gt;• Feelings of dizziness and lightheadedness&lt;br&gt;• Damage to liver, kidneys, bone marrow, and brain&lt;br&gt;• May cause sudden death</td>
<td>• Low birth weight, head and body growth problems in childhood, and birth defects of limbs, face and heart</td>
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<tr>
<td>Heroin and other opioids (smoked or injected under the skin or into a vein)</td>
<td>• Called “mainlining” when put into a vein&lt;br&gt;• Effects of narcotics, pain reduction and drowsiness&lt;br&gt;• Highly addictive and may lead to death from overdose</td>
<td>• Premature birth, IUGR, fetal death, withdrawal symptoms in baby and learning difficulties in childhood&lt;br&gt;• Methadone (given at drug treatment centers to replace heroin) helps reduce fetal problems, but it’s not risk-free</td>
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<tr>
<td>Ketamine (snorted, eaten, or injected)</td>
<td>• Called “special K”&lt;br&gt;• Sedative that causes amnesia</td>
<td>• Behavioral and learning problems for baby and in childhood</td>
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<tr>
<td>LSD—lysergic acid diethylamide (swallowed)</td>
<td>• Called “acid”&lt;br&gt;• Causes hallucinations, violent behavior, and flashbacks</td>
<td>• Birth defects in baby</td>
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<tr>
<td>Marijuana (smoked or eaten)</td>
<td>• Called “grass,” “weed,” or “pot”&lt;br&gt;• Sedative mind-altering effects&lt;br&gt;• Nicotine and carbon monoxide decreases blood flow and oxygen in blood</td>
<td>• Miscarriage, IUGR, and effects similar to exposure to tobacco smoke</td>
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<tr>
<td>Methamphetamines (snorted, swallowed, smoked, or injected)</td>
<td>• Called “meth” and pure form is called “crystal” or “ice”&lt;br&gt;• Most potent type of amphetamines&lt;br&gt;• CNS stimulant producing euphoria and increased energy&lt;br&gt;• Highly addictive</td>
<td>• Placental abruption, IUGR, premature birth, and newborn problems of tremors, extreme fussiness and difficulties with bonding and attachment</td>
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<td>PCP—phencyclidine (smoked, eaten, snorted, or injected)</td>
<td>• Called “angel dust”&lt;br&gt;• Causes schizophrenia-like psychosis symptoms, flashbacks, seizures, and heart attack or lung failure leading to death</td>
<td>• Low birth weight and poor muscle control in baby</td>
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<tr>
<td>Tobacco (smoked, chewed or inhaled)</td>
<td>• Impairs circulation and respiration, reduces blood oxygenation, and increases risk of lung cancer&lt;br&gt;• Highly addictive</td>
<td>• Miscarriage, IUGR, placental attachment problems, stillbirth, orofacial or limb defects, and SIDS</td>
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Notes from Prenatal Care Appointment

Date of prenatal visit: ____________________________

Questions you’d like to ask your caregiver at this visit (and caregiver answers):
1. __________________________________________
2. __________________________________________
3. __________________________________________
4. __________________________________________
5. __________________________________________

Weight: ___________ Blood pressure: ______________ Fundal height: ______________ Baby’s heart rate: ______________

Other test results: ____________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

Information learned: ____________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

Next appointment:
Date: ______________ Time: ______________ Caregiver: ____________________ Location: _______________________

Things to remember between now and then:
1. __________________________________________
2. __________________________________________
3. __________________________________________
4. __________________________________________
5. __________________________________________
**Noticing Baby’s Movement**

For more information, see: *Pregnancy, Childbirth, and the Newborn* page 64.

**Timing:** Can be done any time after thirty-two weeks.

### Fetal Movement Counting

Pick a standard time of the day to “tune into” your baby’s movements (it’ll work best about thirty minutes after eating). Each day, write your start time, then keep track of kicks, wiggles, or squirms. Once your baby has moved ten times, record your ending time, and total time.

<table>
<thead>
<tr>
<th>Date</th>
<th>Starting Time</th>
<th>Record of movements</th>
<th>Time of 10th movement</th>
<th>Total time</th>
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<tr>
<td>June 8</td>
<td>1:15 PM</td>
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<td>1:43 PM</td>
<td>28 minutes</td>
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### Sleep and Activity Chart

Kathryn Barnard, in *Beginning Rhythms*, shows how women can track their babies’ movements during pregnancy and see emerging patterns of how their babies respond to their activities. These patterns may help you predict what your baby’s patterns will be after birth (if before birth, your baby’s kicks awaken you at 4:00 a.m. every day, then, after birth, your baby may wake up at 4:00 a.m.). Barnard suggests that women regulate their rhythm before birth by eating and sleeping at regular times, which may help their babies be more predictable after birth. Here’s a sample chart.

Key: → Shows mom is sleeping  X Shows when mom ate  ★ Shows baby is active

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Learning about your baby’s rhythms: Chart one full week here.

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Reflecting on what you’ve learned: Is there a pattern to your baby’s quiet and active periods? Are there changes you could make to your schedule to see if your baby adapts her schedule? Chart another five days of activity: Add in additional details about your activities to see how your baby responds. (For example, if you exercise in the morning, does that change your baby’s rhythms? If you lay down for a nap, does your baby get active? If you stroke your belly, or talk to your baby, does she respond?)

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<th>Day</th>
<th>6 PM</th>
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<th>11 PM</th>
<th>Midnight</th>
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External Links and Resources

Fitness Books and DVDs

- *Lose Your Mummy Tummy* by Julie Tupler and Jodie Gould (2004): exercise program for the postpartum period
- *Yoga for Pregnancy, Labor and Birth DVD* by Colette Crawford (2005)

Overview Article


Where to Find a Women’s Health Physical Therapist

- [http://hermanwallace.com/practitioner-directory](http://hermanwallace.com/practitioner-directory)
- [http://www.wildfeminine.com/contact/](http://www.wildfeminine.com/contact/)
CHAPTER 5: FEELING GOOD AND STAYING FIT

Your Goals for Exercise

For more information, see:

- Pregnancy, Childbirth, and the Newborn (PCN), chapter 5; The Simple Guide to Having a Baby (SG), pages 41–43
- http://www.babyfit.com
- http://www.fitpregnancy.com

Pelvic floor exercises (PCN page 90, SG page 43)
We recommend that you do pelvic floor contractions, relaxation, or bulging every day.
Your goal: __________ per day

Pelvic tilts (PCN page 92, SG page 57)
We recommend ten per day.
Your goal: __________ per day

Low-impact exercise: walking, swimming, yoga, etc. (PCN pages 87–88, SG page 42)
Ask your caregiver for recommendations and see your book for precautions.
Typical recommendation: thirty minutes per session, three or four times per week.
Your goal: ________ minutes, ________ times a week.

What is your plan for meeting your exercise goals? __________________________________________________________
____________________________________________________________________________________________________
____________________________________________________________________________________________________
____________________________________________________________________________________________________
____________________________________________________________________________________________________
____________________________________________________________________________________________________

Make and post a sign somewhere to remind you of these goals!
External Links and Resources

**Meal Planning**
- [http://www.choosemyplate.gov](http://www.choosemyplate.gov): Recommended daily intake of calories and food groups, customized to your weight, height, and exercise levels.
- [https://www.supertracker.usda.gov](https://www.supertracker.usda.gov)

**Food Safety**
- [http://www.fda.gov/Food/ResourcesForYou/HealthEducators/ucm081785.htm](http://www.fda.gov/Food/ResourcesForYou/HealthEducators/ucm081785.htm)

**Federal Assistance for Low-Income Women**

**Additional Recommendations**
- [http://www.womenshealth.gov/pregnancy/you-are-pregnant/staying-healthy-safe.html](http://www.womenshealth.gov/pregnancy/you-are-pregnant/staying-healthy-safe.html)
# Food Diary

Several times during your pregnancy, use this chart to record what you eat in a day. Use it as a tool to evaluate how your diet compares to the dietary recommendations and guide you in healthy adjustments you could make. In the top section, write down what you eat and drink. Then, in the lower section, mark what food group those food items represent, and how many servings you ate or drank.

| Date: ___________________________ | Day of the week: ___________________________
<table>
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<tr>
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<tbody>
<tr>
<td><strong>Breakfast, morning snacks, and drinks:</strong></td>
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<td>_______________________________________</td>
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<tr>
<td><strong>Lunch, afternoon snacks, and drinks:</strong></td>
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<td>_______________________________________</td>
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<tr>
<td><strong>Dinner, evening snacks, and drinks:</strong></td>
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</tbody>
</table>

Did you get your recommended number of servings* of each food group?

- **Grains**—9 one-ounce servings
  - [ ]
- **Vegetables**—3.5 one-cup servings
  - [ ] [ ] [ ]
- **Fruits**—2 one-cup servings
  - [ ]
- **Milk**—3 one-cup servings
  - [ ] [ ] [ ]
- **Meat and Beans**—6.5 one-ounce servings
  - [ ] [ ] [ ] [ ] [ ] [ ]
- **Fluids**—8 or more one-cup servings
  - [ ] [ ] [ ] [ ] [ ] [ ] [ ]

* See the MyPlate Food Groups and Servings chart for a description of serving sizes (Pregnancy, Childbirth, and the Newborn page 107). Fill in half a box if you had half a serving.

At the end of the day, compare what you ate with the recommendations:

- What should you eat more of? _____________________________
- What should you eat less of? _____________________________
- What foods were the most nutritious? _____________________
- What foods tasted the best to you? ________________________
- What’s one thing you could do better? ____________________

Now congratulate yourself on every healthy choice you made and think about one small improvement you could make in the future.
### Nutrients, Vitamins, and Minerals—Daily Recommendations

**Key:** N = nonpregnant, P = pregnant, L = lactating (breastfeeding)  
g = grams, mg = milligrams, mcg = micrograms; 1 g = 1000 mg, 1 mg = 1000 mcg

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>Important functions</th>
<th>Major sources</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Calories, calorie sources, and fluids</strong></td>
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</tr>
<tr>
<td>Calories</td>
<td>• Provide energy for tissue building, increased metabolic requirements.</td>
<td>Carbohydrates, fats, proteins.</td>
<td>Calorie requirements vary depending on your prepregnancy weight, size, stage of pregnancy, and activity level. For customized guidelines, see <a href="http://www.choosemyplate.gov">http://www.choosemyplate.gov</a>.</td>
</tr>
<tr>
<td>N: 2,200</td>
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<tr>
<td>P: 2,400 (First trimester)</td>
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<tr>
<td>P: 2,600 (Second trimester)</td>
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<tr>
<td>P: 2,800 (Third trimester)</td>
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<tr>
<td>L: 2,700</td>
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<td></td>
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<tr>
<td>Carbohydrates</td>
<td>N: 155 g or more</td>
<td>Complex: whole grains, legumes, starchy vegetables, citrus fruits. Simple: refined grains, fruits, milk products, sugars.</td>
<td>Of your carbohydrates, at least 30 g should be dietary fiber.</td>
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<tr>
<td>P: 200 g or more</td>
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<tr>
<td>L: 240 g or more</td>
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</tbody>
</table>
| Fat | Maximum total fat: 85 g (Max saturated fat: 28g) | • Energy source.  
• Essential for brain growth and cognitive function.  
• Aids with absorption of vitamins A, D, E, K. | Best: Flaxseed oil, fish. Next best: Oils—olive, coconut, safflower, corn, sunflower. Soybeans, nuts, seeds. Minimize: dairy fats, eggs, fat from meats. Avoid: hydrogenated oil, shortening, lard. Essential fatty acids (omega-3s) can lower risk of preterm labor and depression, and can possibly lead to shorter labor, less gestational hypertension, and benefits for the growing baby. Some experts recommend supplements of 650 mg/day of omega-3s, of which 300 mg is DHA. Other sources of omega-3s: flaxseeds, flaxseed oil, fish, canola oil. Minimize consumption of omega 6-fatty acids (corn and cottonseed oil). |
| Protein | N: ~50 g (.66 g of protein per kg you weigh) | • Major structural component of all cells; builds and repairs tissues.  
• Helps build blood, amniotic fluid, and placenta.  
• Helps form antibodies. | Meat, fish, poultry, soy, eggs, milk, cheese, dried beans and peas, peanut butter, nuts, whole grains. Fetal requirements increase by about 1/3 in late pregnancy during the baby’s growth period. |
| P: 70–80 g (.88 g/kg) | | | |
| L: 80 g (1.05 g/kg) | | | |
| Water and other liquids | N: 72 oz (9 cups)  
P: 80 oz (10 cups)  
L: 100 oz (12+ cups) | • Carry nutrients to cells and carry waste products away for mother and baby.  
• Provide fluid for increased blood, tissue, and amniotic fluid volume.  
• Aid digestion, prevent constipation, excessive swelling.  
• Prevent dehydration, which can lead to premature labor. | Water, juices, milk. Foods that are high in liquids: soup, Jell-O, fruit. Water is best. Juice and soda contain a lot of sugar, and should be drunk in moderation. Caffeine-containing coffee, sodas, and teas should be limited or avoided. |
| Minerals | | | |
| Calcium | N/P/L: <18 yrs: 1,300 mg  
19–50 yrs: 1,000 mg | • Helps build bones and teeth.  
Proper levels assist with transmission of nerve impulses and muscle contractions.  
Important in blood clotting.  
Some evidence suggests that inadequate calcium is associated with hypertension in pregnancy.  
Yogurt, cheese, milk, canned fish with bones, greens (collard, kale, bok choy, chard, spinach, other greens) tofu (with calcium sulfate), sesame seeds, almonds, fortified juice and milk substitutes.  
Prenatal vitamins often have little or no calcium, so if you’re not getting calcium in your diet, you may need a calcium supplement as well. Calcium carbonate is best. | |
| Phosphorus | N/P/L: <18 yrs: 1,250 mg  
19–50 yrs: 700 mg | • Helps build bones and teeth.  
Maintains healthy blood pH levels (acid-base balance). | Milk, cheese, lean meats, peas. Calcium and phosphorus exist in a constant ratio in the blood. Excess phosphorus limits the use of calcium. |
<table>
<thead>
<tr>
<th>Nutrient</th>
<th>Important functions</th>
<th>Major sources</th>
<th>Comments</th>
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<tbody>
<tr>
<td>Iron N: 15-18 mg P: 27 mg P (last 6 weeks): 30 mg</td>
<td>• Helps to ensure red blood cell quantity and quality. • Carries oxygen to baby and to every cell in your body. • Deficiency (anemia) can lead to fatigue, preterm delivery, low birth weight.</td>
<td>Liver, red meats, egg yolks, poultry, fish, raisins and prunes, enriched breads and cereals, leafy vegetables, milk, legumes.</td>
<td>Needed to provide adequate iron stores for baby. Vitamin C enhances absorption of iron. If taking iron supplements, you may want to also take supplements of 15 mg zinc, and 2 mg copper, as iron blocks absorption of these.</td>
</tr>
<tr>
<td>Zinc N: 8 mg P: 11-12 mg L: 12-13 mg</td>
<td>• Component of insulin. • Important in growth of skeleton and nervous system. • Deficiency associated with labor complications and preterm delivery.</td>
<td>Meat, liver, eggs, seafood (especially oysters).</td>
<td>Deficiency has been associated with poor fetal growth and development.</td>
</tr>
<tr>
<td>Sodium N/P/L: 1,500—2,300 mg</td>
<td>• Sodium maintains the fluid balance in the body.</td>
<td>Naturally occurring in foods. Some prepared foods have excessive amounts.</td>
<td>If you eat a lot of prepared foods, check the labels to make sure you don’t overload on sodium.</td>
</tr>
<tr>
<td>Iodine N: 150 mcg P: 220 mcg L: 290 mcg</td>
<td>• Important in thyroid function, and for the baby’s developing brain and nervous system.</td>
<td>Seafood, iodized salt.</td>
<td>Deficiency may cause goiter in mother and developmental disorders in infants.</td>
</tr>
<tr>
<td>Magnesium N:L: &lt;18 yrs: 360 mg 19-50 yrs: 310-320 mg P: &lt;18 yrs: 400 mg 19-50 yrs: 350-360 mg</td>
<td>• Helps with cell energy and protein metabolism. • Enzyme activator. • Helps tissue and nerve growth and function; development of healthy bones and teeth.</td>
<td>Green leafy vegetables, meat, nuts, soy, seeds, brown rice, wheat germ, and oatmeal.</td>
<td>Most is stored in bones. Deficiency may cause neuromuscular dysfunction. Supplements may help treat nighttime leg cramps.</td>
</tr>
<tr>
<td>Potassium N/P: 4,700 mg/day L: 5,100</td>
<td>• Maintains fluid volume of cells. • Aids healthy function of heart, kidney, muscles, nerves, and digestive system. • May help reduce risk of osteoporosis.</td>
<td>Leafy greens, fruit from vines, root vegetables (carrots, parsnips, turnips), bananas, dairy, meat.</td>
<td>Potassium appears to affect the levels of other minerals, such as calcium and sodium.</td>
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<td>Fat-soluble vitamins</td>
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<td>Vitamin A N: 700 mcg P: 770 mcg (2,500 IU) L: 1,300 mcg Max safe level: 3,000 mcg</td>
<td>• Helps growth and development of bones, teeth, gums, vision. • Maintains skin and mucous membranes. • Helps protect against infection.</td>
<td>Liver, fish oils, dairy products, eggs, orange vegetables (pumpkins, yams, sweet potato, squash, carrots), dark green vegetables.</td>
<td>Excessive amounts (over 3,000 mcg/10,000 IU) can lead to birth defects.</td>
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<td>Vitamin D N/P/L: 5 mcg (equal to 200 IU) If you have dark skin and/or minimal sun exposure, you need a higher dose.</td>
<td>• Aids absorption of calcium and phosphorus from the blood. • Needed for mineralization of bones and teeth. • Deficiency can cause rickets—bone softening and fetal malformations. • Deficiency associated with low birth weight.</td>
<td>Sunlight (vitamin D is made by the body with exposure to sunlight on skin—at least 10-15 minutes of direct sunlight to hands, face, or arms 3 times a week), fortified milk (contains about 100 IU per cup), fish liver oils, fatty fish, egg yolks.</td>
<td>To get 600 IU of vitamin D daily, many women need to take supplements. Supplements with vitamin D3 are more effective than D2 and better for most women. Vegans may choose D3, because D3 is derived from an animal source. Some research indicates that up to 4000 IU per day may be beneficial in pregnancy. Taking vitamin D in pregnancy may also reduce severity of labor pain.</td>
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<tr>
<td>Vitamin E N/P: 15 mcg L: 19 mg</td>
<td>• Needed for tissue growth and for the developing nervous system. • Protects cell wall integrity.</td>
<td>Vegetable oils, whole grains, meat, eggs, milk, nuts, seeds.</td>
<td>Enhances absorption of vitamin A. It is an antioxidant.</td>
</tr>
<tr>
<td>Vitamin K N/P/L: &lt;18 yrs: 75 mcg 19-50 yrs: 90 mcg</td>
<td>• Essential for blood clotting.</td>
<td>Leafy green vegetables.</td>
<td>Produced in the body by intestinal flora.</td>
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<td>Water-soluble vitamins</td>
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<tr>
<td>Folic acid (folate) N: 400 mcg P: 600 mcg L: 500 mcg</td>
<td>• Helps to form blood cells and the DNA and RNA inside all cells. • Needed for metabolism of amino acids and protein synthesis. • May help prevent stroke, colon, and breast cancer.</td>
<td>Fortified cereals, breads and pastas and naturally occurs in legumes, green leafy vegetables, citrus fruit, whole wheat bread.</td>
<td>Supplements recommended for all women of childbearing age. Low folic acid can cause anemia, preterm delivery, and neural tube defects (1 in 3,000 pregnancies).</td>
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### Nutrient

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<tr>
<td>Thiamin (B1)</td>
<td>N: 1.0–1.1 mg P/L: 1.4 mg</td>
<td>Whole grains, fortified grain products (breads, cereals), pork, organ meats, seeds, nuts.</td>
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<td>L: 2.0 mg P: 1.9 mg N: 1.2–1.5 mg</td>
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<td>Riboflavin (B2)</td>
<td>N: 1.0–1.1 mg P: 1.4 mg L: 1.6 mg</td>
<td>Organ meats, milk products, whole and fortified grains.</td>
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<td>Essential for energy and metabolism of protein, fat, and carbohydrates.</td>
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<td>Niacin (B3)</td>
<td>N: 14 mg P: 18 mg L: 17 mg</td>
<td>Meats, peanuts, fortified cereals, whole grains, beans, peas.</td>
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<td>Helps release energy from carbohydrates.</td>
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<td>Needed for protein metabolism.</td>
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<td>Aids production of lipids, hormones, and red blood cells.</td>
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<tr>
<td>Vitamin B6 (Pyridoxine)</td>
<td>N: 1.2–1.5 mg P: 1.9 mg L: 2.0 mg Max: 100 mg</td>
<td>Chicken, fish, organ meats, pork, eggs, whole grains, wheat germ, soybeans, walnuts, legumes, cabbage, beets, oranges.</td>
<td>May help reduce nausea in early pregnancy. (Research trials have used 3 doses per day, with each dose being 10–25 mg.)</td>
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<td>Important in amino acid metabolism and protein synthesis.</td>
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<td>Important in production of serotonin, other neurotransmitters.</td>
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<td>Deficiency can lead to depression, neurological disorders.</td>
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<td>Improves immunity.</td>
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<td>Pantothenic acid</td>
<td>N: 5 mg P: 6 mg L: 7 mg</td>
<td>Meats, potatoes, oats, tomatoes, organ meats, broccoli.</td>
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<td>Helps convert food into energy.</td>
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<tr>
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<td>Aids production of lipids, hormones, and neurotransmitters.</td>
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<tr>
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<td>Aids energy metabolism.</td>
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<td>Synthesizes and breaks down fatty acids.</td>
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<td>Vitamin C</td>
<td>N: 65–75 mg P: 80–85 mg L: 115–120 mg Smokers: add 35 mg</td>
<td>Citrus fruits, berries, melons, tropical fruits.</td>
<td>Megadoses of vitamin C have not been proven effective in reducing incidence of colds, though supplements may reduce duration or severity of cold.</td>
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<td>Helps tissue formation.</td>
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<td>Is “cement” substance in connective and vascular tissue, strengthens blood vessels.</td>
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<td>Promotes iron absorption.</td>
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<td>Aids in healing wounds, resisting infection, maintaining healthy tissues.</td>
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### Endnotes


CHAPTER 7: WHEN PREGNANCY BECOMES COMPLICATED

External Links and Resources

Group B Strep

- “Prevention of Perinatal Group B Streptococcal Disease: Revised Guidelines from CDC, 2010,” http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5910a1.htm?s_cid=rr5910a1_w

High-Risk Pregnancies

- Sidelines: High-Risk Pregnancy Support, http://www.sidelines.org. This fabulous resource includes articles, book recommendations, online chats, and personal e-mail support from volunteers who have had similar experiences.
## Diagnostic Tests

The following tests might be done if earlier screening indicates a potential problem or if a pregnant woman shows symptoms of a specific disease or condition. (For information on screening tests, see page 63 or PCNGuide Chart on Screening Tests). Tests are listed in alphabetical order, not by frequency of use or when they are done during pregnancy.

### Amniocentesis

Using ultrasound for guidance, the doctor passes a needle through your abdomen and uterus into the amniotic sac, withdraws fluid, and sends it to a lab for the appropriate test.

- To identify chromosomal abnormalities, fetal cells are separated from the amniotic fluid and given time (about 2 weeks) to multiply, which provides enough cells to allow analysis.
- For other tests, the fluid can be checked quickly for the presence of various substances that reveal specific information about your unborn baby.

**In early to midpregnancy (15–20 weeks):**
- Provides information on particular birth defects, metabolic disorders, and chromosomal or genetic diseases.
- May detect Down syndrome, sickle cell anemia, neural tube defects, and many other disorders.
- Performed to evaluate fetus if results from particular screening tests indicate a problem.
- Helps you make a decision about continuing or terminating a pregnancy.

**In late pregnancy (last trimester):**
- Provides information on fetal lung maturity when early delivery (32 to 37 weeks or prior) is being considered for the health of you or your baby (see page 274).
- Reveals severity of Rh disease or other suspected blood disorders and helps determine if treatment of baby will be necessary.
- May detect biochemical markers to help identify women at highest risk for certain pregnancy complications.

**Comments:**
- Can be performed when there is an adequate amount of fluid (after 13 weeks gestation), but there are fewer risks if done after 15 weeks.
- Slightly increases risk of miscarriage—about 0.1 to 0.5 percent higher than for women not having amniocentesis. (Risk of miscarriage is normally about 1 percent at this stage of pregnancy.)
- Risk of miscarriage depends on the skill and experience of technician performing the test.
- Carries a slight risk of cramping, intrauterine infection, bleeding, or leaking amniotic fluid.
- Requires injection of RhoGAM if you’re Rh negative.
- Length of time (2 weeks) required to obtain results for genetic disorders may be stressful.
- Is expensive, invasive, and used only if medically indicated, such as when screening tests indicate a high risk of a chromosomal abnormality.

### Biophysical profile (BPP)

This test evaluates fetal biophysical functions and has five components.

A non-stress test (NST) checks this function:
1. The fetal heart rate’s response to the baby’s movement

An ultrasound scan helps assess these factors:
2. Fetal breathing movements
3. Fetal body movements and activity
4. Fetal muscle tone
5. Amount of amniotic fluid

Each component is scored with 0, 1, or 2 points, so the highest possible total is 10 points. The two procedures take about 1 hour or less.

**Purpose:**
- Estimates fetal well-being in the latter weeks of pregnancy.
- Used to determine if a high-risk or a post-date pregnancy could safely continue or if labor should be induced.
- Evaluates amniotic fluid volume (AFV) to identify possible pregnancy problems signaled by too little (oligohydramnios) or too much fluid (polyhydramnios).

**Comments:**
- Score of 8–10 is considered “normal.”
- Is a fairly good predictor of fetal condition when scores are high (6–10) or low (0–2).
- Intermediate scores (3–5) are difficult to interpret, and repeat testing is done.
- Sometimes, only selected components of the biophysical profile are performed (for example, evaluating only the NST and AFV, or using only the four components from the ultrasound).
- Sometimes the NST and ultrasound are done in two different locations.
<table>
<thead>
<tr>
<th>Diagnostic test</th>
<th>Purpose</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chorionic villus sampling (CVS)</td>
<td>Provides information about chromosomal abnormalities (same as that obtained from amniocentesis, except CVS cannot detect neural tube defects, such as spina bifida). Provides information at an earlier gestational age than amniocentesis, allowing for earlier decision about termination of pregnancy. Provides a sample large enough to take advantage of molecular genetics technology such as DNA analysis (done if indicated by family history).</td>
<td>Not as widely used as amniocentesis. Risk of miscarriage is about 1 percent above those not having CVS test (miscarriage rate may be as high as 4 percent without CVS at this stage of pregnancy). May cause vaginal bleeding or spotting, amniotic fluid leakage, or infection. Not available in all medical centers. Requires injection of RhoGAM if you’re Rh negative. Often requires a full bladder, which may be uncomfortable. Reasons not to do a transcervical CVS include genital herpes, inflammation of cervix, or cervical myoma (tumor). Small risk for fetal limb defects if CVS done before 10 weeks gestation.</td>
</tr>
<tr>
<td>Contraction stress test (CST)</td>
<td>Used to predict whether the fetus can withstand stress of labor contractions. Used to decide if high-risk pregnancy can continue, if labor should be induced, or if a cesarean birth is indicated. Estimates placental function and fetal reserves.</td>
<td>Not widely used. Usually not done unless non-stress test (NST) indicates a problem with fetal well-being. Usually not a cause of preterm labor. Difficult to interpret results and occasionally produces false results, which could lead to unnecessary intervention. Considered reliable only during the last weeks of pregnancy. To make uterus contract, you might be asked to stimulate your nipples or you might receive Pitocin (oxytocin) intravenously. For more information on FHR monitoring, see page 182.</td>
</tr>
<tr>
<td>Fetal blood sampling (also known as Cordocentesis or percutaneous umbilical blood sampling)</td>
<td>Allows assessment of fetal blood characteristics to detect chromosomal defects, blood disorders, and conditions such as infection, anemia, and lack of oxygen. May be used to give a blood transfusion, administer medications, or monitor effectiveness of drug treatment for fetus. Used when confirmation of a diagnosis is needed more quickly than the results obtained by amniocentesis. Requires greater technical skill than amniocentesis on part of doctor and is only available at large prenatal diagnostic centers. A rarely used, invasive procedure that has a 1–2 percent risk of fetal loss. Potential complications include infection, bleeding, preterm labor, premature rupture of membranes, blood clot in cord, and transient irregular fetal heart rate. Use of cordocentesis has declined since other noninvasive tests, such as Doppler velocimetry and analysis of maternal blood for biochemical markers, have been developed to identify high-risk pregnancies.</td>
<td></td>
</tr>
<tr>
<td>Doppler arterial blood flow studies (velocimetry)</td>
<td>Provides information about circulation of blood between and within the uterus, placenta, and fetus. Used to measure blood flow in the umbilical arteries (fetal-placental system), fetal blood vessels, and/or your uterine artery (uteroplacental system). Used to predict a fetus at highest risk for complications such as intrauterine growth retardation (IUGR) from fetal-placental blood flow problems, prematurity from severe preeclampsia, and anemia from Rh incompatibility. May be available only in large medical centers. Is noninvasive. Ability to predict maternal and fetal disease and/or outcome is being studied. May be able to predict those mothers and babies who are at highest risk for certain pregnancy complications and help prevent unneeded medical interventions in those at lowest risk.</td>
<td></td>
</tr>
<tr>
<td>Glucose tolerance test (GTT)</td>
<td>Used to diagnose gestational diabetes if a screening test (described on page 63) indicates this possibility. A special high-carbohydrate meal or snack (with appropriate glucose quantity) could possibly be used if the glucose drink is not well tolerated. Normally, blood glucose levels remain stable; however, with diabetes, two or more of the readings are elevated. See page 127 for more on gestational diabetes.</td>
<td></td>
</tr>
</tbody>
</table>
### Magnetic resonance imaging (MRI)

Visual images are obtained with a superconductive magnet that moves over your body above the area that is to be examined. A number of images projected onto a video screen show several layers (multiplanar imaging) of the maternal or fetal organs or structures being evaluated.

- Allows a detailed look at an internal organ or structure of your unborn baby to help confirm fetal malformations or other structural abnormalities.
- Estimates size and volume of anatomical structures and maturity of fetal organs (for example, lung maturity).
- Helps assess maternal internal organs and blood vessels (for example, to help diagnose placental abnormalities, uterine defects, and maternal diseases, such as deep vein thrombosis, appendicitis, or other disorders).

**Comments**
- Used when ultrasound results are unclear and only if medically indicated.
- Allows noninvasive evaluation of internal organs, blood vessels, and blood flow without use of dyes or ionizing radiation (x-ray).
- Echo-planar imaging (a form of MRI) helps overcome imaging problems due to movement of the fetus.
- No harmful effects reported when used in second or third trimesters. Though harm of earlier use has not been determined, MRI isn’t used in the first trimester if it can be avoided.

### Non-stress test (NST)

This noninvasive test indicates how the fetal heart rate (FHR) responds when the baby moves.

The FHR is recorded for 10–40 minutes with an external electronic fetal monitor, and you tell the technician or push a button each time you feel your baby move. If there is no spontaneous fetal movement, your baby may be asleep. The examiner may ask you to eat something, push on your abdomen, or sound a loud noise near your abdomen to stimulate your baby to move.

An increase in the fetal heart rate (FHR) when the baby moves is normal and a sign of fetal well-being and is called a “reactive test.”

**Purpose**
- Used to predict fetal well-being.
- Used to determine if a high-risk pregnancy can safely continue or if further testing is desirable.
- Is used as one of the five components of the biophysical profile (BPP) test (see above).

**Comments**
- Can be done in a caregiver’s office, a clinic, or a hospital.
- Considered reliable only during the last weeks of pregnancy (after 30 weeks gestation).
- Occasionally produces false results. In many cases when NST is nonreactive, further testing shows a healthy fetus.

### Ultrasound (sonography, as a diagnostic test)

(For a description of ultrasound and more information about ultrasound as a screening test see page 65.)

Ultrasound is the first choice of imaging methods for pregnant women for screening and diagnosing pregnancy problems.

- Helps estimate gestational age and fetal maturity.
- Helps locate fetal organs and structures for inspection, measurement, diagnosis, or treatment.
- Helps assess the position, size, and condition of the placenta and cord.
- Detects how baby is lying within uterus, showing presentation and position.
- Used to measure length of the cervix to determine preterm opening (effacement).
- Helps assess amniotic fluid volume (AFV) to detect fetal-placental problems.
- Helps evaluate fetal well-being by observing characteristics and movement of the baby and AFV for a biophysical profile.
- Used to locate fetus, placenta, cord, and internal structures when performing other procedures, such as breech version, chorionic villus sampling (CVS), amniocentesis, and cordocentesis, to increase safety for mother and baby.

**Comments**
- May be done at imaging center, a hospital, or the doctor’s office.
- Is noninvasive and gives immediate results.
- Can determine whether the pregnancy is uterine or ectopic.
- Accuracy varies depending on the quality or level of equipment, skill of person interpreting results, and gestational age of fetus.
- Can detect structural abnormalities, such as spina bifida, heart defects, and some chromosomal defects with associated structural components, such as Down syndrome.
- Vaginal ultrasound may be better for detecting some problems, such as placenta previa, ectopic pregnancy, and preterm cervical effacement.
- Appears safe, but should only be used if medically indicated.
- The technician performing the ultrasound usually does not give you information. A physician reports the results either to you or to your regular caregiver.
- May detect baby’s gender. (Accuracy depends on age of fetus, fetal position, and quality of testing.)
<table>
<thead>
<tr>
<th>Diagnostic test</th>
<th>Purpose</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vaginal/cervical smear</td>
<td>• Detects organisms that cause infections (bacteria, virus, fungus, or protozoa).</td>
<td>• See Infections during Pregnancy chart on <a href="http://www.PCNGuide.com">www.PCNGuide.com</a> for more information.</td>
</tr>
<tr>
<td></td>
<td>• Helps diagnose premature rupture of membranes.</td>
<td>• Amniotic fluid is less acidic (lower pH) than urine, and it has a fernlike appearance under the microscope. Both characteristics may be used to test for the presence of amniotic fluid when diagnosing ruptured membranes.</td>
</tr>
<tr>
<td></td>
<td>• May be used to evaluate the content of amniotic fluid pooled in the vagina after premature rupture of membranes to help predict fetal lung maturity or intra-amniotic fluid infection.</td>
<td>• See pages 129–131 for more about preterm labor.</td>
</tr>
<tr>
<td></td>
<td>• Used to detect fetal fibronectin in cervico-vaginal secretions between 24 to 38 weeks of pregnancy, if indicated, to help identify those at risk for preterm labor.</td>
<td></td>
</tr>
<tr>
<td>X-ray</td>
<td>• Helps diagnose maternal problems in pregnancy, such as pneumonia, dental disease, and broken bones.</td>
<td>• Radiation exposure to the abdomen in the first trimester has been associated with an increased risk of childhood malignancies and low birth weight.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• X-rays of the abdomen should only be done when the benefits of gathering the diagnostic information from the x-ray outweigh the risks of exposure.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Diagnostic x-rays of other parts of the body (head, chest, limbs) do not cause harm to the baby (you should wear a lead apron shield during x-rays).</td>
</tr>
</tbody>
</table>
# Medications Used to Manage Preeclampsia and Gestational Hypertension

(formerly known as Pregnancy Induced Hypertension or PIH)

<table>
<thead>
<tr>
<th>Drug type and names</th>
<th>When/how given</th>
<th>Benefits and/or purposes</th>
<th>Possible risks and/or side effects</th>
<th>Comments</th>
</tr>
</thead>
</table>
| **Anticonvulsants** (for seizure prevention) | • Given intravenously when mother has severe preeclampsia. | • Prevents or controls seizures by depressing central nervous system function. | **To mother:**  
• Jitteriness, irritability  
• Flushing of face and trunk  
• Sweating  
• Lowered temperature  
• Low blood pressure  
• Lethargy, blurred vision  
• Nausea and vomiting  
• Pulmonary edema, especially when combined with corticosteroid treatment  
• Impaired reflexes  
• Respiratory depression  
• Cardiac arrest (very rare)  
• Postpartum constipation  
**To fetus:**  
• Drug crosses to fetus at levels close to those in the mother.  
**To newborn:**  
• Takes 3–4 days to eliminate from circulation.  
• Reduced muscle tone  
• Low blood calcium levels  
• Respiratory depression | Women often find magnesium to be extremely uncomfortable, but it is very effective in preventing seizures. |
| *magnesium sulfate* | • Initially, mother receives a large dose to quickly raise blood levels to a therapeutic level, and then magnesium sulfate is given in an intravenous (IV) solution by continuous infusion. | | |
| **Antihypertensives** (to lower blood pressure) | • Labetalol is given intravenously or by mouth. | • Lowers blood pressure by dilating blood vessels throughout the mother’s body.  
• Helps treat high blood pressure during pregnancy and childbirth. | **To mother:**  
• Labetalol may cause slowing of heart rate, shortness of breath, and drowsiness.  
• Nifedipine may cause transient hypotension (low blood pressure) and possible liver problems.  
**To fetus and newborn:**  
• Labetalol effects include neonatal hypotension (low blood pressure), slow heart rate, and hypoglycemia (low blood sugar). | Labetalol is contraindicated in women with asthma or with certain cardiac problems.  
Nifedipine should not be used with magnesium sulfate. |
| *labetalol* (Normodyne, Trandate)  
*nifedipine* (Procardia)  
*methyldopa* | • Nifedipine and methyldopa are given by mouth. | | |
# Infections during Pregnancy

The following chart describes how certain infections may harm your baby. Because the chart addresses serious potential complications, it may seem scary. But remember: If you get any of these infections, you can minimize the potential risks if your caregiver diagnoses the infection early and you and your baby receive prompt treatment. If your baby is infected, the infection can increase some risks:

<table>
<thead>
<tr>
<th>Infection</th>
<th>Birth defects</th>
<th>Preterm labor</th>
<th>Illness in baby</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacterial vaginosis (BV)</td>
<td></td>
<td>X</td>
<td></td>
<td>Problems result from prematurity.</td>
</tr>
<tr>
<td>Chicken pox (varicella zoster)</td>
<td>X</td>
<td></td>
<td>X</td>
<td>Slight risk of infection affecting one or all of baby’s organs.</td>
</tr>
<tr>
<td>Chlamydia trachomatis</td>
<td>X</td>
<td></td>
<td>X</td>
<td>Baby not affected before birth, but may have eye infection or pneumonia after birth.</td>
</tr>
<tr>
<td>Cytomegalovirus (CMV)</td>
<td>X</td>
<td></td>
<td>X</td>
<td>Risk of brain damage or hearing loss. About 10 percent of babies affected when mother is first infected in first trimester.</td>
</tr>
<tr>
<td>Fifth disease (parovirus B19)</td>
<td></td>
<td></td>
<td>X</td>
<td>May cause severe anemia and related problems for baby.</td>
</tr>
<tr>
<td>Gonorrhea (Neisseria gonorrhea)</td>
<td>X</td>
<td></td>
<td></td>
<td>If baby is infected during birth, infection may cause severe eye infection that may cause blindness.</td>
</tr>
<tr>
<td>Group B streptococcus (GBS)</td>
<td>X</td>
<td></td>
<td>X</td>
<td>If baby infected at birth, infection may cause severe disease or death.</td>
</tr>
<tr>
<td>Hepatitis B (HBV) or Hepatitis C (HCV)</td>
<td></td>
<td></td>
<td>X</td>
<td>If baby is infected at birth and untreated, she’s at high risk of becoming a HBV carrier, but at low risk of becoming a HCV carrier.</td>
</tr>
<tr>
<td>Herpes simplex virus (HSV)</td>
<td></td>
<td></td>
<td>X</td>
<td>Risk of infection is highest when mother has first outbreak of genital herpes in pregnancy. Any recurrent infection at birth may affect baby. Treatment of outbreaks reduces the chance of infection.</td>
</tr>
<tr>
<td>Human Immunodeficiency virus (HIV)</td>
<td></td>
<td></td>
<td>X</td>
<td>Treatment of mother can greatly reduce the risk of baby’s acquiring HIV during pregnancy or at birth.</td>
</tr>
<tr>
<td>Human papillomavirus (HPV)</td>
<td></td>
<td></td>
<td></td>
<td>Low risk of baby’s acquiring HPV during pregnancy or at birth. May cause genital warts or cervical cancer later in child’s life.</td>
</tr>
<tr>
<td>Listeriosis (Listeria monocytogenes)</td>
<td>X</td>
<td></td>
<td>X</td>
<td>May cause miscarriage or infection in baby after birth.</td>
</tr>
<tr>
<td>Lyme disease</td>
<td></td>
<td></td>
<td></td>
<td>Bacteria from a tick bite can cross the placenta. Risks are unknown, but may cause miscarriage or stillbirth.</td>
</tr>
<tr>
<td>Mumps (Paramyxovirus)</td>
<td></td>
<td></td>
<td>X</td>
<td>Although the connection is unconfirmed, infection may cause miscarriage. May cause infection in baby after birth.</td>
</tr>
<tr>
<td>Measles</td>
<td></td>
<td></td>
<td>X</td>
<td>May cause infection in baby after birth.</td>
</tr>
<tr>
<td>Periodontal disease (gum disease)</td>
<td>X</td>
<td></td>
<td></td>
<td>Severe gingivitis greatly increases risk of preterm birth.</td>
</tr>
<tr>
<td>Rubella (German measles)</td>
<td>X</td>
<td></td>
<td>X</td>
<td>When baby is infected in first half of pregnancy, infection increases risk of problems with hearing, vision, heart function, or brain development.</td>
</tr>
<tr>
<td>Syphilis (Treponema pallidum)</td>
<td>X</td>
<td></td>
<td>X</td>
<td>Possible problems with baby’s eyes, skin, heart, bones, and nervous system. May cause death.</td>
</tr>
<tr>
<td>Toxoplasmosis (Toxoplasma gondii)</td>
<td>X</td>
<td></td>
<td>X</td>
<td>Possible effects on all of baby’s organs; may cause death. Problems are more severe if mother is first infected in first half of pregnancy.</td>
</tr>
<tr>
<td>Trichomoniasis (Trichomonas vaginalis)</td>
<td></td>
<td></td>
<td></td>
<td>Problems result from prematurity. Infected mothers often have other infections.</td>
</tr>
<tr>
<td>Yeast (candidiasis)</td>
<td></td>
<td></td>
<td>X</td>
<td>Exposure may occur with vaginal birth, but infection is rare. Chances of infection on mother’s nipples or in baby’s mouth (thrush) increase if mother had antibiotics near time of birth (see page 423).</td>
</tr>
</tbody>
</table>

Key: X = Possible  ? = Questionable
CHAPTER 8: PLANNING FOR BIRTH AND POST PARTUM

External Links and Resources

Videos and Print Materials for Better Birth

Healthy Birth Your Way: Six Steps to a Safer Birth from Lamaze and Injoy (2009) at http://www.mothersadvocate.org:
A great overview of research-based information about some of the key practices that influence birth.

Birth Plan Tools

There are several interactive websites that allow you to check off boxes, and then they build a birth plan for you. These can be helpful in your initial process of determining what your preferences are, but if you use one to generate a plan, think of it as your rough draft. Rewrite it in your own words, so it clearly conveys who you are and what’s most important to you.
Work Sheet for Preparing Your Birth Plan

You might find this work sheet helpful as you prepare your birth plan. Place a plus sign (+) by the items that you clearly want, and a minus sign (-) by items you want to avoid unless medically necessary. Put a question mark by items you are unsure about, and plan to learn more about those options.

Once you have completed this work sheet, write a short description of the roles you envision for yourself, your partner, your doula or other helpers, and your caregivers (the approach you prefer). Then prepare a draft of your birth plan that consolidates and generalizes your preferences for discussion with your caregiver.

### Options for Normal Labor and Birth

#### First Stage

<table>
<thead>
<tr>
<th>Presence of partner/others</th>
<th>Positions for labor (pages 238–240)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partner</td>
<td>Freedom to change positions, stand, and/or walk around</td>
</tr>
<tr>
<td>Doula (page 20)</td>
<td>Postural aids (birth ball, bathtub, beanbag chair, or other)</td>
</tr>
<tr>
<td>Friends or relatives</td>
<td></td>
</tr>
<tr>
<td>Children (page 438)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vaginal exams (page 181)</th>
<th>Monitoring fetal heart rate (pages 182–183)</th>
</tr>
</thead>
<tbody>
<tr>
<td>At mother’s request or if needed for clinical decision</td>
<td>Auscultation with stethoscope or ultrasound stethoscope</td>
</tr>
<tr>
<td>As few different examiners as possible</td>
<td>Intermittent external electronic fetal monitoring (EFM)</td>
</tr>
<tr>
<td>At caregiver’s discretion</td>
<td>Continuous EFM with telemetry</td>
</tr>
<tr>
<td></td>
<td>Continuous electronic monitoring (internal or external)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Food/fluids (pages 228–229)</th>
<th>Pain relief (chapters 12 and 13)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eat and drink as desired</td>
<td>Emotional support and self-help measures</td>
</tr>
<tr>
<td>Water, juice, Popsicles, ice chips</td>
<td>Relaxation, breathing, positions, comfort measures</td>
</tr>
<tr>
<td>Saline (or Heparin) lock</td>
<td>Bathtub, whirlpool, or shower</td>
</tr>
<tr>
<td>Intravenous (IV) fluids</td>
<td>Medications (narcotics) and/or anesthesia (epidural or other)</td>
</tr>
</tbody>
</table>

#### Second Stage (pushing and birth of baby)

<table>
<thead>
<tr>
<th>Position for pushing and for birth (pages 190 and 240)</th>
<th>Care of perineum at birth (pages 193 and 292)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mother’s choice of positions</td>
<td>Warm compresses, controlled pushing, positions</td>
</tr>
<tr>
<td>Gravity-enhancing positions</td>
<td>No episiotomy (willing to risk having a tear)</td>
</tr>
<tr>
<td>Caregiver’s choice of positions</td>
<td>Decision left to caregiver</td>
</tr>
<tr>
<td></td>
<td>Episiotomy</td>
</tr>
<tr>
<td></td>
<td>Forceps or vacuum extraction</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Expulsion techniques (pages 189–190)</th>
<th>Bed/equipment for pushing and for birth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spontaneous bearing down</td>
<td>Birth stool, squat bar, bathtub, floor</td>
</tr>
<tr>
<td>Delayed pushing (if epidural used)</td>
<td>Birthing bed</td>
</tr>
<tr>
<td>Directed pushing</td>
<td>Delivery table with or without stirrups</td>
</tr>
<tr>
<td>Prolonged breath holding and straining</td>
<td></td>
</tr>
</tbody>
</table>

#### Third Stage and First Hours after Birth

<table>
<thead>
<tr>
<th>Immediate care of baby (pages 195–198)</th>
<th>Warmth of baby (page 196)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delay clamping and cutting the cord</td>
<td>Baby skin-to-skin with mother</td>
</tr>
<tr>
<td>Partner cuts cord</td>
<td>Wrapped in warm blanket, held by parent</td>
</tr>
<tr>
<td>In parent’s arms for observation and exam</td>
<td>In heated bassinet in mother’s room</td>
</tr>
<tr>
<td>Near parents in bassinet or isolette</td>
<td>In special heated unit in nursery</td>
</tr>
<tr>
<td>In nursery for observation, weighing, and first bath</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Clearing baby’s airway (page 195)</th>
<th>Cord blood collection (page 198)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suction only if necessary</td>
<td>Not planned</td>
</tr>
<tr>
<td>Suction with bulb syringe almost immediately</td>
<td>Public cord blood bank donation</td>
</tr>
</tbody>
</table>

#### Third stage and first hours after birth

<table>
<thead>
<tr>
<th>Eye care and vitamin K (pages 363–364)</th>
<th>Cord blood collection (page 198)</th>
</tr>
</thead>
<tbody>
<tr>
<td>At end of first hour after birth</td>
<td></td>
</tr>
<tr>
<td>Use of nonirritating antibiotic agent (for eye care)</td>
<td></td>
</tr>
</tbody>
</table>
## Options for Unexpected Labor Events

### General

<table>
<thead>
<tr>
<th>Induction (pages 277–283)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoid induction unless medically necessary</td>
</tr>
<tr>
<td>At mother’s or caregiver’s convenience</td>
</tr>
<tr>
<td>Self-induction methods</td>
</tr>
<tr>
<td>Stripping membranes</td>
</tr>
<tr>
<td>Cervical dilators</td>
</tr>
<tr>
<td>Artificial rupture of membranes</td>
</tr>
<tr>
<td>Cervical ripening agents (prostaglandins)</td>
</tr>
<tr>
<td>Induction agents (Pitocin, oxytocin)</td>
</tr>
<tr>
<td>Maternal exhaustion (pages 175–176, 284–287)</td>
</tr>
<tr>
<td>Rest, relaxation skills</td>
</tr>
<tr>
<td>Bathtub, dim lights, privacy</td>
</tr>
<tr>
<td>Narcotics or sedatives for sleep</td>
</tr>
<tr>
<td>Epidural anesthesia</td>
</tr>
</tbody>
</table>

### Prolonged active labor (pages 284–287)

- Walk, change positions, take a bath
- Nipple stimulation
- Artificial rupture of membranes
- Medication (Pitocin, oxytocin)

### Suspected fetal distress (pages 288–289 and 305)

- Mother changes position, uses oxygen
- Fetal scalp stimulation to evaluate fetal well-being
- Amnioinfusion
- Continuous electronic fetal monitoring, internal scalp electrode
- Cesarean delivery

### Cesarean Birth

<table>
<thead>
<tr>
<th>Timing of cesarean (pages 302–303)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planned before labor begins</td>
</tr>
<tr>
<td>Planned after labor begins</td>
</tr>
<tr>
<td>Unplanned during labor, only done if medically indicated</td>
</tr>
<tr>
<td>Anesthesia (chapter 10)</td>
</tr>
<tr>
<td>Regional anesthesia (spinal or epidural)</td>
</tr>
<tr>
<td>Regional anesthesia with or without sedation or tranquilizer</td>
</tr>
<tr>
<td>General anesthesia</td>
</tr>
<tr>
<td>Participation by mother</td>
</tr>
<tr>
<td>Mother watches delivery of baby (window in screen or screen lowered)</td>
</tr>
<tr>
<td>Doctor explains events during surgery</td>
</tr>
<tr>
<td>No description of events during surgery</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Presence of partner/others (page 310)</th>
</tr>
</thead>
<tbody>
<tr>
<td>More than one supportive person present</td>
</tr>
<tr>
<td>Father or partner only</td>
</tr>
<tr>
<td>Partner sits or stands to watch or photograph surgery</td>
</tr>
<tr>
<td>Partner not present</td>
</tr>
<tr>
<td>Postoperative medications for trembling or nausea (page 309)</td>
</tr>
<tr>
<td>Only at mother’s request</td>
</tr>
<tr>
<td>Medications with least effect on consciousness and memory</td>
</tr>
<tr>
<td>Medications at doctor’s discretion</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Postpartum Hospital Options for New Mother</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infant feeding (chapter 18)</td>
</tr>
<tr>
<td>Breastfeeding</td>
</tr>
<tr>
<td>Formula feeding</td>
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<tr>
<td>Controlling pain (page 311)</td>
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<tr>
<td>Use of self-help techniques to avoid medications</td>
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<tr>
<td>Medications (patient-controlled IV or oral)</td>
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<thead>
<tr>
<th>Visits by family and friends</th>
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<tbody>
<tr>
<td>Unlimited visitation desired</td>
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<tr>
<td>Limit who will visit</td>
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<tr>
<td>Limit when visitors can come into room</td>
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<tr>
<td>Hours or amount of time limited by hospital</td>
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<tr>
<td>Dietary preferences</td>
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<tr>
<td>General diet</td>
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<tr>
<td>Vegetarian/vegan</td>
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<tr>
<td>Kosher</td>
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<tr>
<td>Food allergies and sensitivities</td>
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<tr>
<td>Early solid foods after cesarean</td>
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<tr>
<td>Other</td>
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<tr>
<th>Educational needs</th>
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<tbody>
<tr>
<td>Breastfeeding</td>
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<td>Infant feeding</td>
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<tr>
<td>Baby care</td>
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<tr>
<td>Postpartum care for new mother</td>
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<tr>
<td>Other</td>
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<tr>
<td>Plans for follow-up from staff after discharge</td>
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<tr>
<td>Availability for clinic or home visit with mother-baby nurse</td>
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<tr>
<td>Availability of lactation help and support</td>
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<tr>
<td>Availability of phone call to/from hospital nurse</td>
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<tr>
<td>Amount of follow-up care desired by parents</td>
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<td>Options for Unexpected Labor Events</td>
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<tr>
<td>First feedings (pages 400)</td>
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<td>Options for Healthy Baby Care for First Days</td>
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<td>Contact between baby and parents</td>
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<tr>
<td>Options for Unexpected Events for Newborn Baby</td>
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<tr>
<td>Contact with support group</td>
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<tr>
<td>Stillbirth or Death of Baby (pages 294–297)</td>
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Sample Birth Plans

We offer here several different examples of birth plans. While individual plans cover many of the same topics, each is written in a style that reflects the personality and preferred options of the writer.

Note: These are included only as examples of what a birth plan might look like. They are not intended as endorsements or recommendations of any of the specific details of these personalized plans.

<table>
<thead>
<tr>
<th>Format/characteristics</th>
<th>Pain coping</th>
<th>Preferences for labor and birth</th>
<th>Preferences for newborn care and postpartum</th>
<th>Special issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plans for hospital births (in approximate order from lower intervention to higher intervention)</td>
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</tr>
<tr>
<td>Bullet point, headings for each stage. Mom, husband, doula, maybe a friend.</td>
<td>Coping techniques, then probably pain medications in active labor.</td>
<td>Minimize or delay interventions. Second stage: labor down, variety of positions, if possible. Want to avoid episiotomy, forceps, vacuum.</td>
<td>Skin-to-skin, no suction, delayed clamping, no hepatitis B. Immediate breastfeeding. Request lactation consultant, education. Visitor preferences.</td>
<td>Anxiety with vaginal exam, bladder catheter, etc. Inverted nipples.</td>
</tr>
<tr>
<td>Grid. Mom, boyfriend and 2 friends.</td>
<td>Epidural in active labor. (Will use movement and self-help measures in early labor.)</td>
<td>Fine with the interventions that come with an epidural, but want to avoid cesarean birth, if possible.</td>
<td>Hold baby. Not sure about skin-to-skin—may want baby toweled off first.</td>
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</table>

Plans for out-of-hospital births and transfers from out-of-hospital births

<table>
<thead>
<tr>
<th>Format/characteristics</th>
<th>Pain coping</th>
<th>Preferences for labor and birth</th>
<th>Preferences for newborn care and postpartum</th>
<th>Special issues</th>
</tr>
</thead>
</table>

Hospital transfer / VBAC

Letter with some bullet points. Mom, husband. 2 older children.

<table>
<thead>
<tr>
<th>Format/characteristics</th>
<th>Pain coping</th>
<th>Preferences for labor and birth</th>
<th>Preferences for newborn care and postpartum</th>
<th>Special issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table/spreadsheet. Mom, wife/ma, Grand- ma-to-be.</td>
<td>Plan to use coping techniques. Don’t offer medications.</td>
<td>Understands continuous monitoring and other interventions may be required. No prostaglandins. Ideally, spontaneous pushing for VBAC. Family-centered cesarean if needed.</td>
<td>Skin-to-skin; delay procedures, do in arms, no supplements.</td>
<td>Prior cesarean. Prior VBAC. Planning VBAC.</td>
</tr>
</tbody>
</table>

Cesarean birth plan

<table>
<thead>
<tr>
<th>Format/characteristics</th>
<th>Pain coping</th>
<th>Preferences for labor and birth</th>
<th>Preferences for newborn care and postpartum</th>
<th>Special issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short letter. Single mom by choice. Sister, male friend who is nurse.</td>
<td>Will have pain medications.</td>
<td>Planned cesarean for breech baby. Requests (and defines) family centered cesarean.</td>
<td>Delayed cord clamping, skin-to-skin and breastfeeding in OR. Procedures delayed until baby has nursed.</td>
<td></td>
</tr>
</tbody>
</table>
Birth Plan for Jane Smith

Due Date: April 12
Support People: Joe, my husband; Mary Jones, doula (or her backup, Carla Davis)
Our Baby’s Caregiver: Dr. Jim Adams, Seattle Pediatric Services

Introducing Ourselves: We’ve selected the midwives at Metro Hospital because we’re interested in a safe and natural birth.
We’ve struggled for years with infertility issues and are very excited to, at long last, welcome our first child to our family through the help of in vitro fertilization.

Issues, Fears, Concerns: I’m a private person and am sensitive about my modesty. Please knock before coming into my room, and come in only if it’s essential. I want to be kept covered, including while in the tub.

Preferences for Managing Pain: On the Pain Medications Preference Scale, we’re at -7, which means we prefer a natural birth to avoid side effects of medications to me, my labor, or my baby. I’ll be disappointed if I use pain medication. Please don’t suggest it. If I get discouraged, suggest comfort measures and encourage me. My code word is pumpernickel. If I say that word (and only if I say it), stop encouraging me to go without pain medication, and help me get an epidural or other effective pain medication.

Preferences for Normal Labor and Birth:
First stage of labor
• Prefer to avoid routine interventions and wish to discuss any being considered.
• Desire freedom of movement.
• Prefer intermittent monitoring of my baby.
• Plan to use breathing, shower, bath, and other comfort measures.
• Want to drink clear juices, Popsicles, and eat light snacks.
Second stage of labor
• Use upright positions or positions suggested by my midwife.
• No episiotomy—please take steps to avoid tearing (warm compresses, controlled pushing, and support of my perineum).
• Let my baby’s cord stop pulsating before being cut. (Joe to cut the cord.)
• After my baby’s birth, immediate skin-to-skin contact and breastfeeding.
Third stage of labor and the first hours after the birth
• Delay all routine procedures until an hour after the birth or the first feeding.
• Decline hepatitis B shot; decline circumcision.
• Keep my baby in my room at all times unless otherwise requested or required.
• Breastfeeding only; no supplements unless needed.

Preferences for Unexpected Labor Events:
Prolonged labor and induction
• If induction is necessary, I’ll try self-help measures and acupuncture first.
• If pain is too intense, I desire input from staff for relaxation, pushing techniques, and other ideas to help me avoid taking medication. Please explain the reasons for any suggested procedure.
Cesarean surgery
• Prefer regional anesthesia
• Please explain everything during surgery.
• Joe and Mary (doula) to be present.
• Prefer to have the screen lowered at the time of the birth.
• Prefer for immediate contact between my baby and Joe.
• If my baby must go to nursery, Joe goes with her; Mary stays with me.
Birth Plan for Jason and Xiaoling

We are committed to a natural, unmedicated labor and birth. However, we realize things don’t always go as we might hope, so most of the following plan assumes everything is going well. We’ll accept alternate interventions if the midwives or hospital medical staff, in conjunction with us, the parents, deem them to be medically necessary to preserve the safety of mother and/or baby. Our core goal is a healthy and happy mommy and baby!

Our basic plan is based on the Lamaze Six Healthy Birth Practices:

- Let Labor Begin on Its Own
- Walk, Move Around, and Change Positions Throughout Labor = I want to be able to move as feels best.
- Have Continuous Support = Jason will be the primary support. Our doula, Jill, has great experience and is a solid, soothing presence. Her suggestions, advice, and assistance will be of great help. I would like privacy and a minimum of interruptions.
- Coping Tools = I expect I will make noise during labor. Music is very important and a great tool for my relaxation and focus. Several mood- and tempo-based playlists have been created and loaded into Jason’s iPhone.
- Avoid Interventions That Are Not Medically Necessary = Unless prohibited by strong medical concerns, I want:
  - small amounts of food and drink to keep my strength up and to prevent upset stomach
  - a minimum of vaginal exams (female practitioners strongly preferred)
  - a minimum of monitoring equipment
  - please do not offer pain medication
- Avoid Giving Birth on Your Back, and Follow Your Body’s Urges to Push = I may want to give birth in the water, as long as the midwives deem it to be safe. (We specifically chose this hospital, as it is the only one in the area where water birth is allowed.) Jason would like to catch the baby, if possible.
- Keep Mother and Baby Together = Baby skin-to-skin on mommy’s chest right after birth, straight to breastfeeding. Immediate baby care, as per midwives’ suggestions, to include vitamin K shot and eye care after the first breastfeeding

Other notes:

- Our parents live nearby and may come to the hospital during labor. If things are going well, Xiaoling may invite them into the birthing room. If she gets overwhelmed, we ask that they respect her wishes to swiftly return to the waiting room. After the baby is born, we will invite them to come in and meet him, but only after completing his first breastfeeding.
- I tend to go vaso-vagal at blood draws, so, please keep needles to a minimum and help me to lay down with feet up for blood draws.
Birth Plan for Melissa and John

Our Hopes for our Baby’s Birth

Natural - Relaxed - No Drugs - No Rush

Hello! Thank you for taking the time to read a few of our hopes and beliefs around the birth of our first baby. We trust that your top priority is similar to ours: a healthy baby and mama, and a safe and satisfying birth. Melissa comes to birth with great confidence and enthusiasm for the power of her body and of her baby to make this happen, and John supports her goals of a vaginal birth with minimal interventions. We thank you for supporting us in this process!

Our Doula: Carrie Sullivan

Throughout Labor/Delivery: Overall, we would like to have as little chaos and as few clinical/hospital staff interruptions as possible, keeping the space as calm for Melissa as she needs it to be. Melissa would prefer to wear her own clothes, control brightness/temp of room, and have her own music playing. We will be using a variety of our own relaxation and coping techniques, which will include being able to drink/snack, use the bathroom, walk, change positions, and use the shower/tub.

Melissa would like to minimize vaginal exams (performed by one person per shift for consistency) and would prefer intermittent monitoring with a Doppler. Please do not offer her pain medication—she will ask for it if/when she wants it. If we do request an epidural, please use low-dose CSE.

When Baby Arrives: We would like to help our baby have the gentlest possible transition into this world. We do not yet know the gender of our baby and would like John to announce the gender at birth. We’d like the lights to be as dim as possible and for baby to come to mom and dad right away. Breastfeeding immediately and continuously is a priority for us.

Baby should be placed directly on mom’s belly/chest. Please delay cord clamping until it stops pulsating, and James would like to be asked if he wants to cut the cord. We’d prefer to avoid suctioning baby, decline administering eye prophylactics, and would like to delay any nonurgent care procedures that take baby from mom.

In Case of Surgery/Emergency: In case of cesarean section, we strongly request that both John and our doula be permitted to stay by Melissa and the baby’s side. If there is an emergency that requires separation from baby, we strongly request that John and Melissa’s mom, Ann, go with baby and our doula, Carrie, remain with Melissa.

Thank you for keeping us safe and healthy . . . and being a part of our birth team!
Felicia’s Preferences for Labor and Birth

Thanks for your support with the birth of Franklin James Johnson Jr.

His daddy is stationed in the Middle East right now and isn’t able to be home, so my sister will be supporting me.

The preferences I list here are what I think I will want and not want if labor is going well.

If problems come up, or if I choose pain meds, I have in my hospital bag my Plan B, C, D...checklists and notes about how I would want to handle each situation.

**What I Think I’ll Want:**
- To start labor on my own. To stay home as long as possible
- To move, sway, dance, use birth ball, take a shower or bath
- Heating pads (no ice!)
- To eat and drink as desired
- I like massage on my body: back, hands, feet, etc.
- Being able to choose my position for pushing, being coached on how to push well
- After birth, baby in my arms—as soon as possible, Skype with Daddy so he can see his baby boy!
- Lots of snuggling, and nursing
- Please teach me how to swaddle and bathe

**What I Don’t Want:**
- Induction, unless medically required
- To feel trapped, thus I prefer to avoid IV, continuous monitoring, and other limits on movement
- Please don’t touch my hair or my face
- A pushing stage that goes on and on, please give me tips or interventions to speed it up if it goes on for more than 90 minutes (sister pushed for 4 hours with her first)
- Overnight, I may ask nurses to take the baby so I can rest, since my sister has to go home to her family, and when I go home I’m on my own
Postpartum Resource List

Make your list of helpful people and phone numbers before your baby is born.

<table>
<thead>
<tr>
<th>Resource/service</th>
<th>Name</th>
<th>Telephone, e-mail address, or website</th>
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<tbody>
<tr>
<td><strong>Start Using before the Birth:</strong></td>
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<tr>
<td>Caregiver</td>
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<td>Birth doula</td>
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<td>Childbirth educator</td>
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<td>Hospital maternity unit</td>
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<td>Health care information line</td>
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<td>Medical insurance provider</td>
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<td><strong>Start Using after the Birth:</strong></td>
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<td>Baby’s caregiver</td>
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<td>Breastfeeding counselor</td>
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<td>Postpartum doula/helper</td>
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<td>Breast pump rental service</td>
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<td>Diaper service</td>
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<tr>
<td>Friend or family helpers</td>
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<tr>
<td>Child care, babysitters</td>
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<td>Support groups</td>
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<td>Emergency Services</td>
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<td>911</td>
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<td>Police, fire, medical (nonemergency)</td>
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<tr>
<td>Crisis line</td>
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Chapter 8: Planning for Birth and Post Partum

Packing Your Bag

For more information, see Pregnancy, Childbirth, and the Newborn, page 155 or The Simple Guide to Having a Baby, pages 70–71.

If you’re birthing at a hospital or birth center, pack one small bag for labor, bringing only things which you find important for your and your support person(s)’ comfort. (The items below are only suggestions—feel free to leave out some items.) Pack a separate bag for after the birth.

For use during labor:
• your book, printouts from this website, and a pen for writing down important memories
• comfort items for labor, such as massage oil, massage tools (tennis balls, soft drink cans, and rolling pins are great for back massage), hot water bottle or heating pad, or birth ball if the birthplace doesn’t have one
• two nightgowns or long T-shirts (if you don’t want to wear a hospital gown)
• warm socks
• swimsuit for partner (so he or she can join you in the shower or bath)
• hairband, headband, or barrettes (to keep your hair off your face)
• toothbrushes (for each of you), toothpaste, and lip balm (breathing techniques may dry lips)
• supplies for contact lenses and/or glasses, if needed
• your favorite juice, tea, or frozen fruit juice bars
• snacks for you and labor support partner(s)
• personal comfort items (your own pillow, blanket, photos, stuffed animals, and so on)
• phone numbers of people to call after the birth
• camera or video camera
• music (iPod or MP3 player, CDs of relaxing music and music that helps you get up and move, and headphones or speakers)

For postpartum stay and bringing baby home:
• nightgown or pajamas that you can nurse in (you can also use a hospital gown)
• robe and slippers (again, you can use the hospital’s)
• clothes for partner if he or she will stay overnight with you
• brush or comb and whatever toiletries are important to you
• nursing bra
• clothes for the ride home (usually comfortable maternity clothes)

For your baby:
• cloth diapers and waterproof diaper cover or a few disposable diapers
• undershirt or “onesie” (one-piece bodysuit)
• nightgown or a simple one-piece footed outfit (don’t worry about fancy clothes yet)
• receiving blanket
• warm blanket and cap (if needed for the ride home)
• car seat (properly installed in your vehicle before labor)
External Links and Resources

Prelabor Video
(Note: These are previews for fabulous videos for childbirth educators to purchase.)

3-D Animation of Vaginal Birth
http://www.youtube.com/watch?v=Xath6kOf0NE
## Signs Associated with the Beginning of Labor

The following symptoms are categorized as possible signs, prelabor signs, and positive signs. These categories will help you recognize when you are truly in labor. Please note that you might not experience all of these signs and that they do not necessarily occur in a particular order. If you’re unsure, call your caregiver or hospital. The positive signs are the reliable ones.

<table>
<thead>
<tr>
<th>Category</th>
<th>Signs</th>
<th>Comments (also see pages 162–167)</th>
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<tbody>
<tr>
<td>Possible signs</td>
<td>Backache. Vague, low, nagging; may come and go. Temporarily eased by position changes.</td>
<td>May be caused by early contractions.</td>
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<td>Cramps in lower abdomen. Like menstrual cramps; may be accompanied by discomfort in thighs.</td>
<td>May be intermittent or continuous.</td>
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<td>Bowel movements. Several in several hours; may be accompanied by intestinal cramps or digestive upset.</td>
<td>May be related to increase in circulating prostaglandins, which ripen your cervix while causing these other symptoms.</td>
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<td></td>
<td>Nesting urge. An unusual burst of energy resulting in great activity and a desire to complete preparations for your baby.</td>
<td>Think of this extra energy as a sign that you will have strength and stamina to handle labor; try to avoid exhausting activity.</td>
</tr>
<tr>
<td>Prelabor signs</td>
<td>Nonprogressing contractions. Tend to remain about the same length, strength, and frequency. These prelabor contractions may last for a short time or continue for hours before they go away or begin to progress (see below).</td>
<td>Accomplish softening and thinning (effacement) of cervix, although most dilation does not occur until you have positive signs.</td>
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<td>Bloody show. Passage of slippery blood-tinged mucus from vagina.</td>
<td>Associated with thinning (effacement) and some opening (dilation) of cervix; may occur days before other signs or not until progressing labor contractions have begun; continues throughout labor.</td>
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<td>Leaking or trickle of fluid from vagina. Caused by a small rupture of membranes (ROM).</td>
<td>Sometimes stops when membranes seem to seal or continues on and off for hours or days. (See precautions on page 166.)</td>
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<td>Leaking fluid is sometimes not amniotic fluid; it may be liquid mucus or urine. Caregivers test fluid to find out. Call your caregiver if you are leaking fluid. (See page 166 for more on testing leaking fluid.)</td>
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<tr>
<td>Positive signs of labor</td>
<td>Progressing contractions. Become longer, stronger, and/or closer together with time; usually become painful or very strong and are felt in the abdomen, back, or both.</td>
<td>These dilate the cervix and are not reduced by a change in mother’s activity. Use the Early Labor Record (page 167) or a contraction tracking app to determine the contraction pattern.</td>
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<tr>
<td></td>
<td>Gush of amniotic fluid from vagina. Caused by a large ROM.</td>
<td>Often accompanied or soon followed by progressing contractions. (See precautions on page 166.)</td>
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<td></td>
<td>Dilation of cervix. Opening of the cervix in response to the progressing contractions.</td>
<td>This sign is not recognized by the mother. The caregiver confirms it by vaginal exam.</td>
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# Early Labor Record

(see PCN page 167)

<table>
<thead>
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<th>Date:</th>
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<thead>
<tr>
<th>Starting time (How many seconds)</th>
<th>Duration</th>
<th>Interval or frequency (Minutes since beginning of last contraction)</th>
<th>Comments</th>
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<tr>
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*Note: You may also choose to use an app, such as http://www.contractionmaster.com.*
CHAPTER 10: WHAT CHILDBIRTH IS REALLY LIKE

External Links and Resources

The Birth Experience from Diverse Perspectives

- *Birth Day: A Pediatrician Explores the Science, the History, and the Wonder of Childbirth* by Mark Sloan (2009)
- See also the birth stories recommended in You’re Having a Baby chapter and overall best books recommended in Common Changes and Concerns chapter.

Positive Videos about Birth

*Note:* Most of these videos were found via a search on YouTube—we do not have connections to the women shown in the videos. Most videos contain nudity and many contain full views of vaginal births.

- Lamaze International’s video about classes and a birth: http://www.youtube.com/watch?v=KMG7zm_f-00
- BabyCenter video: http://www.youtube.com/watch?v=fbsIK2meWLQ
- Discovery Health’s “Deliver Me” Natural Birth episode: http://www.youtube.com/watch?v=S0qc7rRAId0&feature=related
- Birth in a hospital: http://www.youtube.com/watch?v=8ecv608qKrA
- Hypnobirth/water birth: http://www.youtube.com/watch?v=rSsaJ0Zno9s and http://www.youtube.com/watch?v=eaZ-g1mG5Gg
- Birth with epidural: https://www.youtube.com/watch?v=pLA7-cD4JJI
## Chapter 10: What Childbirth Is Really Like

### Quick Review of Normal Labor without Pain Medications

(For those planning an epidural, use this table until the epidural is given, and see chapter 13 to understand how medications will affect the remainder of your labor.)

<table>
<thead>
<tr>
<th>Phase and what happens</th>
<th>How you might feel</th>
<th>What to do</th>
<th>How your partner or doula can help</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prelabor</strong></td>
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<tr>
<td>Cervix ripens, effaces, and moves forward.</td>
<td>May be unable to sleep through contractions.</td>
<td>Engage in distracting activities and projects (go outdoors, visit with friends, prepare food, wash baby clothes, pack bag).</td>
<td>Review route to hospital or birth center.</td>
</tr>
<tr>
<td>Nonprogressing contractions; possible &quot;restless&quot; backache, cramping, soft bowel movements, nesting urge.</td>
<td>Tired, discouraged, anxious.</td>
<td>Restful activities (alternate with distraction): bath, music, lie down, massage, dim lights, and so on.</td>
<td>Encourage eating and drinking.</td>
</tr>
<tr>
<td>May last for days.</td>
<td>May overestimate progress, start rituals, go to hospital too early.</td>
<td>Labor-stimulating measures (only if you feel pressured to get into labor)</td>
<td>Pack the car; be sure there’s enough gas.</td>
</tr>
<tr>
<td></td>
<td>May “overreact” (that is, focus more than necessary on the contractions).</td>
<td>Eat hungry (mostly carbs).</td>
<td>Time contractions (5 or 6 at a time) every few hours or when labor seems to have changed.</td>
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<td></td>
<td></td>
<td>Drink to quench thirst.</td>
<td>Don’t leave her alone. Help make this time a pleasant adventure.</td>
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<td>Enhance oxytocin and decrease adrenaline by creating a soothing, safe, private, and loving atmosphere</td>
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<td>Call doula to alert her to be ready to come when you need her.</td>
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<tr>
<td><strong>First Stage of Labor</strong></td>
<td>Same as for Prelabor, plus:</td>
<td>Begin using planned ritual (relax, breathe, and focus through every contraction) when the intensity of contractions stop you from doing distracting activities.</td>
<td>Continue timing contractions.</td>
</tr>
<tr>
<td>Early Labor</td>
<td>Mixed feelings—excited, confident, and optimistic or anxious and distressed—often all at the same time.</td>
<td>Use slow breathing, releasing tension on every out breath.</td>
<td>Call caregiver or hospital when contractions reach designated pattern (5-1-1 or 4-1-1). Give information from early labor record.</td>
</tr>
<tr>
<td>Lasts from the onset of labor until about 4 cm.</td>
<td>As contractions intensify, distraction is no longer possible.</td>
<td>Ask doula to come if you and partner need help.</td>
<td>Once mother begins planned ritual, focus on her during contractions—give her your undivided attention.</td>
</tr>
<tr>
<td>Progressing contractions, usually mild to begin with, then build to longer, stronger, closer together.</td>
<td></td>
<td>Contact hospital or midwife when your contractions have reached the 5-1-1 or 4-1-1 pattern, as you were instructed.</td>
<td>Give her constructive feedback, not false praise.</td>
</tr>
<tr>
<td>Cervix continues ripening, effacing, as it begins to dilate.</td>
<td>Bloody show.</td>
<td>Use back pain comfort measures, if needed.</td>
<td>Help her release tension in a selected part of her body on each out-breath.</td>
</tr>
<tr>
<td></td>
<td>Rupture of membranes may occur, but usually happens later in labor.</td>
<td></td>
<td>Remind her of positions and comfort measures—drinking, eating, using toilet.</td>
</tr>
<tr>
<td></td>
<td>Possible back pain with contractions.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase and what happens</td>
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<tr>
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</tr>
<tr>
<td>Getting into Active Labor (4 to 6 cm)</td>
<td>May struggle to remain “in control” and worry that labor is too hard.</td>
<td>You go to hospital or midwife joins you at home.</td>
<td>Drive carefully!</td>
</tr>
<tr>
<td></td>
<td>May become serious, withdrawn, focused on labor.</td>
<td>Try to release your need to be in control and let the process happen as you discover what helps you cope (your spontaneous ritual).</td>
<td>Use massage (hand or foot), double hip squeeze, counterpressure, slow dancing.</td>
</tr>
<tr>
<td></td>
<td>This is your “moment of truth,” when you recognize labor is not within your control. You may feel trapped in the labor. You may weep from discouragement.</td>
<td>Maintain a rhythm with your breathing and movements, letting your partner or doula help as necessary.</td>
<td>Use “labor voice,” murmur soothing, encouraging words rhythmically.</td>
</tr>
<tr>
<td></td>
<td>You’re not distractive; you need your partner’s or doula’s undivided attention during contractions.</td>
<td>Try to continue with slow breathing as it’s restful.</td>
<td>Guide her with visualizations, imagery, rhythm talk, counting her breaths—whatever she responds to well.</td>
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<tr>
<td></td>
<td>Extraneous conversation is annoying.</td>
<td>Remember that progress usually speeds up around 6 cm.</td>
<td>Remember: “Rhythm is everything,” Help her keep a rhythm in her breathing, moaning, swaying, tapping, and so on.</td>
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<tr>
<td></td>
<td>You may want pain medications.</td>
<td>If you had planned an early epidural, you can probably get it during this phase.</td>
<td>Don’t ask a question during contractions, and use only simple yes/no questions between them.</td>
</tr>
<tr>
<td></td>
<td>If you feel safe and uninhibited and have good support, you’ll release control and accept the labor.</td>
<td></td>
<td>You may be a part of her ritual—stroking, holding, talking to her through contractions—or she may close her eyes and only need you close by.</td>
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<td></td>
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<td></td>
<td>Help her follow her preferences on using pain medications (refer to Pain Medication Preference Scale).</td>
</tr>
<tr>
<td>Active Labor (6 to 8 cm)</td>
<td>You’re calmer than earlier, now that you have discovered what to do to get through the contractions.</td>
<td>Same as for Early to Active Labor, plus:</td>
<td>Same as for Getting into Active Labor, plus:</td>
</tr>
<tr>
<td></td>
<td>You may be in a reverie now—unaware of much other than your labor.</td>
<td>Use the bath for relaxation and pain relief.</td>
<td>Don’t leave.</td>
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<tr>
<td></td>
<td>“Lost” in intensity of labor, may feel scared, angry, or frustrated.</td>
<td>Continue to drink by taking frequent sips.</td>
<td>Offer drinks.</td>
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<tr>
<td></td>
<td>May feel need for more help from others.</td>
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<td></td>
<td>May vocalize, tremble, and feel at your limit.</td>
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<td></td>
<td>May lose your rhythm and ritual.</td>
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<td></td>
<td>May cry out, tense, weep, protest.</td>
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<td></td>
<td>May feel hot, then cold.</td>
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<td></td>
<td>May feel nauseated.</td>
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<tr>
<td>Transition (8 to 10 cm)</td>
<td>May struggle to remain “in control” and worry that labor is too hard.</td>
<td>Keep a rhythm. That’s enough to do for now.</td>
<td>Maintain eye contact and a confident, calm, optimistic manner.</td>
</tr>
<tr>
<td></td>
<td>May become serious, withdrawn, focused on labor.</td>
<td>Follow partner’s or doula’s lead with Take Charge Routine.</td>
<td>Use the Take Charge Routine if she’s panicky or if her eyes are clenched shut, her face is anguished, or she can’t maintain a rhythm.</td>
</tr>
<tr>
<td></td>
<td>This is your “moment of truth,” when you recognize labor is not within your control. You may feel trapped in the labor. You may weep from discouragement.</td>
<td>Remember, you’re almost ready to push.</td>
<td>Remind her about the good news of transition—she’s almost there.</td>
</tr>
<tr>
<td></td>
<td>You’re not distractive; you need your partner’s or doula’s undivided attention during contractions.</td>
<td>Hang in there!</td>
<td>Hold her tight; don’t rub her.</td>
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<tr>
<td></td>
<td>Extraneous conversation is annoying.</td>
<td>If your labor is not moving too fast and you want an epidural, you can get it at this time.</td>
<td>Don’t give up on her.</td>
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<td></td>
<td>You may want pain medications.</td>
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<td>Let her weep; acknowledge her pain.</td>
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<td></td>
<td>If you feel safe and uninhibited and have good support, you’ll release control and accept the labor.</td>
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<tr>
<td>Second Stage of Labor</td>
<td>You feel much better than in transition—a welcome break.</td>
<td>Rest or doze, if desired.</td>
<td>You may be pleasantly surprised by her excitement and change in mood.</td>
</tr>
<tr>
<td>The Resting Phase</td>
<td>Relief, optimism, confidence, no pain.</td>
<td>Remind nurse of your wishes if you want to push spontaneously with your urge to push.</td>
<td>Use the break to refresh yourself with a beverage, by sitting down, or by taking a bathroom break—but don’t leave.</td>
</tr>
<tr>
<td>(10 cm to beginning of pushing)</td>
<td>Renewed energy, enthusiasm, hope. This comes even if there is no pause in contractions.</td>
<td>Review positions, how to push, and how to relax your pelvic floor muscles.</td>
<td>Help her change positions, if necessary or desired.</td>
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<td></td>
<td>Clearheaded, talkative, more aware of surroundings.</td>
<td>If no contractions for more than 20 minutes, change to upright positions to encourage an urge to push.</td>
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<tr>
<td>Phase and what happens</td>
<td>How you might feel</td>
<td>What to do</td>
<td>How your partner or doula can help</td>
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<tr>
<td><strong>The Descent Phase</strong></td>
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<td>(Your baby rotates and descends.)</td>
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<tr>
<td>Oxytocin surges cause strong urge to push.</td>
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<tr>
<td>Contraction surges are not as close to-</td>
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<tr>
<td>gether as they were in transition and</td>
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<tr>
<td>may be shorter.</td>
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<td>May last for a few minutes or up to an</td>
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<td>hour or two.</td>
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<tr>
<td>Baby’s head can’t be seen at first, then</td>
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<tr>
<td>appears at vaginal opening when pushing,</td>
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<td>and eases back in or retreats between</td>
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<td>bearing-down efforts.</td>
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<tr>
<td>Caregiver supports perineum, applies warm</td>
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<tr>
<td>compresses, and may direct your pushing.</td>
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<tr>
<td>If “directed pushing” is used, nurse</td>
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<tr>
<td>tells you when to breathe and when and</td>
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<tr>
<td>how long to hold your breath and strain.</td>
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<tr>
<td>She may tell you to push with all your</td>
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<td>strength for 10 seconds several times</td>
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<td>in each contraction.</td>
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<tr>
<td><strong>Crowning and Birth</strong></td>
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<td>Baby’s head no longer rocks back and</td>
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<tr>
<td>forth, remains visible between</td>
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<tr>
<td>contractions, and emerges.</td>
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<tr>
<td>Perineum and area around your urethra</td>
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<tr>
<td>are most vulnerable to tearing.</td>
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<tr>
<td>Warm compresses help protect your</td>
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<tr>
<td>perineum.</td>
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<tr>
<td>Caregiver either supports your perineum</td>
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<tr>
<td>or (rarely) does an episiotomy.</td>
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<tr>
<td><strong>Birth of Placenta</strong></td>
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<td>Lasts up to 30 minutes.</td>
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<tr>
<td>Umbilical cord is clamped and cut.</td>
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<td>Baby’s condition is evaluated (Apgar</td>
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<tr>
<td>score).</td>
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<tr>
<td>If baby is fine and hospital policy</td>
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<td>allows, baby is placed on your abdomen,</td>
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<tr>
<td>skin-to-skin.</td>
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<tr>
<td>Uterus contracts and shrinks, placenta</td>
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<tr>
<td>separates from uterine wall. You expel</td>
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<tr>
<td>placenta with a few pushes.</td>
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<tr>
<td>You may tremble uncontrollably for a</td>
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<tr>
<td>while.</td>
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<tr>
<td>Caregiver checks your uterus to be sure</td>
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<tr>
<td>it’s contracting and checks birth canal</td>
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<tr>
<td>for a tear that needs stitches.</td>
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</tbody>
</table>

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**How you might feel**

- You have an urge to push—an involuntary need to strain or grunt. Usually mild at first, it becomes compelling and irresistible.
- Your body reflexively pushes with contraction surges.
- May feel inadequate in pushing until you get a feel for what you’re doing.
- May find pressure in vagina alarming and fear it will get worse, making you hold back from pushing.
- Many find this phase most rewarding: others find it painful and tedious.
- Pain may subside as baby’s head repositions.
- You’re very close to birth! Excited.
- "Rim of fire"—vaginal stretching, burning.
- Mixed feelings: You may be tempted to push hard to get it over with, despite the burning, or you might be fearful at the burning feeling and reluctant to push.
- Relief that labor is over. Engrossment with baby.
- Concern over trembling.
- Alarm if contractions are painful at this time.
- Surprise at discomfort when caregiver examines your birth canal or massages your fundus after the placenta is born.
- Lift your gown so your baby can be skin-to-skin with you.
- Don’t rush breastfeeding. Your baby needs time to acclimate to the outside world before being ready to feed. Let her show you she is ready to start sucking.
- Know that trembling is a normal reaction to birth and that it helps to use a warm blanket while you wait for it to pass.
- Use light breathing and focus on your partner or doula during uterine massage and inspection or stitching of your pelvic floor.
- Be patient with all the procedures. You’ll have time with your baby soon.
- Encourage and praise her efforts. (Don’t yell, "Push!")
- Apply cool, moist cloths to her forehead, cheeks, neck, and chest.
- Report on her progress (when you can see the baby’s head).
- Remind her to release tension in her perineum.
- Remind caregiver of her feelings about episiotomy, if appropriate.
- Support her position, help her change positions.
- If pushing is ineffective, remind her to open her eyes and look toward where baby is coming out (may use a mirror).
- Support her as she changes positions.
- Don’t rush her; help her keep from pushing as needed.
- Say little or nothing when caregiver is directing her to slow birth of head.
- Rejoice in the birth!
## Obstetrical Interventions during Childbirth

These interventions are used during labor and birth to screen for, diagnose, prevent, or treat problems for mother or baby. Some interventions are more routinely used than others. Use the information below, along with the Key Questions for Making an Informed Decision on page 10 of *Pregnancy, Childbirth, and the Newborn*, to aid your discussion with your caregiver when planning the birth, or when a problem arises.

<table>
<thead>
<tr>
<th>Intervention/how it is done</th>
<th>Benefits and/or purposes</th>
<th>Risks and/or disadvantages</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intravenous (IV) fluids</td>
<td>Maintains hydration (adequate fluid intake) when you’re not allowed to drink liquids or are unable to keep them down. Allows immediate access to a vein if medication or a blood transfusion is necessary. Needed for administration of Pitocin (to augment or induce labor), some pain medications, antibiotics, and other medications. IV fluids given before regional analgesia to counteract potential side effects. Provides some calories for energy, if fluid contains dextrose (sugar).</td>
<td>Restricts easy movement during labor; walking is more difficult because you need to push IV pole along with you. Fluids may leak into tissues near puncture site, causing tenderness and swelling. If excessive fluid is given, fluid overload may disturb blood chemistry and cause excessive swelling in early postpartum. If you receive large amounts of fluid containing dextrose (sugar), your baby may become hypoglycemic at birth and require special care.</td>
<td>Unnecessary if you’re drinking sufficient fluids, receiving no medication, and labor is progressing normally. Some caregivers and institutions routinely allow only IV fluids (nothing by mouth) from admission until after delivery. Such policies are not supported by scientific evidence. If liquids are prohibited and feelings of dry mouth occur, ice chips can help. With a high volume of IV fluids, the baby may be born with excessive tissue fluid. These babies are heavier at birth and then may lose a higher percentage of their birth weight than other babies. If infant weight loss in the first few days exceeds 10 percent, the mother’s IV fluid intake in labor should be considered.</td>
</tr>
<tr>
<td>Heparin lock or saline flush</td>
<td>This maintains an open line in case medications are needed quickly later in labor. Is preferable to many women who don’t want IV fluids. Less restrictive than an IV line and fluids.</td>
<td>Slightly restrictive of your movements. You may be disturbed at the sight of the apparatus in your arm.</td>
<td>Helpful for a woman who has a high chance of needing medications quickly.</td>
</tr>
<tr>
<td>Artificial rupture of membranes (AROM)</td>
<td>May be used with the intention to induce (start) or augment (speed up) labor.</td>
<td>The amniotic membrane helps to protect the baby from infection. When it is ruptured, this protection is lost. Your caregiver may then set a time limit on labor to reduce the chance that baby will be exposed to infection. Amniotic fluid cushions the baby during contractions and also makes it easier for him to change positions. These advantages are lost after AROM.</td>
<td>Research does not support the idea that amniotomy will speed labor, and it may increase cesarean section. It is not recommended as part of routine care.</td>
</tr>
</tbody>
</table>

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1. Some interventions are more routinely used than others. Use the information below, along with the Key Questions for Making an Informed Decision on page 10 of *Pregnancy, Childbirth, and the Newborn*, to aid your discussion with your caregiver when planning the birth, or when a problem arises.
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</thead>
<tbody>
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<td><strong>Fetal heart rate monitoring</strong></td>
<td>Enables assessment of FHR. Noninvasive. Allows you to be mobile and active. Encourages frequent attention from your caregiver or nurse. Helps determine fetal position when determining location of heart tones.</td>
<td>Heart tones may be difficult to hear. May require you to lie supine (flat) in bed in order to hear heart tones. Does not provide continuous printed or electronic record of FHR and contraction pattern. Pressure of stethoscope against your abdomen may be uncomfortable. Assessing relationship between FHR and contraction is more difficult than with EFM (see below).</td>
<td>Rarely used. Because FHR is more difficult to hear with this device than with ultrasonic devices, the caregiver must place stethoscope very close to the baby’s heart. This has the added advantage of assisting the caregiver in determining the baby’s position (OP or OA).</td>
</tr>
<tr>
<td>A. Listening (auscultation) with fetal stethoscope</td>
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<tr>
<td>Caregiver (usually a nurse) uses a special stethoscope to listen to the baby’s heartbeat through your abdominal wall before, during, and after a contraction. The fetal heart rate (FHR) is usually counted every 30 minutes during first stage of labor and more frequently in second stage.</td>
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<tr>
<td>B. Listening (auscultation) with a hand-held ultrasonic fetal stethoscope (often called a Doppler). This device is placed on your abdomen and audibly and/or visually transmits the fetal heart tones. The caregiver counts as described in part A. above.</td>
<td>Enables assessment of FHR. Is most comfortable method of FHR monitoring. Encourages frequent attention from your caregiver or nurse. Allows you to be mobile and active. Is more sensitive in picking up fetal heart tones than fetal stethoscope. Volume can be increased so others in room may hear the heartbeat.</td>
<td>Does not provide a continuous record of FHR and contraction pattern, and requires staff to record FHR manually. Assessing relationship between FHR and contraction is more difficult than with EFM (see below).</td>
<td>Waterproof Doppler devices are available if you plan to labor in water.</td>
</tr>
<tr>
<td>C. External electronic fetal monitor (EFM) An ultrasound device, held in place by a belt around your abdomen, sends and receives sound waves to detect FHR. Another belt holds a pressure-sensitive device in place over your fundus to detect uterine contractions. These devices are attached by wires to a monitor that displays and permanently records the FHR and uterine contractions. They are also connected to screens in the nurses’ station. External EFM can be intermittent (10–20 minutes every hour) or continuous.</td>
<td>Enables assessment of how contractions affect FHR. Enables assessment of fetal well-being when complications arise or when Pitocin or other medical interventions are used. Provides information needed to determine whether more sophisticated monitoring is warranted. Provides information on frequency of uterine contractions. Provides a continuous electronic and/or printed record of FHR and contraction pattern. Does not require artificial rupture of membranes.</td>
<td>Information from external EFM is not sufficient by itself to make many clinical decisions, which require further assessments. Needs frequent readjustment when you or your baby moves. May be uncomfortable and restrict movement (immobility may slow labor). Decreases your ability to use abdominal or back massage. Does not provide accurate measurement of strength of contractions. May tempt your birth partner to watch monitor instead of you. May lead to less personal contact between you and nurse. Interpretation of FHR patterns varies among practitioners; fetal distress is sometimes diagnosed when not actually present. Leads to higher rates of instrumental and cesarean deliveries than when intermittent auscultation is used.</td>
<td>Scientific trials comparing intermittent auscultation with continuous EFM have found them comparable in terms of neonatal outcomes. Though auscultation is a safe method, most nurses and caregivers prefer to read EFM tracings, as they have not been trained to use a fetal stethoscope or Doppler in labor. EFM can’t distinguish your heart rate from fetal heart tones; what looks like a sudden drop in FHR may actually be due to the fetus moving and your heart rate being picked up.</td>
</tr>
<tr>
<td>D. Telemetry unit for external EFM. The recording devices contain tiny wireless remote transmitters, along with the FHR and contraction detectors. The transmitter sends data to monitors located in your labor room and in the nurses’ station.</td>
<td>Same as with external electronic fetal monitoring described above, but you are not connected by wires to a machine. Allows you more movement, including walking around maternity area, using bathtubs (without jets), and showers.</td>
<td>Same as with external electronic fetal monitoring, except that it allows mobility.</td>
<td>Most hospitals have only a few telemetry units. If your hospital usually uses continuous EFM and you want to be able to walk, request a telemetry unit in your birth plan, on the phone when you call before going to the hospital, or as soon as you arrive.</td>
</tr>
<tr>
<td>Intervention/how it is done</td>
<td>Benefits and/or purposes</td>
<td>Risks and/or disadvantages</td>
<td>Comments</td>
</tr>
<tr>
<td>----------------------------</td>
<td>--------------------------</td>
<td>---------------------------</td>
<td>----------</td>
</tr>
<tr>
<td><strong>Fetal heart rate monitoring</strong>&lt;br&gt;E. Internal electronic fetal monitor (EFM).&lt;br&gt;FHR is measured by a scalp electrode attached to the skin of the fetal head (or other presenting part). Wires from the electrode transmit your baby’s heart rate to the monitor, which displays and records it. Uterine contractions are measured by placing a fluid-filled intrauterine pressure catheter (IUPC) in your uterus. During contractions, the increase in intrauterine pressure is measured, displayed visually, and recorded on the printout. Telemetry can also be used with internal EFM.</td>
<td>Enables accurate assessment of how contractions affect FHR. Enables assessment of fetal well-being when complications arise during induction or augmentation with Pitocin or when other interventions are used. Provides information on intensity and frequency of uterine contractions. Provides information needed to determine if further medical assistance or testing is warranted. Is more accurate than external monitor. Is less restrictive of your movements in bed than external monitor.</td>
<td>Requires rupture of membranes. Restricts free movement out of bed, including walking (unless telemetry used). May cause infection of uterus and/or infection of baby’s scalp. Interpretation of FHR patterns varies among practitioners; fetal distress is sometimes diagnosed when not actually present. Pressure catheter may need frequent adjustment with your change of position.</td>
<td>Sometimes, a combination of internal and external electronic monitoring is used (for example, the internal fetal scalp electrode and the external uterine pressure device). As with external EFM, studies comparing periodic auscultation and internal EFM found no differences in newborn outcome, except for labors in which Pitocin was used.² The sounds of the internal FHR are more distinct (sounding like “clap, clap, clap”) than those with the external EFM (which has a shushing sound). Because of the additional risks, internal EFM is only used when external EFM is not giving adequate information.</td>
</tr>
<tr>
<td><strong>Fetal scalp stimulation test</strong>&lt;br&gt;Done when EFM indicates possible fetal distress. During a vaginal exam, caregiver presses on or scratches fetal scalp. The response of the fetal heart rate to stimulation is observed. A reactive heart rate (rises 15 beats per minute for 15 seconds) is a reliable sign that the fetus is handling the stress of labor. If the heart rate is not reactive, fetus probably is not compensating well.</td>
<td>Allows accurate assessment of fetal well-being if EFM indicates problems. Sometimes prevents an unnecessary cesarean birth if test indicates fetal well-being. Noninvasive to the fetus. Rapid and reliable test that can be repeated whenever desired. No cost.</td>
<td>Requires a vaginal exam. Can only inform on fetus’s present condition; not how long the fetus will be able to handle the stress.</td>
<td>This simple test helps to distinguish fetal “stress” (in which the fetus is able to handle the temporary shortage of oxygen caused by contractions) from fetal “distress” (in which the fetus no longer has the ability to compensate).</td>
</tr>
<tr>
<td><strong>Fetal oxygen saturation testing</strong>&lt;br&gt;An oxygen sensor is placed next to the fetus’ cheek inside the womb in order to continuously monitor her oxygen status.</td>
<td>Had initially shown promise as a means for assessing fetal well-being. Useful during epidural/spinal analgesia/anesthesia and during a cesarean to ensure that your oxygen levels allow adequate oxygen transfer to the fetus. Noninvasive, easily applied.</td>
<td>Expensive, difficult to administer, ineffective at presenting unnecessary cesareans.</td>
<td>Rarely used.</td>
</tr>
<tr>
<td><strong>Maternal pulse oximetry</strong>&lt;br&gt;A sensor is clipped to your finger or toe to measure oxygen level in your blood. The sensor is attached to a monitor that displays the blood oxygen level.</td>
<td>Enables caregiver to continually assess whether you have adequate oxygen. Useful during epidural/spinal analgesia/anesthesia and during a cesarean to ensure that your oxygen levels allow adequate oxygen transfer to the fetus. Noninvasive, easily applied.</td>
<td>None, except for minor inconvenience of the device squeezing a finger.</td>
<td>If oxygen level is too low, you’re asked to breathe more deeply or given oxygen by mask. Pulse oximetry is also used with newborn babies whose Apgar scores are low or who have breathing problems. The sensor is attached to the baby’s skin, usually on the foot.</td>
</tr>
<tr>
<td><strong>Amnioinfusion</strong>&lt;br&gt;When amniotic fluid volume is low from ruptured membranes or from diminished production of fluid, sterile saline solution may be injected into your uterus via an intrauterine pressure catheter (like the one used with internal EFM).</td>
<td>Reduces fetal distress. Allows labor to continue when a cesarean might otherwise be the only solution. If umbilical cord is being compressed during contractions and causing fetal distress, the added fluid cushions the cord and protects against fetal distress.</td>
<td>Requires that you remain in bed. Requires that your membranes be ruptured. Possible risk of fetal hypothermia (low temperature), or intrauterine infection.</td>
<td>When cord compression occurs or meconium is present, amnioinfusion reduces incidence of FHR decelerations, cesareans for fetal distress, and low Apgar scores. Fluid may be injected repeatedly or continuously. A simple, low-cost, though invasive way to improve newborn outcomes.</td>
</tr>
</tbody>
</table>
Endnotes

4.  See note 3 above.

### Intervention/how it is done

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Benefits and/or purposes</th>
<th>Risks and/or disadvantages</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Episiotomy</td>
<td>Enlarges birth canal. May speed delivery of baby by a few minutes, an advantage with fetal distress. Provides a straight incision, which is easier to repair than some large tears (however, it also increases the chance of a large tear). Provides more space for application of forceps. Reduces compression from vaginal tissues on head of a premature baby.</td>
<td>Causes discomfort in early postpartum period. Sometimes performed routinely when not necessary. May disturb early mother-infant interaction as episiotomy is repaired. Site of incision may become infected or bleed. May cause pain with intercourse for several months after birth. Serious tears of the perineum are more likely with episiotomy than without.</td>
<td>Should be done only when medically indicated; should not be done routinely. Some of the disadvantages of episiotomy also occur with a spontaneous tear. However, when an episiotomy is not done, the likelihood of an intact perineum (no tear) ranges from 25 to 60 percent, depending on the skill of the caregiver. And, even when a spontaneous tear occurs, it’s usually smaller or no larger than the average episiotomy. Healing from a tear is more rapid and postpartum pain is less than with most episiotomies.</td>
</tr>
<tr>
<td>Vacuum extractor</td>
<td>Helps descent of baby’s head. Can sometimes be applied when fetus is at a higher station than is safe for use of forceps. Requires less space in vagina than forceps, so less need for episiotomy and anesthesia.</td>
<td>May cause bruising or swelling of baby’s soft scalp tissues or of your perineum. Not helpful with rotation.</td>
<td>If three attempts with the vacuum extractor fail, a cesarean is done. You may be asked to push as hard as you can while the vacuum is being used to enhance the chances of a vaginal delivery. The US Food and Drug Administration (FDA) has published guidelines for its safe use. The amount of suction is controlled so that the cap releases if the caregiver pulls too hard. This protects the baby’s head from serious injury.</td>
</tr>
<tr>
<td>Forceps</td>
<td>Helps rotate baby’s head from an asynclitic to an anterior position. Helps bring baby down when anesthesia is used or bearing-down efforts are insufficient. May be used to facilitate birth of head with a breech vaginal birth. Speeds delivery if fetus is in trouble.</td>
<td>Usually requires an episiotomy. May bruise soft tissues of baby’s head or face. Usually requires regional or local anesthesia. May bruise or tear vaginal tissues.</td>
<td>The decision between forceps and vacuum extraction is usually made by the doctor and is based on his or her training and experience. Forceps are used much less in North America than the vacuum extractor. Fewer doctors are trained in their use. If forceps attempts are unsuccessful, a cesarean is done to ensure the health of the baby.</td>
</tr>
</tbody>
</table>

---

### Endnotes

4.  See note 3 above.
External Links and Resources

Pain Medication and Pain Coping Tools

- “Labor and Delivery” by the American Society of Anesthesiologists: http://www.asahq.org/Lifeline/Anesthesia%20Topics/Labor%20and%20Delivery.aspx
In the book, we share results from the nationwide Listening to Mothers survey (2006). The chart below summarizes the result from a Seattle-area survey from 2011. A total of 426 people answered the survey question. Their babies were eight to twenty-one months old at the time of the survey. (Note: The respondents were not a representative sample of the full birthing population in King County. Respondents were older, more likely to be married, higher education, more likely to be a first time parent, and more likely to have used a midwife versus an OB than the average parent. They’re all heavier than average users of resources such as classes, doulas, and postpartum support.)

We asked, “How helpful were the following in making you more comfortable and relieving your pain?”

<table>
<thead>
<tr>
<th>Options (from most effective to least effective*)</th>
<th>Number who used</th>
<th>Very helpful</th>
<th>Somewhat helpful</th>
<th>Average rating *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epidural or spinal</td>
<td>51%</td>
<td>87%</td>
<td>7%</td>
<td>3.8</td>
</tr>
<tr>
<td>Breathing techniques</td>
<td>81%</td>
<td>47%</td>
<td>44%</td>
<td>3.4</td>
</tr>
<tr>
<td>Mental strategies (relaxation, etc.)</td>
<td>65%</td>
<td>46%</td>
<td>43%</td>
<td>3.3</td>
</tr>
<tr>
<td>Hands-on techniques (massage, etc.)</td>
<td>68%</td>
<td>44%</td>
<td>44%</td>
<td>3.3</td>
</tr>
<tr>
<td>Immersion in a tub or a pool</td>
<td>63%</td>
<td>53%</td>
<td>30%</td>
<td>3.3</td>
</tr>
<tr>
<td>Position changes and/or movement to relieve discomfort</td>
<td>86%</td>
<td>37%</td>
<td>54%</td>
<td>3.3</td>
</tr>
<tr>
<td>Application of hot or cold objects to your body</td>
<td>42%</td>
<td>26%</td>
<td>57%</td>
<td>3.1</td>
</tr>
<tr>
<td>Shower</td>
<td>28%</td>
<td>35%</td>
<td>45%</td>
<td>3.1</td>
</tr>
<tr>
<td>Changes to environment (e.g. dim lights, music)</td>
<td>40%</td>
<td>23%</td>
<td>54%</td>
<td>2.9</td>
</tr>
<tr>
<td>Use of large “birth balls” for support</td>
<td>55%</td>
<td>26%</td>
<td>49%</td>
<td>2.9</td>
</tr>
<tr>
<td>IV narcotics</td>
<td>17%</td>
<td>31%</td>
<td>36%</td>
<td>2.8</td>
</tr>
<tr>
<td>Nitrous oxide</td>
<td>4%</td>
<td>17%</td>
<td>6%</td>
<td>1.8</td>
</tr>
<tr>
<td>Sterile water injections for lower back pain</td>
<td>6%</td>
<td>16%</td>
<td>0%</td>
<td>1.8</td>
</tr>
</tbody>
</table>

* Average rating: if response was “poor” or “not helpful at all”, it was scored as 1, “fair” or “not very helpful” was scored as 2, “good” or “somewhat helpful” = 3, “excellent” or “very helpful” = 4.
Research Reviews of Effectiveness of Pain Coping Techniques

There have been several reviews of available research on each of the available coping techniques, as compared to “usual care.” Each of these reviews acknowledges the limitations of the research they compile: primarily, studies are small sample sizes and are not properly randomized control trials. So all conclusions come with the caveat that “more research is needed.” (*Note: the birth ball results are based on a single study, rather than a review.*)

This chart summarizes those reviews. It compares the following factors that might be desired outcomes of pain relief options: less pain intensity, less likelihood that the laboring mother will turn to pain medications (unless that was her goal), higher satisfaction with pain relief, shorter labor, higher chance of spontaneous vaginal delivery (versus instrumental delivery or cesarean), and less use of Pitocin to augment a slow labor.

<table>
<thead>
<tr>
<th>Source</th>
<th>Less pain</th>
<th>Less pain meds</th>
<th>More satisfaction</th>
<th>Shorter labor</th>
<th>Spontaneous vaginal</th>
<th>Less Pitocin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acupressure¹</td>
<td>yes *</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acupuncture²</td>
<td></td>
<td>yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acupuncture³</td>
<td>yes</td>
<td>yes *</td>
<td>yes *</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aromatherapy⁴</td>
<td>NSD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aromatherapy⁵</td>
<td>NSD</td>
<td>NSD</td>
<td>NSD</td>
<td>NSD</td>
<td>NSD</td>
<td></td>
</tr>
<tr>
<td>Birth ball⁶</td>
<td>yes *</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuous support⁷</td>
<td></td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>Epidural and pain meds⁸</td>
<td>yes</td>
<td>N/A</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>Hypnosis⁹</td>
<td>yes *</td>
<td>NSD</td>
<td>NSD</td>
<td>yes *</td>
<td>NSD</td>
<td></td>
</tr>
<tr>
<td>Hypnosis¹⁰</td>
<td>yes</td>
<td></td>
<td></td>
<td>yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Immersion in water¹¹</td>
<td>yes</td>
<td></td>
<td></td>
<td>yes</td>
<td></td>
<td>NSD</td>
</tr>
<tr>
<td>Massage¹²</td>
<td></td>
<td>yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music / audio analgesia¹³</td>
<td>NSD</td>
<td>NSD</td>
<td></td>
<td></td>
<td></td>
<td>NSD</td>
</tr>
<tr>
<td>Positions and movement¹⁴</td>
<td>yes</td>
<td></td>
<td>yes</td>
<td>yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relaxation¹⁵</td>
<td>yes</td>
<td></td>
<td>yes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sterile water injections¹⁶</td>
<td>yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NSD</td>
</tr>
<tr>
<td>Sterile water injections¹⁷</td>
<td>yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>yes</td>
</tr>
<tr>
<td>TENS¹⁸</td>
<td>yes *</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NSD</td>
</tr>
<tr>
<td>Yoga¹⁹</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* means limited data; NSD means there may have been a difference, but it wasn’t statistically significant.
Endnotes

3. See note 1 above.
4. See note 2 above.
10. See note 2 above.
15. See note 13 above.
19. See note 13 above.
Reducing Effects of Fear on Labor

For more information, see:
• *Pregnancy, Childbirth, and the Newborn*, page 174; *The Simple Guide to Having a Baby*, pages 108 and 150
• http://transform.childbirthconnection.org/reports/physiology.

Like many pregnant women, you may have birth-related fears. Whether these fears are realistic or not, your body will respond to them. When you feel fear, you produce adrenaline, the “fight or flight” hormone. Your heart rate, blood pressure, and breathing rate increase, and effects of oxytocin are neutralized. In childbirth, this leads to less effective contractions and a longer labor.

To help you avoid the longer, more painful labor that your fears may cause, explore them prior to labor, so they won’t affect you.

Write down your fears about labor and birth. ____________________________________________________________
______________________________________________________________________________________________
______________________________________________________________________________________________
______________________________________________________________________________________________

Explore all aspects of each fear and imagine, “What’s the worst thing that could happen?” ______________________
______________________________________________________________________________________________
______________________________________________________________________________________________

Make a plan for each fear (see example on the next page).
What could you do to prevent this situation from happening? __________________________________________________
______________________________________________________________________________________________
______________________________________________________________________________________________

How could you respond if it does happen? _______________________________________________________________
______________________________________________________________________________________________
______________________________________________________________________________________________

How could you come to terms with the situation? _________________________________________________________
______________________________________________________________________________________________
______________________________________________________________________________________________

Is there a way that you could feel safe again if this circumstance arose? ______________________________________
______________________________________________________________________________________________
______________________________________________________________________________________________

Ask your caregiver, childbirth educator, or doula for suggestions _____________________________________________
______________________________________________________________________________________________
______________________________________________________________________________________________

Once you’ve created a plan for managing each of your fears, create an image of birth involving safety and strength. You can paint, draw, write, sculpt, or use any other medium to help you create this vision. Focus on this image during the weeks prior to birth, and your nervous system will respond, producing a state of relaxation. Plan to use this image in labor to help you release tension, reduce pain, and have a more effective labor pattern.

(If you have a hard time getting past your fears to this positive state, you may want to seek out counseling or extra support in preparation for the birth.)
Example

A woman with a severe needle phobia addressed her labor-related fears in this way: First, she educated herself (via books and a childbirth class) about when a needle might be needed. She worked with her partner and childbirth educator to change her focus from the needle that she feared to the benefits a medication would bring to her if it were needed.

She planned a home birth to reduce the chance of interventions. She made sure her partner, doula, and midwives understood her worries. She created a birth plan that shared this needle phobia in case of transfer to a hospital and asked that, if it became necessary for her to have a shot or an IV, the caregivers would first have a discussion with her (if possible) to help her understand the problem. She also asked to be able to choose where the needle was inserted. When the shot was given or the IV inserted, her partner and doula were to vigorously distract her from what was being done.

Having made this plan, the woman was able to approach her birth with much less fear. She ended up having an uncomplicated birth at home and no needles were needed, but she was relieved to have made such a thorough plan, because it reduced her fear.
CHAPTER 11: LABOR PAIN AND OPTIONS FOR PAIN RELIEF

Understanding Your Coping Style

Mother-to-be: This work sheet will help you think about your normal responses to physical and emotional challenges, as well as possible reactions to unknown situations. This will guide you in predicting what could be helpful to you in labor.

Ask yourself:

When you're sick, what makes you feel better? 
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

What did your family do for you when you were sick as a child? 
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

What did you like them to do? 
________________________________________________________________________

What did you wish they had done for you? 
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

When you feel too tired to go on, how do you find more energy? 
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

When you're scared of what's to come, where do you find the courage to move forward? 
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

What are some objects that symbolize safety and comfort to you? (Plan to bring these to the birthplace with you!) 
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
**Father/support people:**

You may also find labor challenging. In order to provide the best support to the mother, ask yourself the following questions:

**When you’re exhausted (mentally, physically, emotionally), where do you find energy?**

____________________________________________________________________________________________________
____________________________________________________________________________________________________
____________________________________________________________________________________________________

**When you’re scared, how do you find the courage to move forward?**

____________________________________________________________________________________________________
____________________________________________________________________________________________________
____________________________________________________________________________________________________

**When you feel helpless or out of control, how do you react?**

____________________________________________________________________________________________________
____________________________________________________________________________________________________
____________________________________________________________________________________________________

**What are some things you could bring to the birthplace to increase your sense of calmness and competence?**

____________________________________________________________________________________________________
____________________________________________________________________________________________________
____________________________________________________________________________________________________

**Who can you call for support, if needed?**

____________________________________________________________________________________________________
____________________________________________________________________________________________________
____________________________________________________________________________________________________
External Links and Resources

- Reflexology Combs for Labor Pain Relief: https://transitiontoparenthood.wordpress.com/2014/08/18/reflexology-combs/
- “Peanut Balls for Labor: A Valuable Tool for Promoting Progress”: http://www.scienceandsensibility.org/peanut-balls-for-labor/
Checklist of Comfort Techniques

In early pregnancy, use this checklist to help you learn about comfort techniques. For each technique, learn: How is it done? Can you do it? When is it helpful? Why is it helpful? During your third trimester, practice these techniques until you master them. When possible, practice these with your partner(s). Some techniques might not seem helpful when you’re not having contractions, but it’s smart to have them in your “toolbox” in case they’re helpful in labor. The references below are to page numbers from *Pregnancy, Childbirth, and the Newborn* (PCN) and *The Simple Guide to Having A Baby* (SG).

**Relaxation** (PCN 232–237, SG 109–14)
- Passive relaxation
- Roving body check
- Touch relaxation
- Distraction (movies, etc.)

**Breathing** (PCN 241–246, SG 115-19)
- Slow breathing
- Light breathing
- Contraction-tailored
- Slide breathing
- Variable breathing

**Second Stage** (PCN 250–253, SG 98-100)
- Avoiding pushing
- Spontaneous bearing down
- Directed pushing

**Hydrotherapy** (PCN 227–228, SG 126)
- Bath/whirlpool
- Shower

**Massage/Touch** (PCN 231, SG 125)
- Hand/foot
- Effleurage (light stroking)
- Firm pressure
- Holding hands

**Attention-focusing** (PCN 226–227, SG 124)
- Visual focal point
- Music, voice, sounds
- Pleasant smells
- Visualization
- Chant, song, prayer

**Positions/Movement** (PCN 238–240, SG 127)
- Standing/leaning
- Walking
- Lunge
- Hands-and-knees
- Sitting up
- Semi-sitting
- Side-lying
- Rocking/swaying
- Squatting/supported squat

**Hot/Cold Packs** (PCN 229, SG 126)
- On lower belly
- On back
- On perineum

**Help for Back Pain** (PCN 247–249, SG 128-30)
- Counterpressure/massage
- Double hip squeeze
- Leaning forward
- Open knee-chest
- Pelvic rocking/hands-and-knees
- Walk, stair climb, sway
- Shower/tub

**Help from Partner** (PCN 232, SG 121-23)
- Suggestions/reminders
- Encouragement/praise
- Patience/confidence
- Immediate response to needs
- Undivided attention
- Eye contact
- Take Charge Routine
Practice Sessions

Practice these comfort techniques in your third trimester. Each session should only take five to ten minutes; try to fit in one each day. Practice with your support partner(s) when possible. The references below are to page numbers from *Pregnancy, Childbirth, and the Newborn* (PCN) and *The Simple Guide to Having A Baby* (SG).

<table>
<thead>
<tr>
<th>Technique</th>
<th>Description</th>
<th>Date(s) you practiced:</th>
<th>Date(s) you practiced:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visualization/imagery</td>
<td>Visualize yourself in a place that seems calming and safe (the beach, a mountain stream, at home, by a warm fire, and so on). Imagine how it feels, smells, looks, and sounds.</td>
<td></td>
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</tr>
<tr>
<td>Touch/massage</td>
<td>Have your partner lightly stroke your belly, or arms or legs while listening to soothing music (PCN 231, SG 125). Use slow deep breathing.</td>
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<tr>
<td>Slow dance</td>
<td>Have your partner rub your back lightly and rhythmically, while talking about happy memories and dreams for your future together with your baby.</td>
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<tr>
<td>Second stage positions</td>
<td>Practice squatting (PCN 239–240, SG 100) and breathing for pushing (PCN 250–251).</td>
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<td></td>
</tr>
<tr>
<td>Take Charge Routine for transition</td>
<td>Have your partner sit close to you, use eye contact, use variable breathing (PCN 246, SG 119 #1), and encourage you to follow his or her rhythm.</td>
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</tr>
</tbody>
</table>
For the following practice sessions, time several pretend contractions. Practice the comfort techniques for sixty seconds. Then take a one-minute break to discuss with your support partner(s), giving feedback on what was helpful and what was not. Then practice another sixty-second contraction, while adapting the technique to your preferences. Then discuss, revise as needed, and practice again.

To help you better learn what techniques work best for you, you may also want to try using ice as a source of discomfort to cope with. Fill a plastic baggie with ice and hold it in your hands during each of your contractions. Working with the discomfort of the ice can help you understand what might be most helpful for working with discomfort in labor.
External Links and Resources

# Chapter 13: Pain Medications

## Common Medications Used for Pain Relief during Childbirth

In the following charts, medications are listed with their generic (chemical) names first, followed by their brand names in parentheses. For all medications, effects and side effects vary, depending on the drug used, total dosage, timing, fetal condition, and the mother’s individual response.

<table>
<thead>
<tr>
<th>Systemic Medications for Labor Pain and Distress</th>
<th>Drugs used</th>
<th>Benefits and/or purposes</th>
<th>Possible risks and/or disadvantages</th>
<th>Additional precautions/procedures/interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sedatives/barbiturates</strong>&lt;br&gt;given by injection or pill&lt;br&gt;early labor only</td>
<td>secobarbital (Seconal)</td>
<td>In smaller doses, they have a sedative effect: reduce anxiety, irritability, and excitement. In larger doses, hypnotic: induce rest, relaxation, or sleep. They may be used to give the mother a rest by decreasing contractions in a slow, painful prelabor.</td>
<td>To mother: Large doses may cause dizziness and disorientation and can slow labor by impairing uterine activity. To baby: May cause heart rate changes. May accumulate in fetal tissue and cause respiratory depression (very slow breathing), decreased responsiveness, and impaired suckling in the newborn.</td>
<td>Note: Rarely used today because of undesirable side effects. Should be used before 4 cm dilation. Should be discontinued before active labor to reduce effects on newborn. Oxygen and resuscitation equipment on hand if baby is born soon after barbiturates are given.</td>
</tr>
<tr>
<td><strong>Tranquilizers</strong>&lt;br&gt;given by injection or pill&lt;br&gt;early labor and after cesarean</td>
<td>Phenothiazines: promethazine (Phenergan) prochlorperazine (Compazine) hydroxyzine (Vistaril or Atarax) Benzodiazepines: diazepam (Valium)</td>
<td>Used to reduce tension, anxiety, nausea and vomiting. Sometimes combined with narcotics to enhance the effects of lower doses of narcotics (thus reducing narcotic side effects). Benzodiazepines are not used for labor because of risks to the baby. They are sometimes given after cesarean birth to reduce anxiety during the repair.</td>
<td>To mother: May cause drowsiness, dizziness, blurred vision, confusion, dry mouth, changes in blood pressure and heart rate. When given with barbiturates or narcotics, may increase their effects. To baby: Phenothiazines can inhibit newborn reflexes and cause jaundice.</td>
<td>Should be discontinued before active labor to reduce effects on newborn. Oxygen and resuscitation equipment on hand if baby is born soon after these are given. Observation for and treatment of newborn jaundice.</td>
</tr>
<tr>
<td><strong>Inhalation analgesia</strong>&lt;br&gt;self-administered by mother, who holds an oxygen mask to her face and inhales the medication as needed&lt;br&gt;late labor or for brief painful procedures</td>
<td>nitrous oxide and oxygen (Entonox) or flurane derivatives</td>
<td>Takes effect almost immediately. Causes mother to feel drowsy, lightheaded, or giddy for about a minute. Does not take away pain, but mothers are less troubled by it.</td>
<td>To mother: Some enjoy the mental effects; some do not. Nausea, vomiting, drowsiness and dizziness for some women. To baby: Little effect.</td>
<td>Confinement to bed. Mother should begin inhaling just before a contraction begins, so medication is in effect when contraction is at its peak. Rare in the United States. Common elsewhere.</td>
</tr>
</tbody>
</table>
### Systemic Medications for Labor Pain and Distress

<table>
<thead>
<tr>
<th>Type and timing</th>
<th>Drugs used</th>
<th>Benefits and/or purposes</th>
<th>Possible risks and/or disadvantages</th>
<th>Additional precautions/procedures/interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Narcotic or narcotic-like analgesics</strong></td>
<td>morphine, fentanyl (Sublimaze), remifentanil (Ultiva), meperidine (Demerol), butorphanol (Stadol), nalbuphine (Nubain)</td>
<td>During active labor, reduce pain awareness and promote relaxation between contractions. Some may indirectly speed a labor that has been slowed by tension and stress. Large doses of narcotics (especially morphine) are sometimes used in a prolonged prelabor in hopes of stopping contractions and giving the mother a rest.</td>
<td>To mother: May cause drowsiness, “high” feeling, hallucinations, dizziness, itching, nausea, vomiting, and slowing of digestion. May slow heart rate and lower blood pressure. Narcotics often interfere with clear thought and the use of self-help comfort measures. Narcotics may temporarily slow labor progress, especially if the medication is given before the active phase of labor. To baby: May make fetal heart rate readings appear abnormal, depress the newborn’s respiration, and alter the baby’s muscle tone—behavioral responses (for example, poor suckling) for several days unless narcotic antagonist is given.</td>
<td>Usually, restriction to bed. Continuous monitoring of fetal heart rate and maternal blood pressure. Reminders to mother to breathe deeply, help her stay oriented. Maternal position changes or oxygen to improve HR abnormalities. Should be discontinued at least 2 hours before birth to reduce effects on newborn. Oxygen and resuscitation equipment on hand if baby is born within 4 hours after narcotics are given. Narcotic antagonist for mother or baby, if necessary, to reverse side effects.</td>
</tr>
<tr>
<td><strong>Narcotic antagonists</strong></td>
<td>naloxone (Narcan)</td>
<td>Reduce narcotic effects, such as hallucinations, itching, respiratory depression (very slow breathing), and low blood pressure. Narcan is given by injection to the laboring woman if there is narcotic toxicity or to the newborn when there are respiratory problems caused by narcotics.</td>
<td>To mother and baby: Abrupt reversal of narcotic depression may result in rapid heart rate, increased blood pressure, nausea, vomiting, sweating, trembling, and the return of pain awareness. The effects of narcotics may return if narcotic antagonist wears off before the narcotic.</td>
<td>Continued observation of mother or baby for return of narcotic side effects. Repeated dose of narcotic antagonist as needed.</td>
</tr>
</tbody>
</table>

### Local Anesthetics for Labor, Delivery, and Repair

<table>
<thead>
<tr>
<th>Type and timing</th>
<th>Drugs used/who administers</th>
<th>Benefits and/or purposes</th>
<th>Possible risks and/or disadvantages</th>
<th>Additional precautions/procedures/interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>“Local” perineal block</strong></td>
<td>often lidocaine (Xylocaine), can be given by midwife or physician</td>
<td>Numbness in perineum. Relief of pain of crowning, episiotomy, or stitching after birth.</td>
<td>To mother: Sting of injections. If given during second stage, may increase swelling in perineum and likelihood of tears. To fetus/newborn: Minimal to none.</td>
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</tr>
<tr>
<td><strong>Paracervical block</strong></td>
<td>mepivacaine (Carbocaine), lidocaine (Xylocaine), chloroprocaine (Nesacaine), can be given by obstetrician or family physician</td>
<td>Removes pain due to dilation of cervix and pressure in lower segment of uterus. Awareness of contractions remains.</td>
<td>To mother: Drop in blood pressure To fetus/newborn: Can cause fetal distress (drop in heart rate), reduced muscle tone in newborn, newborn fussiness, decrease in some reflexes.</td>
<td>Routine: Intravenous (IV) fluids. Close monitoring of mother’s blood pressure, blood oxygen levels, and fetal heart rate. Mother needs larger drug dose for paracervical than for epidural, leading to more severe side effects for the fetus, but much less pain relief. Thus, rarely used.</td>
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</table>
### Local Anesthetics for Labor, Delivery, and Repair

<table>
<thead>
<tr>
<th>Type and timing</th>
<th>Drugs used/ who administers</th>
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<th>Possible risks and/ or disadvantages</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Pudendal block</td>
<td>given by injections into both sides of vagina to block pudendal nerves second stage</td>
<td>same as paracervical block</td>
<td>Numbs vagina and perineum. Reduces pain during delivery, especially if forceps or vacuum extraction is used.</td>
<td>To mother: May impede bearing-down reflex and effectiveness in pushing. May relax muscle tone in perineum enough to impede fetal rotation. To fetus/newborn: Similar to paracervical block.</td>
</tr>
</tbody>
</table>

### Neuraxial Medications for Labor and Vaginal Delivery

The anesthetic is usually one of the “caine” drugs—bupivacaine (Marcaine or Sensorcaine), ropivacaine (Naropin), or levobupivacaine. Narcotics or narcotic-like drugs that may be used include morphine (Duramorph), fentanyl (Sublimaze), and sufentanil (Sufenta).

<table>
<thead>
<tr>
<th>Type and timing</th>
<th>Drugs used</th>
<th>Benefits and/ or purposes</th>
<th>Possible risks and/ or disadvantages</th>
<th>Additional precautions/ procedures/interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spinal narcotic analgesia</td>
<td>narcotic only (a.k.a. intrathecal narcotics)</td>
<td>Similar to epidural narcotic, but takes effect more quickly. Lasts up to 2 hours.</td>
<td>Spinal headache (&lt;1 percent).</td>
<td>If spinal headache occurs: Blood patch (a small amount of mother’s blood is injected in epidural space near the dural puncture). Mother lies flat for hours or days.</td>
</tr>
<tr>
<td>Epidural narcotic analgesia</td>
<td>narcotic only</td>
<td>Decreases perception of pain. Good relief of labor pain until 6–8 cm. After that, mother may need anesthetic. Affects ability to move safely. Some women can stand or even walk a bit with assistance, if hospital policy allows this. Sensation other than pain (touch, pressure, temperature) remains. When compared to IV narcotics, more pain relief with less medication.</td>
<td>To mother: Often causes itching all over body. Frequently, nausea and vomiting. Feeling of weakness in legs or loss of balance while walking. May alter mental state, but less so than IV/systemic narcotics do. To fetus/newborn: Effects on newborn are similar to but milder than the effects of IV / systemic narcotics, due to lower dosage.</td>
<td>Note: Rarely done. Most modern epidurals combine anesthetic and narcotic. Routine: Restriction of food and drink. IV fluids. Assistance while standing. Checking muscle strength in legs before standing (hospital policies may not allow you to walk). Monitoring (see above). Used as needed: Additional medications to control itching and nausea (may make mother sleepy; may decrease pain relief).</td>
</tr>
</tbody>
</table>
Neuraxial Medications for Labor and Vaginal Delivery

<table>
<thead>
<tr>
<th>Type and timing</th>
<th>Drugs used</th>
<th>Benefits and/or purposes</th>
<th>Possible risks and/or disadvantages</th>
<th>Additional precautions/procedures/interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epidural anesthesia only</td>
<td>“caine” anesthetic only</td>
<td>Loss of pain sensation (numbness) in the abdomen and back.</td>
<td>To mother: Reduced mobility. Drop in blood pressure. Slowing of labor progress. Fever (chance increases with duration of epidural). Decreased urge to push, slower pushing stage, increased chance of malpositioned baby, more instrumental deliveries. Spinal headache if the epidural needle goes in too far. Secondary side effects from the procedures used to ensure safety (see next column).</td>
<td>Note: Rarely done. Most modern epidurals combine anesthetic and narcotic. Routine: Restriction of food and drink. Intravenous (IV) fluids. Restriction to bed. Various devices to closely monitor mother and baby. Used as needed: Oxygen by mask. Pitocin to speed labor. Bladder catheter. Forceps, vacuum extraction, episiotomy, cesarean delivery. Blood patch for spinal headache (see below). To fetus/newborn: Fetal heart rate changes (can be secondary to maternal fever or decreased blood pressure). Fever.</td>
</tr>
<tr>
<td>Epidural with combination of narcotics and anesthetics</td>
<td>narcotic and “caine” anesthetic are mixed together and given through epidural</td>
<td>Compared to epidural anesthesia alone: slightly more pain sensation, more mobility. Compared to epidural narcotics alone: less pain, less mobility.</td>
<td></td>
<td>Same as above.</td>
</tr>
<tr>
<td>Epidural catheter active labor until birth</td>
<td>spinal narcotics given first, epidural anesthesia and narcotic combination given when needed</td>
<td>Same benefits as spinal narcotics, followed by epidural anesthesia, but fewer side effects, as the total amount of medication given is smaller.</td>
<td>See above. A spinal injection is given, and the epidural catheter is placed at the same time. Available at many university-based teaching hospitals. Much less common elsewhere.</td>
<td></td>
</tr>
<tr>
<td>Combined spinal epidural (CSE)</td>
<td>spinal as early as 2 cm, anesthetic addition at 6–8 cm when “breakthrough” pain occurs</td>
<td>Same benefits as spinal narcotics, followed by epidural anesthesia, but fewer side effects, as the total amount of medication given is smaller.</td>
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</tbody>
</table>
### Anesthesia for Cesarean

<table>
<thead>
<tr>
<th>Type</th>
<th>Drugs used</th>
<th>Benefits and/or purposes</th>
<th>Possible risks and/or disadvantages</th>
<th>Additional precautions/procedures/interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Epidural anesthesia</strong></td>
<td><strong>“caine” drugs, in a higher dose (concentration) than is given for labor</strong></td>
<td>Total loss of pain sensation from chest to toes. May still feel some pressure or pulling during delivery, but no sharp pain. Provides excellent pain relief without impinging mental awareness.</td>
<td>To mother: Insufficiency of anesthesia. Spinal headache and hypotension.</td>
<td>Routine: Restriction of food and fluids by mouth.</td>
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<tr>
<td></td>
<td>if an epidural catheter was in place for labor, it can be used for this increased dosage if a cesarean becomes necessary</td>
<td></td>
<td>To mother and baby: Other side effects listed under epidural anesthesia for labor. Some effects may be more likely or more pronounced due to the higher dose given for cesarean anesthesia.</td>
<td>Large amounts of intravenous (IV) fluid.</td>
</tr>
<tr>
<td><strong>Spinal block</strong></td>
<td><strong>“caine” drugs</strong></td>
<td>Similar to epidural anesthesia. Can be administered quickly, takes effect almost immediately. Lasts a few hours.</td>
<td>To mother: Occasionally, feeling of being unable to breathe because chest becomes anesthetized.</td>
<td>Various devices to closely monitor mother’s blood pressure, blood oxygen levels, heart function, temperature, contractions, and fetal heart rate.</td>
</tr>
<tr>
<td></td>
<td><strong>spinal injection</strong></td>
<td></td>
<td>Drop in blood pressure. Spinal headache (1 %).</td>
<td>Blood catheter.</td>
</tr>
<tr>
<td></td>
<td><strong>General anesthesia</strong></td>
<td></td>
<td>To fetus/newborn: Heart rate variations.</td>
<td>Used as needed: Oxygen by mask.</td>
</tr>
<tr>
<td><strong>Step 1: Induction</strong></td>
<td><strong>Induction:</strong></td>
<td>Rapidly provide loss of sensation and consciousness. May be used for cesarean birth when speed is essential.</td>
<td>To mother: Causes respiratory depression (very slow breathing), lower blood pressure, and changes in heart rate. Large doses may reduce uterine activity. May cause nausea and elevated temperature. The most serious, though rare, is inhalation of vomited material, which can cause pneumonia and possibly death. (Chance of death is 7 in 10 million.)</td>
<td>Antacid given to mother before receiving anesthetic.</td>
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<tr>
<td></td>
<td>agents</td>
<td></td>
<td>To baby: May result in respiratory depression, drowsiness, poor muscle tone, and low Apgar scores.</td>
<td>Intubation (tube in mother’s windpipe) to protect against inhalation of vomited material.</td>
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<tr>
<td></td>
<td><strong>given intravenously</strong></td>
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<td></td>
<td>Monitoring of mother’s breathing, pulse, heart function (on electrocardiogram or EKG), blood pressure, and blood oxygen levels (with pulse oximeter).</td>
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<tr>
<td></td>
<td><strong>Step 2: Inhalation agents</strong></td>
<td></td>
<td></td>
<td>Monitoring of baby and resuscitation, if needed.</td>
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<tr>
<td></td>
<td><strong>given by inhaling a gas containing medication mixed with oxygen</strong></td>
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<td></td>
<td>Used for 3 percent of planned cesareans, less than 15 percent of unplanned cesareans.</td>
</tr>
</tbody>
</table>

### Endnotes


External Links and Resources

Tips for Helping Labor to Progress
• The Labor Progress Handbook: Early Interventions to Prevent and Treat Dystocia by Penny Simkin and Ruth Ancheta (2011)

Evidence-Based Resources on Interventions
• The Cochrane Reviews of pregnancy-related topics: http://www.cochrane.org
• PubMed: Search medical journals for abstracts on particular research trials at http://www.pubmed.gov
• “Let Labor Begin on Its Own” (Lamaze Healthy Birth Practice #1) and “Avoid Interventions That Are Not Medically Necessary” (Lamaze Healthy Birth Practice #4): http://www.lamaze.org/HealthyBirthPractices

Understanding Your Rights

Critiques of Modern Maternity Care
• Pushed: The Painful Truth About Childbirth and Modern Maternity Care by Jennifer Block (2007)
• Born in the USA: How a Broken Maternity System Must Be Fixed to Put Women and Children First by Marsden Wagner (2006)
• The Business of Being Born, Documentary (2007)
## Self-Help and Complementary Medicine Methods for Cervical Ripening and Induction

Most of the following methods have been used for decades. However, they are slower in ripening the cervix and less effective in inducing labor than combinations of prostaglandins, Pitocin, and amniotomy. If the need for induction is urgent for the well-being of you or your baby, the methods below are not the best choice. However, if the need is less urgent, these inexpensive, less invasive, low-risk methods might be considered.

<table>
<thead>
<tr>
<th>Self-Help Methods</th>
<th>Method/how it’s done</th>
<th>How it’s thought to work</th>
<th>Benefits and/or purposes</th>
<th>Possible risks and/or disadvantages</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Brisk walking long distances</strong>&lt;br&gt; (30 minutes to many hours)</td>
<td>• May increase contractions, especially if baby is very low in your pelvis.&lt;br&gt; • More contractions may cause changes in the cervix.&lt;br&gt;</td>
<td>• Tiring&lt;br&gt; • May cause hip joint pain if walking is excessive.&lt;br&gt; • Not often successful</td>
<td>• Avoid overexertion and exhaustion&lt;br&gt; • High blood pressure and hip joint pain are reasons not to walk&lt;br&gt; • Walking is more effective to speed up a labor that has started than it is at getting a labor started.</td>
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<tr>
<td><strong>Frequent sexual intercourse, clitoral stimulation, orgasm</strong>&lt;br&gt; We assume you know how to do these…</td>
<td>• Orgasm with or without intercourse is associated with the release of oxytocin, which causes contractions.&lt;br&gt; • Semen contains prostaglandins, which ripen the cervix.&lt;br&gt; • Oral or manual clitoral stimulation may also start labor.&lt;br&gt;</td>
<td>• Even if it does not start labor, sex may ripen the cervix.&lt;br&gt; • May be more pleasurable for most people than other methods.&lt;br&gt; • Can do it yourself or with a partner.</td>
<td>• Orgasm is sometimes difficult to achieve when trying to start labor.&lt;br&gt; • Contraction may subside shortly after sexual activity stops.</td>
<td>• If the membranes have ruptured: Intercourse, oral sex, and digital penetration should not occur, because the chance of infection for you or fetus increases. Clitoral stimulation would be okay.&lt;br&gt; • Note: Sexual activity and orgasm is usually fine in pregnancy, and will not cause a labor to begin prematurely. However, if you are high risk for preterm labor, ask your caregiver’s advice.</td>
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</tr>
<tr>
<td><strong>Nipple stimulation</strong>&lt;br&gt; You (or partner) lightly stroke or roll one nipple, place warm moist towels on your breasts, use an electric or manual breast pump for 10 to 20 minutes at a time, or your partner gently licks and sucks your nipples. Pause during contractions, and resume afterwards.&lt;br&gt; If no contractions occur, stimulate both nipples. May continue nipple stimulation for hours, or for 1 hour three times a day (if you have several days before a medical induction is scheduled).</td>
<td>• Increases oxytocin production and causes contractions.&lt;br&gt; • May ripen cervix (through contractions acting to increase prostaglandin), and sometimes starts labor if cervix is ripe.</td>
<td>• May be able to avoid other forms of induction.&lt;br&gt; • Can be administered by self or with aid of partner.</td>
<td>• Difficult to regulate “dose” of oxytocin.&lt;br&gt; • Some cases of fetal distress have been reported with fetuses already known to be at high risk.&lt;br&gt; • You may tire of nipple stimulation or become sore.&lt;br&gt; • Contraction may stop when nipple stimulation is discontinued, which can be discouraging.</td>
<td>• Should not be done if you have a high-risk baby.&lt;br&gt; • Should be discontinued if contractions are painful, come more frequently than every 5 minutes, or last longer than 1 minute.&lt;br&gt; • Keep the stimulation gentle to avoid soreness.&lt;br&gt; • Some caregivers prefer that you first try nipple stimulation at a hospital or clinic, where the fetal heart rate can be monitored closely during it to check fetal response to contractions.</td>
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</table>
### Self-Help Methods

<table>
<thead>
<tr>
<th>Method/how it's done</th>
<th>How it's thought to work</th>
<th>Benefits and/or purposes</th>
<th>Possible risks and/or disadvantages</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Castor oil</td>
<td>• Thought to work by stimulating prostaglandin production.</td>
<td>• May hasten ripening of cervix; may start labor within 2-8 hours; is a strong laxative, and empties bowels.</td>
<td>• Causes intestinal cramps and diarrhea; for some, sudden and very uncomfortable; for others, gradual and manageable, for several hours.</td>
<td>• Best if started very early in the morning. • Check with caregiver before using this intervention. • Castor oil has been used to start labor for centuries. • It’s a gamble whether it will work and how uncomfortable you will be. Some women think it’s worthwhile; others don’t.</td>
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<tr>
<td>Acupressure</td>
<td>• See acupuncture in Complementary Medicine Methods chart. (See page 231 in your book for illustrations of where these points are located.)</td>
<td>• Has no known risks, when done properly. • If successful, avoids need for other induction methods.</td>
<td>• Might not work, or might require several attempts over several days. • Slight discomfort. • You'll know you've found the right spot to press on when it's just a little tender to the touch.</td>
<td>• CAUTION: Experts advise against pressing these points on a pregnant woman before her due date, as they can create contractions and increase the risk of preterm labor. Partners: find the points on yourself, but don’t use them on the mother until after 38 weeks.</td>
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</table>

### Complementary Medicine Methods

<table>
<thead>
<tr>
<th>Types and names of specific agents and methods</th>
<th>How it's given</th>
<th>Benefits and/or purposes</th>
<th>Possible risks and/or disadvantages</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Herbal preparations</td>
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<tr>
<td>• Blue and/or black cohosh</td>
<td>Tablets taken orally or tinctures placed under the tongue, beginning as early as 36 weeks, increasing the dose until 40 weeks.</td>
<td>May hasten ripening of cervix and/or increase contractions.</td>
<td>Scientific evidence of benefit is lacking; success rates are unknown.</td>
<td>These preparations are not used in conventional obstetrics, but are popular with some midwives and alternative practitioners. An herbalist may be consulted for guidance. Do not use these agents if you have high blood pressure.</td>
</tr>
<tr>
<td>• Evening primrose oil</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>• Other herbs</td>
<td></td>
<td></td>
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<tr>
<td>Homeopathic solutions</td>
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<tr>
<td>• Caulophyllum (tincture from blue cohosh)</td>
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<td>Scientific evidence is lacking; success rates are unknown.</td>
<td>These preparations are not used in conventional obstetrics, but are popular with some midwives and alternative practitioners. Choice of agent and dosage is based on many characteristics. A trained, experienced homeopathic physician should supervise treatment.</td>
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<tr>
<td>• Cimicifuga</td>
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<tr>
<td>• Pulsatilla</td>
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<tr>
<td>• Other preparations</td>
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### Acupuncture stimulation

<table>
<thead>
<tr>
<th>Method/how it's done</th>
<th>How it's thought to work</th>
<th>Benefits and/or purposes</th>
<th>Possible risks and/or disadvantages</th>
<th>Comments</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>• Unblocks energy along critical meridians. Blocked energy is thought to impair the onset of labor. • Western medicine has no clear explanation for how acupuncture works.</td>
<td>If successful, avoids need for other induction methods. Use of spreading, due to consumer demand and scientific validation of effectiveness. Is painless and has no known risks, when done properly.</td>
<td>Requires additional training for caregiver or referral to an acupuncturist (additional cost). Success rate lower than with many types of medical induction. May require several treatments over several days.</td>
<td>Though not understood or used by most North American medical practitioners, scientific research proves it to be effective in shortening pregnancies.</td>
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### Medical Nondrug Methods to Ripen the Cervix or Induce Labor

If medical induction of labor becomes necessary, the first step is to be sure the cervix is ripe, effaced, and ready to dilate. (Induction is most effective if your Bishop score is 9 or higher.) If it is not ripe, various devices, manual techniques, and/or prostaglandins or other substances may be used to ripen the cervix in preparation for induction with Pitocin (discussed below). Sometimes, the ripening agents not only ripen the cervix, they start labor without the need for Pitocin.

<table>
<thead>
<tr>
<th>Method/how it’s done</th>
<th>How it’s thought to work</th>
<th>Benefits and/or purposes</th>
<th>Possible risks and/or disadvantages</th>
<th>Comments</th>
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</thead>
<tbody>
<tr>
<td><strong>Balloon catheter (two types)</strong>&lt;br&gt;A Foley balloon catheter (same as that used to empty the bladder), or a two-balloon catheter (one balloon is placed within the cervix, and one in vagina just outside the cervix) is inserted through the cervix. Balloons are filled with 30 to 80 milliliters of saline, so the inner balloon presses against the internal cervical opening.</td>
<td>• Mechanically dilates the cervix.&lt;br&gt;• May stimulate prostaglandin production.</td>
<td>• Can be removed easily and quickly.&lt;br&gt;• Does not require hospitalization or close monitoring.&lt;br&gt;• Can be safely used for induction in women who have had a prior cesarean.</td>
<td>• Unintentional rupture of membranes (ROM) more likely than with less invasive methods.&lt;br&gt;• Studies show this method shortens pregnancy (by hastening ripening and early dilation of cervix).</td>
<td>• Useful as a nondrug method of induction.&lt;br&gt;• Little discomfort once inserted.&lt;br&gt;• The balloon slips out when the cervix has opened.&lt;br&gt;• Can be left in for hours or days.&lt;br&gt;• See page 281 in your book.&lt;br&gt;• Safer for vaginal birth after cesarean (VBAC) than prostaglandin.</td>
</tr>
<tr>
<td><strong>Stripping (sweeping) the membranes</strong>&lt;br&gt;Caregiver inserts a finger into the internal cervical opening and separates membranes from the lower uterine segment. If cervix is too closed, it is massaged vigorously.</td>
<td>• Increases prostaglandin production after 37 weeks.</td>
<td>• Particularly useful if cervix is unfavorable for induction.&lt;br&gt;• Reduces the need for other methods of induction when mother is past due date.&lt;br&gt;• Can be repeated.&lt;br&gt;• Can be done outside the hospital.</td>
<td>• Increased risk of infection and unintentional ROM.&lt;br&gt;• Bleeding if placenta is previa or low-lying.&lt;br&gt;• Painful for mother.&lt;br&gt;• Requires enough cervical ripening to allow insertion of a finger.</td>
<td>• Women often pass brownish discharge hours later and confuse it with “bloody show.”&lt;br&gt;• See page 282.</td>
</tr>
<tr>
<td><strong>Amniotomy (Artificial Rupture of Membranes—AROM)</strong>&lt;br&gt;(also used to speed labor; see page 282.)&lt;br&gt;Caregiver inserts an amniosack through the cervix and makes a hole in the membranes, releasing amniotic fluid. Procedure is often done in conjunction with Pitocin for induction, especially if induction is medically indicated.</td>
<td>• Increases prostaglandin production.&lt;br&gt;• If fetal head moves down with AROM, there may be some mechanical pressure-induced dilation.</td>
<td>• When used with Pitocin, reduces length of labor, compared to Pitocin alone.&lt;br&gt;• The procedure is no more painful than a vaginal exam.&lt;br&gt;• Allows caregiver to check amniotic fluid for meconium, to assess fetal well-being.</td>
<td>• Increased risk of maternal or fetal infection.&lt;br&gt;• Increased risk of prolapsed cord (if fetus is at a high station).&lt;br&gt;• Once AROM has been done, there is a commitment to delivery (the baby must be born, even by cesarean, if labor goes on too long). See box on page 282.&lt;br&gt;• Requires some dilation of the cervix before it can be done.&lt;br&gt;• Increased risk of non-reassuring fetal heart rate patterns due to cord compression.&lt;br&gt;• If done to speed labor, may increase pain of contractions.&lt;br&gt;• If baby’s head is malpositioned, AROM may prevent it from repositioning, which complicates labor and requires major interventions.</td>
<td>• If induction with AROM is unsuccessful, a cesarean is necessary because of the risk of infection. If induction without AROM is unsuccessful, the Pitocin can be turned off and the woman can rest and possibly avoid a cesarean.&lt;br&gt;• AROM is sometimes done in spontaneous labor to speed progress; it’s sometimes successful, but carries same risks as AROM for induction.&lt;br&gt;• AROM is necessary for internal electronic fetal monitoring (see page 182).&lt;br&gt;• Intravenous antibiotics may be used if membranes are ruptured for several hours.&lt;br&gt;• See page 282 for more information.</td>
</tr>
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</table>
### Medications Used for Cervical Ripening

<table>
<thead>
<tr>
<th>Method/types and names of specific drugs</th>
<th>How it's given</th>
<th>Benefits and/or purposes</th>
<th>Possible risks and/or disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prostaglandin E2 (PGE2 or dinoprostone)</strong></td>
<td>Cervidil</td>
<td>Cervidil, a controlled-release vaginal insert, releases PGE2 steadily for 12 hours (unless removed earlier). A soft pouch of Cervidil is placed just behind the cervix, and only one dose is given. Can be removed easily by a string attached to the insert (like a tampon).</td>
<td>Hastens ripening of cervix; may trigger onset of labor. Improves success of induction with Pitocin. Rarely, these may occur: Uterine hyperstimulation and fetal distress, requiring quick removal and administration of a tocolytic, such as terbutaline. Possible nausea, vomiting, or diarrhea. Pain at site of PGE2. Requires caution if used in women with asthma, glaucoma, liver, or kidney disease. Cervidil sometimes slips out, unnoticed by the woman. Cervidil is very expensive compared to misoprostol (described below).</td>
</tr>
<tr>
<td><strong>Synthetic prostaglandin E1 (PGE1 or misoprostol)</strong></td>
<td>Cytotec</td>
<td>1/4 tablet (25 micrograms) is placed in the vagina behind the cervix, or 1/2 tablet (50 micrograms) is given orally. Higher doses have more risks.</td>
<td>Low cost. Easy to administer. Can be repeated no more often than every 4 to 6 hours. Has lower rate of failed induction than other induction methods. More likely to start labor than dinoprostone (PGE2). Excessive, frequent uterine contractions (more common than with PGE2). Fetal distress. Cannot be removed if contractions are excessive. Requires a tocolytic drug to reduce excessive contractions.</td>
</tr>
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</table>

### Labor Induction/Augmentation Agents

<table>
<thead>
<tr>
<th>Method/types and names of specific drugs</th>
<th>How it's given</th>
<th>Benefits and/or purposes</th>
<th>Possible risks and/or disadvantages</th>
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</thead>
<tbody>
<tr>
<td><strong>Synthetic oxytocin</strong></td>
<td></td>
<td>Beginning dose is low and increased gradually until a rate of 3 contractions per 10 minutes is achieved. Some caregivers prefer to increase Pitocin quickly; others do it slowly. Can be used to induce or augment (strengthen) contractions.</td>
<td>Causes uterine contractions and dilation of the cervix. Has a short half-life; when turned off, it wears off quickly. Uterine hyperstimulation. Fetal distress. Longer labor in hospital and possibly greater pain than with spontaneous labor. Excessive fluid retention. Requires continuous electronic fetal monitoring, close nursing care. Increases chances of cesarean in first-time mothers with no medical need to be induced. Increases chances of prematurity, as due date is often unclear.</td>
</tr>
<tr>
<td>Method/types and names of specific drugs</td>
<td>How it’s given</td>
<td>Benefits and/or purposes</td>
<td>Possible risks and/or disadvantages</td>
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<tr>
<td>Synthetic oxytocin</td>
<td>By IV, intramuscular injection, or by mouth (method varies according to drug).</td>
<td>Causes uterine contractions, to reduce the possibility of excessive bleeding after birth.</td>
<td>Nausea and vomiting.</td>
</tr>
<tr>
<td>• Oxytocin</td>
<td></td>
<td></td>
<td>Headache.</td>
</tr>
<tr>
<td>• Pitocin</td>
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<td>Possible increased chance of retained placenta or elevated blood pressure.</td>
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<tr>
<td>• Syntometrine</td>
<td></td>
<td></td>
<td>Rare side effects include cardiac arrest, eclampsia (postpartum), and pulmonary edema.</td>
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<tr>
<td>Ergot alkaloids</td>
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<td></td>
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<tr>
<td>• Ergometrine</td>
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<tr>
<td>Methylergonovine maleate</td>
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<tr>
<td>• Methergine</td>
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<tr>
<td>Misoprostol</td>
<td>Given orally, under the tongue, or rectally (600 micrograms).</td>
<td>Both oral and rectal forms reduce postpartum hemorrhage, but not as well as other injectable agents listed above.</td>
<td>With both oral and rectal forms, frequent: maternal fever, shivering.</td>
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<td></td>
<td></td>
<td>Less expensive than other methods.</td>
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Breech Babies and External Version

Between 3 and 4 percent of babies are breech (buttocks and/or feet down, head up) late in pregnancy. Today there are very few physicians who will attempt a vaginal breech birth. Therefore, the pregnant person has these possible options to avoid a cesarean:

- Wait and hope the baby will turn spontaneously.
- Use self-help methods to encourage the baby to turn (including the breech tilt position, playing music through earphones placed low on the woman’s abdomen, having the father or partner lie with head in the woman’s lap and talk to the baby, etc.).
- Use complementary medicine (including the Webster technique, a chiropractic procedure, moxibustion, an acupuncture technique, or homeopathic remedies).
- Try an external breech version at 36 to 38 weeks, in which a doctor attempts to turn the baby with his or her hands by pressing on the pregnant person’s abdomen. This procedure is successful approximately 65 percent of the time (more often with multiparas than nulliparas). There are risks (mainly that the baby cannot tolerate the procedure and needs a cesarean immediately), but these are very rare when it is done properly.

**How is cephalic version done?**

Here’s what to expect at the hospital:

1. Your baby will receive a non-stress test. (An electronic fetal monitor is used for 20 minutes to check the baby’s well-being.)
2. Using ultrasound scans, your caregiver will confirm that your baby is breech, estimate the volume of amniotic fluid, checks the cord and the site of the placenta, and plans the direction in which to move your baby. External version may not be done if the volume of amniotic fluid is low, if you have uterine abnormalities, or if the placenta is implanted on the front wall of your uterus.
3. You’ll be given an injection of a tocolytic drug (such as Terbutaline) to relax your uterus. This makes your heart race and might make you feel nervous and a little shaky, but the drug can make the version easier.
4. You will lie on your back, and the caregiver will spread lubricating gel over your abdomen. Then your caregiver presses and pushes on your baby through the abdominal wall, encouraging him to turn to a vertex presentation. The illustrations show the doctor’s hand movements as he or she presses the baby around to a head-down presentation.
5. Ultrasound is used frequently to assess changes in the baby’s position, and to check fetal heart tones to be sure the baby is tolerating the procedure. External version takes five to ten minutes. If your baby’s heart rate shows that he’s in distress, the procedure is stopped. If the placenta starts to separate from the uterine wall (a rare situation), or if your baby remains in distress after attempts to turn him have stopped, a cesarean section may be necessary.

6. It may only take a nudge or two to get your baby to turn. Or it may take constant, intensifying pressure on your abdomen to encourage movement. Try to relax your abdominal muscles and use light breathing to help you tolerate the procedure and give your caregiver the time needed to turn your baby. Your partner or doula can help you by maintaining eye contact and encouraging you to maintain rhythmic breathing. If you need a break, say so. Your caregiver can hold your baby in place until you’ve caught your breath and are ready for the procedure to be resumed.

7. When done, the doctor uses ultrasound to confirm that the baby is head down, and a non-stress test is performed to be sure the baby is still doing well.

*Note:* The version will range from uncomfortable to painful, but if you can relax and tolerate it, it is more likely to succeed than if you tense or resist. A doula’s role is to help the pregnant person tolerate it, but it can be stopped at any time if the mother cannot handle it. Your caregiver may offer you an epidural or spinal block to reduce discomfort. Although anesthesia may make external version more comfortable for you and it may increase the procedure’s chances of success (because you can better tolerate the pressure for as long as is necessary to turn your baby), it’s unclear whether using anesthesia presents more risks than not using it. Anesthesia prolongs both the procedure and its recovery time; furthermore, it’s expensive. With support from your partner or doula, it’s likely that you can handle the discomfort of external version without medication.

*Note to Fathers, Partners, Doulas, and Other Support People*

Your support may make the difference in whether the version succeeds, and whether the baby can be delivered vaginally rather than by cesarean section. The more relaxed the pregnant parent is, the better. The longer she is able to tolerate the discomfort of the version, the more likely that the baby will turn.

1. Rehearse relaxation techniques, breathing techniques, and the Take Charge Routine before the version.
2. During the procedure, remind her she needs to try to relax, breathe in a light pattern, and look at you for help in keeping a rhythm. Use verbal encouragement and talk in the rhythm of the woman’s breathing: “That’s good…just like that…stay with it…good…”
3. Stay focused on supporting her throughout the procedure. Remain confident in her ability to cope.
4. If the baby does not turn, she may need your emotional support to cope with her disappointment.
External Links and Resources

- Childbirth Connection’s discussion of cesarean: http://www.childbirthconnection.org/article.asp?ClickedLink=274&ck=10168&area=27
- “Mother-, Baby-, and Family-Centered Cesarean Delivery: It Is Possible”: http://www.obgmanagement.com/home/article/mother-baby-and-family-centered-cesarean-delivery-it-is-possible/c7b9785850d30024ef9873129f4d8d8.html; this article is written by an OB and an obstetric anesthesiologist, and might be a helpful foundation for a discussion with your OB about ways to have the best possible cesarean.
Chapter 15: All About Cesarean Birth

Seeding and Feeding the Microbiome

What is the microbiome?
Simply put, it is the collection of bacteria, viruses, fungi, and other organisms that live in and on the body. We have about 10 trillion human cells in our bodies and about 100 trillion microbes. We have evolved in tandem with this microbiome for thousands of years. The balance of microbiomes varies throughout our body. For example, the bacteria found in our mouths is different than the bacteria on our skin, which is different than in our intestines.

Why does the microbiome matter?
Good bacteria can aid digestion, provide vitamins (K and B12), regulate the bowels, stimulate the development of the immune system, protect against infection, and more. A balance of microbes leads to optimal health.

An imbalance can lead to disease. For example, a vaginal yeast infection may occur when healthy bacteria are reduced by antibiotics, allowing yeast to overgrow. Too much harmful bacteria can lead to infection, such as E. coli, salmonella, strep, and so on.

Many studies have shown that the absence of specific microbes can cause lifelong changes in immunity. Disruption of the gut microbiota has been linked to inflammatory bowel disease, diabetes, obesity, allergies, asthma, and some cancers.

How does a baby’s microbiome develop?

During pregnancy
• In the past, the womb was believed to be a sterile environment. However, microbes are found in the placenta, amniotic fluid, and in meconium (the waste that accumulates in the fetal bowels).
• Maternal fecal microbes have been found in the uterine environment, leading to hypotheses that microbes from throughout the mother’s body are transferred through the bloodstream into the placenta, then the umbilical cord and the amniotic fluid.
• Placental microbes are most similar to the microbes in the mother’s mouth—especially the types of bacteria that aid in the metabolism of nutrients from food.
• Healthy bacteria may benefit baby. For example, if the mother lived or worked on a farm, that might protect against allergies and asthma.
• Others worry that unhealthy bacteria may also affect baby. For example, obese women tend to have abnormal gut microbiota. This may be transferred to the baby.
• Maternal diet also affects the baby. For example, E. coli bacteria (an unhealthy bacteria) was less common in the meconium of babies whose mothers ate primarily organic foods.

At birth
• During a vaginal birth, a baby is exposed to the microbes in mother’s vagina. In the third trimester, these are especially high in lactobacilli, which help the baby to digest milk.
• When babies are placed skin-to-skin on parents, they are exposed to the parents’ skin microbiome. The babies’ skin, mouthes, and digestive tracts are “seeded” by whatever and whomever they first have contact with.
Through feeding
• Breast milk exposes the baby to more microbes. Several are gut microbes that influence digestion.
• Breast milk contains sugars (oligosaccharides) that are not digestible by babies and whose role appears to be to nourish and feed a healthy microbiome in baby’s gut. These are also referred to as prebiotics. By helping healthy bacteria to grow, there is less room for unhealthy bacteria.
• When solid food is introduced, the child’s intestinal microflora begins to evolve to a more adultlike flora.

Through the environment
• As baby is held by various people, their microbiomes influence him.
• As the baby starts to explore his world, crawling on the floor, playing outdoors, petting animals, and putting everything in his mouth, his microflora shifts and evolves, becoming quite diverse by age three. The “hygiene hypothesis” states that babies who are exposed to more symbiotic organisms have lower risks of asthma and allergies and stronger immune systems.

What can interfere with the establishment of a healthy microbiome?

During pregnancy and labor
• Antibiotics given to mom can affect the mix of microbes in the placenta, amniotic fluid, and vagina. This disrupted microbiome is inherited by the baby.

At birth
• Babies born by cesarean, and thus not exposed to vaginal bacteria, are at increased risk of asthma, allergies, obesity, diabetes, and celiac disease. Studies comparing the microbiomes of vaginally born babies with those born via cesarean have shown differences in their gut bacteria as much as seven years after delivery.1
• After cesarean birth, instead of skin-to-skin contact with the parents, the baby’s first exposures are often to hospital bacteria and the microbiomes of hospital staff members. (Babies in the NICU were found to be colonized by bacteria from the healthcare staff, from medical equipment, and from the counter-tops in the NICU.2)

Newborn care
• After any birth, if baby is wrapped in a blanket and placed on a clothed parent, rather than skin-to-skin, the transfer of skin microbes is not complete.
• Early baths remove/reduce protective vernix, vaginal microbiome, and baby’s own newly seeded skin microbiome. Those are replaced by hospital microbes.
• If baby is given antibiotics, it reduces microbial diversity and the number of both harmful and helpful bacteria. The impact lasts over eight weeks. The longer the duration of antibiotics, the harder it is for the microbiome to recover. Early use of antibiotics or prolonged use can have long-term side effects, increasing risk of obesity or inflammatory bowel disease in later life.

Feeding
• Formula-fed babies (even those who just had short-term formula feeding in the first few days) had increased harmful bacteria and decreased helpful bacteria.

What can parents and health care providers do to foster a healthy microbiome?

During pregnancy
• A mother can increase exposure to diverse healthy bacteria. Taking probiotic supplements (such as lactobacillus acidophilus and bifidobacteria) may improve gut diversity (for mom and baby), may reduce gestational diabetes, and may reduce risk of allergy and eczema for the baby.3 You can also eat probiotic foods that introduce healthy bacteria, such as fermented foods and foods with live cultures. And you can eat prebiotics—foods with oligosaccharides, which feed healthy bacteria.4
• Minimize exposure to unhealthy bacteria, such as food-borne illnesses.
During pregnancy and labor

- Minimize exposure to antibiotics. If they are needed, then you could consume probiotics or prebiotics while taking antibiotics or after the course of antibiotics is complete. This can reduce antibiotic-associated diarrhea and help to rebuild the microbiome.5
- If baby will be delivered by cesarean, a baby’s initial seeding is from hospital bacteria and skin microbes rather than vaginal microbes. You can expose the baby to vaginal bacteria by swabbing. Although swabbing does not colonize the baby as well as vaginal birth, it helps. (Swabbed babies had twice as much maternal bacteria as babies who were born by cesarean but not swabbed. Babies who were born vaginally had six times as much maternal bacteria.) Here’s the process:
  - Sample mom’s vagina: make sure the mother is HIV-negative, strep-B negative, and has an acid, lactobacillus-dominated vagina.
  - Place sterile gauze in the mother’s vagina. Incubate gauze for one hour. Remove prior to surgery.
  - After birth, wipe the inside of baby’s mouth, baby’s face and hands with the gauze.
  - **Note**: If the caregiver will not do this procedure, the mother and partner can do it themselves.
  - After birth, the baby should go straight onto the mother’s body, skin-to-skin. (Consider bringing a blanket from home to cover baby with, rather than using the hospital blanket.)
  - In the first few hours, encourage people other than the parents to look, but not touch.
  - Wait twenty-four hours after birth to bathe the baby.
  - Feed baby only breastmilk for as long as possible.

As your child grows

- If a breastfeeding mother develops mastitis or a yeast infection, ask a lactation consultant about treatment with lactobacillus probiotics.
- If a baby is formula fed, consider giving probiotics to help build gut flora. Studies have shown probiotics reduce ear infections and recurrent colds in formula-fed babies.6
- Giving probiotics to a baby can prevent, reduce or treat antibiotic-induced diarrhea, infectious diarrhea, eczema, and colic symptoms, and possibly reduce obesity in later life.7
- As your child gets older, let him explore their world, with plenty of time outdoors, digging in dirt, and exposure to animals.
- Offer your child diverse foods, including fermented foods and foods with live cultures (yogurt, buttermilk, sour cream, kefir, sauerkraut and other fermented vegetables, tempeh, miso, soy sauce, kimchi, dosas and sourdough breads, kombucha, and so on) and prebiotic foods that are high in oligosaccharides (onions, garlic, legumes, wheat, asparagus, and starchy vegetables, such as sweet potatoes, squash, turnips, parsnips, beets, and plantains).

**Caution:** People who are critically ill or immune-suppressed should consult with a caregiver before taking probiotics.

Endnotes

External Links and Resources

**Birth Control**
- https://www.plannedparenthood.org/learn/birth-control

**Fatherhood**
- *Do Fathers Matter? What Science Is Telling Us about the Parent We’ve Overlooked* by Paul Raeburn (2014)
- *Father’s First Steps: 25 Things Every New Dad Should Know* by Robert W. Sears and James M. Sears (2006)
- http://www.greatdad.com

**Adoption**
- *Adoption Parenting: Creating a Toolbox, Building Connections* edited by Jean MacLeod and Sheena Macrae (2006)
- *Breastfeeding without Birthing: A Breastfeeding Guide for Mothers through Adoption, Surrogacy, and Other Special Circumstances* by Alyssa Schnell (2013)
- http://www.asklenore.info/breastfeeding/abindex.shtml#adoptive_breastfeeding

**Relationship with Partner**
- *Becoming Parents: How to Strengthen Your Marriage as Your Family Grows* by Pamela Jordan, Scott Stanley, and Howard Markman (2001)
- Look for a Bringing Baby Home workshop near you at http://www.gottman.com/about-the-bringing-baby-home-program
Planning for a New Family Life

Use these pages to think about what life will be like with your baby, and how you may divide responsibilities with your partner. No matter what you plan, the reality may be different, so prepare to be flexible!

**Feeding Your Baby** *(Pregnancy, Childbirth, and the Newborn (PCN), chapter 19; The Simple Guide to Having a Baby (SG), chapter 9; http://www.breastfeeding.com)*

How do you plan to learn about breastfeeding (a class, friends and family, books, or other sources)?

____________________________________________________________________________________________________

____________________________________________________________________________________________________

Who can you call for breastfeeding advice (friends, family members, coworkers)?

____________________________________________________________________________________________________

If challenges come up, what resources can you use for help (a lactation consultant, breastfeeding support group, hotline, or online forum)?

____________________________________________________________________________________________________

Plan for expressing breast milk:  By hand ☐  Manual pump ☐  Electric pump ☐

Will you introduce a bottle? □  When? □  Who will introduce it? □

**Feeding the Parents**

Before your baby is born, what food will you stock up on? List at least fifteen foods that you can eat with one hand while holding a baby, don’t need any preparation, taste good hot or cold, and don’t spoil when left out for a few hours. Buy a month’s supply of these foods!

____________________________________________________________________________________________________

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After your baby’s born, who will be responsible for grocery shopping?

____________________________________________________________________________________________________

Who will cook dinner (when you have time to cook)?

____________________________________________________________________________________________________
Hygiene

Plan for diapers: Wash your own □ Diaper service □ Disposable □ Mix □

Who will be responsible for changing the baby when you’re together? ____________________________________________________________

Who will be responsible for getting rid of the dirty diapers and providing the clean ones (washing and putting away/putting dirties out for service to pick up/putting out trash and buying new disposables)? ____________________________________________________________

Bathing: Who will bathe the baby? ____________________________________________________________

Laundry: Who will be responsible for washing clothes? _________________ Putting them away? _________________

Sleep and Nighttime Wake-ups

Where will your baby sleep? In your room □ In baby’s own room □ Mix □
In your bed □ In co-sleeper □ In cradle/bassinet □ In crib □ Mix □

Once your baby has arrived and you’re adapting to the reality of life with him or her, some of your plans may change. No matter where your baby sleeps, it’s important that you make sure he or she is safe.

What do you need to do to make your baby’s sleep environment(s) as safe as possible? (PCN page 385, SG page 230)
____________________________________________________________________________________________________
____________________________________________________________________________________________________

When your baby wakes up in the middle of the night, who will be responsible for:

Going to the baby first? _________________ Feeding the baby? _________________
Diaper changes? _________________ Calming the baby? _________________

Cleaning and Household Tasks

Which household tasks can you totally ignore or let slide for baby’s first six weeks? ______________________________

__________________________________________

__________________________________________

For tasks that must be done, who will be responsible for what? ______________________________

__________________________________________

__________________________________________
Caring for Your Baby/Playing with Your Baby
Who will have primary responsibility for the baby:

In the morning? ___________________________ Times ___________________________________________

During the daytime? ________________________ Times _________________________________________

During the evening? ________________________ Times _________________________________________

Weekends ________________________________ Times _________________________________________

What techniques do you plan to use for calming your baby? ______________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________

Again, your plans may change as you get to know your baby, your baby’s temperament, and your own parenting styles. This plan will evolve day to day!

Support (PCN page 331, SG page 176)

Who can help you after the birth (bring food, run errands, do dishes, laundry, and so on)? __________________________
_____________________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________

When you need emotional support, whom can you call? ______________________________________
_____________________________________________________________________________________

**A Letter to Share with Those Who Offer to Help Out**

We’ve heard that we’ll need help and support after the baby comes. People say, “Sometimes when parents are caring for all the needs of a newborn, they have a hard time taking care of their own needs.” We’re asking for your help, in case this is true for us.

Once a day, we’ll need someone who can come check in on us and help us out with whatever we need. Here’s what would help:

- Call to remind us that you’re coming, and see if we need you to pick up or bring anything (such as a hot meal, diapers, or groceries). If we don’t answer the phone, leave a message and we’ll call back when we can!
- When you arrive, forgive us if our house is messy and we haven’t showered. Ask us again what we most need: we may need help washing dishes, starting the laundry, watching the baby while we shower or nap, or we may just need someone to sit and listen to us talk.
- Some days we might enjoy having a visitor over for an hour or two. Other days we’ll rather have quiet time to ourselves and might ask that you only stay for a few minutes. Please plan to be flexible.

Other things we may need help with:

_______________________________________________________________________
_______________________________________________________________________
_______________________________________________________________________
_______________________________________________________________________
_______________________________________________________________________
_______________________________________________________________________

We really look forward to you meeting our new baby and we’re happy that you’ll be part of our baby’s life! However, we want to remind you that in the early days after the birth, we’ll be learning our new job as parents. We expect that we’ll want to do all of the baby care things. We’ll ask you if it turns out that we need help with caring for our baby, but mostly, we need you to help take care of us! If you can help, please fill this out and give it back to us. Thanks!

Name ___________________________________________ Phone Number _____________

What day(s) of the week are you most likely to be able to help? ______________________________

How many times could we call on you in the first weeks? __________________________________

Is there anything you especially want to help with, or wouldn’t want to help with? ____________________________

________________________________________________________________________________________
External Links and Resources

Difficult Birth Experience
- Birth trauma-related websites that include discussion forums and information on birth-related post-traumatic stress disorder (PTSD): http://solaceformothers.org/ and http://patch.org
- International Cesarean Awareness Network: Support groups, discussion forums, and articles about recovering from cesarean birth and planning vaginal birth after cesarean (VBAC) at http://www.ican-online.org

Postpartum Mood Disorders
- Postpartum Support International: 800-944-4773 or http://www.postpartum.net
- Postpartum Support International of Washington: http://www.ppmdsupport.com; website includes recommended reading list

Infant Loss
Chapter 18: Caring for Your Baby

External Links and Resources

Overall Baby Care

- *The Baby Book: Everything You Need to Know About Your Baby from Birth to Age Two* by William Sears and Martha Sears (2013)
- *Loving Care: Birth to 6 Months* by the Nova Scotia Department of Health Promotion and Protection is a great overview of all the basics, from feeding, sleeping, and keeping your baby clean to secure attachment and games and activities to enhance brain development: [http://novascotia.ca/dhw/lovingcare](http://novascotia.ca/dhw/lovingcare)
- Mothering Magazine: [http://www.mothering.com](http://www.mothering.com)

Vaccination

- Recommended vaccination schedule: [http://www.cdc.gov/vaccines/schedules/easy-to-read/child.html](http://www.cdc.gov/vaccines/schedules/easy-to-read/child.html)
- Centers for Disease Control (CDC) hotline: 800-232-SHOT (7468)
- Plain Talk about Immunizations: [http://here.doh.wa.gov/materials/plaintalk](http://here.doh.wa.gov/materials/plaintalk)

Home Safety and Unsafe Products


Brain Development

- *Brain Rules for Baby* by John Medina (2014)

Child Development

- Parenting Counts Developmental Timeline: [http://www.parentingcounts.org](http://www.parentingcounts.org)
- The University of Michigan Health System on Developmental Milestones: [http://www.med.umich.edu/1libr/yourchild/devmile.htm](http://www.med.umich.edu/1libr/yourchild/devmile.htm)
- Zero to Three National Center for Infants, Toddlers, and Families: [http://www.zerotothree.org](http://www.zerotothree.org)

SIDS Risk Reduction and Safe Sleep Practices

- First Candle: 800-221-7437 or [http://www.firstcandle.com](http://www.firstcandle.com)
- American SIDS Institute: 800-232-7437 or [http://www.sids.org](http://www.sids.org)

Sleep and Calming Crying

- *The No-Cry Sleep Solution: Gentle Ways to Help Your Baby Sleep through the Night* by Elizabeth Pantley (2002)
- *The Happiest Baby on the Block: The New Way to Calm Crying and Help Your Newborn Sleep Longer* by Harvey Karp (2003): available as a book or DVD
- How to Double-Swaddle Your Baby: [http://www.youtube.com/watch?v=EOnsKlluHIg](http://www.youtube.com/watch?v=EOnsKlluHIg)

Premature and Ill Babies

Newborn Tests and Procedures

Routine care of the newborn includes many tests and procedures. These vary somewhat among health care providers and institutions. Try to find out which ones are used by your health care provider at your place of birth. Most of the following tests are routinely performed and a few are only used when medically indicated.

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<tr>
<th>Test or procedure</th>
<th>What it is</th>
<th>Comments</th>
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<tbody>
<tr>
<td>Infant vital signs</td>
<td>Your nurse or midwife will assess your baby’s vital signs (temperature, heart rate and respiration) to be sure your baby is adjusting to life as a newborn and to detect any problems with her heart, lungs, or need for warming.</td>
<td>Normal infant heart rate is 90–160 beats per minute, with a regular rate and rhythm and no audible heart murmurs. Infants breathe 30–60 times per minute. The infant should appear pink and breathe easily without grunting, flaring nostrils, or retracting her chest (pulling in her chest under her ribs). If the heart rate or rhythm is cause for concern or if there is a breathing problem, your baby will be assessed by her health-care provider or admitted to the nursery. Normal underarm temperature is between 97.4°F and 99.5°F. If she has a fever, she’ll be admitted to the nursery and may have a septic workup (see page 364) and intravenous (IV) antibiotics. If she is too cool, she’ll warm up quickly if placed skin-to-skin with you and covered with warmed blankets. If she is still cool after 20 or 30 minutes, she may be wrapped warmly in several blankets and placed under a special radiant warming light or admitted to the nursery and placed in a special bed or isolette for warming.</td>
</tr>
<tr>
<td>Vitamin K</td>
<td>Vitamin K is injected into the baby’s thigh. Vitamin K given soon after birth enhances blood clotting and may prevent a bleeding disorder of the newborn called hemorrhagic disease.</td>
<td>The AAP recommends the injectable form of vitamin K. The infant receives one shot in the thigh muscle. Oral vitamin K is as effective in preventing early VKDB (vitamin K deficiency bleeding) in the first week of life, but not as effective in preventing VKDB in 2- to 12-week-old babies. Breastfed babies are slower to produce adequate amounts of vitamin K than those fed formula. Formula contains small amounts of vitamin K.</td>
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<tr>
<td>Newborn eye ointment</td>
<td>Erythromycin is placed in the eyes within an hour or so after birth. The intention is to prevent infection and possible blindness if the newborn is exposed (in the birth canal) to the bacteria causing gonorrhea and chlamydia.</td>
<td>Eye prophylaxis can’t prevent other possible eye infections, such as those caused by the herpes simplex virus, Group B streptococcus, or Hemophilus influenza biotype IV. It is also not fully effective at preventing complications from chlamydia and gonorrhea. The Canadian Paediatric Society recommends against its routine use, saying that a more effective prevention method would be to screen and treat mothers during pregnancy. If mothers were not screened in pregnancy, they should be screened at delivery and babies treated if gonorrhea or chlamydia is detected. However, eye ointment is currently required in most of the United States. In some states, it is very difficult to opt out. Side effects are fairly minimal: When ointment is given, it causes mild eye irritation, and temporary blurring of vision. Delaying the procedure up to the allowed one hour gives you some time with the baby when she is alert and can see more clearly.</td>
</tr>
<tr>
<td>Septic workup (not routinely done—only used when medically indicated)</td>
<td>Blood is drawn and cerebrospinal fluid may be obtained by spinal tap; samples are sent to the laboratory to be tested for bacteria that cause illness. Results are available in about 48 hours.</td>
<td>These are done if baby has a fever or other signs of a possible infection. While awaiting results of testing, baby is admitted to the nursery for IV antibiotics. If the blood and cerebrospinal fluid are found to be normal, antibiotics will be discontinued. If the tests show the presence of bacteria, the baby will stay in the nursery for a full course of antibiotic therapy.</td>
</tr>
<tr>
<td>Test for jaundice (not routinely done—only used when there are concerns about jaundice)</td>
<td>Blood taken by pricking the baby’s heel is sent to a laboratory, where the bilirubin level is determined. If high, the baby has significant jaundice. Sometimes a special instrument, called a jaundice meter, is used first as a screening tool to estimate the blood levels of bilirubin by flashing a light over the skin of the baby’s sternum or forehead.</td>
<td>If the baby’s skin and whites of his eyes are yellowish, an elevated bilirubin level is suspected. Most jaundice is mild and disappears with little or no treatment. Jaundice may also result from prematurity, bruising of the baby during labor or birth, blood incompatibilities (Rh and ABO), sepsis (infection), exposure to certain drugs given to the mother in labor, or liver or intestinal problems. (See page 383 for a more detailed discussion of jaundice and its treatment.)</td>
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### Test or procedure

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<tr>
<td>Test for hypoglycemia</td>
<td>Blood obtained by a heel prick is tested for hypoglycemia (low blood sugar).</td>
<td>Hypoglycemia is most common in babies over 8 pounds 13 ounces or under 5 pounds, if the baby is chilled, or the baby is preterm or postterm. Hypoglycemia can lead to respiratory distress, lethargy, slow heart rate, seizures, and (in the most severe cases) death. Treatment includes frequent breastfeeding or formula feeding and/or feedings of sugar water (5 or 10 percent dextrose solution). In more serious cases, the baby may be admitted to the nursery and given IV dextrose. Low blood sugar can occur in babies when the mother is diabetic or when the mother has received large amounts of IV fluids with dextrose and water during labor.</td>
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<td>Infant security</td>
<td>Babies are given wrist and ankle bands at birth that match their mothers. All staff providing care for babies should wear easy-to-read identification badges.</td>
<td>Learn about the infant security policy at your hospital or birth center. There should be a written plan for safeguarding against switching babies and kidnapping (both very rare events.) Many facilities have video surveillance and sensors that lock doors and units immediately when a baby is missing. Having your baby in your room with you at the hospital (or birth center) and being sure that you never leave her unattended at the birth facility or after you go home are the best ways to keep your baby safe.</td>
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<tr>
<td>Newborn hearing screening</td>
<td>Newborn hearing is assessed in the first days after birth for a period of about 10 minutes while the infant is sleeping. Typically, headphones are placed on the baby, electrodes are placed on the baby’s forehead to monitor the response of auditory nerves, and a probe in baby’s ear measures sound waves in the ear.</td>
<td>Three in one thousand babies have hearing loss. Infants who are born prematurely, who have a family history of hearing deficits or deafness, or who have been exposed to pathogens or medications that put them at risk for hearing loss or deafness are tested. Of infants with hearing deficits, 50 percent have no known risk factors. Therefore, universal screening of all newborns is recommended, as the earlier treatment begins, the better for baby’s language development.</td>
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<tr>
<td>Pulse oximetry testing</td>
<td>A sensor is placed on baby’s skin (usually on the hand or foot) to measure the oxygen levels in his blood. This is done after 24 hours.</td>
<td>This painless screening test takes minutes. Low oxygen levels may indicate congenital heart disease, which can be treated with surgery.</td>
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<tr>
<td>Newborn screening</td>
<td>A sample of baby’s blood is taken using a heel prick. (Tip: to minimize pain and distress, warm your baby’s heel up, nurse your baby just before or during the procedure, and hold him during the procedure.) The sample is sent to a lab for testing. This is a screening test—if any results are concerning, your caregiver or state health department will contact you to advise you on diagnostic testing.</td>
<td>This test screens for rare diseases, including PKU (phenylketonuria), hypothyroidism, galactosemia (an inability to digest breast milk), sickle cell anemia, and thalassemia. The Discretionary Advisory Committee on Heritable Disorders in Newborns and Children recommends 31 core conditions and 26 secondary conditions be tested for. However, states and provinces vary in what they target. (The National Newborn Screening and Genetics Resource Center provides information about commercial and nonprofit organizations offering newborn screening tests that parents may use to test their infants for conditions not targeted by their state or province’s testing.5) More information can be found at <a href="http://www.babysfirsttest.org">http://www.babysfirsttest.org</a>.</td>
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### Endnotes

2. See note 1 above.  
Sleep and Activity Chart

Sample

Symbols
Sleep
Awake and crying or fussy
Awake and content
Feeding—breast
Feeding—bottle
Parent-baby interaction
(bath, car ride, play, etc.)
Diaper change

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Date 1:00 am 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 Noon 1:00 PM 2:00
### Sleep and Activity Charts for You to Complete

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**Notes:**
CHAPTER 18: CARING FOR YOUR BABY

Calling Your Baby’s Doctor

For more information, see *Pregnancy, Childbirth, and the Newborn* (PCN), page 383 or *The Simple Guide to Having a Baby* (SG), page 243.

Be familiar with newborn warning signs and call your baby’s doctor or clinic anytime you see them! (PCN page 386, SG page 244). Also call anytime you’re worried about your baby’s health.

Here are some questions the doctor or nurse may ask, so be sure you have the answers ready before you call.

What is your baby’s temperature? 
____________________

What symptoms have you noticed? (For example, is your baby coughing? Vomiting? Is there a rash?)

____________________

____________________

____________________

Is your baby acting differently from the way she usually acts? (For example, is she fussier than usual? Is she very sleepy?)

____________________

____________________

____________________

Is your baby eating normally?
____________________

Are your baby’s bowel movements the same as usual? Is your baby wetting as many diapers as usual?
____________________

What have you done to treat the symptoms? How is it working?
____________________

Is anyone else sick at home or child care?
____________________

Is your baby on any medications, or does she have any special health issues?
____________________

What is the name and phone number of your pharmacy or drugstore?
____________________

Have a pen handy to write down your caregiver’s suggestions here:
____________________

____________________

____________________

____________________
External Links and Resources

Books about Breastfeeding
- The Nursing Mother’s Companion by Kathleen Huggins (2005)

Websites about Breastfeeding
- http://www.llli.org
- http://www.breastfeedingonline.com
- http://www.womenshealth.gov/breastfeeding
- http://www.breastfeedinginc.ca
- http://www.kellymom.com
- http://www.breastfeedingmadesimple.com

Helpful Videos
- This website has several helpful videos; we especially recommend this video of latch: http://www.breastfeedinginc.ca/content.php?pageid=vid-28hrassist
- Video of latch: http://www.nhs.uk/conditions/pregnancy-and-baby/pages/breastfeeding-positioning-attachment.aspx#close
- Videos including latch, expression, maximizing milk supply: http://newborns.stanford.edu/Breastfeeding/
- Animation of latch: http://womenshealth.gov/breastfeeding/learning-to-breastfeed.html
- Breast massage and hand expression: http://womenshealth.gov/breastfeeding/learning-to-breastfeed.html

Forums for Discussing Breastfeeding and Getting Advice
- http://forums.llli.org
- http://www.mothering.com/discussions

Medications and Health Issues
- Medications and Mothers’ Milk by Thomas W. Hale (2010)
- Breastfeeding after breast or nipple surgery: http://www.bfar.org
- Mothers Overcoming Breastfeeding Issues (MOBI): http://www.mobimotherhood.org

Information on Choosing a Breast Pump
- http://www.kellymom.com

Women’s Stories about the Breastfeeding Experience
- The Breastfeeding Café: Mothers Share the Joys, Challenges, and Secrets of Nursing by Barbara Behrmann (2005):
  stories from nursing mothers about what the breastfeeding experience is like

Find an Internationally Board Certified Lactation Consultant (IBCLC)
- http://www.ilca.org
- http://www.uscla.org

Formula
Recommended Books for Children about Pregnancy and Birth

- **Waiting for Baby** by Rachel Fuller (2009). For ages 1–4. This wordless board book tells of a sibling going with mom to the doctor, helping to prepare for the baby and meeting the baby at the hospital.
- **Hello Baby** by Lizzy Rockwell (2003). For ages 3–6. Touches on all aspects of the baby to come, from prenatal development and OB appointments to meeting baby at the hospital.
- **Baby, Come Out** by Fran Manushkin (2014). For ages 3–6. A silly book about a baby who wants to stay in utero, and the family’s humorous attempts to get her out.
- **We’re Having a Homebirth!** by Kelly Mochel (2012). For ages 3–6. A small paperback with simple illustrations and brief text about the details of home birth.
- **Waiting for Baby** by Harriet Ziefert (1998). For ages 3–7. This story is about a boy who has trouble awaiting his baby sister’s birth.
- **How You Were Born** by Joanna Cole (1994). For ages 4–8. Filled with vivid full color photographs, helps siblings understand a baby’s prenatal development, birth, and early days.
- **There’s a Baby** by Penny Simkin (2013). DVD about a baby coming to Maia’s family.
- **When You Were Inside Mommy** by Joanna Cole (2001). For ages 3–7. Discusses fetal development, explaining the umbilical word, using the word uterus, and so on.
- **What’s Inside Your Tummy, Mommy** by Abby Cocovini (2008). For ages 3–7. A book about fetal development, month by month, that the pregnant parent can hold up to her body to show the child how big the baby is at each stage.
- **Mommy Breastfeeds Our Baby** by Teresa Carroll (2005). In English, Spanish, and French.
- **I’m a New Big Brother** by Nora Gaydos (2010). For ages 2–4. Positive book about what it’s like to be a big brother.
- **I’m a Big Brother/Sister** by Joanna Cole (2010). For ages 2–6. What babies are capable of and what they need.
- **Tenemos un bebé / We have a Baby** by Cathryn Falwell (2008). For ages 2–6. A simple bilingual book about loving a new baby.
- **I Used to be the Baby** by Robin Ballard (2002). For ages 3–6. Positive portrayal of sibling relations, where problems are presented and solutions are found.
- **The New Baby** by Mercer Mayer (2001). For ages 3–6. This story uses simple language to explain what it’s like to have a new baby and ways a sibling can play with the baby.
- **The New Baby** by Fred Rogers (1996). For ages 3–6. Younger children may like looking at the photos. This book talks about a new baby joining the family
- **The Berenstain Bears and Baby Makes Five** by Stan Berenstain and Jan Berenstain. 2000. For ages 4–8. A good book to read if your older child is feeling jealous and resentful.
- **A Baby Sister for Frances** by Russel Hoban (2011). For ages 4–8. A republished classic that addresses sibling rivalry. Helpful if your older child is feeling left out.

These books are out of print, or hard to find, but well worth reading:

- **Runa’s Birth: The Day My Sister Was Born** by Uwe Spillmann and Inga Kamieth (2006). This wonderfully illustrated story of birth is told from a child’s point of view.
- **Being Born** by Sheila Kitzinger (1992). A photo-essay of conception, the development of the unborn baby, and birth.
- **Mom, Dad and I Are Having a Baby** by Maryann Malecki (1982). A beautifully illustrated account of a home birth through the eyes of a young child.
- **How Was I Born?** by Lennart Nilsson (1993). Answers questions children ask about pregnancy and childbirth—the biological as well as the emotional ones.

Many of these may be available from your local library. Check out reviews on amazon.com or bn.com to learn more.