WOMEN'S HEALTH
of Central Massachusetts

PRENATAL INFORMATION

Caring for You Throughout Life

WOMEN'S HEALTH of Central Massachusetts

WHCMA Resource Table of Contents

OB Welcome Letter: Congratulations On Your Pregnancy..... 3

OB Welcome Letter: WHCMA Doctor List 4

A Closer Look at Your Pregnancy: Health Tips 5

Preventing Infection 7

Eating Right During Pregnancy 8

Protect Your Baby and Yourself from Listeriosis 10

AFP Profile and AFP Profile Four Screening Tests 12

Cystic Fibrosis Quick Reference Sheet 13

A Guide to Eating Fish Safely in Massachusetts 16

Advice About Eating Fish 18

Public Health Advisory Regarding Bisphenol A (BPA) 19

Pregnant? You Need a Flu Shot! 22

FAQs: Patients Concerning Tdap Vaccination 24

FAQs: Reducing Risks of Birth Defects 26

ACOG Prenatal Genetic Testing Chart 30

UMass Cord Blood Donation Program 31

A Health Care Guide for New Mothers 32

Breast Milk Handling Guidelines 34

Back to Index

Congratulations on your pregnancy!

Whether this is your first pregnancy or a subsequent pregnancy – it is an exciting time in your life. Our staff, my physician partners, and I are here to help you to attain a healthy pregnancy and delivery. I look forward to seeing you at your upcoming, first prenatal visit. Please plan to be in the office for up to 3 hours. At this first visit, you may have an ultrasound (if you have not yet) and then meet with our medical assistant who will provide you with information to take home and also ask you questions pertinent to your pregnancy. Please complete the enclosed prenatal questionnaire and bring that information to your first visit. Also, your blood pressure will be measured and your urine will be tested. You will then see me for an examination and discussion. Finally, prior to leaving, your blood will be drawn. Remember to eat well before coming, and feel free to bring along a snack.

Your lab testing will be sent to ***Quest Diagnostics*** (Worcester, Marlborough & Webster Lake) or ***Harrington Labs*** (Southbridge) unless requested otherwise by you. Please check with your insurance company regarding any potential restrictions they may have and let us know if you need to go through a different lab company. Quest is a completely separate billing entity from Women's Health. Lists of standard and optional tests are on the attached page. If you are considering optional testing such as cystic fibrosis carrier test, check with your insurance ahead of time.

In the meantime, here are some healthy recommendations for you to follow:

- *Continue or begin taking Prenatal Vitamins with 200 mg of DHA.*
- *Do not drink alcohol or smoke.*
- *Do not change cat litter (if you must, then wear gloves, and wash hands well).*
- *Eat a well-balanced, healthy diet incorporating fresh fruits and vegetables.*
- *See USDA's* www.choosemyplate.gov *pregnancy & breastfeeding mother section.*
- *Stay hydrated by drinking plenty of water.*
- *Practice GOOD HAND HYGIENE. Always wash hands after changing diapers, interacting with children, handling meats/vegetables, or touching potentially germ-laden surfaces (such as gas pumps, ATMs, and door handles).*
- *Stay active. Exercise around 30 minutes a day (chose activities that have e a low risk of falling such as walking and swimming). Rest when you feel the need.*

Pregnant women are strongly encouraged to have a flu shot and Tdap vaccine (to protect against pertussis/whooping cough). In addition, it is important that other family members and caregivers are immunized by their own healthcare providers as well.

Thank you for choosing **WOMEN'S HEALTH OF CENTRAL MASSACHUSETTS** for your obstetrical care.

Back to Index

Caring for You Throughout Life

WOMEN'S HEALTH of Central Massachusetts

Obstetrical Care

Welcome to WHCMA! We are delighted to care for you during your pregnancy and birth. We provide services at UMass Memorial Hospital, located at 119 Belmont Street in Worcester. Our practice consists of both male and female providers – all very experienced, qualified, and Board-Certified to provide your obstetrical care. We would like to take a moment to explain our coverage arrangement for your obstetrical care. WHCMA has a team of obstetricians and a nurse midwife. The obstetricians share night, weekend, weekday, and vacation coverage. Weekdays, between 8am and 5pm, one of our obstetricians (the "Laborist") remains at UMass Memorial Hospital to cover deliveries. Resident physicians often assist us and are a tremendous help in looking after our patients. We look forward to caring for you during your pregnancy.

- **Amy Chang, MD**
- **Christopher Conlan, MD**
- **Peter Davidow, MD**
- **Dina Deldon-Saltin, DO**
- **Jaimee DeMone, MD**
- **Abraham Fischer, MD**
- **Tiffany Forti, MD, MPH**
- **Cynthia Joslyn, CNM**
- **June O'Connor, MD**
- **Kerri Osterhaus-Houle, MD**
- **Stanley Surette, MD**
- **Leah Wilson, MD**

Back to Index

Caring for You Throughout Life
WOMEN'S HEALTH
of Central Massachusetts

A Closer Look at Your Pregnancy

A Few Tips Regarding Your Health During the Months Ahead

Pregnancy: The common events that occur every day!

Congratulation on your pregnancy! As you will soon discover, the next nine months will be a very special time for you and your family. To better understand the more common events during pregnancy, we've answered a few questions regarding some physical and lifestyle changes you may experience in the weeks ahead. We hope this information will help you feel at ease, but please call our office directly if we can answer any other questions regarding your health and pregnancy.

Q: ***I'm concerned about spotting. What's normal and what isn't?***

A: It is common to have vaginal bleeding or spotting during your pregnancy. This is most likely to occur during the first three months. This does not mean that you are having a miscarriage. In fact, approximately 30 percent of women experience some bleeding during pregnancy without any complications. However, it is important to contact us if you have any bleeding as we may want to examine you or perform an ultrasound.

Q: ***I often feel nauseous, especially in the morning. How long will this feeling last?***

A: Nausea and vomiting can occur all too frequently during pregnancy, especially during the first 12 weeks. This condition is better known as "morning sickness" or "Hyperemesis," and usually subsides by the third month of pregnancy. Feelings of nausea can be lessened by avoiding fatty/greasy foods and eating small meals throughout the day. Instead of three large meals, it may be helpful to eat smaller, more frequent meals. If possible try to drink enough fluids to avoid dehydration.

Q: ***I have more headaches than usual. Is this common?***

A: Headaches occur frequently during pregnancy. If you have had a history of headaches or "migraines" before pregnancy, your headaches may become frequent. Tylenol may be helpful in treating headaches. If you find that the headaches are becoming worse and the Tylenol has no effect, it's time to give us a call.

Q: ***I feel a cold coming on. What can I do to treat it?***

A: Colds and flu affect as many pregnant women as non-pregnant, and are especially prevalent in the winter months. If other family members have flu-like symptoms, chances are likely that you may develop the same illness. For relief of symptoms, many over-the-counter remedies are available such as Tylenol for fever, joint and muscle aches; Sudafed for runny nose and nasal congestion; Robitussin DM or regular cough syrup only for coughs. Always remember to keep up your fluid intake, especially if you have a fever. In the event of a high fever, or should your symptoms persist, please call us.

Q: ***There are times when I am dizzy. Is this part of being pregnant?***

A: Over the next few months, your body will sense many subtle changes. For some women, these changes cause dizziness that increase as pregnancy progresses. To prevent dizziness, get up slowly from a lying or sitting position. Shift your weight from one leg to another if standing for longer periods of time. If possible, when resting or sleeping, try to avoid lying flat on your back.

Q: ***Why do I have heartburn?***

Back to Index

A: Heartburn is a common complaint during pregnancy. Unfortunately, heartburn may increase as pregnancy advances because there is less room for the stomach to expand. To relieve heartburn, try sleeping with your head elevated on two pillows. Avoid eating a heavy meal just prior to bedtime and stay away from greasy/fatty foods. It is all right to use readily available antacids such as Tums, Mylanta, or Maalox. Use no more than 3 times per day after meals and at bedtime if needed.

Q: ***Why do I have this urge to urinate?***

A: Feeling the need for frequent urination is common during pregnancy; such feelings may even increase as your pregnancy progresses. If the feeling of frequent urination is associated with burning, back pain, fevers, chills, nausea, or vomiting, call us. These may be symptoms of a urinary track infection.

Q: ***What can I do about constipation?***

A: The iron you are taking in your prenatal vitamins could be causing constipation. Should this be a problem, try to increase your intake of fluids, fruits and vegetables. If necessary, use Milk of Magnesia, Metamucil or Colace.

Q: ***Why am I experiencing back pain?***

A: Pressure from the enlarging uterus and stretching of muscles and joints may cause common backache pain experienced by any women during pregnancy. Useful measures to ease simple backache discomfort include sleeping on a firm mattress, placing a hot water bottle or heating pad on your back, or gentle back exercises such as stretching. If backache is associated with fever, chills, abdominal pain, vaginal bleeding, or the backache is worsening; it's time to give us a call.

Q: ***What can I do to reduce swelling?***

A: Fluid retention (known as Edema) causes swelling of the face, hands, legs and feet. Swelling of any area is uncomfortable, especially during the summer months. To reduce swelling, try resting on your left side for 3-4 hours in the afternoon. This improves circulation to vital organs and may help alleviate some of the swelling. Call us should you develop severe headaches, blurry vision, abdominal pains, or vomiting in addition to the swelling.

Q: ***It is all right to have intercourse?***

A: Having intercourse during pregnancy is *not* harmful to your baby. However, it may become more uncomfortable during pregnancy and, as a result; you may feel a decrease in the desire to have intercourse with your sexual partner.

Q: ***Can I maintain my workout schedule?***

A: A modified program of light exercise is actually encouraged during your pregnancy. The key is simply not to over do it. This is not a time to push yourself to the limits of exhaustion.

About Women's Health of Central Massachusetts

We are board certified by the American Board of obstetrics and Gynecology and are Fellows of The American College of Obstetrics and Gynecology. These credentials assure that patients receive the finest possible medical care. We share commitments to continuing education and strive to become a resource in both health care and education.

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MARLBOROUGH
340 Maple St., Suite 125
Marlborough, MA 01752
T: 508-485-1056

WEBSTER LAKE
325 Thompson Road
Webster, MA 01570
T: 508-949-3600

Back to Index

Pregnant or Thinking About Getting Pregnant?

You can prevent infection and help keep your unborn baby safe. Here's how:

1. **Wash your hands often with soap and water, especially when…**

   - Using the bathroom
   - Touching raw meat, raw eggs, or unwashed vegetables
   - Preparing food and eating
   - Gardening or touching dirt or soil
   - Handling pets
   - Being around people who are sick
   - Getting saliva (spit) on your hands
   - Caring for and playing with children
   - Changing diapers

   If soap and running water are not available, you may use alcohol-based hand gel.

2. **Try not to share forks, cups, or food with young children.** Wash your hands often when around children. Their saliva and urine might contain a virus. It is likely harmless to them, but it can be dangerous for you and your unborn baby.

3. **Cook your meat until it's well done.** The juices should run clear and there should be no pink inside. Do not eat hot dogs, luncheon meats, or deli meats, unless they are reheated until steaming hot. These undercooked meats and processed meats might contain harmful bacteria.

4. **Avoid unpasteurized (raw) milk and foods made from it.** Do not eat soft cheeses such as feta, brie, and queso fresco unless they have labels that say they are pasteurized. Unpasteurized products can contain harmful bacteria.

5. **Do not touch or change dirty cat litter.** Have someone else do it. If you must change the litter yourself, be sure to wear gloves and wash your hands afterwards. Dirty cat litter might contain a harmful parasite.

6. **Stay away from wild or pet rodents and their droppings.** Have a pest control professional get rid of pests in or around your home. If you have a pet rodent, like a hamster or guinea pig, have someone else care for it until after your baby arrives. Some rodents might carry a harmful virus.

7. **Get tested for sexually transmitted diseases (STDs), such as HIV and hepatitis B, and protect yourself from them.** Some people that have HIV, hepatitis B, or an STD do not feel sick. Knowing if you have one of these diseases is important. If you do, talk to your doctor about how you can reduce the chance that your baby will become sick.

8. **Talk to your doctor about vaccinations (shots).** Some are recommended before you become pregnant, during pregnancy, or right after delivery. Having the right vaccinations at the right time can help keep you healthy and help keep your baby from getting very sick or having life-long health problems.

9. **Avoid people who have an infection.** Stay away from people who you know have infections, such as chickenpox or rubella, if you have not yet had it yourself or did not have the vaccine before pregnancy.

10. **Ask your doctor about group B strep.** About 1 in 4 women carry this type of bacteria, but do not feel sick. An easy swab test near the end of pregnancy will show if you have this type of bacteria. If you do have group B strep, talk to your doctor about how to protect your baby during labor.

CDC
Centers for Disease Control and Prevention

To learn more about any of these tips, visit www.cdc.gov/ncbddd/pregnancy_gateway/infection.htm and follow the links to more information. If you think you might have an infection or think you are at risk, see your doctor. This is not a complete guide to a healthy pregnancy. Be sure to talk with your doctor to learn more about safe food preparation, wearing insect repellent when outside, taking medicine, and other important topics.

Back to Index

Caring for You Throughout Life
WOMEN'S HEALTH
of Central Massachusetts

Eating Right During Pregnancy

Good nutrition is very important during you pregnancy. Here are some questions and answers to help you and your baby maintain good health. See a registered dietitian if you need to address special problems.

Q: ***What food and drinks can I have?***

A:

- Eat 300 more calories each day or enough to make appropriate weight gain.
- Eat three or more small servings of meat, poultry, fish, eggs, and beans for protein.
- Drink about eight glasses of water, juices, milk, and other beverages a day to prevent dehydration and constipation.
- Eat four or more servings of each of the following:
  - Fruits and vegetables for vitamins and minerals
  - Whole-grain or enriched bread/cereal for energy
  - Milk and dairy products, such as cheese and yogurt, for calcium

Q: ***Are there any foods or drinks I should avoid?***

A:

- Certain fish, such as salmon, are not a problem in moderation. However, other fish like swordfish, shark, and tile fish can contain a lot of mercury which can cause serious problems to an unborn baby. Never eat raw fish, and limit the amount of canned tuna that you eat.
- Limit deli meat sandwiches. Heat, toast, or cook meat before eating.

Q: ***How much should I gain during pregnancy?***

A:

- Follow the nutrition plan prescribed by your healthcare provider; do not diet to lose weight during pregnancy.
- Normal weight women should gain 25-35 pounds
- Women who are underweight should gain 28-40 pounds.
- Women who are overweight should gain15-25 pounds.
- Obese women should gain 11-20 pounds.
- Younger and taller women should try to reach the upper end of the weight ranges.

Back to Index

Table 1. Institute of Medicine Weight Gain Recommendations for Pregnancy

Prepregnancy Weight Category	Body Mass Index*	Recommended Range of Total Weight (lb)	Recommended Rates of Weight Gain† in the Second and Third Trimesters (lb) (Mean Range [lb/wk])
Underweight	Less than 18.5	28–40	1 (1–1.3)
Normal Weight	18.5–24.9	25–35	1 (0.8–1)
Overweight	25–29.9	15–25	0.6 (0.5–0.7)
Obese (includes all classes)	30 and greater	11–20	0.5 (0.4–0.6)

*Body mass index is calculated as weight in kilograms divided by height in meters squared or as weight in pounds multiplied by 703 divided by height in inches.

†Calculations assume a 1.1–4.4 lb weight gain in the first trimester.

Modified from Institute of Medicine (US). Weight gain during pregnancy: reexamining the guidelines. Washington, DC. National Academies Press; 2009. ©2009 National Academy of Sciences.

Q: ***What should I do about morning sickness?***

A:

- Eat small, frequent meals; crackers often seem to decrease the nausea.
- Drink fluids such as water and juices between meals.
- Avoid greasy, spicy foods.
- Avoid foul and unpleasant odors.

Nutrient	Dosage	Functions
Vitamin C	70 (milligrams=mg)	Helps heal wounds, fight infection
Vitamin A	800 (micrograms=mcg)	Helps bones, teeth and vision
Vitamin B6	2.2 mg	Forms red blood cells
Vitamin B12	2.2 mcg	Forms red blood cells
Vitamin D	10 mcg	Grows teeth and bones
Vitamin E	10 mcg	Helps for red blood cells
Vitamin K	65 mcg	Prevents rare bleeding problems with newborn
Calcium	1,200 mg	Forms bones and teeth
Folic Acid	400 mcg	Prevents neural tube defects
Iron	15 mg	Produces hemoglobin
Magnesium	355 mg	Helps with proper nerve function
Niacin	20 mg	Helps with healthy skin, digestion
Phosphorus	1,200 mg	Helps grow bones and teeth
Protein	65 grams	Overall health and growth
Riboflavin	1.5 mg	Releases energy to cells
Thiamin	1.5 mg	Helps body digest
Zinc	19 mg	Aids in the production of insulin

For more information go to: www.choosemyplate.gov or http://www.acog.org .

Back to Index

Caring for You Throughout Life
WOMEN'S HEALTH
of Central Massachusetts

Protect Your Baby and Yourself from Listeriosis

Pregnant Women are at high risk for getting sick from **Listeria, a** harmful bacteria found in many foods. Listeria can lead to a disease called Listerioris. Listeriosis can cause miscarriage, premature delivery, serious sickness, or death of a newborn baby. If you are pregnant, you need to know what foods are safe to eat.

How will I know if I have Listeriosis?

- Because the illness could take weeks to show up, you may not know you have it. Early signs may include fever, chills, muscle aches, diarrhea, and upset stomach. At first, you may feel as if you have the flu. Later on, you could have a stiff neck, headache, convulsions, or lose your balance. Every year, 2,500 Americans become sick from the illness.

What should I do if I think I have Listeriosis?

- Call your doctor, nurse or health care clinic if you have any of the signs. If you have listeriosis, your doctor can treat you.

What can I do to keep my food safe?

- Listeria can grow in the refrigerator. The refrigerator should be 40 degrees F or lower, and the freezer 0 degrees F or lower. Use a refrigerator thermometer to check your refrigerator's inside temperature.
- Clean up all spills in your refrigerator right away, especially juices from hot dog packages or raw meat or chicken/turkey.
- Clean the inside walls and shelves of your refrigerator with hot water and liquid soap, then rinse.
- Use pre-cooked or ready-to-eat food as soon as you can. Don't store it in the refrigerator too long.
- Wash your hands after you touch hot dogs, raw meat, chicken, turkey, or seafood or their juices.

Fight Bacteria By…

1. Clean: Wash hands often with soap and warm water. Use clean dishes, spoons, knives, and forks. Wash countertops with hot water and soap, and clean up spills right away.
2. Separate: Keep raw meat, fish, and poultry away from other food that will not be cooked.
3. Cook: Cook food to a safe internal temperature. Check with a good thermometer (Ground Beef-160 degrees F, Chicken Breast-170 degrees F, Whole Turkey-180 degrees F).
4. Chill: Refrigerate or freeze within 2 hours (in hot weather, 90 degrees F or above, refrigerate or freeze within 1 hour). Don't leave meat, fish, poultry, or cooked food sitting out.

Back to Index

What can I do to keep my baby and myself safe from Listeriosis?

- **Do not eat** hot dogs, luncheon meats, bologna, or other deli meats unless they are reheated until steaming hot.
- **Do not eat** refrigerated pate meat spreads from a meat counter, or smoked seafood found in the refrigerator section of the store. Foods that don't need refrigeration like tuna and canned salmon are ok to eat. Refrigerate after opening.
- **Do not eat** salads made in the store such as ham salad, chicken salad, egg salad, tuna salad, or seafood salad.
- **Do not eat** soft cheese such as Feta, queso blanco, queso fresco, Brie, Camembert cheeses, blue-veined cheeses, and Panela **unless** it is labeled as "made with pasteurized milk."
- **Do not drink** raw (unpasteurized) milk, and do not eat foods that have unpasteurized milk in them.

For more information about food safety:

U.S. Department of Agriculture
Food Safety and Inspection Service

www.fsis.usda.gov

USDA Meat and Poultry Hotline
1-888-MPHotline (toll free nationwide)
Or 1-888-674-6854
TTY: 1-800-256-7072

Back to Index

Caring for You Throughout Life
WOMEN'S HEALTH
of Central Massachusetts

AFP Profile and AFP Profile Four Screening Tests

The following are commonly asked questions and answers about the AFP tests that you may have done.

Q: ***What is an AFP Profile Test?***

A: The AFP Profile Test is a prenatal screening test. It checks a pregnant women's blood for three or four substances that are made by the baby as it develops.

Q: ***Why is an AFP Profile called a prenatal screening test?***

A: A prenatal screening test finds women who are at higher risk than most other women for carrying a baby with certain problems. Most women who have positive screening test results will be carrying a normal, healthy baby. Other tests are needed to show whether or not a developing baby has a problem. Screening tests only find women who should consider having those other tests.

Q: ***What are open neural tube defects (open NTDs)?***

A: A baby with an open NTD such as open Spina Bifida or anencephaly has an opening that is not normal in the spine or in the head. Spina Bifida happens when the spine of the developing baby isn't closed and may be damaged. It can cause paralysis and a loss of bowel and bladder control. It can sometimes cause mental retardation.

Q: ***What is Down Syndrome?***

A: Down Syndrome is a genetic condition that causes mental retardation, heart defects, and other problems (also called Trisomy 21). Down Syndrome could occur more often in developing babies of women who are older than 35, but it can happen at any age.

Q: ***What is Trisomy 18?***

A: Trisomy 18 is caused by extra genetic material in the developing baby. It usually includes mental retardation, heart defects, very poor growth, and other problems. One in 6000 babies could be born with Trisomy 18, and do not survive to birth.

Q: ***What are the tests that will be offered if my AFP Profile result is positive?***

A: It depends on your results. In most cases an ultrasound, which uses sound waves to make a picture of the developing baby, will be helpful. Ultrasound can find many reasons for a positive AFP Profile and ultrasound results, other than birth defects. After your doctor looks at your AFP Profile and ultrasound results, he or she may suggest an amniocentesis.

Q: ***What is an amniocentesis and what will it show?***

A: An amniocentesis, a small sample of fluid that surrounds the baby is removed. The fluid can be used to find or rule out the conditions that your doctor has screened for.

Q: ***What happens if one of these conditions is found?***

A: You will have a chance to talk with a genetic counselor about the test results and the decisions that you may need to make. Genetic counselors are specially trained to help people understand what this may mean for them and for the developing baby.

Back to Index

Caring for You Throughout Life
WOMEN'S HEALTH
of Central Massachusetts

Cystic Fibrosis Quick Reference Sheet

Cystic Fibrosis

Cystic Fibrosis (CF) is an inherited disease that most commonly affects breathing and digestion. Advances in medical treatment continue to improve the outlook for affected children and adults. However, there is no cure. Most affected individuals survive to about age 30, though some die in childhood and others live to age 40 or beyond.

The abnormal gene that causes CF was discovered in 1989. This discovery led to the development of tests that can help determine whether or not couples carry an abnormal gene that can cause CF in their children. Testing usually is offered to couples with a family history of CF who are planning pregnancy or who are already pregnant. Couples will be better able to decide whether they want to have the carrier test if they understand the medical problems CF can cause and what the tests can and cannot tell them.

Some questions and answers about Cystic Fibrosis…

Q: ***What is Cystic Fibrosis?***

A: CF is an inherited disease caused by an abnormal protein that does not allow the normal passage of chloride (which, along with sodium, makes up salt) into and out of certain cells, including those that line the lungs and pancreas. As a result, these cells produce thick, sticky mucous and other secretions. The mucous clogs the lungs, causing breathing problems. Affected individuals also have frequent lung infections, which eventually damage the lungs and contribute to early death. The thickened digestive fluids made by the pancreas are prevented from reaching the small intestine, where they are needed to digest food.

Q: ***Is CF common?***

A: About 30,000 children and adults in this country have CF, according to the Cystic Fibrosis Foundation. While all racial groups are affected, the disease is most common in Caucasians.

Q: ***What are the symptoms of CF?***

A: the symptoms of CF vary, and some children and adults are less severely affected than others. Individuals with CF tend to cough and wheeze frequently. They may develop repeated lung infections, such as pneumonia. Many of these infections are caused by a bacterium called Pseudomonas Aeruginosa, which rarely causes problems in healthy people.

Many, but not all children and adults with CF have digestive problems due to a blockage of digestive chemicals from the pancreas. Affected children often have a big appetite but gain weight slowly.

Some children with CF are well enough to attend school, participate in some exercise and recreational activities (though stamina is generally reduced), and go on to college and rewarding careers. Others, however, are too ill to attend school regularly.

Q: ***How is CF diagnosed?***

A: CF is diagnosed with a simple, painless test that measures the amount of salt in the sweat. Infants, children and adults with CF have more salt in their sweat than unaffected individuals. In many cases, CF is diagnosed when a child is between 2 and 4 yrs of age, following repeated lung infections and/or growth problems.

A few states have begun screening newborns for CF, along with other disorders of body chemistry routinely tested for soon after birth. Some studies suggest that early diagnosis and treatment improve the growth of babies and children with CF.

Q: ***How is CF treated?***

A: Children and adults with CF need close medical supervision throughout their lives. To improve growth, children with CF must eat a healthy, high-caloric diet supplement with vitamins and usually, medications that contain pancreatic enzymes (which the body needs to absorb nutrients from food). Some children must take about 25 vitamins and other pills each day.

Many children with CF also need daily respiratory therapy, which is done at home. For about 30 minutes once or twice a day, a parent or other caretaker claps the child on the back and chest to help clear mucous from the lungs.

There are a number of medications that can help affected individuals breathe better and prevent infections. The medications recommended for a child or adult with CF will depend on the person's symptoms and their severity. These medications include a mucus-thinning drug called Pulmozyme and an antibiotic called TOBI (tobramycin solution) that is inhaled in vapor form. One study also suggested that the anti-inflammatory drug ibuprofen, when given in high doses, can help prevent lung inflammation, which is common in individuals with CF, and can make breathing more ** more difficult. When infections occur, they are treated at home or in the hospital with a number of antibiotics, which can be given orally, intravenously, or by inhalation.

Unfortunately, as the individual gets older, infections tend to get worse and more difficult to treat and lung damage becomes more serious. Infection, and the resulting lung damage, is the leading cause of death in individuals with CF.

Q: Can a person catch CF from someone who has it?

A: No. The disease is inherited and is not contagious. Genes come in pairs. To inherit CF, a child must receive two CF genes, one from each parent who "carries" a CF gene. A carrier has one normal gene and one abnormal gene in the pair, and is as healthy as a non-carrier.

Q: ***How is CF inherited?***

A: When both parents carry an abnormal CF gene, there is a 25 percent (one-in-four) chance that the child will have CF. There is a 50 percent (50-50) chance that the child will be a carrier like the parents. There is a 25 percent chance that the child will be free of the abnormal gene and neither is a carrier nor have the disease.

Each successive pregnancy has the same set of chances. If only one parent is a carrier, there is no chance that their children will have CF. However, there is a 50 percent (50-50) chance of each child being a carrier.

Q: ***Who should have the carrier screening test?***

A: The American College of Obstetricians and Gynecologists (ACOG) now recommends that the carrier screening test be available to all couples who are planning pregnancy or are pregnant. Many health care providers hand out printed material on the test for couples to read. Those who may be interested in testing can then discuss it further with their provider.

Health care providers are more likely to offer the test to couples considered at increased risk of having an affected child, including those with a family history of the disorder and those from racial/ethnic groups that have higher rates of CF.

Whether or not a couple chooses to take the carrier screening test is a personal decision. A couple must decide what is right for them after learning more about CF and discussing the test with their health care provider.

Q: ***Who is most likely to be a carrier?***

A: According to the Cystic Fibrosis Foundation, 1 in 31 Americans-more than 10 million people-carries a gene for CF. Someone with a family history of CF is more likely to carry a CF gene than someone from an unaffected family. The risk also is increased in individuals of Caucasian backgrounds. These individuals have a 1-29 chance of carrying the gene, compared to 1-46 for those of Hispanic background, 1 in 65 African Americans, and 1 in 90 Asian Americans.

Q: ***What happens if the test shows the woman is the carrier?***

A: The next step is to test her partner. A baby is not at risk for CF unless both parents carry the abnormal gene. Fortunately, this situation is fairly uncommon. In those of Caucasian background, the chances that both parents carry the CF gene, is only about 1 in 800; the risk is less in other groups.

It is important to keep in mind, however, that the test is not 100 percent accurate. Scientists have discovered more than 900 different mutations (abnormalities) in the CF gene, and the test looks only for some of the most common of these. So, even when the test shows that a person is not a carrier, a very small chance remains that he or she carries an abnormal gene.

Q: ***What happens if both parents are carriers?***

A: A couple in which both partners are carriers should consider consulting a genetic counselor, who can discuss the risks to their future children. A genetic counselor also can discuss the options of prenatal testing (using amniocentesis or CVS) to diagnose or rule out CF in the fetus. As discussed above, each child of parents who both carry an abnormal CF gene has a 25 percent chance of inheriting the CF. This means that in three out of four cases, the prenatal test will reveal that the fetus will not have CF. When the fetus is affected, parents can take their time before delivery to learn more about the disease and locate appropriate specialists. Prenatal testing cannot, however, tell how seriously affected the baby may be.

Back to Index

Caring for You Throughout Life
WOMEN'S HEALTH
of Central Massachusetts

A Guide to Eating Fish Safely in Massachusetts

We advise that pregnant women, nursing mothers and women who may become pregnant do not eat any fish from these freshwater bodies or certain fish and shellfish caught in some Massachusetts coastal waters. Children under 12 years old are also at risk and should not eat these fish.

A varied diet, including safe fish, will lead to good nutrition and better health.

Fish is good for you! Choose fish that are safe to eat!

Some Questions and answers about eating fish safely…

These fish and shellfish may contain chemicals that can harm you and your baby's health. This advisory does not apply to fish stocked in lakes and ponds.

Q: ***What chemicals are they?***

A: Mercury and PCB's are the primary contaminants of concern. Mercury is a naturally occurring metal found in the environment. However, mercury is also released by burning trash or burning coal for fuel. Once released into the air, it can travel long distances and be deposited on soil and in water bodies. PCB's are man made chemicals that were banned in the 1970's. However, due to their widespread use, PCB's can still be found in our environment and get into our food.

Q: ***How do chemicals and metals get into the fish?***

A: Chemicals and metals get into the fish from pollution in the water and sediments where they live. Larger species feed on smaller species and the process of bioaccumulation begins. Bioaccumulation means that the chemicals or metals concentrate the most chemicals.

Q: ***How do these chemicals affect health?***

A: Developing fetuses, nursing babies, and young children are affected by mercury. Small amounts can damage a brain, even before birth. High levels of mercury can affect how well children learn, think, behave, and develop later in life. Children who have been exposed to mercury in the womb can experience symptoms even if their mothers do not. PCB's can also affect developing fetus, nursing babies, and young children.

Q: ***Is there a way of cleaning or cooking the fish to get rid of the chemicals?***

A: remove the skin, any fatty material and dark meat from the fish before cooking. Broil the fish instead of frying it to allow as much fat as possible to be drained away. However, if the fish contains mercury, there is no way to clean or remove the chemicals. It can't be cut, cleaned or cooked out.

Q: ***Can these chemicals affect adults and older children?***

A: Yes. At higher levels, adults and older children can experience health effects from these chemicals. Some of these chemicals can affect memory or behavior. They can make your skin tingle or feel numb. Some are also suspected of causing liver problems and some types of cancer.

Q: ***Should my family and I stop eating fish altogether?***

Back to Index

A: No. Absolutely not. Fish is good for you and your family. It is a good source of protein and low in fat. It may also protect you against heart disease. If you may become pregnant or are pregnant or nursing, you and your children under 12 years old may safely eat 12 ounces (about 2 meals) per week of fish or shellfish not covered in this advisory. Otherwise, it is important to follow the safe eating guidelines included in this advisory.

Q: ***Can I eat canned tuna?***

A: "Light" tuna as opposed to "Chunk White" tuna (also called albacore) has been shown to contain lesser amounts of mercury. Consumers should eat no more than 12 ounces per week. Very small children, including toddlers, should eat less.

Back to Index

Advice About Eating Fish

What Pregnant Women & Parents Should Know

Fish and other protein-rich foods have nutrients that can help your child's growth and development.

For women of childbearing age (about 16-49 years old), especially pregnant and breastfeeding women, and for parents and caregivers of young children.

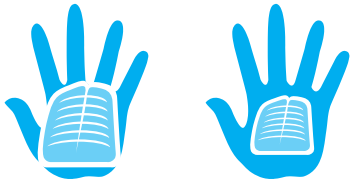
- *Eat 2 to 3 servings of fish a week from the "Best Choices" list OR 1 serving from the "Good Choices" list.*
- *Eat a variety of fish.*
- *Serve 1 to 2 servings of fish a week to children, starting at age 2.*
- *If you eat fish caught by family or friends, check for fish advisories. If there is no advisory, eat only one serving and no other fish that week.**

Use this chart!

You can use this chart to help you choose which fish to eat, and how often to eat them, based on their mercury levels. The "Best Choices" have the lowest levels of mercury.

What is a serving?

To find out, use the palm of your hand!



For an adult
4 ounces

For children, ages 4 to 7
2 ounces

Best Choices EAT 2 TO 3 SERVINGS A WEEK

- Anchovy
- Atlantic croaker
- Atlantic mackerel
- Black sea bass
- Butterfish
- Catfish
- Clam
- Cod
- Crab
- Crawfish
- Flounder
- Haddock
- Hake
- Herring
- Lobster, American and spiny
- Mullet
- Oyster
- Pacific chub mackerel
- Perch, freshwater and ocean
- Pickerel
- Plaice
- Pollock
- Salmon
- Sardine
- Scallop
- Shad
- Shrimp
- Skate
- Smelt
- Sole
- Squid
- Tilapia
- Trout, freshwater
- Tuna, canned light (includes skipjack)
- Whitefish
- Whiting

OR

Good Choices EAT 1 SERVING A WEEK

- Bluefish
- Buffalofish
- Carp
- Chilean sea bass/ Patagonian toothfish
- Grouper
- Halibut
- Mahi mahi/ dolphinfish
- Monkfish
- Rockfish
- Sablefish
- Sheepshead
- Snapper
- Spanish mackerel
- Striped bass (ocean)
- Tilefish (Atlantic Ocean)
- Tuna, albacore/ white tuna, canned and fresh/frozen
- Tuna, yellowfin
- Weakfish/seatrout
- White croaker/ Pacific croaker

Choices to Avoid HIGHEST MERCURY LEVELS

- King mackerel
- Marlin
- Orange roughy
- Shark
- Swordfish
- Tilefish (Gulf of Mexico)
- Tuna, bigeye

*Some fish caught by family and friends, such as larger carp, catfish, trout and perch, are more likely to have fish advisories due to mercury or other contaminants. State advisories will tell you how often you can safely eat those fish.

www.FDA.gov/fishadvice

www.EPA.gov/fishadvice

EPA United States Environmental Protection Agency

FDA U.S. FOOD & DRUG ADMINISTRATION

Back to Index

The Commonwealth of Massachusetts
Executive Office of Health and Human Services
Department of Public Health
250 Washington Street, Boston, MA 02108-4619
Bureau of Environmental Health

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August 3, 2009

Public Health Advisory Regarding Bisphenol A (BPA)

The Massachusetts Department of Public Health (DPH) is issuing a public health advisory for consumers concerning bisphenol A (BPA). BPA is present in baby products, including baby bottles and some infant formula. A number of studies in laboratory animals have raised concerns about potential health effects during fetal development and among nursing or formula-fed children who may be exposed to BPA. These effects include but are not limited to: changes in the infant's developing nervous system, such as thyroid function and brain growth; changes in behavioral development, such as hyperactivity; and changes in the normal development of the prostate gland.

DPH is specifically advising parents and caretakers of children up to two years old to avoid the use of products that contain BPA for making or storing infant formula and breast milk. DPH is further advising pregnant and breastfeeding women to avoid products that may contain BPA. Current research suggests that BPA levels in newborns may be much higher than in adults. While researchers caution that more research needs to be conducted, it seems prudent to reduce exposures for pregnant and breastfeeding women to the extent possible in order to reduce levels in their newborn children.

BPA is used as a liner in some food and beverage cans to prevent spoilage. It is used in a variety of other consumer products to enhance the structural integrity of plastic containers. Alternatives to plastic containers that have BPA as a component are available, and some are made by the same companies that produce products containing BPA.

Transparent (clear or colored) plastic containers or baby bottles with the recycling number 7 and the letters PC, which stand for "polycarbonate" plastic, should be avoided to the extent possible. Heat can increase the release of BPA from polycarbonate plastic. **Therefore, consumers should consider the following:**

- Avoid heating plastic containers with the recycling number 7 and the letters PC in microwave ovens, in water on the stovetop, or by adding boiling water into them, particularly when preparing infant formula.
- Wash the containers by hand with warm water and soap, instead of in dishwashers.
- Stainless steel and glass do not contain BPA.
- Replace worn or scratched polycarbonate plastic containers, preferably with glass or stainless steel containers.
- Pregnant or breastfeeding women can eat or cook with fresh or frozen products instead of canned foods—which may contain BPA—to reduce fetal or infant exposure to BPA.

Some studies have found BPA in containers of canned liquid infant formula. Powdered formula does not appear to contain detectable levels of BPA. If special formula is required because of a medical condition, parents should not make any changes to their baby's diet without consulting with their health care provider first. It is likely that known medical risks from discontinuing the use of special formula may be far greater than those that may result from BPA exposure from this source. **The most effective means of reducing BPA exposure to infants is to breast feed.** For both baby and mother, breastfeeding has many well-documented health benefits:

- Breastfed babies have lower rates of some of the most serious chronic diseases: asthma, diabetes, and some childhood cancers.
- Breastfeeding reduces the risk and severity of infectious diseases: pneumonia, diarrhea, and ear infections.
- Women who breastfeed have lower levels of ovarian and breast cancer, and breastfed daughters also have lower rates of breast cancer when they grow up.

Back to Index

The federal Food and Drug Administration (FDA) is currently considering the scientific evidence related to health risks associated with BPA in foods and consumer products and is expected to determine the need for regulatory action in 2009. Current research on health effects associated with BPA exposure includes effects during fetal developmental and among infants, and children. Recent preliminary studies also suggest that BPA may interfere with the effectiveness of breast cancer chemotherapeutic drugs in cell culture, and may also be associated with diabetes and cardiovascular conditions in adults.

An educational brochure on this topic can be found at the DPH web site at:

www.mass.gov/dph/environmental_health.

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Back to Index

Pregnant? You Need a **Flu Shot!**

Information for pregnant women

Because you are pregnant, CDC and your ob-gyn or midwife recommend you get a flu shot to protect yourself and your baby from flu.

You should get vaccinated by the end of October, if possible. This timing can help ensure that you are protected before flu activity begins to increase. Talk to your ob-gyn or midwife about getting a flu shot.

The flu is a serious illness, especially when you are pregnant.

Getting the flu can cause serious problems when you are pregnant. Even if you are generally healthy, changes in immune, heart, and lung functions during pregnancy make you more likely to get severely ill from flu. Pregnant women who get flu are at high risk of developing serious illness, including being hospitalized.

Flu shots are the best available protection for you – and your baby.

When you get your flu shot, your body starts to make antibodies that help protect you against the flu. Antibodies also can be passed on to your developing baby, and help protect them for several months after birth. This is important because babies younger than 6 months of age are too young to get a flu vaccine. If you breastfeed your infant, antibodies also can be passed through breast milk. It takes about two weeks for your body to make antibodies after getting a flu vaccine. Talk to your doctor, nurse, or clinic about getting vaccinated by the end of October, if possible.

The flu shot is safe for pregnant and breastfeeding women and their infants.

You can get a flu shot at any time, during any trimester, while you are pregnant. Millions of pregnant women have gotten flu shots. Flu shots have a good safety record. There is a lot of evidence that flu vaccines can be given safely during pregnancy, though these data are limited for the first trimester.

If you deliver your baby before getting your flu shot, you still need to get vaccinated. The flu is spread from person to person. You, or others who care for your baby, may get the flu, and spread it to your baby. It is important that everyone who cares for your baby get a flu vaccine, including other household members, relatives, and babysitters.

Common side effects of a flu vaccine are mild.

After getting your flu shot, you may experience some mild side effects. The most common side effects include soreness, tenderness, redness and/or swelling where the shot was given. Sometimes you might have a headache, muscle aches, fever, and nausea or feel tired.

Back to Index

If you have flu symptoms, call your doctor immediately.

If you get flu symptoms (e.g., fever, cough, body aches headache, etc.) – even if you have already had a flu shot – call your doctor, nurse, or clinic right away. Doctors can prescribe influenza antiviral medicine to treat flu. Antiviral drugs can shorten your illness, make it milder and lessen the chance of developing serious complications. Because pregnant women are at high risk of serious flu complications, CDC recommends that they be treated quickly with antiviral drugs if they get flu symptoms. Oral oseltamivir is the preferred treatment for pregnant women because it has the most studies available to suggest that it is safe and beneficial. These medicines work best when started early.

Fever is often a symptom of flu. Having a fever early in pregnancy increases the chances of having a baby with birth defects or other problems. Tylenol® (acetaminophen) can reduce a fever, but you should still call your doctor or nurse and tell them about your illness.

If you have any of the following signs, call 911 and seek emergency medical care right away:

- **Problems breathing or shortness of breath**
- **Pain or pressure in the chest or abdomen**
- **Sudden dizziness or confusion**
- **Severe or constant vomiting**
- **Decreased or no movement of your baby**
- **High fever that is not responding to Tylenol® or other acetaminophen**

For more information about the flu or the vaccine, call:

1-800-CDC-INFO

or visit:

www.cdc.gov/flu/

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

CS HCVG15-MAT-106 12/27/2017

Back to Index

The American College of Obstetricians and Gynecologists
WOMEN'S HEALTH CARE PHYSICIANS

Frequently Asked Questions for Patients Concerning Tdap Vaccination

What is pertussis (whopping cough)?

Pertussis (also called whooping cough) is a highly contagious disease that causes severe coughing. People with pertussis may make a "whooping" sound when they try to breathe and are gasping for air. In newborns (birth to 1 month), pertussis can be a life-threatening illness. Multiple recent outbreaks have demonstrated that infants who are younger than 3 months are at a very high risk of severe infection.

What is Tdap?

Tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis (Tdap) vaccine is used to prevent three infections: tetanus, diphtheria, and pertussis.

I am pregnant. Should I get a Tdap shot?

Yes. All pregnant women should receive a Tdap vaccine preferably between 27 weeks and 36 weeks of gestation. The Tdap vaccine is an effective and safe way to protect you and your baby from serious illness and complications of pertussis. The Tdap vaccine should be administered during each pregnancy.

Is it safe to receive the Tdap shot during pregnancy?

Yes. There are no theoretical or proven concerns about the safety of the Tdap vaccine (or other inactivated vaccines like Tdap) during pregnancy. The available data demonstrate that the vaccine is safe when given to pregnant women or women in the postpartum period.

During which trimester is it safe to receive a Tdap shot?

It is safe to get the Tdap vaccine during all trimesters of pregnancy. Experts recommend that Tdap be administered to you during the third trimester of your pregnancy (ideally between 27 weeks and 36 weeks of gestation) to maximize the protection of your newborn. The newborn protection occurs because the protective antibodies you make after being vaccinated are transferred to the fetus and protect your newborn until he or she begins to receive the vaccines against pertussis (at 2 months of age).

(see reverse)

Back to Index

Can newborns be vaccinated against pertussis?

No. Newborns cannot begin their vaccine series against pertussis until 2 months of age because the vaccine does not work in the first few weeks of life. That is partly why infants are at a higher risk of getting pertussis and getting very ill early in life.

What else can I do to protect my baby against pertussis?

Getting your Tdap shot is the most important step in protecting yourself and your baby against pertussis. It is also important to make sure all family members and caregivers are up to date with their vaccines and, if necessary, that they receive the Tdap vaccination at least 2 weeks before having contact with your baby. This creates a safety "cocoon" of vaccinated caregivers around your baby.

I am breastfeeding my baby. Is it safe to get vaccinated with Tdap?

Yes. The Tdap vaccine can safely be given to breastfeeding mothers if they have not been previously vaccinated with Tdap.

I did not receive my Tdap shot during pregnancy. Do I still need to be vaccinated?

For women not previously vaccinated with Tdap, if Tdap was not administered during pregnancy, it should be administered immediately postpartum.

I got my Tdap shot with my previous pregnancy. Do I need to be vaccinated with Tdap again in this pregnancy?

Yes. All pregnant women should be vaccinated with Tdap during each pregnancy preferably between 27 weeks and 36 weeks of gestation. This time frame is recommended in order to generate the most protection for the mother and fetus because this appears to maximize the antibodies in the newborn at birth.

I received a Tdap shot early in this pregnancy before 27–36 weeks of gestation. Do I need to get another Tdap shot during 27–36 weeks of gestation?

A pregnant woman should not be re-vaccinated later in the same pregnancy if she received the vaccine in the first or second trimester.

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Back to Index

The American College of Obstetricians and Gynecologists
WOMEN'S HEALTH CARE PHYSICIANS

FAQ

FREQUENTLY ASKED QUESTIONS
FAQ146
PREGNANCY

Reducing Risks of Birth Defects

- What is a birth defect?
- What causes birth defects?
- What can I do before or during pregnancy to decrease my risk of having a baby with certain birth defects?
- Why should I see a health care professional before becoming pregnant?
- What factors increase the risk of having a baby with a birth defect?
- Why is taking a multivitamin important before and during pregnancy?
- What do I need to know about taking medications during pregnancy?
- How can obesity have an impact on my pregnancy?
- I have certain medical conditions. Why is it important to talk with my ob-gyn or other health care professional if I am thinking about getting pregnant?
- Why is it important for me to not drink alcohol during pregnancy?
- How can recreational drug use affect my pregnancy?
- Can using marijuana affect my pregnancy?
- How can opioids affect my pregnancy?
- What infections should I be concerned about and how can I reduce my risk of getting them during pregnancy?
- What precautions can I take to limit my exposure to agents that can cause birth defects?
- Glossary

What is a birth defect?

A birth defect is a condition that is present at birth. Some birth defects can be seen right after the baby is born, such as a ***clubfoot*** or extra fingers or toes. Special tests may be needed to find others, such as heart defects or hearing loss. Some birth defects are not noticed until later in life.

What causes birth defects?

Some birth defects are caused by ***genes*** that can be passed from parents to children. Others result from a problem with ***chromosomes***. A small number of birth defects are caused by exposure during pregnancy to certain medications, infections, and chemicals. For many birth defects, the cause is not known.

What can I do before or during pregnancy to decrease my risk of having a baby with certain birth defects?

Most birth defects cannot be prevented because their cause is not known. For a few birth defects, you may be able to decrease your risk by taking certain steps:

- See your doctor before getting pregnant.
- Know your risk factors.
- Take a daily multivitamin before and during pregnancy.
- Maintain a healthy weight.
- Use medications wisely.

- Take care of medical conditions before pregnancy.
- Do not use alcohol, marijuana, illegal drugs, or prescription drugs for a nonmedical reason.
- Prevent infections.
- Avoid known harmful agents.

Why should I see a health care professional before becoming pregnant?

Scheduling a health care visit before getting pregnant is a good idea. You can get advice about diet and exercise from your ***obstetrician–gynecologist (ob-gyn)*** or other health care professional. You can talk about whether you have any factors that increase the risk of having a child with a birth defect. If you have a medical condition, you can talk about any special care that you may need before or during pregnancy.

What factors increase the risk of having a baby with a birth defect?

You may be at an increased risk of having a baby with a birth defect if you

- are older
- have a family or personal history of birth defects
- have had a child with a birth defect
- use certain medicines around the time you become pregnant
- have a medical condition such as ***diabetes mellitus*** or ***obesity***
- use recreational drugs or drink alcohol during pregnancy

If you have any risk factors, your ob-gyn or other health care professional may recommend special tests or other steps that may help reduce your risk. For example, if you have a personal or family history of birth defects, genetic counseling and testing may be recommended.

Why is taking a multivitamin important before and during pregnancy?

Prenatal vitamin supplements contain the recommended amounts of the vitamins and minerals you will need during your pregnancy, such as vitamins A, C, and D; ***folic acid***; and minerals such as iron. Taking 400 micrograms of folic acid daily for at least 1 month before pregnancy and during pregnancy helps prevent major birth defects called ***neural tube defects***. These are defects of the brain and spine of the ***fetus***. Most prenatal and "women's formula" multivitamin supplements contain 400–800 micrograms of folic acid.

What do I need to know about taking medications during pregnancy?

A few medications have been linked to birth defects. You should tell anyone who prescribes drugs for you that you are pregnant or thinking about getting pregnant. This includes doctors you may see for dental care, mental health care, or other nonpregnancy problems. Also, check with your ob-gyn or other health care professional before taking any over-the-counter drug, such as pain relievers, laxatives, cold or allergy remedies, vitamins, herbal products, and skin treatments. A good source for information about the safety or risk of specific drugs during pregnancy is the website of the Organization of Teratology Information Specialists: www.mothertobaby.org.

How can obesity have an impact on my pregnancy?

Women who are obese (defined as having a ***body mass index [BMI]*** of 30 or greater) when they get pregnant have an increased risk of having babies with certain birth defects than women who are a normal weight. Among the most common obesity-related birth defects are neural tube defects, heart defects, and cleft palate. If you are planning a pregnancy, the best way to prevent problems caused by obesity is to be at a normal weight before you get pregnant.

I have certain medical conditions. Why is it important to talk with my ob-gyn or other health care professional if I am thinking about getting pregnant?

Some medical conditions—such as diabetes, high blood pressure, and seizure disorders—may increase the risk of having a baby with certain birth defects. If you have a medical condition, see your ob-gyn or other health care professional to discuss any changes you need to make in your diet, medication, or other areas to bring the condition under control before you try to get pregnant.

Why is it important for me to not drink alcohol during pregnancy?

Alcohol can interfere with the normal growth of the fetus and cause birth defects. When a woman drinks during pregnancy, her fetus can develop physical, intellectual, behavioral, and learning disabilities that can last a lifetime. It is best not to drink at all during pregnancy. If it is hard for you to stop drinking, talk with your ob-gyn or other health care professional or contact Alcoholics Anonymous on its website: www.aa.org.

How can recreational drug use affect my pregnancy?

Using substances—including heroin, cocaine, methamphetamines, and prescription drugs taken for a nonmedical reason—is a widespread problem in the United States. Using illegal drugs early in pregnancy can cause birth defects and miscarriage. During the later weeks of pregnancy, illegal drugs can interfere with the growth of the fetus and cause ***preterm***

birth and fetal death. Infants born to women who used illegal drugs during pregnancy may need specialized care after birth. If you need help quitting illegal drugs, you can find resources at the website of Narcotics Anonymous: www.na.org.

Can using marijuana affect my pregnancy?

Recreational marijuana used during pregnancy is associated with attention and behavioral problems in children. Marijuana may increase the risk of ***stillbirth*** and the risk that babies will be smaller than babies who are not exposed to marijuana before birth. Medical marijuana also should be avoided. The American College of Obstetricians and Gynecologists recommends that pregnant women and those planning to become pregnant not use any form of marijuana. You and your ob-gyn or other health care professional can discuss alternative treatments that will be safe for your fetus.

How can opioids affect my pregnancy?

Opioids—also called narcotics—are a type of medication that relieves pain. Doctors may prescribe opioids for people who have had surgery, dental work, or an injury. Prescribed opioids include oxycodone, hydromorphone, hydrocodone, and codeine. When taken under a doctor's care, opioids are safe for both you and your fetus. It is important to take the medication only as prescribed.

Most people who use a prescription opioid have no trouble stopping their use, but some people develop an addiction. Misusing opioids during pregnancy can increase the risk of serious complications, including preterm birth, stillbirth, and problems with the placenta and fetal growth. If you need help with an opioid addiction, you can find resources at the website of the Substance Abuse and Mental Health Services Administration (SAMHSA): www.samhsa.gov. SAMHSA also has a 24-hour treatment referral line: 800-662-HELP (4357).

What infections should I be concerned about and how can I reduce my risk of getting them during pregnancy?

Some infections can increase the risk of birth defects and other problems during pregnancy for you and your fetus:

- ***Rubella*** (German measles) is a viral infection that usually causes a mild rash and a low fever. Having rubella during pregnancy can cause miscarriage or result in deafness, intellectual disability, heart defects, and blindness in a newborn. There is a vaccine against rubella, but it is not recommended for pregnant women. If you have not already had the disease or been vaccinated, you should be vaccinated against rubella and wait at least 1 month before becoming pregnant.
- ***Toxoplasmosis*** is a disease caused by a parasite that lives in soil. You can become infected by eating raw or undercooked meat or unwashed vegetables or by coming into contact with animal feces, especially from cats that go outdoors. If you are infected for the first time while you are pregnant, you can pass the disease on to your baby. Toxoplasmosis can cause birth defects, including hearing loss, vision problems, and intellectual disability. Make sure that you eat well-cooked meat and wear gloves while gardening or handling unwashed vegetables. If you have an outdoor cat that uses a litter box, have someone else empty it. If you must empty the litter box, use gloves and wash your hands well after doing so.
- ***Sexually transmitted infections (STIs)*** can cause serious birth defects. Treating an STI—preferably before you get pregnant—may prevent or reduce harm to the fetus.
- ***Cytomegalovirus (CMV)*** is a common viral infection. Most CMV infections cause no significant problems. If you are infected for the first time when you are pregnant, CMV can infect the fetus. In a small number of cases, the infection can cause intellectual disability, hearing loss, and vision problems. CMV can be spread by contact with an infected child's urine or other body fluids. Pregnant women who work with young children, such as day care workers or health care workers, should take steps to prevent infection, including wearing gloves when changing diapers. Frequent handwashing also is recommended. Pregnant women with young children at home also are at risk and should take these steps.

What precautions can I take to limit my exposure to agents that can cause birth defects?

A few precautions that are recommended for all pregnant women include the following:

- Limit your exposure to mercury by not eating shark, swordfish, king mackerel, or tilefish. Limit eating white (albacore) tuna to 6 ounces a week. You do not have to avoid all fish during pregnancy. In fact, fish and shellfish are nutritious foods with vital nutrients for a pregnant woman and her fetus. Be sure to eat at least 8–12 ounces of low-mercury fish and shellfish per week.
- Avoid exposure to lead. Lead can be found in old paint, construction materials, alternative medicines, and items made in foreign countries, such as jewelry and pottery.
- Avoid taking high levels of vitamin A. Very high levels of vitamin A have been linked to severe birth defects. You should consume no more than 10,000 international units of vitamin A a day.

Glossary

Body Mass Index (BMI): A number calculated from height and weight that is used to determine whether a person is underweight, normal weight, overweight, or obese.

Chromosomes: Structures that are located inside each cell in the body and contain the genes that determine a person's physical makeup.

Clubfoot: A birth defect in which the foot is misshaped and twisted out of position.

Back to Index

Cytomegalovirus (CMV): A virus that can be transmitted to a fetus if a woman becomes infected during pregnancy. It can cause hearing loss, intellectual disability, and vision problems in infected infants.

Diabetes Mellitus: A condition in which the levels of sugar in the blood are too high.

Fetus: The stage of prenatal development that starts 8 weeks after fertilization and lasts until the end of pregnancy.

Folic Acid: A vitamin that has been shown to reduce the risk of certain birth defects when taken in sufficient amounts before and during pregnancy.

Genes: Segments of DNA that contain instructions for the development of a person's physical traits and control of the processes in the body. They are the basic units of heredity and can be passed down from parent to offspring.

Neural Tube Defects: Birth defects that result from incomplete development of the brain, spinal cord, or their coverings.

Obesity: A condition characterized by excessive body fat.

Obstetrician–Gynecologist (Ob-Gyn): A physician with special skills, training, and education in women's health.

Opioids: Medications that blunt how you perceive pain and your emotional response to it.

Preterm: Born before 37 weeks of pregnancy.

Rubella: A virus that can be passed to the fetus if a woman becomes infected during pregnancy and that can cause miscarriage or severe birth defects.

Sexually Transmitted Infections (STIs): Infections that are spread by sexual contact, including chlamydia, gonorrhea, human papillomavirus (HPV), herpes, syphilis, and human immunodeficiency virus (HIV, the cause of acquired immunodeficiency syndrome [AIDS]).

Stillbirth: Delivery of a dead baby.

Toxoplasmosis: An infection caused by Toxoplasma gondii, an organism that may be found in raw and rare meat, garden soil, and cat feces and can be harmful to the fetus.

If you have further questions, contact your obstetrician–gynecologist.

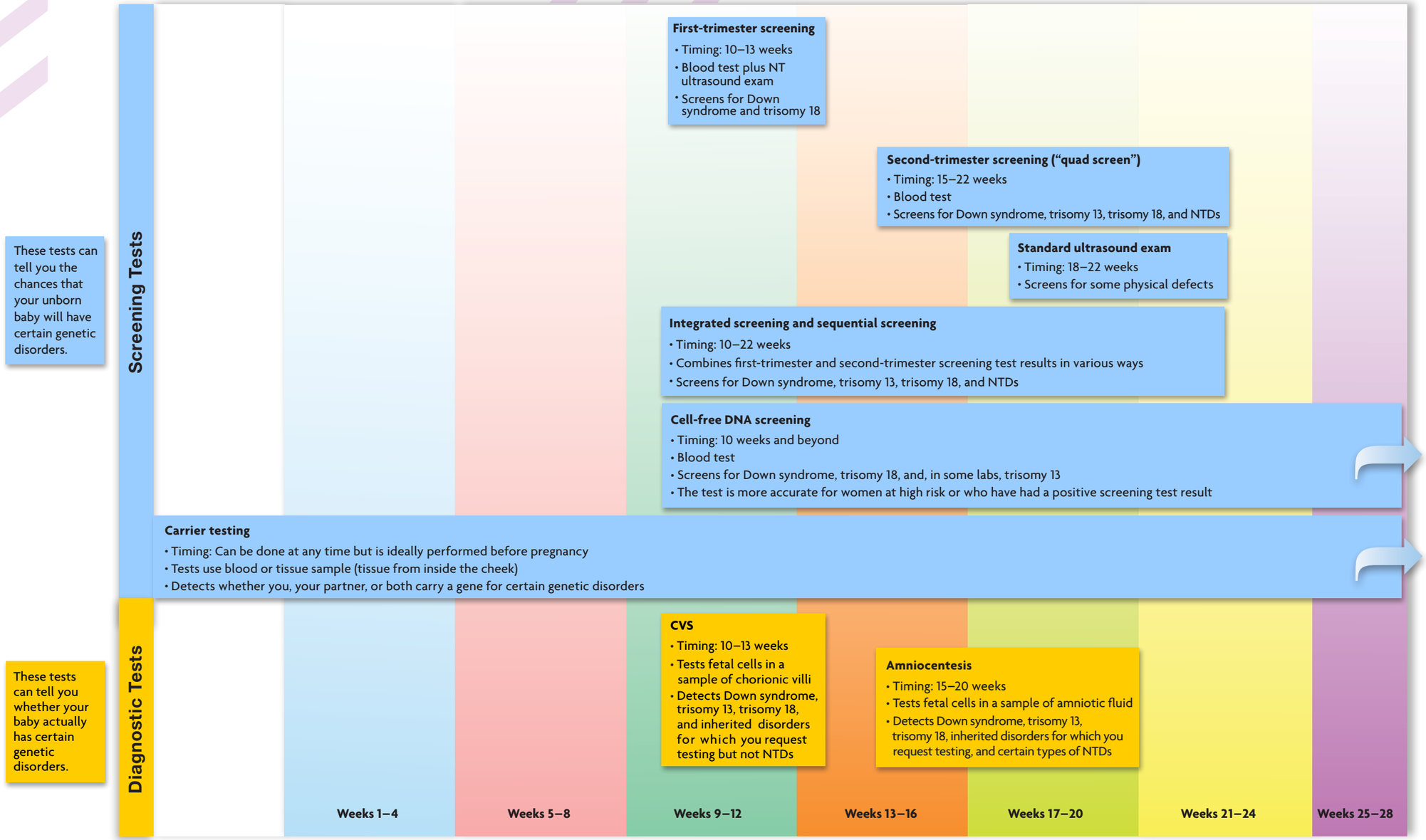
FAQ146: Designed as an aid to patients, this document sets forth current information and opinions related to women's health. The information does not dictate an exclusive course of treatment or procedure to be followed and should not be construed as excluding other acceptable methods of practice. Variations, taking into account the needs of the individual patient, resources, and limitations unique to the institution or type of practice, may be appropriate.

Back to Index

PRENATAL GENETIC TESTING CHART

Related FAQS:

- Prenatal Genetic Screening Tests: www.acog.org/Patients/FAQs/Prenatal-Genetic-Screening-Tests
- Prenatal Genetic Diagnostic Tests: www.acog.org/Patients/FAQs/Prenatal-Genetic-Diagnostic-Tests



Abbreviations: CVS, chorionic villus sampling; NT, nuchal translucency; NTD, neural tube defect

Note: Check your local and state laws regarding the timing and availability of prenatal genetic testing.

The American College of Obstetricians and Gynecologists
WOMEN'S HEALTH CARE PHYSICIANS
409 12th Street SW, PO Box 96920
Washington, DC 20090-6920
www.acog.org

Back to Index

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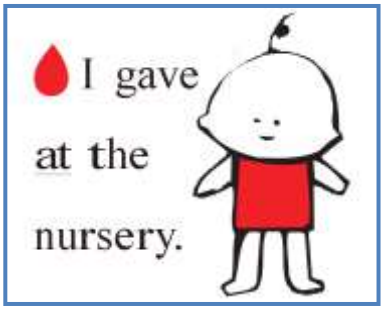
Celebrate Life:
UMass Cord Blood Donation Program



At UMass Memorial we are proud to offer families the opportunity to donate their baby's cord blood:

- For transplantation to help another person with one of many different kinds of disorders, or
- For research that advances knowledge in many different states of disease and health

Public Banking for Transplantation (Donation to help another person)

The blood in a newborn's umbilical cord contains valuable cells that have the potential to treat over 70 different disorders. Many patients in need of treatment for various disorders need a bone marrow transplant and have difficulty finding a donor. This is especially true for those in certain minority groups and those from mixed race backgrounds. Cord blood is a source of valuable stem cells and can be a match for someone in need. Public banks store donated cord blood and make it available to anyone who needs it. Families may also decide to store their baby's cord blood for themselves and many companies offer that service.

UMass Memorial is proud to be a partner with Lifeforce Cryobanks International and to participate in the National Marrow Donor Program as a site for umbilical cord blood donation to a public bank. UMass Memorial was the first cord blood donation program in New England and collects cord blood from generous parents and their babies to add to a national inventory that is available to all.

Our donations have led to 19 transplants thus far. Our first transplanted unit went to a 7-year-old in Italy who required a bone marrow transplant to treat a life threatening blood disorder. Without cord blood donations, these patients and many others would not have a chance to survive.

Cord blood donation for transplant is easy and no cost to you and your family. Blood is collected AFTER your baby is delivered and does not affect your care or your baby's care. It is tissue that is normally discarded after delivery. A consent form asks questions about your medical history to protect persons who may receive the blood in the future. A small sample of the mother's blood is also required to test for infection. The information is always confidential.

Research (Donation to advance knowledge that may help many people)

Cord blood can also be donated for research. The University of Massachusetts Medical School turns world-class research into discoveries that ultimately lead to changes in how we care for patients. Cord blood can be donated to researchers including those here at UMass, other affiliated researchers and/or outside institutions and organizations, who are studying diabetes, immune function, infectious disease, cerebral palsy and other disorder; they are also studying ways to improve the collection of specialized stem cells found in cord blood.

Cord blood donation for research is easy and no cost to you. It is tissue that is normally discarded after delivery. With your verbal permission, we can collect it while waiting for your placenta or after its delivery. A needle is inserted into the umbilical cord – you do not feel this and your care is managed as usual. We label the blood with day of week and month/time/weight of collection, gestational age, maternal age, or infection presence. Under HIPAA, we need your permission to collect this information. You can say no or yes, and it will not affect treatment, payment, or enrollment in any health plans, or affect eligibility for benefits, for you or your baby. Please note that we cannot identify your blood and thus cannot destroy it if you change your mind. If you say yes, please keep a copy of this statement for your records.

An employee of UMass Medical School and/or UMass Memorial Health Care may talk to your care team and you while you are getting pregnancy care and/or when you are on the labor floor. Donating your baby's cord blood to the public bank or for research is entirely voluntary. The care you receive at UMass Memorial Health Care will not be affected if you decided to donate umbilical cord blood or not.

Please contact Dr. Tiffany A. Moore Simas (1.508.334.6678, 119 Belmont Street, Worcester), or CordBlood@UMassMemorial.org with any interest, questions, or concerns including possible research injury. Please contact the UMMS IRB 1.508.856.4261 for similar reasons or have questions about your rights as a research subject.

University of Massachusetts Medical School

UMassMemorial Health Care

Back to Index

Caring for You Throughout Life
WOMEN'S HEALTH
of Central Massachusetts

A Health Care Guide for New Mothers

You have spent nine months preparing for your baby's birth. You have probably read every book, article, and website to make sure you were eating right, exercising at the appropriate level, and taking the necessary vitamins and supplements. Your preparation has paid off.....Congratulations!!!

Now that you have given birth, it is important to keep up the healthy habits you practiced throughout your pregnancy. Your doctor or nurse is the best resource for making sure you are on track. ***Review this planner to get ready for your six-week, post-delivery visit, and bring it with you to your check-up.*** Use it to help discuss your health and well-being with your doctor or nurse.

Diet, Nutrition & Exercise	Goals
Weight Loss Returning to pre-pregnancy weight is a common concern and goal for women. Combining diet and nutrition with exercise will help most women lose weight gradually during the months after delivery.	**Goal:** Lose weight gradually ▪ 4-5 lbs. per month maximum after first month post-delivery (except high pregnancy weights) ▪ Be patient ▪ A minimum of 1,800 calories per day (you may need more if breastfeeding) ▪ Drink plenty of fluids (moderate caffeine intake, limit alcohol)
Nutrition	**Goals**
  A well-balanced and nutritious diet is vital to the health and well-being of women throughout the post-delivery period. Nutrients such as calcium and iron are essential for women before, during, and after pregnancy. Vitamin and mineral supplements can help women ensure they consume the nutrients they need.  	**Calcium: take 1,000-1,3000 mg daily** ▪ Food sources include low-fat and fat-free dairy products and green leafy vegetables such as broccoli, kale, and collards ▪ Most multi-vitamins and prenatal vitamins supply less than one-third of the 1,000 mg-1,300mg of calcium recommended daily ▪ If the food choices fall short of supplying the recommended amount of calcium, taking a calcium supplement, such as TUMS, with meals can help fill the calcium gap **Iron: take 15-18 mg daily** ▪ Food sources that contain iron include lean beef, dried fruits, figs, tofu, oysters, and spinach ▪ You may require additional iron from an iron supplement when the interval between pregnancies is short
Exercise	**Goals**
Exercise regularly after delivery, and make it a part of your daily life. The appropriate level of exercise will depend on your level of fitness and recuperation from delivery. **Exercise**	**Abdominal muscles:** Reduce the risk of urinary stress incontinence. ▪ Ask your doctor or nurse about performing Kegal Exercises **Keep your bones strong; tone and shape your body:** ▪ Do weight-bearing exercises such as walking or cycling that complement calcium to maintain strong, dense bones ▪ If lactating, breastfeed before exercising to minimize discomfort

Back to Index

Physical, Emotional, & Sexual Needs	Goals
Don't be embarrassed to discuss with your doctor or nurse all aspects of your physical health including important conditions that may result from delivery. 	▪ Breast condition ▪ Constipation ▪ Hemorrhoids ▪ Vaginal Discharge ▪ Incontinence ▪ Healing below birth canal ▪ Varicose Veins
Emotional Adjustment	**Goals**
Inform your doctor or nurse if you have been feeling overwhelmed, anxious, incompetent, or exhausted.	▪ Take time for yourself ▪ Get enough rest ▪ Call on family and friends for help when needed to reduce stress ▪ Consider joining a mothers' or postpartum support group **Ask your doctor or nurse about:** ▪ Mood swings or "baby blues" ▪ Symptoms of post-delivery depression ▪ Strategies for preventing depression ▪ Plan for hormonal shifts during weaning or when starting your period again
Sexuality & Contraception	**Goals**
A lack of sexual desire is very common in the post-delivery period and normal during the first couple of months after giving birth. Every woman has her own timetable. Discuss your readiness to start having sex again with your partner. Return to fertility is unpredictable and may return before the onset of regular menstrual cycles, even in breastfeeding women. Discuss family planning and the benefits and risk of all appropriate contraception options with your doctor or nurse.	▪ Keep an open dialogue with your partner about your readiness for having intercourse ▪ Make time for cuddling and kissing to re-establish physical closeness **Ask your doctor or nurse about:** ▪ Resuming sexual intercourse ▪ Minimizing discomfort ▪ Effects of breastfeeding or hormones on sexual desire **Post-delivery contraception:** ▪ Consider whether or not you'd like to have more children **Ask your doctor or nurse about:** ▪ Contraception options ▪ Use of birth control prior to resuming sexual activity

Back to Index

Caring for You Throughout Life
WOMEN'S HEALTH
of Central Massachusetts

Breast Milk Handling Guidelines

- If not used for immediate feeding, refrigerate or freeze milk after expressing. If milk is to be stored in a freezer, it should be frozen within 24 hrs after expressing
- Store breast milk in a glass or rigid plastic containers made with food-grade plastic
- Put the date and time on the container at the time of collection
- Store two to four ounces in each container or the amount your baby is likely to take in a single feeding (smaller quantities are easier to thaw and avoid waste)
- Do not fill container to the top (leave 1" of space for milk to expand as it freezes)
- Use refrigerated breast milk within 24 hrs if possible (Discard after 72 hrs)
- Previously frozen breast milk can be kept in the refrigerator for up to 24 hrs
- Previously frozen and thawed breast milk should not be frozen

Cooling and Warming Breast Milk

- Breast milk should be thawed and warmed slowly and carefully. High temperatures can affect some of the beneficial properties
- Thaw frozen breast milk under cool running water: gradually increase the temperature of the water to bring the milk to feeding temperature, or immerse the container in a pan of water that has been warmed. Breast milk itself should not be heated directly on the stove.
- To bring refrigerated breast milk up to feeding temperature, hold the container under warm running water for several minutes, or immerse the container in a pan of water that has been warmed.
- To avoid contaminating the breast milk when warming in water, tighten the container lid and keep lid above water
- Do not use a microwave oven to heat breast milk. If the milk gets too hot, many of its beneficial properties will be destroyed. Because microwave ovens heat liquid unevenly, there may be hot spots in the container of milk that can be dangerous for your baby.
- Use fresh breast milk whenever possible
- When using refrigerated or frozen breast milk, use the oldest date milk first
- Breast milk may be separated into layers when stored. Shake gently before feeding to redistribute the cream

Storage Time and Temperature for Human Milk

Breast Milk	In Refrigerator	In Freezer
Freshly expressed	Use within 24 hrs if possible. Discard after 72 hrs	*Up to 1 month in freezer compartment or refrigerator. *3-6 months in deep freezer (0degrees F or less). Store in the back of the freezer, label and use oldest first. Best if used within 3 months.
Previously frozen	24 hrs	DO NOT RE-FREEZE