



Steps Toward a Healthy Pregnancy for You and Your Baby

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Parenting after a child is born involves activities such as feeding, nurturing and protecting a new baby. But what about during the pregnancy?

What can you do even before a child is born to give your child the best possible opportunity for a healthy beginning? Create a healthy prenatal environment. Although the baby has not yet entered the world, a child is growing and developing in remarkable ways during pregnancy. Did you know that:

- At nine weeks a developing fetus can hiccup and react to loud noises.
- By the end of the second trimester, an unborn child can hear and even recognize the mother's voice.
- An unborn baby moves its head, face or limbs more than 50 times each hour.
- The most complex part of a child's brain already is developing after only five weeks.
- Babies in the womb prefer certain stories (such as "The Cat in the Hat") read to them repeatedly and have consistent personality characteristics.

A Healthy Pregnancy Experience

Research indicates that the growing infant in a mother's womb is more than an unfeeling organism. It actually is an active learner. Perhaps the most important aspect of prenatal parenting is creating a healthy environment for a child during pregnancy. Parents hope and dream for a healthy child, and they can help further this by learning how to avoid potential problems during pregnancy.

Five critical areas to consider in creating a healthy pregnancy experience for you and your baby are:

- **Manage personal health concerns**
- **Practice healthy behaviors**
- **Meet nutrition needs**
- **Increase your knowledge of child development**
- **Reduce personal stress and prepare for the child's birth**

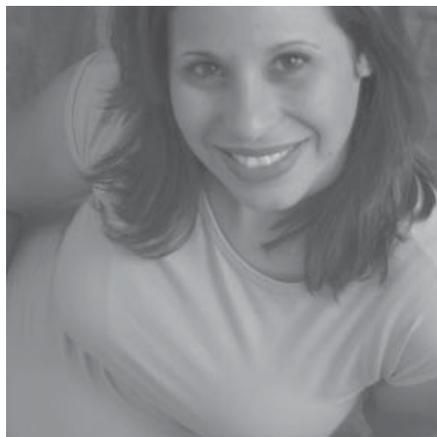
1. Manage personal health concerns

Maintaining your own personal health is a key to facilitating a healthy pregnancy and a positive prenatal environment for an unborn child. Some new parents may have existing concerns they need to learn about or manage during pregnancy for a healthy prenatal experience. Some ideas to consider:

- **Identify and visit a primary health-care provider early on in the pregnancy to learn about your health needs and the health needs of your developing baby.** Actively seek information and follow the directions of your physician or other care provider in maintaining your health during pregnancy.
- **Learn about your family health history.** Find out if your family has had problem conditions during pregnancy or birth defects due to inherited family conditions. Discuss any issues or concerns with your health provider.

Try to develop a pattern of healthy living that you can carry over into your life following your pregnancy and delivery

- **Work to reach an appropriate weight for yourself prior to becoming pregnant if possible.** Discuss any issues or concerns with your health-care provider.
- **Manage existing medical challenges.** If you have existing conditions that need attention, such as diabetes, epilepsy, high blood pressure, cardiovascular disease, depression or other concerns, learn what you need to do to manage them prior to or during pregnancy. This is important because you may need a physician's direction on what medications you can or cannot use during pregnancy. Also, you may need to make adjustments to your own care routine for an existing medical challenge if you become pregnant.
- **Find out about potential health risks.** Exposure to illnesses such as measles, mumps or rubella (German measles) during pregnancy can put your unborn child at risk. Talk to your health-care provider about how to protect yourself.



2. Practice healthy behaviors

Practicing healthy behaviors can give both you and your developing child a big head start in life. Try to develop a pattern of healthy living that you can carry over into your life following your pregnancy and delivery. Some ideas to consider:

- **Exercise as regularly as possible during pregnancy.** Not only the mother who is pregnant, but also fathers should try to keep fit. This can assist with stamina and physical health, as well as providing an outlet for relieving stress. Walking is an excellent low-impact exercise to do during pregnancy. Other exercise activities might include swimming, aerobics or other preferred exercise routines.
- **Avoid extreme diets or weight-reduction efforts.** Do not follow extreme dietary patterns during pregnancy. Healthy eating practices will provide the nutrients that mother and child need.
- **Avoid using alcohol, tobacco or other drugs that can have a negative impact on your child's development.** Even minimal exposure to such substances can harm a developing child. If taking medication, consult your health-care provider.
- **Avoid exposure to toxic substances or chemicals.** This is important for both mothers and fathers. Examples include mercury, asbestos, some types of cleaning supplies or other potentially harmful substances.

3. Meet nutrition needs

The idea that “you are what you eat” is especially true during pregnancy. A mother and her growing baby need proper nutrition to sustain growth and development. Poor nutrition can result in potential negative outcomes, such as low birth weight or a baby’s premature birth.

The average pregnant woman needs an additional 300 calories per day, or 2,500 to 2,700 total calories per day, depending on her size and activity level. Doctors usually recommend a weight gain of 25 to 30 pounds, but it may be more or less, depending on body weight before pregnancy and other factors.

Pregnancy is a time to choose a wide variety of nutrient-dense foods for the health of the baby and mother. Some ideas to consider:

- **Get adequate folic acid before and throughout pregnancy.** Folic acid is a B vitamin found in some foods and vitamin pills. Adequate folic acid helps prevent birth defects of the brain and spinal cord, such as spina bifida. The spinal column begins to form before a woman may realize she is pregnant. Nutrition experts recommend that all women of childbearing age take a multivitamin containing folic acid every day. Folic acid or its natural form, folate, also is found in many different foods. Folic acid is found in fortified breakfast cereals, pasta, breads and cereals. Read the Nutrition

Facts label on packaged foods to learn about the nutrients in your food choices. Folate is present naturally in cooked dry edible beans, citrus fruits and leafy greens, such as spinach and broccoli.

- **Get adequate calcium.** Calcium is a bone-building mineral found in milk, cheese, yogurt and cottage cheese, as well as some leafy vegetables, such as broccoli and spinach. A pregnant woman over age 18 needs at least 1,000 milligrams per day; pregnant women under age 18 need 1,300 milligrams per day. Milk contains about 300 milligrams of calcium per cup, plus it is fortified with vitamin D to aid in calcium absorption. Calcium, vitamin D and other bone-building nutrients are found in prenatal supplements, too.
- **Meet your protein needs.** Meat, poultry, seafood, legumes and nuts are good sources of protein and also contain other nutrients, such as zinc, magnesium and iron. You and your growing baby need about 60 grams of protein daily, or about the amount in two 3-ounce servings of meat.

(A note about fish: Some types of fish contain high amounts of mercury, which could affect your baby’s nervous system. Avoid eating shark, swordfish and king mackerel during pregnancy. Limit your intake of “white” or “albacore” tuna or tuna steak to 6 ounces per week. For more information about consumption advisories in your area, check with your state game and fish department.)

- **Get adequate iron.** Your health-care provider will monitor your blood for iron levels to detect anemia or iron-poor blood. To meet iron needs, eat a healthy diet with iron-containing foods, such as lean meat, poultry, fish, whole-grain breads and fortified cereals. Prenatal supplements also contain iron.
- **Enjoy seven or more total servings of colorful fruits and vegetables daily.** Fruits and vegetables provide vitamins C, A and folate, plus fiber and many other “phytochemicals” (plant chemicals) to keep you and your developing baby healthy. The fiber and water content in fruits and vegetables also helps prevent constipation.
- **Meet your fluid needs.** Water and other fluids carry nutrients through the body, and help prevent constipation and often preterm or early labor. Aim for about six to eight cups of fluids, such as water, juice and milk, on a daily basis. Since caffeinated beverages can affect the baby’s heart rate and breathing, most nutrition experts recommend minimizing the consumption of caffeinated beverages, such as coffee and cola, during pregnancy, or avoiding caffeine altogether. Doctors do not advise pregnant women who suffer from mild swelling to limit fluid intake.
- **Take a prenatal vitamin supplement as directed by a health-care provider.**

- **Avoid alcohol during pregnancy.** Pregnant women who drink alcoholic beverages increase their baby’s risk of birth defects and lifelong learning disabilities. No amount of alcohol is considered “safe” during pregnancy.
- **Follow safe food handling recommendations.** Pregnancy is a time when women are more vulnerable to foodborne illness, which can affect both mother and baby. By following some precautions, expectant mothers can help ensure their own health and that of their baby.

4. Increase your knowledge of child development

Parents’ understanding and expectations of a child’s growth and development significantly affect how they parent. You can begin to understand your children’s development and potential while they still are growing in the womb. Seek information on the basics of healthy behaviors during pregnancy and how an infant develops.

Also, if you are married or in a relationship, discuss with your partner such things as parenting ideas and taking care of your baby. Parents should consult with health-care providers, educators, nurses and others to learn about child development and what to expect. Some ideas to consider:

- **Talk openly with your spouse or partner about what you both know and expect about a child’s development.** Sharing ideas and expectations, such as how to handle a crying child or adjusting to a baby’s sleep schedule, can prepare you beforehand for how you will handle parenting needs after a baby is born.
- **Read one or more basic books on the development of a child during and after pregnancy up through toddler age.** Nothing substitutes for knowledge when raising healthy children. Do your homework. Parents who read information on a child’s development are more confident as parents, more

Handling Food During Pregnancy

- ✓ Choose only pasteurized (heat-treated) milk, cheese and yogurt. Unpasteurized or “raw” products may contain harmful bacteria. The food label will tell you if a product is pasteurized.
- ✓ Avoid buying soft cheeses, such as feta, Brie, Camembert, blue-veined cheeses, queso fresco, queso blanco and Panela, which sometimes are made from raw milk. Instead, select hard cheeses, pasteurized cheeses and spreads, pasteurized soft cheeses, cream cheese, cottage cheese and mozzarella.
- ✓ Avoid buying seafood salads found in deli cases or on a salad bar. Many ingredients in seafood salads support the growth of bacteria. Also, long storage times (even when properly refrigerated) allow *Listeria* (a harmful bacteria) to grow.
- ✓ Avoid buying raw sprouts, including alfalfa, clover, radish and broccoli sprouts. Washing sprouts may not make them safe to eat if the seeds they grew from contain harmful bacteria.
- ✓ Select only pasteurized fruit juices. Check the label to be sure the product is pasteurized. Frozen, concentrated and canned juices have been heat-treated and are safe to drink, but may not be labeled. Fresh-squeezed juices are not pasteurized and may contain harmful bacteria.
- ✓ Heat hot dogs, lunchmeats and deli meats to steaming hot before eating. If you prefer lunchmeats cold, heat them and then cool them before eating.
- ✓ Use a food thermometer to check whether food is done. Insert the thermometer in the thickest part of the food, away from bone, fat or gristle. Hamburgers and ground beef should reach an internal temperature of 160 F. Cook all poultry to 165 F. Beef, veal, pork, lamb steaks, roasts and chops should be cooked to an internal temperature of at least 145 F. Allow three-minute rest time.
- ✓ Don’t handle cat litter. It may contain an organism linked to the development of toxoplasmosis, an infection that can damage a fetus.

knowledgeable about children's needs and more responsive to babies than those who do not.

- **Attend and participate in a class on childbirth that includes understanding the child's growth and needs.** During pregnancy, connecting with other parents and sharing their experiences can be valuable. Participating in a childbirth class can help facilitate such connections and furnish valuable knowledge during pregnancy.
- **Attend and participate in a class on child development and parenting.** Once you become a parent, you will need to think about the future. Get in the habit of seeking information on feeding children, teaching language, responding to children's signals and other topics that will help you as a parent.
- **Observe other young children and talk with other parents about what they expected with a child's birth and growth versus what they experienced.**

5. Reduce personal stress and prepare for child's birth

Parents who reduce stress in their lives and prepare well for a child's birth go a long way toward creating a healthy prenatal environment. Research has shown that a stressful environment can have negative effects on a baby's development while still in the womb. Moderate to high levels

of stress may cause the release of chemicals in the body that affect a child's development and brain. Some level of stress is typical and parents should not worry, but they should take care to avoid or reduce excessive levels of stress if possible. Some ideas to consider:

- **Use relaxation techniques,** such as controlled breathing, muscle relaxation or visualizing soothing images, to reduce stress. Relaxation techniques will be important and can be helpful during the labor and delivery process. Practicing such techniques during pregnancy also can help you develop stress-reduction habits.
- **Avoid or reduce conflict with others that may make you upset or angry.** A negative or conflictive environment adds to a woman's stress during pregnancy. Develop strategies for handling conflict that may include postponing a discussion or negotiation, or working with a third person to manage conflict.
- **Practice responding to things that make you feel stressed or anxious in a calm, positive and flexible manner.** You can learn stress management techniques that help you feel more in control during a stressful situation.
- **Involve yourself in activities that are positive and make you feel good about yourself and build self-confidence.**

- **Take steps to involve both parents in the process of preparing for a child's birth.** Men may feel unsure or nervous and will benefit from learning about pregnancy and childbirth, participating in physician visits, and discussing concerns or fears with the mother and other parents.
- **Decrease sources of stress,** such as job overload or negative feelings toward others.
- **Sing or hum softly to children as they grow and develop in the womb.**
- **Pursue activities that help you feel peaceful and reduce the strain in your life.** Such activities may include exercise, listening to music, talking, hobbies or doing other things that are meaningful to you.

Commitment to a Healthy Pregnancy

A healthy pregnancy and prenatal experience provide a sound foundation for a baby's growth and development and a positive parental beginning. Consider each of the areas discussed that contributes to a healthy prenatal experience. What can you do in each area to help facilitate a healthy pregnancy for yourself and a good prenatal experience for your baby?

(See the Learning Activity on page 6.)

Learning Activity

My Commitment to a Healthy Prenatal Experience

Select at least two items in each area that you might commit to or encourage during the pregnancy period. Write them down in the space provided. Sign your form and have at least two other people you trust sign it. Use the commitment activity as a guide to prepare yourself for your parental journey and your child for a healthy beginning.

Manage Personal Health Concerns

- 1.
- 2.

Practice Healthy Behaviors

- 3.
- 4.

Meet Nutrition Needs

- 5.
- 6.

Increase Your Knowledge of Child Development

- 7.
- 8.

Reduce Personal Stress and Prepare for Child's Birth

- 9.
- 10.

Signature _____

Friend _____

Friend _____

What can you do in each area to help facilitate a healthy pregnancy for yourself and a good prenatal experience for your baby?

Recommended Resources

■ Books and Articles

Belsky, Jay and Kelly, John. (1994). *The Transition to Parenthood*. New York: Dell.

This book details the results of a landmark study of the transition to parenthood and how having a child affects family life. Very practical and insightful.

Bradford, Nikki. (1998). *The Miraculous World of Your Unborn Baby: A Week-by-Week Guide to Your Pregnancy*. Chicago: Contemporary Books.

Follows the process of pregnancy and fetal development through each week and provides information, insights and tips for a healthy pregnancy and delivery.

Hopson, Janet L. (1998). Fetal psychology. *Psychology Today*, September-October, 44-48 and 76.

The article details numerous aspects of a child's development in the womb and how parents and others can be sensitive to an infant's developing nature.

Luminaire-Rosen, Carista. (2000). *Parenting Begins Before Conception: A Guide for Preparing Body, Mind and Spirit – For You and Your Future Child*. Rochester, VT: Inner Traditions.

Murkoff, H., Eisenberg, A., and Hathaway, S. (2002). *What To Expect When You're Expecting* (3rd edition). New York: Workman Publishing Co.

This well-known resource provides detailed information on numerous aspects of pregnancy, gestation and delivery for the expectant mother and her partner. Excellent guide and resource.

■ Video/Audio

Prenatal Development: A Life in the Making. This video is part of *The Developing Child* video series and presents a positive, scientific perspective on a prenatal infant's growth and development. It can be obtained from Magna Systems Inc., 95 West County Line Road, Barrington, IL 60010.

■ Web sites

- The U.S. Department of Health and Human Services has extensive information about pregnancy, child health and other family topics at www.os.dhhs.gov/children/.
- The National Women's Health Information Center has information about stages of pregnancy, nutrition, exercise, breast-feeding and many other topics. It's found at <http://4women.gov/>.
- The Partnership for Food Safety Education Web site features safe food handling guidelines. It is at www.fightbac.org.
- WIC Works has extensive resources on a wide range of nutrition and health topics for expectant mothers and their children at www.nal.usda.gov/wicworks/.
- The NDSU Extension Service and North Dakota State University provide educational materials and support on issues related to child development, parenting and family life. Contact your local office of the NDSU Extension Service or regional Parent Resource Center to access information, resources and classes on these topics. Further information may be accessed on the Internet at www.ag.ndsu.nodak.edu.

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Parents hope and dream for a healthy child. They can further this possibility by taking steps toward a healthy pregnancy.

Visit www.ag.ndsu.edu/food

(click on “Health and Fitness” then “Healthy Pregnancy...Healthy Baby”)

For more information on this and other topics, see: www.ag.ndsu.edu

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