Part 1

pregnancy, childbirth and your newborn

Pregnancy brings change. From the moment of conception, your body begins to transform in ways that accommodate the new life starting within you. As your baby grows and develops, you adjust, too, both physically and emotionally. Late in your pregnancy, you prepare for labor and childbirth. And after your baby arrives, you begin the transition to life as a parent of this unique new person.

"Pregnancy, Childbirth and Your Newborn" offers guidance on the many changes of pregnancy, from planning for pregnancy to the first weeks at home with your newborn.

Introduction:
Preparing to have a baby 3

Chapter 1:
Month 1: Weeks 1 to 4 43

Chapter 2:
Month 2: Weeks 5 to 8 57

Chapter 3:
Month 3: Weeks 9 to 12 71

Chapter 4:
Month 4: Weeks 13 to 16 79

Chapter 5:
Month 5: Weeks 17 to 20 93

Chapter 6:
Month 6: Weeks 21 to 24 103

Chapter 7:
Month 7: Weeks 25 to 28 113

Chapter 8:
Month 8: Weeks 29 to 32 123

Chapter 9:
Month 9: Weeks 33 to 36 133

Chapter 10:
Month 10: Weeks 37 to 40 145

Chapter 11:
Labor and childbirth 155

Chapter 12:
Caesarean birth.....187

Chapter 13:
Your newborn 207

Chapter 14:
Taking your baby home 225

Chapter 15:
Postpartum care for moms 251

INTRODUCTION

preparing to have a baby

Are you ready to have a baby?

Maybe you're thinking about starting a family. Maybe you're trying to conceive. Or perhaps you already know that you're pregnant. If so, congratulations!

When you decide to have a child, your life changes. The choices you make now — even if you haven't yet conceived — can have a lasting effect on your future child.

The changes pregnancy brings can be exhilarating and unsettling, blissful and exhausting. As you prepare for this sometimes unpredictable journey, let this book serve as your guide. Part 1, "Pregnancy, Childbirth and Your Newborn," helps you plan and prepare for pregnancy. In four-week segments, it walks you through your baby's development and the changes you may experience physically and emotionally during pregnancy. It offers guidance on labor and childbirth. Finally, it provides information and advice on your newborn and your transition to parenthood.

Part 2, "Decision Guides for Pregnancy, Childbirth and Parenthood," includes information to help you make informed decisions on issues such as selecting a health care provider for your pregnancy, understanding prenatal testing options and choosing pain relief for labor. Part 3, "Pregnancy Reference Guide," offers explanations and self-care advice for many of the common concerns of pregnancy. Part 4, "Complications of Pregnancy and Childbirth," provides insight into some of the problems that can develop with pregnancy.

Think of pregnancy as a wonderful opportunity to nurture your child in every way, and use this book to prepare for the exciting changes ahead.

Before pregnancy: Giving baby the best

When it comes to pregnancy, thinking ahead can give you and your baby the best possible beginning. Whatever point you're at in planning a family, the decisions you make today can make a difference in your baby's health as well as your own.

If you're thinking about having a baby, you might want to ask yourself some key questions, such as:

- Why do I want to have a baby?
- Does my partner feel the same way I do about having a child?
- How will having a baby affect my current and future lifestyles? Am I ready and willing to make those changes?
- Do I have the emotional and financial support I need to raise a child?
- Will I be able to provide my baby with proper child care?

At the same time, think about your physical health. Indeed, the better your health before you conceive, the better your chances of avoiding problems that can affect you and your baby.

If you haven't thought about any of these issues so far, it doesn't mean you'll have an unhealthy pregnancy. But the sooner you set the stage for a successful outcome, the better your odds. That's true whether you are still in the planning stages, are trying to conceive or already have a baby on the way.

The following sections offer more information on how to do the best for you and your baby before, during and, in some cases, after your pregnancy.

Nutrition: Make every bite count

Good nutrition isn't only important during pregnancy. Even if you're just planning to become pregnant, eating a healthy, well-balanced diet is one of the best things you can do for yourself and your future child.

Once you're pregnant, you'll be eating for two, but if you think this means eating twice as much, you may be disappointed. Eating for two (you and your baby) means that you need to focus on eating twice as well as in the past.

If you already follow good eating habits, you have a head start in providing your baby with the nutrition he or she will need. Over the course of your pregnancy, you'll want to increase your intake of iron, calcium, folic acid and other essential vitamins and nutrients, since these nutrients are important to your baby's development. You'll also need to avoid certain foods that pose a safety risk so that neither you nor your baby gets sick. Yet, for the most part, you simply may have to do more of what you're already doing.

If your nutrition is poor or you often diet, skip meals or eat a limited variety of foods, start making changes now. In fact, it's critical to make good eating habits a part of your pregnancy planning from the start. The reason: Most of your baby's major organs form during the first few weeks of pregnancy — before you may even know you're pregnant. With too few calories or nutrients, cell development can be less than ideal and your baby may be underweight at birth, which may increase his or her risk of short- and long-term health problems.

Preconception visit: What to share

✔ It's a good idea to make a preconception appointment with your doctor, nurse-midwife or other medical health care provider. Be ready to talk about the following subjects.

- ❑ **Birth control.** If you've been taking birth control pills, your health care provider may want you to switch to another birth control method for the first month or two after you stop taking them. That's because it often takes several months for your menstrual periods to return to a regular pattern. Until this happens, it's more difficult to pinpoint when ovulation occurs or to estimate your due date.
- ❑ **Immunities.** The earlier you determine if you're immune to infections that can cause serious birth defects in babies, the better. If you aren't immune to infectious diseases such as chickenpox (varicella) and German measles (rubella), your health care provider may recommend that you be vaccinated at least one month before you try to become pregnant.
- ❑ **Current and past health issues.** If you have an ongoing medical condition such as diabetes, asthma or high blood pressure (hypertension), you'll want to make sure it's under control. Even if you've had no problem maintaining your health for some time, chronic conditions may require special care during pregnancy. That's because a growing baby can put new demands on your body.
- ❑ **Family history.** Tell your health care provider if your or your partner's family medical history puts you at greater risk of having a child with a birth defect.
- ❑ **Medications.** Your health care provider may recommend stopping certain prescription medications or changing doses before you become pregnant. Make sure he or she is aware of any nonprescription medications you take regularly. That includes herbal products such as St. John's wort, kava, valerian and ginkgo. If you're not taking a multivitamin, you'll want to begin taking one. Make sure it includes folic acid, which is a B vitamin that can help prevent serious birth defects in early pregnancy.
- ❑ **Age.** If you're over 35, you're at increased risk of fertility problems, miscarriage and pregnancy-related problems such as high blood pressure and gestational diabetes. You may want to discuss these increased risks with your health care provider and develop a plan for avoiding complications. (For more information, see "Pregnancy timing: Does age matter?" on page 35.)
- ❑ **Pregnancy difficulties.** If you've had previous miscarriages or trouble becoming pregnant, talk to your health care provider about it. He or she may be able to determine possible causes that might be corrected. At the very least, the two of you can discuss your concerns and fears about conception.
- ❑ **Lifestyle.** If you smoke, drink, eat a poor diet or don't have a regular exercise program, now is the perfect time to drop bad habits and adopt a healthier lifestyle. If you smoke and want to quit, your health care provider can connect you with the help you may need to stop smoking. He or she can also give you advice on improving your eating habits, starting an exercise program and reducing stress.
- ❑ **Your partner.** If possible, have your partner attend the preconception visit with you. He can answer questions about his family medical conditions and risk factors for infections or birth defects. Your partner's health and lifestyle are important because they can affect yours.

Eating right doesn't mean that you have to follow a rigid diet. To get proper nourishment and gain the weight you need to have a healthy pregnancy, you'll want to eat many different types of food. Just remember: What you eat and drink will have a direct effect on your developing baby.

Putting on pounds

It's important for you to gain weight throughout your pregnancy. Depending on your pre-pregnancy height and weight, your health care provider may recommend a range for weight gain during your pregnancy. You're expected to gain weight during pregnancy, but this doesn't mean you can gain an unlimited number of pounds. On the other hand, adequate weight gain is necessary for a healthy pregnancy.

Over the years, the recommendations for weight gain have changed dramatically. Not too long ago, medical experts thought a minimal weight gain was best for mother and child. Your mother probably was told to gain no more than 15 pounds! Now, if you're at a normal weight for your size when you conceive, research suggests that gaining 25 to 35 pounds is healthiest for you and your baby.

The weight you put on in pregnancy doesn't all come from fat. The weight from the baby you're carrying and an increase in blood and body fluids all contribute to your weight gain.

Although this range may be considered ideal, it's best to work with your health care provider to determine what's right for you. That decision will be based on your pre-pregnancy weight, your body mass index (BMI), your medical history, your health, the health of your developing baby and whether you're carrying twins or other multiples. During your prenatal visits, your health care provider can track how much weight you're gaining over time.

If possible, strive to put on your weight gradually with most of your gain in the second and third trimesters. During your first trimester, an

Pregnancy and weight gain

Here's a quick breakdown of where the weight goes if you were to gain 24 to 32½ pounds during your pregnancy:

- Your baby: 6½ to 9 pounds
- Placenta: 1½ pounds
- Amniotic fluid: 2 pounds
- Breast enlargement: 1 to 3 pounds
- Uterus enlargement: 2 pounds
- Fat stores and muscle development: 6 to 8 pounds
- Increased blood volume: 3 to 4 pounds
- Increased fluid volume: 2 to 3 pounds

extra 150 to 200 calories a day will help keep your weight gain between 1 to 1½ pounds a month. The more active you are, the more calories you'll need to consume.

In your second and third trimesters, you'll need a total of 400 to 500 extra calories a day beyond your normal diet. Guidelines suggest gaining ½ to 1 pound a week in the second and third trimester. Lack of weight gain during the second trimester is associated with low birth weight in the baby if you start out at a normal weight or are underweight to begin with. If you're overweight, but otherwise healthy, below average weight gain isn't likely to affect fetal growth.

How you obtain your added calories is as important as how many pounds you see on the scale. Even though you can easily obtain 200 or more calories by eating a candy bar, this choice doesn't offer the nutrition you need. You'll get the same calorie boost — as well as valuable carbohydrates, calcium, protein and iron — by adding to your daily diet a slice of whole-grain bread, a glass of skim milk and 1 ounce of lean meat.

What's my BMI?

Body mass index (BMI) is one measurement health care providers use to assess your weight and health. Use this chart to determine your BMI.

	HEALTHY		OVERWEIGHT		OBESE			
BMI	19	24	25	29	30	35	40	45
HEIGHT	**WEIGHT IN POUNDS**							
4'10"	91	115	119	138	143	167	191	215
4'11"	94	119	124	143	148	173	198	222
5'0"	97	123	128	148	153	179	204	230
5'1"	100	127	132	153	158	185	211	238
5'2"	104	131	136	158	164	191	218	246
5'3"	107	135	141	163	169	197	225	254
5'4"	110	140	145	169	174	204	232	262
5'5"	114	144	150	174	180	210	240	270
5'6"	118	148	155	179	186	216	247	278
5'7"	121	153	159	185	191	223	255	287
5'8"	125	158	164	190	197	230	262	295
5'9"	128	162	169	196	203	236	270	304
5'10"	132	167	174	202	209	243	278	313
5'11"	136	172	179	208	215	250	286	322
6'0"	140	177	184	213	221	258	294	331
6'1"	144	182	189	219	227	265	302	340
6'2"	148	186	194	225	233	272	311	350
6'3"	152	192	200	232	240	279	319	359
6'4"	156	197	205	238	246	287	328	369

(Source: National Institutes of Health)

A BMI over 30 before pregnancy can increase the risks to you and your baby. Your chances of having gestational diabetes and delivery by Caesarean birth are greater. For your baby, it can increase the risk of birth defects such as spina bifida and heart problems. It can also increase your chances of having a baby with a high birth weight (macrosomia), which can make it more difficult to deliver the baby through the birth canal.

If you enter pregnancy with a BMI of more than 30, work closely with your health care provider to monitor your weight gain and your health. You may be asked to limit your weight gain to 15 to 25 pounds or even less during pregnancy. Guidelines call for about a 2-pound weight gain in the first trimester and a 2/3 pound gain each week in the second and third trimesters.

A low BMI — less than 18.5 — also can put you and your baby at risk of some problems. You may be more likely to have a preterm (before 37th week) delivery, which means the baby is born before he or she is fully developed. Low maternal BMI may also increase your likelihood of having a low-birth-weight baby (under 5 1/2 pounds).

Again, it's best to talk with your health care provider about weight gain. If you have a low BMI, you may be asked to gain 28 to 40 pounds, which is slightly more than the normal range. Guidelines suggest a 5-pound gain in the first trimester and at least a 1-pound gain each week in the second and third trimesters.

Abuse during pregnancy

For some women, pregnancy isn't a time of happy anticipation. It's a time of fear. Studies show that 4 percent to 8 percent of pregnant women report being physically abused during their pregnancy.

Physical abuse may include having your partner beat, slap, kick or punch you. Sexual abuse may include rape or being forced to perform other sexual acts against your will.

Abuse can also be verbal or emotional. Emotional and verbal abuse may include shouting at you, scaring you or saying things that make you feel ashamed or unimportant.

If you're pregnant and in an abusive situation, it's more important than ever for you to seek help. Remember, you have to consider not only your health but the health of your unborn baby. Talk to your health care provider or a member of his or her professional staff.

You can also contact the National Domestic Violence Hotline at (800) 799-SAFE or (800) 799-7233 or (800) 787-3224 (TTY) or on the Web at *www.ndvh.org.* In addition, many states and communities have domestic violence hot lines.

Embracing nutrition basics

During pregnancy, it's important to eat a variety of healthy foods. Eating at least three meals a day and healthy snacks is probably the best way to consume a greater variety of foods. If morning sickness makes this impossible, try eating a series of snacks or small meals throughout the day. Remember that you can get servings from several food groups at once if you eat them in combination. A slice of cheese pizza, for example, would count toward servings in the grain (crust), vegetable (tomato sauce) and dairy (cheese) groups.

When you're pregnant, aim to eat more than the minimum number of servings typically recommended in each category of the food pyramid. The increased minimum serving suggestions listed on the next page will provide you with 1,800 to 2,800 calories daily.

To become more aware of your food selections and keep track of your servings, you may want to make copies of the "Minimum daily serving suggestions" sheet and write down what you eat throughout the day. If you find you're low in one category and high in others, try to balance your selections. You can also use this list to point out concerns to your health care provider. If you're unable to meet the recommendations because of allergies, personal aversions or confusion over serving sizes, your health care provider can help you.

Pay close attention to ingredient lists and nutrition facts on food labels. This information can help you keep track of sugars and fats, which add calories but little nutrition to your diet. Labels also reveal the amount of artificial sweeteners and sodium in packaged foods. Although most commercially used sweeteners are thought to be safe, try to limit your intake of artificially sweetened foods and drinks. These may include candy, yogurt, sodas and drink mixes.

Salt needs increase during pregnancy. However, it's still not wise to eat too many salty foods and snacks. That may be especially true if you have high blood pressure or if you develop complications in your pregnancy. In general, don't make any drastic changes in your sodium intake unless directed to do so by your health care provider.

Taking vitamin and mineral supplements

The best place to get the vitamins and minerals you need is from food sources. Yet during pregnancy, you may find it difficult to eat enough foods to supply you with enough folic acid, iron and calcium. That's why many health care providers prescribe prenatal vitamins.

Even if you take a prenatal vitamin or other supplements, the need for a well-balanced diet remains. In fact, taking supplements in no way makes up

for bad eating habits. Here's more information about the nutrients that are the most critical to the health of you and your baby:

- **Folic acid.** Folic acid is a B vitamin that's essential in early pregnancy. The Centers for Disease Control and Prevention (CDC) and U.S. Public Health Service recommend that all women of childbearing age consume

Minimum daily serving suggestions

Here's a guide to the types and amounts of foods you can eat for good nutrition during pregnancy.

Food category	Number of daily servings during pregnancy	Good choices
Breads and cereals	At least 9 servings 1 serving = 1/2 cup pasta, cooked cereal or rice; 1 slice bread; 6 crackers; 1/2 hamburger bun, 1/2 English muffin or 1/2 small bagel	Cereals, bagels, brown rice, whole-grain breads, rolls and crackers, whole-wheat pasta At least 3 servings of whole grains a day
Vegetables	4 or more servings 1 serving = 1/2 cup cooked or 1 cup raw vegetables	Leaf lettuce (romaine, endive), spinach, red and green peppers, sweet potatoes, winter squash, peas, green beans, broccoli, carrots, corn, tomatoes
Fruits	3 or more servings 1 serving = 1/2 cup cooked fruit or 1 medium-sized piece of fruit	Apples, apricots, bananas, grapes, mango, pineapple, strawberries, raspberries, orange, grapefruit, melon, peach, raisins
Milk, yogurt, cheese	3 or more servings 1 serving = 1 cup milk or yogurt; 1 ounce cheese	Skim milk, low-fat cheese, low-fat yogurt, low-fat cottage cheese
Meat, fish, eggs, dry beans	At least 3 servings 1 serving = 2 to 3 ounces	Chicken, dried peas and beans, fish, lean beef, lean pork, peanut butter, turkey
Fats and sugars	Use sparingly	Butter, margarine, sour cream, nuts, avocado, olive oil, salad dressing, sugar, syrup, honey, candy, desserts

600 micrograms (0.6 milligrams) of folic acid each day, whether or not they intend to become pregnant. Why? Studies have shown that this amount significantly decreases the risk of neural tube defects. Such defects include incomplete closure of the spine (spina bifida) and a partially or completely missing brain (anencephaly). Yet this protection

Your food choices today

may not come soon enough if you don't take folic acid until after you find out you're pregnant. That's because neural tube defects occur in the first four weeks of pregnancy, before you may realize you're having a baby.

Fortunately, many ways exist to get the folic acid you need — including taking a supplement or multivitamin and eating foods high in folate.

If you have had a fetus with a neural tube defect in a previous pregnancy, your health care provider may prescribe a daily supplement of 4,000 micrograms (4 mg) of folic acid. You'll likely take it one month before you plan to become pregnant through the first three months of pregnancy. Do not, however, consume more than 1,000 micrograms (1 mg) of folic acid a day without an OK from your health care provider. Too much folic acid in your diet can make it difficult to spot symptoms of vitamin B-12 deficiency.

Good dietary sources of folic acid (folate) include:

- Fortified breakfast cereals
- Fortified whole-grain breads
- Leafy green vegetables
- Dried peas and beans
- Citrus fruits and juices, such as oranges and grapefruits
- Bananas
- Cantaloupe
- Tomatoes

- **Iron.** This mineral, which is found in red blood cells, is always an important part of your diet. But it becomes even more important during pregnancy — when your blood volume expands to accommodate changes in your body. If you don't get enough iron, you may develop iron deficiency anemia, a condition that can cause fatigue and lowered resistance to infection. Iron is also required to form tissue for your baby and the placenta. In fact, at birth your newborn needs enough stored iron to last for the first six months of life.

  It's nearly impossible to eat enough foods to get the 30 mg of iron you need daily during pregnancy. This is double the amount of iron needed by adult women who aren't pregnant. Therefore, an iron supplement — along with a diet that includes iron-rich foods — is necessary.

  To help your body absorb the iron in your prenatal or iron supplement, take it with beverages high in vitamin C. Orange, tomato and vegetable juices are your best bets. You can also enhance iron absorption by eating foods high in vitamin C at the same time you eat iron-

containing foods. For example, put some strawberries on top of iron-fortified breakfast cereal.

Good dietary sources of iron include:

- Lean red meat
- Poultry
- Fish
- Spinach
- Tofu
- Dried fruits, such as raisins and prunes
- Nuts, such as almonds, cashews and peanuts
- Whole-grain and fortified breads and cereals

- **Calcium.** This mineral helps form strong bones and teeth. When you're pregnant and breast-feeding, you need 1,000 to 1,500 mg a day. That's about 40 percent more than most adult women require. If you enjoy and regularly eat dairy products, it's easy to get the added calcium. If you don't, try eating other foods containing calcium.

  Most prenatal supplements also contain calcium, but they usually don't contain enough of the mineral to meet your daily requirements. Several forms of calcium supplements are available. If your health care provider recommends that you take one, be sure it's made from calcium carbonate or calcium citrate, which are highly absorbable. Never take oyster shell or bone meal calcium — also known as dolomite and calcium appetite — because it may be contaminated with lead and other harmful chemicals.

  During pregnancy, you also need protein, carbohydrates and fat in your diet to maintain your energy level and provide the material for cell building, tissue growth and brain development. Vitamins A and C also are important. Vitamin A promotes healthy skin, eyesight and bone growth. Vitamin C forms healthy gums, teeth and bones for your baby. It also keeps your tissues healthy and improves iron absorption. Whole-grain breads, cereals, rice and pasta are good sources of vitamin A, and fruits such as mango, kiwi and oranges provide vitamin C.

  If you can't get enough of these nutrients from your diet, supplements may help. Work with your health care provider to make sure that you don't take excessive amounts of any vitamins or minerals. Big doses of vitamins may harm your baby. For example, large amounts of vitamin A — more than 10,000 international units (IU) — taken daily can cause defects in your baby's bones, heart, nervous system, head and face. Avoid supplementing more than the 5,000 IU.

Good dietary sources of calcium include:

- Milk
- Cheese
- Yogurt
- Salmon
- Canned sardines with bones
- Spinach
- Broccoli
- Dried beans
- Papaya
- Oranges
- Calcium-fortified foods such as some fruit juices and breakfast cereals

Following a vegetarian diet

If you're a vegetarian, you can continue to follow your diet during pregnancy and have a healthy baby. But you'll need to plan and review your food intake. To get the nutrition you need, eat a wide variety of foods and balance your intake each day.

If you normally include fish, milk and eggs in your diet, you'll have an easier time getting the iron, calcium and protein you need. If you don't eat any animal products at all, that is, you're a vegan, you'll need to carefully plan your daily food intake. Vegans often have difficulty getting enough zinc, vitamin B-12, iron, calcium and folic acid. To avoid this problem, try the following:

- **Eat at least four servings of calcium-rich foods each day.** Nondairy sources include broccoli, kale, dried beans, and calcium-fortified juices, cereals and soy products.
- **Add more energy-rich foods to your diet.** This is particularly important if you're having trouble gaining enough weight. Good sources include nuts, nut butters, seeds and dried fruit.
- **Seek advice on supplements.** Many vegans need a vitamin B-12 supplement. A prenatal vitamin that supplements other nutritional needs also may be necessary. To be sure what's right for you, consult with your health care provider and, if recommended, a registered dietitian.

Eating and cooking safely

There's an old adage that says, "Keep hot foods hot, cold foods cold and keep everything clean." During pregnancy, this saying could help keep you and your baby from becoming quite sick. The changes in your metabolism and circulation while pregnant may increase your risk of bacterial food poisoning.

If you do become sick from bacteria in your food, your reaction will probably be more severe than if you weren't pregnant. Whether or not you have signs and symptoms of food poisoning, your baby can become sick. That's because bacterial toxins pass from mother to baby through the placenta.

Salmonella and listeria are two common food-borne bacteria. Salmonella bacteria are often found in raw poultry, fish, eggs, milk and products containing these ingredients. With salmonella poisoning, you'll experience signs and symptoms within 24 hours after eating contaminated food. They include vomiting, diarrhea, fever, headache and abdominal pain. Most people recover in two to four days. During pregnancy, it may take longer.

Listeria bacteria are common. A particular species called *Listeria monocytogenes* can cause the food-borne illness known as listeriosis. The main sources of the bacteria are raw (unpasteurized) milk, soft cheeses such as brie and feta, undercooked poultry, and hot dogs and deli meats. Avoid these foods during pregnancy.

The signs and symptoms of listeriosis are similar to those of the flu (influenza). They include fever, fatigue, nausea, vomiting and diarrhea. About one-third of all cases of the illness occur during pregnancy. Severe cases may lead to miscarriage or newborn infections in the bloodstream or in the fluid surrounding the brain (meningitis).

To protect yourself and your developing baby, take these precautions:

Shop smart

When you go grocery shopping, pick up the highly perishable items last to reduce the amount of time they aren't refrigerated. These items include meat, poultry, fish and eggs. Once you get home, unpack and store these foods immediately.

Check your refrigerator

To keep bacterial growth at bay, set the temperature in your refrigerator between 34 and 40 F. Keep your freezer at or below 0 F. Monitor these temperatures with an inexpensive refrigerator thermometer. In addition, keep your refrigerator and freezer free of food that's past its expiration date. If you haven't cleaned out the contents in a while, now is a good time to do so.

Keep hands and surfaces clean

Always wash your hands and under your fingernails before you begin any food preparation. It's perhaps the best way to prevent food-borne disease. Keep raw and cooked foods separate when preparing a meal. Use different cutting boards for meats and produce. Wash cutting boards, cutting utensils and other work surfaces with hot, soapy water after each use. To help prevent contamination during food preparation, wash your hands after handling raw foods.

During your pregnancy, when you're selecting the foods you eat and deciding how to prepare them, changes may have to be made, especially with the following items:

Raw fruits and vegetables
Always wash them thoroughly with water before eating. In some cases, you even may want to scrub or peel away the skin. Don't eat alfalfa sprouts.

Ground meat
Hamburger, ground chicken and sausage require special handling. That's because *Escherichia coli (E. coli)* bacteria are commonly found on the surface of meat and distributed throughout the whole product during the grinding process. Unless you cook ground meat until it's well-done, you may not raise its internal temperature high enough to kill all the *E. coli.* Therefore, skip medium or rare burgers or sausages. Cooked ground meat is well-done when the meat is light gray and the juices run clear. All other meats and poultry also should be fully cooked before eating. Use a meat thermometer to ensure doneness.

Fish and shellfish
Seafood is highly nutritious and can continue to be part of your diet during pregnancy. Fish is a great source of omega-3 fatty acids, which are good for brain development in the growing baby.

Both fresh and frozen fish must be properly prepared to eliminate viral or bacterial contamination. When cooking, use the 10-minute rule. This involves measuring fish at its thickest part and cooking for 10 minutes per inch at 450 F. Shellfish such as clams, oysters and shrimp should be boiled for four to six minutes.

While you're pregnant, avoid all raw and undercooked seafood. It's also a good idea to buy fresh fish and seafood the same day you plan to eat it. Be aware that environmental toxins can be a problem with some freshwater fish and ocean seafood.

Despite being banned in 1979, polychlorinated biphenyls (PCBs) remain in our waterways. PCBs can accumulate to potentially dangerous levels in fish. Equally hazardous is methyl mercury, a byproduct of industrial waste and fuel burning that's released into the air and eventually pollutes waterways.

Pregnant or nursing women who consume mercury can harm their baby's developing brain and nervous system. Young children are also more sensitive to the harmful effects of methyl mercury than are older children or adults, who have more fully developed nervous systems.

If you are pregnant, could become pregnant or are nursing, the Environmental Protection Agency (EPA) recommends taking the following steps to

limit your exposure to environmental contaminants that may be present in some seafood:

- Choose fish with low mercury levels, such as Pacific salmon, haddock, flounder, shrimp, and farmed trout and catfish. Avoid shark, swordfish, king mackerel or tilefish, since these species tend to have the most chemical contaminants.
- Limit freshwater fish caught by family or friends to no more than 6 ounces a week.
- Limit consumption of fish purchased in a store or restaurant to no more than 12 ounces a week.
- Pay close attention to local advisories concerning the safety of eating fish from certain recreational lakes, rivers and streams. Warnings may be posted at the water's edge or included with information in local fishing licenses. Also watch for advisories issued by the Food and Drug Administration (FDA) regarding any hazards posed by fish sold in stores and restaurants.

To keep up with the latest freshwater fish consumption advisories across the country and in your area, check the EPA Web site at *www.epa.gov/waterscience/fishadvice/advice.html.* For current advice on any hazards posed by coastal and ocean fish caught by family or friends, visit the FDA's Web site at *www.cfsan.fda.gov/~lrd/tphgfish.html.*

Exercise: Pace it for pregnancy

Pregnancy seems like a perfect time to sit back and relax. Once your body begins changing, you'll notice that you feel more tired than usual. You may also have to deal with such pregnancy-related problems as back pain, muscle cramps, swelling and constipation.

But guess what? Sitting around won't help matters. In fact, pregnancy offers a great reason to get active. Exercise can help lessen common pregnancy complaints. It can boost your energy level and improve your overall health. Perhaps best of all, it can help you prepare for labor and childbirth by increasing your stamina and muscle strength. If you're in good physical condition before giving birth, you may even shorten your labor and recovery times.

Still, it's natural to wonder if exercise is safe during pregnancy. The answer is yes, with a few cautions. Before starting or continuing any exercise program, talk with your health care provider. That's especially important if you have a known medical condition, such as thyroid disease.

It's also important to know that pregnancy itself is physically demanding. You can expect to gain 25 to 35 pounds. Pregnancy is not a time to try losing weight or maintaining your current weight. In addition, your heart will

pump about 50 percent more blood. Your body will consume up to 20 percent more oxygen while you rest and even more when you exercise.

As your abdomen increases in size, your posture will shift, putting new strain on your back muscles and changing your balance. Toward the end of your pregnancy, the joints and ligaments in your pelvis will loosen in preparation for labor. All of these changes will affect the way your body responds to exercise. Muscle and joint injuries are more likely to occur if you're not careful.

Good ways to start

For the average person, the Centers for Disease Control and Prevention and the American College of Sports Medicine recommend getting 30 minutes or more of moderate exercise on most, if not all, days of the week. If you are pregnant and have no complications, you may want to meet this goal. However, exercising even three or four days a week for 20 minutes or more can offer health benefits.

Walking is an excellent exercise for beginners. It provides moderate aerobic conditioning and puts minimal stress on your joints. Other good choices are nonweight-bearing activities, such as swimming or cycling on a stationary bike. Before you begin any activity, check with your health care provider.

You're more likely to stick with an exercise plan if it involves activities that you enjoy. Choose activities that can be included easily in your daily schedule. Programs held at inconvenient times and places may discourage you from exercising at all. If you need help with motivation, contact your local hospital or birthing center. Many offer prenatal fitness classes. There, you can learn safe ways to exercise while working out with other pregnant women.

Sports and activities to approach with care

Usually, it's safe to do some form of exercise throughout pregnancy. After the first trimester, though, avoid floor exercises that require you to be on your back for a long period of time. The weight of the baby can cause problems with blood circulation. Standing motionless for a long period of time also can be hard on the circulatory system.

As soon as you learn you're pregnant, be especially careful with activities that carry a high risk of falling or abdominal injury. Gymnastics, horseback riding, downhill or water skiing, and vigorous racket sports have greater risk of injury. It also may be wise to take care if you play high contact sports such as soccer and basketball. These sports involve the risk of falling or colliding with another person. Plus, they often require you to jump or change

Medical conditions requiring caution with exercise

Exercising is good for your health during pregnancy. But if you have a medical condition, you may need to take a more cautious approach to physical activity. Conditions that may require caution include:

- Anemia
- Thyroid disease
- Diabetes
- A seizure disorder, such as epilepsy
- An irregular heartbeat
- A history of preterm labor

Other conditions require special monitoring during exercise or prohibit all forms of exercise. Examples of these conditions include:

- Heart disease
- An infectious disease such as hepatitis
- Severe high blood pressure
- Lung disease
- A history of multiple miscarriages
- Uterine bleeding
- Placenta previa

Other circumstances can affect your exercise program. If you are expecting twins or other multiples, have a condition that places you at high risk of premature labor or are carrying a baby that shows poor weight gain, you will need to carefully review with your health care provider what is and isn't permissible. However, that doesn't mean all exercise will be out of the question. If you're not restricted to bed rest, walking may be OK.

directions quickly. You may run a greater risk of straining the cartilage and ligaments that support your joints because these soften during pregnancy.

Underwater and high-altitude activities also can be a problem. Snorkeling is generally OK. However, avoid scuba diving during pregnancy because the air decompression poses a potential risk to the fetus. Physical activities such as hiking at altitudes higher than 6,000 feet above sea level can put you at risk of altitude sickness if you haven't had a chance to acclimate, which could endanger your health and that of your baby.

Listen to your body

If you're in good condition, you can probably work out safely at about the same level you did before you became pregnant, as long as you're feeling comfortable and your health care provider has given approval.

While exercising, listen to the messages your body sends you. If your body is telling you to slow down, follow its advice, no matter how fit you

are. Watch for dizziness, nausea, blurred vision, fatigue and shortness of breath. These can be signs of heat stroke, which can threaten the life of you and your baby.

Chest pain, abdominal pain and vaginal bleeding are other danger signs telling you to slow down, stop and get help if you need it. Never exercise through pain. Pain is your body's way of telling you to slow down or stop. Discuss pain and other danger signs with your health care provider.

Along with listening to your body, it pays to take some preventive measures. Injury and muscle cramps often can be avoided if you stretch muscles before and after exercise. To avoid dehydration, drink fluids during exercise whether you're thirsty or not. Take measures to prevent overheating your body. During warm weather, exercise outside in the early morning or late evening. With indoor exercises, work out in rooms with good ventilation or use a fan.

No matter how dedicated you are to being in shape, don't exercise to the point of exhaustion.

Lifestyle: Living for two

Once you become pregnant, everyone has advice about what you should and shouldn't do. Every day seems to bring a new health warning. To make matters worse, the information sometimes conflicts with what you might have heard last year or last week. It can make you question what changes, if any, you should make in your life.

You might wonder: Is an occasional glass of wine at dinner all right? Should I avoid people who smoke? Do I have to give up caffeine? Can I take a soak in the hot tub without harming my baby? Will sexual intercourse cause me to miscarry?

Your body will undergo major changes during your pregnancy. How much you need to change your lifestyle depends on your current habits. High-risk activities such as smoking, drinking alcohol and using recreational drugs should be off limits during pregnancy. Other habits and activities may simply need to be approached with caution or avoided for a time.

If you have any questions about how lifestyle issues can affect your health or the health of your baby, talk to your health care provider. In the meantime, think of pregnancy as the perfect time to kick bad habits and adopt new ones.

Drinking alcohol

The question: One little drink won't hurt my baby, will it? The answer: Maybe not. But experts agree that no level of alcohol has been proved safe during

pregnancy. Although you have a greater chance of harming your baby if you drink excessively, even moderate or minimal alcohol use can be damaging.

The reason: If you drink alcohol, so does your baby. It doesn't matter if you drink beer, wine or other forms of liquor. Once in your bloodstream, alcohol passes through the placenta to your baby. Sustained drinking during pregnancy increases your risk of miscarriage and fetal death. It also can cause permanent damage to your baby.

Fetal alcohol syndrome (FAS) is the most serious problem caused by excessive alcohol consumption during pregnancy. Each year, between 1,300 and 8,000 babies are born in the United States with the condition. FAS can cause such birth defects as facial deformities, heart problems, low birth weight and mental retardation. Babies born with FAS may also have permanent growth problems, short attention spans, learning disabilities and behavioral problems.

Children whose mothers drink even moderately can be born with fetal alcohol effect (FAE). This condition can cause some, but not all, of the defects of FAS. Depending on the damage done, these children may be referred to as having alcohol-related birth defects (ARBDs) or alcohol-related neurodevelopmental disorders (ARNDs).

The damage caused by alcohol is permanent. It's also completely preventable. As soon as you know you're pregnant, don't drink alcohol. If you're planning to get pregnant, it's a good idea to stop drinking. Alcohol exposure can cause birth defects in the early weeks of your pregnancy, before you may know you're carrying a child.

Small amounts of alcohol can wind up in breast milk and be passed on to your baby. You may want to abstain from alcohol use until you're finished breast-feeding.

If you think you might need help to stop drinking alcohol, talk with your health care provider.

Smoking

There's no question about it: Smoking is dangerous for you and your baby. Smoking during pregnancy increases your risk of:

- Preterm birth, which means delivering your baby before the 37th week of pregnancy. Preterm birth puts your baby at risk of low birth weight and other health problems.
- Problems with the placenta, which nourishes your baby during pregnancy.
- Stillbirth, in which the baby dies in the uterus before it's born.
- Having a low-birth-weight baby. Babies born at weights lower than 5½ pounds are more likely to have health problems and chronic disabilities.
- Having a child with certain birth defects.

- Having your baby die of sudden infant death syndrome (SIDS) after birth. SIDS occurs when an apparently healthy baby dies unexpectedly during sleep.
- Having a baby with behavioral difficulties and chronic respiratory problems, such as asthma.

How does smoking cause so much damage? Cigarette smoke contains thousands of chemicals. Two of them — carbon monoxide and nicotine — are toxins that can move through your bloodstream and harm your developing baby. Both can reduce the flow of oxygen to the fetus. And nicotine, which causes your heartbeat and blood pressure to increase and your blood vessels to constrict, can also decrease your baby's supply of nutrients.

It's best to stop smoking before you become pregnant and give up the habit completely, even after the baby is born. It's also wise to keep you and your baby away from the smoke of other smokers. Regular exposure to secondhand smoke appears to be capable of causing health problems for your child before and after birth.

If you're still smoking after becoming pregnant, remember that it's never too late to quit. Even if you stop late in pregnancy, you can reduce your baby's exposure to dangerous chemicals. Quitting for good also reduces your risk of developing cancer, heart disease and other serious illnesses.

Smoking is an addiction and a habit. Stopping can be very difficult. If you're ready to break the habit, ask your health care provider for help. It's especially important to consult with your health care provider before using products such as nicotine patches and gum. Although these products can help you stop smoking, risks are associated with using them during pregnancy. Your health care provider can help you weigh the benefits and risks of smoking cessation products and help you find support or classes in your area.

Using illicit drugs

If you're pregnant, the rule about using illicit drugs is simple: Don't do it. Any and all illicit drug use can harm your baby. This includes cocaine, marijuana, heroin, methadone, LSD, phencyclidine (PCP), methamphetamine and any other kind of recreational or street drug.

While you're pregnant, the drugs you take can pass from you to your baby. This can affect the development of the fetus and the future of your child as he or she grows up. It can also cause the death of your fetus or withdrawal symptoms in newborns that if untreated can lead to death.

For instance, if you use cocaine during pregnancy, you risk miscarriage, problems with the placenta, and preterm labor and childbirth. Cocaine also can cause growth restriction and birth defects. After delivery, cocaine can be passed from you to your baby in breast milk.

Dangers associated with drug use can harm you and your baby. Drugs that are used intravenously may cause infections, including human immunodeficiency virus (HIV), the AIDS virus. Money spent on drugs can take away from what's needed to provide you and your family with health care, housing and nutrition.

If you find it difficult to stop using drugs, talk to your health care provider. He or she can help you find the help you need.

Drinking caffeinated beverages

It's best to avoid caffeine whenever possible during pregnancy. At the very least, limit how much caffeine you consume. Research has been mixed on the subject. But overall, studies show a moderate intake — 200 milligrams (mg) or less a day, about the amount found in one to two cups of coffee — has no negative effects on pregnant women and their babies.

However, the same doesn't hold true for high amounts of caffeine — 500 mg or more daily, or five or more cups of coffee. Regular intake of this much caffeine may cause a decrease in your baby's birth weight and head circumference. Low birth weight can make it difficult for the baby to maintain a healthy body temperature and appropriate blood sugar levels, which can lead to other problems.

Coffee is the most common source of caffeine. Tea, carbonated beverages, cocoa and chocolate also contain caffeine. To reduce the amount of caffeine you consume in a day, consider switching to decaffeinated beverages. Or with hot, brewed beverages, shorten the time you brew them. For instance, brewing a tea bag for just one minute instead of several minutes can reduce caffeine content by as much as half.

Although herbal teas may seem like a safe alternative during pregnancy, avoid them. Little is known about herbs and their effects on pregnancy. In some cases, they can do damage. The herb comfrey, for example, can cause serious liver disease. For more information on herbal products, see page 455.

Precautions around the house

There's plenty to do to get ready for the baby, along with the usual work that continues despite your pregnancy. But is it safe to repaint walls, use household cleaning products, clean up after pets, sit in front of a computer screen or take a warm bath to relieve sore muscles? Yes, as long as you take some simple precautions in the following areas:

- **Painting.** In general, avoid exposure to oil-based paints, lead and mercury — all of which may be found in old paints that you may be

stripping from surfaces. Also avoid other substances that have solvents, such as paint removers. Even if you're just painting a small room or piece of baby furniture, be careful. Work in a well-ventilated area to minimize breathing fumes and wear protective clothing and gloves. Don't eat or drink in the area where you're painting. In addition, be extra careful if you use a ladder. Your changing body shape may throw off your sense of balance.

- **Housecleaning.** The use of normal household cleaners hasn't been shown to harm a developing baby. Still, it's a good idea to stay away from oven cleaners that emit strong fumes in a contained space. Don't mix chemicals such as ammonia and bleach because the combination can produce toxic fumes. When cleaning, avoid inhaling any strong, caustic fumes. Wear protective gloves to avoid absorbing any chemicals through your skin. You might also consider switching to cleaners such as vinegar and baking soda or other products that contain no harsh, toxic chemicals.
- **Cleaning the litter box.** Cats who hunt rodents may harbor a parasite that causes an infection known as toxoplasmosis. Some women cat owners are immune to the illness before pregnancy. Usually, your own cat isn't much of a risk. But if you're not immune and you were to pass on a first-time, active infection to your baby, it could result in birth defects such as blindness, deafness and mental retardation. When disposing of used litter, wear rubber gloves or, better yet, get someone else to do it. Change the litter frequently to avoid a buildup of cat feces dust.
- **Soaking in hot water.** A bath can help you relax and relieve sore muscles without posing any health hazards. But be careful to avoid long exposures to hot tubs with temperatures greater than 101 F. Warm temperatures may also cause your blood pressure to drop, increasing your risk of fainting. In short, if you're in warm or hot water and you get dizzy, you've been in too long.

Sex

Usually, you can have sex well into your third trimester, as long as you're having no problems with your pregnancy. But you may not always want to. During the early stage of pregnancy, changing hormones, new weight gain and decreased energy levels may take their toll on sexual desire. Lack of interest may continue through the first trimester, when exhaustion and nausea are most likely to occur.

During the second trimester, increased blood flow to your sexual organs and breasts may rekindle your desire. It may even increase your normal interest in sex. As you enter your final trimester, however, interest may wane

in terms of their safety during pregnancy. But most medications haven't been studied on pregnant women. Therefore, it isn't known for certain if they cause damage to growing fetuses or can affect a child later in life.

Some medications have been shown to be extremely harmful to a developing fetus, even in the early weeks of pregnancy. Some of the most dangerous drugs include:

- The acne drug isotretinoin (Accutane)
- The multiuse drug thalidomide (Thalomid)
- The psoriasis drug acitretin (Soriatane)

If you're taking one of these medications, avoid becoming pregnant until you discontinue its use. Your health care provider will advise you on the best way to stop taking a medication and how long you may need to wait before it's safe to conceive. Don't restart a drug without talking to your health care provider.

For more specific information on medications, see "Medications," on page 463, in Part 3, "Pregnancy Reference Guide." Talk with your health care provider about any specific questions you have regarding medications.

Vaccines

During pregnancy, you may be at increased risk of complications from infectious diseases and illnesses, such as the flu. In fact, the flu can prove deadly. That's why the flu shot is recommended during pregnancy. The shot, which is made from inactivated viruses, is thought to be safe at any stage of conception. But some experts recommend that pregnant women wait until their second trimester, when the highest risk of miscarriage has passed. If you're still in your first three months of pregnancy when the flu season hits, ask your health care provider if he or she recommends waiting or going forward with the shot.

Other vaccines for chickenpox (varicella), German measles (rubella) and measles (rubeola) haven't been approved for women who are pregnant. Most of these illnesses occur early in life. They're now relatively rare because of childhood immunization programs. But you're at increased risk of serious complications if you contract them during pregnancy. If you're susceptible to chickenpox and are planning to conceive, your health care provider may recommend that you have the vaccination and put off pregnancy for a month or more.

If you're already pregnant and found not to be immune from serious infectious diseases, you'll need to avoid exposure to them. After pregnancy, your health care provider may recommend that you be vaccinated against such illnesses as German measles so that you'll be immune in future pregnancies. Once vaccinated, though, you shouldn't become pregnant again for at least one month.

Work: Plan ahead

If you're planning to work throughout your pregnancy, you're not alone. Many women stay on the job until they're ready to give birth.

Pregnancy does raise some serious questions that you typically need to answer before too much time passes. Some of these questions may include:

- When should I tell my boss and co-workers?
- How do I deal with fatigue or morning sickness on the job?
- Will continuing to work hurt my baby or endanger my pregnancy?
- How much maternity leave can I take?

You might have many more questions and concerns about working during pregnancy. Feel free to ask your health care provider. In addition, seek help if you're having trouble keeping up with daily demands.

Breaking the news at work

Everyone has a different idea about the perfect time to tell others that she is pregnant. Many women wait to tell anyone except their partner until after their first trimester, when the highest risk of miscarriage has passed. Others can't wait to share the news.

At work, there's no perfect time to tell others. It's wise not to wait too long, especially if you have health issues or other complications to sort through with your supervisor. No matter when you break the news, consider the following tips:

- **Tell your boss personally.** Your boss deserves to hear the news directly from you instead of overhearing it in the break room. Even if you tell only one or two people you trust, secrets can be hard to keep. If you begin having trouble keeping your eyes open at meetings or are constantly running to the bathroom, it's better to let your boss know that you're pregnant instead of letting him or her think that you are ill or have lost interest in work.
- **Watch out for potential conflicts.** These days, it's illegal to withhold a promotion, reduce the amount of a raise or take back a job offer just because a woman is pregnant. Nevertheless, if you have an upcoming salary review or are under consideration for a new position or important project, you may want to wait to share your news. After all, these decisions should be based on your performance up until now. If, however, you want to avoid taking on a special assignment that would be impossible to finish before your baby arrives, you may want to speak up sooner.
- **Keep your options open.** Your boss and co-workers may want to know exactly how long you plan to work and when you intend to come back.

Share some general plans at the start of your pregnancy, but leave enough room for negotiation in case the idea of working until your water breaks loses its appeal by your final trimester. For instance, you could say, "My goal is to work straight through pregnancy, but I probably can't make a final decision until I reach my third trimester." Even if you decide to state your plans in detail, be sure to acknowledge that unforeseen problems or circumstances could result in changes.

- **Know what your options are.** Once you make your big announcement at work, go to your company's personnel office. Collect information on health insurance, disability benefits, and family or maternity leave policies. You may also want to check into company policies regarding flextime or telecommuting, which may allow you to shorten your hours before your baby arrives or work from home after your maternity leave.
- **Offer solutions.** Before you share your baby news, think about how your work might be split up. Consider who could be trained to take your spot for a few months, if necessary. This is particularly important if you're in a management position or will need to change job responsibilities because your current position might pose health hazards to your baby. The bottom line: If you help come up with solutions, your boss and colleagues are less likely to focus on the challenges your pregnancy might create.
- **Know the law.** Although policies regarding work hours, sick leave and health care benefits vary from company to company, federal laws offer protections for pregnant women and those who can't work because of the need to care for a newborn. These laws are known as the Pregnancy Discrimination Act of 1978 and the Family Medical Leave Act of 1993.

  Be aware, however, that some small companies may be exempt from these laws. Also, you may not qualify for certain benefits if you're a relatively new employee. Consult your company handbook and your human resources office if you're in doubt about what's available to you.

Surviving sickness and sleepiness

The myth of superwoman is just that — a myth. Even though it's safe for almost all women to work while pregnant, at times it may not be easy to keep up the same pace as before you were pregnant.

One reason for that is morning sickness. Up to 70 percent of pregnant women experience nausea and vomiting in early pregnancy. Usually, it begins early on and subsides during the second trimester. But some women continue to be sick beyond the first trimester. An unlucky few have trouble throughout their pregnancy. To top it off, the condition — commonly known as morning sickness — can occur anytime of day.

You can take steps to help keep morning sickness under better control:

- **Avoid nausea triggers.** A lot of women find certain foods and smells can aggravate nausea during pregnancy. If this is the case for you, steer clear of whatever triggers queasiness. For instance, if the smells of the hot dishes in the company cafeteria turn your stomach, start brown bagging it or eating at your desk. Strong colognes or perfumes that set you off may be harder to eliminate. But if your co-worker in the next cubicle wears a particularly strong scent, see if you can enlist his or her help. For instance, you might say, "Normally, I love the after-shave you wear, but since I became pregnant, all colognes seem to make my morning sickness worse. Because we sit so close, would you consider not using any after-shave for a while?"
- **Eat snacks and light meals.** Crackers and other bland foods can be lifesavers when you start to feel nauseated. Once you find what items work best for you, keep a stash in your desk drawer or in your purse for emergencies. Snacking on light bites can keep your stomach from being completely empty or full, two conditions that can make nausea worse. Nibbling a few crackers before getting out of bed might keep you from feeling sick first thing in the morning.
- **Drink enough fluids.** Your body uses more water in early pregnancy. If you don't drink enough fluids, it can worsen your nausea. A good goal is six to eight 8-ounce cups throughout the day. Caffeinated drinks don't count.
- **Get enough rest.** The more tired you are, the more nauseated you can become. Therefore, it's important to get a good night's sleep. Rushing around in the morning also can make you queasy. Try going to bed earlier and getting up a little sooner to maximize the amount of sleep you get and minimize the stress you feel when preparing for your workday.

Even with a little more sleep at night, you still may notice that you have less energy during the day. This is especially true in the first and third trimesters, when you may feel tired much of the time. Fatigue is your body's way of telling you to slow down, but this can be tough during the workday. To make it through the day, try the following:

- **Take short, frequent breaks.** Regular rest periods can improve your productivity, especially if fatigue is interfering with your ability to concentrate or make decisions. Even 10 minutes spent with the lights off, your eyes closed and your feet up can help you recharge. Getting up and moving around for a few minutes also can make you feel refreshed.
- **Rethink your schedule.** If you're exhausted by the afternoon, get your toughest or high-concentration tasks done earlier in the day. If it takes you longer to regain energy in the morning, try to put off energy-draining chores until the afternoon. You may want to see if you can

arrange more flexible work hours that allow you to start work later in the day.

Consider cutting back on commitments and activities outside the office to get more rest in the evening. If you have a physically strenuous job, it's even more important to take it easier on evenings and weekends. If you sit at a desk all day long, though, a walk, a prenatal exercise class or a night out could be the best way to keep from feeling drained. The rule of thumb: Maintain a balance.

- **Accept and use help.** You may be used to cleaning your own house, mowing your own yard and running errands after work. But to get in some extra rest and relaxation, you might consider hiring services or the teenager down the street to help with cleaning or yardwork. You might even want to take advantage of online shopping sites and home deliveries to gain extra time.

  During work hours, don't be too proud to accept help and support from co-workers. If colleagues offer to answer your phone while you close your office door to take a 10-minute nap or reschedule late afternoon meetings so that you can attend birthing classes, let them. By letting them show their support for you, you'll strengthen the bond you share with your colleagues.

Staying comfortable

Carrying around a growing baby can make everyday activities like sitting, standing, bending and lifting uncomfortable. It can also cause constant pressure on your bladder, strain on your back and fluid retention in your legs and feet.

Emptying your bladder frequently can help relieve pressure. Moving around every few hours can ease muscle tension and help prevent fluid buildup. But you may need to try other strategies to make yourself comfortable throughout your workday and prevent potential health hazards. Here's how to handle common on-the-job activities:

- **Sitting.** If you have an office job, the chair you sit in is important, and not just during pregnancy. While the weight of your body is increasing and shifting, it helps to have a seat you can adjust for height and tilt. Adjustable armrests, a firm seat and back cushions, and good back support can make long hours of sitting much easier and facilitate exits from the chair.

  If a chair with these options isn't available, take steps to improve what you do have. For instance, if you need more cushioning or back support, use a small pillow or invest in a cushion designed to support the lower back. This type of cushion can also serve as a car seat support, which might make driving easier if you have a long commute.

While sitting, it's best to elevate your feet on a footrest or box to help take some of the strain off your back. This may also reduce your chance of developing varicose veins or clots in the veins of your legs. Using a footrest may also help reduce the swelling in the feet and legs. Round-bottomed footrests even can be rocked gently with your feet. This motion is good for your circulation and may be soothing if you feel restless. Skip crossing your legs as well.

- **Standing.** Standing for long periods may not seem like a risky proposition. But during pregnancy, you have increased dilation of blood vessels. This can cause blood to pool in the legs with too much standing, which could lead to pain, dizziness and even fainting.

  Standing can also put pressure on your back. If standing is part of your job, put one foot on a box or low stool to take pressure off your back and decrease blood pooling. Switch feet every so often. It may help to wear support hose and take frequent breaks throughout the day. Most health care providers recommend wearing shoes with low, wide heels rather than high heels or flats.

  If your job requires you to stand for four or more hours a day, ask your health care provider if he or she has any specific recommendations or concerns that might require you to stop working earlier in your pregnancy or modify your job duties.
- **Bending and lifting.** To prevent or ease back pain, follow proper form when bending and lifting. To pick up something off the floor, stand with your feet shoulder-width apart and lower your body by bending at the knees, not the waist. Keep your back as straight as possible when you grasp the load. Then keep the load close to your body while you use your leg muscles to lift you and the item. Don't twist the body as you rise to a standing position.

Keeping stress under control

Stress on the job can be exhilarating in some cases. It can inspire you to push harder and achieve more than you ever thought possible. However, it can also exhaust you and take away the time and energy you need to care for yourself and your unborn baby. Eating right and exercising, for instance, can go out the window when you spend a great deal of time dealing with stressful workplace issues.

Although it may be impossible to eliminate job-related stress, you can try to minimize it. Talk out problems with a supportive co-worker, friend or spouse. Your health care provider might be another source of support. Or he or she may be able to refer you to other professionals or support groups that can help you deal with stress before it affects your well-being.

A good sense of humor and the company of positive, optimistic people also can help. So can keeping your eye on the big picture. When you feel yourself getting angry or upset as a result of stress, stop and ask yourself if you can do anything to change the situation. If not, you may just need to let it go.

Relaxation exercises also can help you release pressure that may build up during the course of a day. Most of these exercises can be done anywhere at any time. They include:

- **Breathing.** Inhale slowly through your nose and then hold your breath while you count to five. Exhale slowly and deeply when you're finished counting. Repeat this exercise three or four times.
- **Refocusing your thoughts.** Think about a positive experience or a place you enjoy. If you need help or inspiration, look at a picture or object that has a pleasant meaning for you. Listening to music also can help you relax and take your mind off what's troubling you for a few moments. If this isn't possible while you're working, try this exercise on your break, during your commute or when you get home.
- **Keeping a journal.** Write in a notebook for 10 minutes whenever you get frustrated or need to get rid of the stress of the day. Forget about grammar and spelling. Just write whatever thoughts or feelings you want to express. Once you're done, read what you wrote. You may be surprised to find insights or solutions to your problems. At the very least, you'll blow off some steam.

Taking proper job precautions

If heavy physical labor isn't part of your job, you may think that you can continue working with no worries while pregnant. This may be true. But several studies indicate that certain activities and working conditions can increase your risk of preterm labor and giving birth to a low-birth-weight baby. These activities and conditions include:

- Heavy, repetitive lifting
- Prolonged standing
- Heavy vibrations, such as from large machines
- Long, stressful commutes to and from work

Other job conditions also may be cause for concern. Frequent shift changes, for instance, may make it hard for you to get the proper rest. A hot working environment may decrease your stamina and ability to perform strenuous physical tasks. Activities that require agility and good balance may become more difficult later in pregnancy.

If any of these issues apply to you, you may need to review them with your health care provider and, possibly, your employer. Your health care provider will be able to tell you if you need to take any special precautions

or modify your responsibilities. He or she can also make specific recommendations throughout the stages of pregnancy and, if needed, provide documents for your employer explaining any work restrictions you might need.

Other workplace issues that you may have concerns and questions about include the following.

Exposure to harmful substances

The good news: As long as you and the company you work for follow standard Occupational Safety & Health Administration (OSHA) practices regarding harmful substances, it's unlikely that your fetus will be harmed.

To be safe, be aware of any substances you're exposed to at work — especially if you're in health care or manufacturing. Industries in the United States are required by federal law to have material safety data sheets on file that report hazardous substances in the workplace and to make this information available to employees.

Substances known to be harmful to a developing fetus include lead, mercury, ionizing radiation (X-rays) and drugs used to treat cancer. Chemicals such as anesthetic gases and organic solvents such as benzene are suspected to be harmful, although results of studies are inconclusive.

Tell your health care provider about any part of your job that exposes you to chemicals, drugs or radiation. Also tell your health care provider about any equipment you use to minimize your exposure. This may include gowns, gloves, masks and ventilation systems.

Your health care provider can use this information to determine whether a risk exists and, if so, what can be done to eliminate or reduce it. To help assess the risk, you might be asked to keep a diary of your workplace activities for a week or two.

Fortunately, it appears that environmental agents cause few birth defects. Of the small percentage of birth defects that can be traced to an environmental cause, most involve alcohol, tobacco or drugs used during pregnancy — not substances in the workplace. Nevertheless, avoid exposure to known or suspected harmful substances.

A high risk of infections

If you're a health care professional, child-care worker, school teacher, veterinary worker or meat handler, you may be exposed to infections during the course of your job. When you're pregnant, several infections are of great concern. They include German measles (rubella), chickenpox (varicella), fifth disease (parvovirus), cytomegalovirus (CMV), toxoplasmosis, herpes simplex, hepatitis B and AIDS.

You already may be immune to some of these diseases, either because you have had them or have been vaccinated against them. If you don't have

immunity, avoid situations in which you're exposed to these diseases, and practice infection-control measures whenever possible.

If you work in a health care setting, wear gloves, wash your hands regularly and avoid eating on the job. If you work in child care, wash your hands after changing diapers, after helping children use the bathroom and before eating. Don't kiss or share food with the children you supervise.

If you're concerned about or at high risk of getting an infection at work, talk with your health care provider. After reviewing your health, immune status and job duties, he or she may advise you to take special precautions to avoid exposure.

Computers in the workplace

As computers have become more common in the workplace, concerns have arisen about the risks associated with sitting for hours in front of a computer screen — also known as a video display terminal (VDT). Computer screens do emit a small amount of nonionizing radiation, but so far studies indicate that this low level of radiation isn't dangerous to a developing fetus.

If you're still worried or you just want to be cautious, take a few simple precautions: Sit 22 to 28 inches — about an arm's length — from your terminal and 3 to 4 feet from the back and sides of your co-workers' terminals. At these distances, the amount of nonionizing radiation that reaches you drops off dramatically.

Another form of energy — called electromagnetic fields (EMFs) — also are produced by VDTs. This same energy comes from such sources as power lines and electric appliances. Some studies have suggested that being exposed to high levels of EMFs can pose health concerns. Yet research has shown that working with VDTs doesn't expose workers to EMFs that are any higher than those they tend to experience from other sources. Better yet, recent studies haven't shown that VDTs pose health risks for pregnant women — even if they work at a computer all day long.

Some computer workers complain of straining everything from their neck and back to their wrists and hands. However, many of these problems can be avoided or helped by taking regularly scheduled work breaks. In addition, use proper hand positioning and adjust office equipment for your height and comfort.

Preparing for maternity and paternity leave

Plan ahead to determine how long you can take off work. In most cases, the time you're away will be unpaid, unless you can use paid sick leave, vacation days or personal days to substitute as part of your maternity leave.

Before you have your baby, be sure to check on which benefits will continue during your leave and which ones, if any, will cease. If the father of your baby plans to take paternity leave, he needs to ask the same questions at his workplace.

Child care is another issue that requires some planning. Some child-care providers have long waiting lists or may not take infants. Don't wait until your maternity leave is almost over to investigate your options. To avoid this problem, talk to family, friends and co-workers who have faced the same issue. Through their experiences, you can start thinking about your child-care options and what steps you need to take.

Pregnancy timing: Does age matter?

About 4 million American women give birth each year. Although some are teenagers, most are in their 20s and 30s. With today's advances in assisted reproductive technologies, some new moms are even in their late 40s or 50s. In 2000, for example, 255 American women in their 50s gave birth.

Over the past three decades, the average age of first-time moms in the United States has increased. In 1970, the average first-time mom was 21.4 years old. In 2002, the average first-time mom was just past her 25th birthday, 25.1 years old. Though the numbers vary quite widely from state to state and for different ethnic groups, this upward trend is widespread, occurring in all ethnic groups and all 50 states.

Why the increase in the average age of new moms? The reasons are likely twofold. Over the past three decades, the percentage of babies born to teenage mothers has decreased. In 1970, these births made up 17.6 percent of the total. By 2000, this percentage had fallen to 11.8 percent. One possible reason for this is the use of contraceptives. Between the 1970s and 1990s, the number of couples using contraception, especially condoms, during their first sexual experience rose dramatically.

The other reason has to do with women on the other end of the age spectrum — those age 35 and older. Over the past three decades, the percentage of babies born to these women has increased from 6.3 percent in 1970 to 13.4 percent in 2000. Educational and career opportunities are often cited as reasons that American women are waiting longer to become moms. In fact, from 1970 to 2000, the percentage of women having completed four or more years of college nearly tripled. During the same period, women's participation in the American workforce increased by nearly 40 percent.

The years from ages 20 to 34 are still the most "popular" for childbearing, accounting for about three-fourths of all births. That hasn't changed much in 30 years, although the percentage of women becoming new moms in

their early 20s has decreased, and the percentage of women becoming new moms in their early 30s has increased. When you tally up all the births in the United States each year, women in their 20s still account for more than half.

Fertility and age

If you're in your 30s or 40s, you may be wondering whether you'll have trouble getting pregnant. Fertility does decline with age. A woman is at her peak fertility between ages 20 and 24. If you're in your early to mid-30s, you're probably about 15 percent to 20 percent less fertile than you were in your early 20s. If you're in your mid- to late 30s, you may be 25 percent to 50 percent less fertile than you were at your peak. If you're in your early to mid-40s, your decline in fertility may be as much as 95 percent.

Here's another way of thinking about it: In the United States, about 10 percent of women in their 20s report some difficulty getting pregnant. This percentage increases to 25 percent among women in their 30s and to more than 50 percent among women age 40 and older.

Studies suggest that your fertility declines slowly through your mid- to late 20s and early 30s. It then drops off more steeply once you reach age 35. Statistics bear this out: About one-third of couples in which the woman is over 35 have trouble conceiving a child. However, some research suggests that while this age-related drop in fertility decreases your chances of becoming pregnant in a given month, it doesn't reduce your overall chances of conceiving. In other words, if you're in your mid- to late 30s, getting pregnant may just take a bit longer than it would have earlier in your life.

Why does fertility decline as you get older? Researchers think it mainly has to do with the quality and quantity of your eggs. The receptiveness of your uterus and age-related hormonal changes also may play a role.

Egg quality

When you're born, your ovaries contain all the eggs you're ever going to have — about 2 million — although they're in an undeveloped form. As you mature, most of the undeveloped eggs disappear, leaving only about 40,000 by puberty. During your reproductive life — about 30 years for most women — only about 400 of these eggs will develop fully, typically about one a month. When you've used up all your eggs and your ovaries no longer produce enough estrogen to properly stimulate the lining of your uterus and vagina, you've reached menopause.

Studies suggest that as you reach your mid-30s and your eggs get older, they decline in quality. They don't look any different from younger eggs, and their advanced age doesn't seem to make them less likely to be successfully

Does a man's fertility decline over time?

You hear stories about men fathering children well into their 60s and 70s — sometimes even into their 80s. This may be true in isolated cases. But scientists are finding that men experience an age-related decline in fertility, too. It occurs later than it does in women, typically starting in the late 30s. One study found a 40 percent decline in the probability of a man impregnating his partner from ages 35 to 40.

What causes reduced fertility in men? In order for your partner's sperm to fertilize your egg, it must mature properly, survive intercourse and the passage through your reproductive tract, and remain viable until your egg is ready. It then must penetrate the firm capsule (zona pellucida) of the egg, fertilize the egg and provide normal genetic material for the early development of your baby. That's a tall order anytime. Under the best circumstances, a sperm cell is capable of fertilizing an egg for only two to three days after ejaculation.

As a man gets older, his sperm have a harder time completing all these tasks. Starting even as early as his 30s, his sperm are more likely to have chromosome problems, which can adversely affect sperm function and the early development of the embryo. In addition, his sperm may not swim as well as they used to, although unless he also has a low sperm count, this isn't likely to affect his fertility. Doctors and scientists are investigating whether changes in the testes and prostate may adversely affect sperm production and the biochemical properties of semen. Although a man's age doesn't seem to have much effect on the biochemistry of his semen, researchers are identifying new substances that may affect sperm function over time. Smoking and a few medications may decrease male fertility.

fertilized by your partner's sperm. However, some research suggests that when fertilization occurs, an older egg is less likely than a younger one to develop into a blastocyst — the ball of cells that becomes implanted into the uterus, causing pregnancy.

One possible reason for this is that older eggs are more likely than younger ones to have chromosome problems — both abnormalities and more mild degenerative changes. When conception occurs, these problems may prevent the fertilized egg from implanting and developing normally inside your uterus or they may even result in early miscarriage. The group of chromosomal abnormalities called aneuploidy is the most common cause of miscarriage early in pregnancy. In fact, aneuploidy often causes a miscarriage even before a woman knows she's pregnant.

Egg quantity

Scientists think that some women may use up their eggs more quickly than others, thereby reducing their chances of conceiving. When the pool of available eggs drops below a certain minimum level, fertility may be compromised.

Women typically start losing more eggs per menstrual cycle around ages 35 to 40, when fertility also begins declining more rapidly. Doctors and scientists hope to someday develop therapies to slow accelerated egg loss, thus prolonging women's reproductive lives.

Uterine receptivity

Some studies have found that women in their mid- to late 30s tend to have a decline in uterine receptivity, which can prevent an embryo from implanting properly. However, other studies have found just the opposite, showing no evidence of decreased receptiveness with increasing age.

Changing hormone levels

As you reach your mid-30s, your body produces more follicle-stimulating hormone (FSH) and estradiol and less of a hormone called inhibin B. Scientists think these changes may indirectly compromise the formation of follicles — tiny sacs that each contain a single, immature egg — in your ovaries and the growing and thickening of your uterine lining in preparation for pregnancy, as well as the development of the growing embryo. More research is needed.

Tests to detect these hormonal changes have been shown to be valid predictors of whether you'll be able to get pregnant through the use of assisted reproductive technologies, such as in vitro fertilization (IVF). But they've never been studied outside this context, so they may not be useful for gauging whether you'll be able to get pregnant the "old-fashioned" way.

Pregnancy complications and age

If you're in your 30s or 40s and planning to get pregnant, you may be worried about the risk of miscarriage or health problems for yourself. You may also be concerned that your baby will be at increased risk of chromosome abnormalities or birth defects.

The risk of certain complications does increase with age. American obstetrical practice has evolved to consider age 35 the threshold for concern. In fact, the change in risk is gradual over time; there's no "light switch effect" at age 35.

In addition, the older mother of today is at significantly lower risk of problems than the older mother of 20 years ago. In the past, women giving birth over age 35 were typically having the last of several children, which in itself posed the risk of complications. These women also often received inadequate prenatal care. Today, more women giving birth over age 35 are having their first or second child, and they're more likely to receive good prenatal care.

If you start your pregnancy in good health, get regular prenatal care and adopt a healthy lifestyle, it's very likely things will progress normally, with

few or no complications. In fact, a growing body of research suggests that although there are risks with having a baby after age 35, these risks are manageable and positive outcomes are likely. It's a good idea, though, to educate yourself about the potential risks of pregnancy at different ages. That way, you'll be prepared, no matter what happens.

Risks for you

Pregnant women over age 35 face the following increased risks:

- **Pregnancy loss.** The risk of miscarriage goes up after age 35, increasing even further after age 40. For women at age 40, the risk of miscarriage is about 25 percent, or one in four pregnancies. This increased risk of pregnancy loss is primarily caused by chromosome abnormalities in the baby.
- **Multiple pregnancy.** Women over age 35 are more likely than younger women to become pregnant through assisted reproductive technologies, such as in vitro fertilization (IVF). Because these procedures typically involve implanting two to three fertilized eggs in the uterus, they're more likely to result in twins or other multiples.

  Even without IVF, the risk of having twins goes up with a mother's increasing age. Hormonal changes can make it more likely for a woman to release more than one egg at a time, boosting her chances of conceiving nonidentical (fraternal) twins.
- **High blood pressure.** As you age, you're more likely to get high blood pressure for the first time during pregnancy. You're also more likely to develop preeclampsia — a condition marked by high blood pressure, swelling of your face and hands, and protein in your urine after your 20th week of pregnancy.
- **Gestational diabetes.** As you age, you're more likely to develop diabetes during pregnancy, when you've never had it before. This is called gestational diabetes. If it's untreated, your baby can grow too large during your pregnancy, making Caesarean birth more likely. It also increases your newborn's chances of having yellowing of the skin caused by a buildup of a substance called bilirubin (jaundice) and difficulty controlling his or her blood sugar (hypoglycemia).
- **Placenta previa.** If you're over age 35, you have a somewhat higher risk of developing placenta previa during pregnancy. Placenta previa is a condition in which your placenta is in the wrong position, either partially or completely covering your cervix. It may cause bleeding in the last trimester of pregnancy, which could mean you'll have to be hospitalized. It typically requires that your baby be born by Caesarean birth.
- **Abnormal fetal position.** Research shows that women over age 35 are more likely to have a baby in the rump- or feet-first position (breech

- **Chromosome abnormalities.** Babies born to women over age 35 are at increased risk of being born with a chromosome problem, particularly trisomy 21, 18 or 13. A trisomy is the most common type of chromosome abnormality. It means the baby has three copies of a chromosome instead of two. Down syndrome, one of the most common chromosome abnormalities, is also known as trisomy 21, meaning the baby has three copies of chromosome 21. Trisomies 13 and 18 are usually much more severe than Down syndrome, but they're also less common.

  If you're under 30, your risk of having a live-born baby with Down syndrome is less than one in 1,000. At age 30, your risk is about one in 1,000. At 35, it's about one in 400 (one-quarter of 1 percent) and at age 40, it's about 1 in 100 (1 percent).

  If you're in your 30s or 40s, you may choose to have a prenatal test such as amniocentesis to check for chromosome abnormalities such as Down syndrome. However, these tests have risks. If you're worried about the possibility of chromosome abnormalities in your baby, talk with your health care provider about the best plan of action for you.
- **Birth defects (nonchromosomal abnormalities).** Some studies suggest that the risk of giving birth to a baby with a nonchromosomal abnormality, such as a congenital heart defect, clubfoot or a diaphragmatic hernia, increases as a woman gets older. However, other studies have reported opposite results. More research is needed.

This month, you may also be interested in:

- **"Decision Guide: Understanding genetic carrier screening, page 269"**
- **"Decision Guide: Understanding prenatal testing, page 289"**
- **"Complications: Maternal health problems and pregnancy, page 507"**