Healthy Eating During Pregnancy

INTRODUCTION:
With so much information on how food can affect your health, it may seem confusing at times to know what to eat.

Still, the relationship between diet and health is very important. It is even more important during pregnancy since good nutrition and safe food handling play a key role in the health of both the mother and baby.

As the title implies, this brochure provides information on healthful eating during pregnancy. It will cover how to eat a balanced diet, eating a variety of foods, healthy weight gain during pregnancy, and food safety concerns specific to pregnant women.

A BALANCED DIET—What a Mother-to-Be Needs
Pregnant women have special dietary needs. Eating a balanced diet before, during, and after pregnancy is one part of good health. This section of the brochure describes key nutrients pregnant women need, how much they need, and sources of those nutrients. Certain foods should be avoided during pregnancy because they pose a food safety risk. These are discussed later in this brochure.

CALORIES
During pregnancy, a woman’s calorie needs increase by about 15 percent. Some women are surprised to learn that “eating for two” really only means eating an additional 300 calories per day. Three hundred calories equals about 3 cups of non-fat milk or an English muffin with one tablespoon of peanut butter and a small banana.

Pregnant women should choose foods and beverages that are “nutrient-dense,” or rich in nutrients. Nutrient-dense foods are packed with vitamins, minerals and other nutrients, and have relatively few calories. Choosing a variety of foods from all five food groups (grains, vegetables, fruits, dairy, and meat and beans) will help to ensure that a woman gets the nutrition she and her growing baby need. However, there are a few nutrient-dense foods that pregnant women should avoid due to food safety concerns.

MyPyramid.gov is an excellent resource for specifics regarding the amount of calories individual moms-to-be and new moms should consume.
KEY NUTRIENTS

PROTEIN
Protein is found in many foods. It helps maintain muscle and body tissue, helping the body to produce some hormones and antibodies. Pregnant women should take in 60 grams of protein every day. This is only 10 grams more than non-pregnant women. Lean meats, poultry, fish, dairy products, and legumes (beans) are good sources of protein. These foods also supply other key nutrients, such as iron, B vitamins, and other very important minerals. Dried beans, lentils, nuts, soybeans, eggs, and cheeses are other sources of protein.

Most Americans consume more protein than they need. Therefore, most women should not need to increase the amount of protein they eat during pregnancy. Usually there is no need to consume high-protein beverages, supplements, or powders. Vegetarians can meet their protein needs by eating select milk and egg foods, but pregnant vegans who eat only plant foods should talk to a registered dietitian about how to make sure their diet has adequate protein and other essential vitamins and minerals. Soy protein is the only complete protein source for vegans and so it is an important part of a mother-to-be’s diet. Soy protein is found in soy milk, soy cheese, soy yogurt, and tofu. Examples of other protein-rich vegan foods are nuts, hummus, and beans (red kidney beans, chickpeas, navy beans, etc.).

CARBOHYDRATES
Many foods contain carbohydrates. Fruits, vegetables, grains, and several dairy products contain carbohydrates and bring a variety of other important nutrients to the diet, like vitamins, minerals, antioxidants, and fiber. Additionally, sugars are the simplest form of carbohydrates and can add sweetness to a nutritious diet. Breakfast is a time to fit healthful carbohydrates into the diet. Whole grain and enriched English muffins, cereals, and breads, as well as fruit are just some examples of good breakfast choices containing carbohydrates. Carbohydrates enriched with folic acid reduce the rate of birth defects. Of course, carbohydrates can be eaten at any time of the day too.

The Institute of Medicine (IOM) Dietary Reference Intakes (DRI) Report recommends that Americans get the majority of their daily calories from carbohydrates—about 45 to 65 percent of daily calorie intake. Children and adults need a minimum of 130 grams of carbohydrates per day. However, pregnant women require an additional 45 grams of carbohydrates per day.

FATS
The fat in food is needed for good nutrition and good health. Like carbohydrates and protein, dietary fat is an important source of energy for the body. Certain foods that contain fat supply the body with essential fatty acids—essential fatty acids are fats that are not produced by the body, so they must be obtained through food. Most importantly, these fats are needed for proper development of the baby.

Like carbohydrates and protein, dietary fat is an important source of energy for the body.
flaxseeds. All women, including those who are pregnant or breastfeeding should follow these recommendations.

DHA is an omega-3 fatty acid that is important for babies’ brain and eye development. Some experts now recommend that pregnant women get an average dietary intake of 200 milligrams (mg) DHA per day. DHA is found in oily fish such as salmon, and in supplements that may be recommended by your healthcare provider. (For more information on eating fish during pregnancy, see the Food Safety section of this brochure.)

CALCIUM

Calcium is needed for the growth of strong bones and teeth. Calcium intake is very important for all women, particularly pregnant women younger than 25 years old whose bones are still growing.

The calcium recommendation for pregnant women 19 to 50 years old is 1,000 mg per day. Many women who don’t consume dairy products or don’t get enough calcium in their diet are advised to take a calcium supplement of 600 mg calcium per day.

Milk, yogurt, and cheese are good sources of calcium. If your healthcare provider is concerned about you gaining too much weight, non-fat (skim) and low-fat (1%) dairy products supply equal amounts of calcium with fewer calories than their higher-fat (2% and whole) counterparts.

Other sources of calcium include dark green leafy vegetables such as spinach, dried beans and peas, nuts and seeds, tofu that has been supplemented with calcium and sardines. Calcium-fortified foods, such as some orange juices, soymilk, and breakfast cereals, are also good sources of calcium in the diet.

Women with lactose intolerance or a milk allergy may need guidance from their allergist or healthcare provider on how to include sources of calcium into their diet.

Vitamin D is important for the absorption and use of calcium; therefore, Vitamin D intake is also very important. Sunlight is one source of Vitamin D. About five to ten minutes of sunlight to exposed arms and/or the face can supply a day’s worth of Vitamin D, depending on the season of year, latitude, and pigment of skin.

Dietary sources of Vitamin D are limited, but can include milk with added Vitamin D, oily fish (salmon, sardines, whitefish), some fortified cereals, and supplements. Five micrograms (mcg) of Vitamin D are recommended per day.
IRON
Iron carries oxygen through the blood and delivers it throughout the body. It also aids in immunity, brain development, body temperature regulation, metabolism, and physical performance. About 90 percent of the iron in the human body is conserved and reused every day. The developing baby also stores enough iron to last through the first few months of life.

Because pregnant women have an increased amount of blood in their bodies, they need more iron than non-pregnant women. Therefore, pregnant women should consume 27 mg of iron per day. Most prenatal vitamins supply this amount.

A healthful eating plan provides women with up to 12 to 14 mg of iron per day. Red meat is rich in iron. Fish and poultry are also good sources. Other options include enriched and whole grain breads and cereals, green leafy vegetables, beans and nuts, eggs, and dried fruits.

The body does not absorb the iron in eggs and plant sources as well as the iron in meat, fish, and poultry. However, iron absorption from eggs and plant foods can be increased when eaten with foods high in vitamin C, such as orange juice or red bell peppers.

Iron stores are often used up by the woman's body. Since many women enter pregnancy with low iron reserves to begin with, they risk developing anemia, a red blood cell deficiency that can make a woman feel tired and result in many other health problems. Routine supplements of low-dose iron starting at the first prenatal visit are recommended. Some women may also need to be screened on an ongoing basis. A registered dietitian can recommend iron-rich foods and foods that can help with iron absorption.

Iron supplements are absorbed best when taken between meals, with water or juice, and not with other supplements. Substances in coffee, tea, and milk can inhibit iron absorption. Taking iron supplements at bedtime may help reduce upset stomach and/or heartburn.

FOLIC ACID/FOLATE
Folic acid, a B vitamin, should be taken before and during early pregnancy to reduce the risk of spina bifida and other neural tube defects (NTDs), or birth defects of the brain and spinal cord in infants.

All women of childbearing age need an adequate intake of folate or folic acid because it plays an important role in the baby's development. “Folate” is the term for the different forms of the nutrient found naturally in foods; “folic acid” is the synthetic form used in supplements and in fortified grain products.

All pregnant women should consider taking prenatal vitamins, regardless of how healthfully they think they eat.
OTHER FOOD INGREDIENTS

CAFFEINE

Many pregnant and breastfeeding women are concerned about consuming too much caffeine. Caffeine is found in coffee, tea, some soft drinks, chocolate, and some over-the-counter medications. Most research finds that it is safe for both pregnant and breastfeeding women to consume moderate amounts of caffeine. Moderate caffeine intake is considered to be about 300 mg/day. This is typically about the same amount that is found in two to three 8-ounce cups of coffee, depending on the type and strength of the coffee, or six cups of tea. Pregnant and breastfeeding women don’t have to give up their morning cup of coffee, tea, or soft drink. However, if their usual coffee consumption is more than two to three cups per day, it would be wise to cut back until they are no longer pregnant or breastfeeding.

With that in mind, women who are planning to conceive may want to limit caffeine consumption to less than 300 mg/day. This includes caffeine from all sources.

Moderate caffeine consumption of up to 300 mg/day throughout the entire pregnancy has not been shown to increase the risk of birth defects. Although the topic remains controversial, scientific research organizations like the Organization of Teratology Information Specialists (OTIS) conclude that moderate caffeine consumption during pregnancy does not increase the risk of miscarriage. The March of Dimes takes a more conservative approach, recommending pregnant women limit caffeine consumption to less than 200 mg/day.

Caffeine from foods and beverages becomes part of the mother’s breast milk, but nursing mothers can consume small amounts of caffeine without harming the baby. Over 300 mg/day of caffeine could make it hard for the baby to fall asleep and/or lead to trouble feeding the baby. Limiting caffeine intake to no more than 300 mg/day is recommended for breastfeeding mothers.

LOW-CALORIE SWEETENERS

According to the Food and Drug Administration (FDA), consumption of low-calorie sweeteners is safe for the general public, including pregnant women. In the United States, there are five low-calorie sweeteners (also sometimes referred to as artificial sweeteners or sugar substitutes) approved for use in foods and as tabletop sweeteners. They are: acesulfame potassium (Ace-K), aspartame, neotame, saccharin, and sucralose. Studies show that they are all safe to consume during pregnancy.

However, anyone – pregnant or not – with phenylketonuria (PKU) an inherited disease, must restrict their intake of phenylalanine from all sources, including aspartame. Studies show that pregnant women who have the PKU gene but not PKU disease can digest aspartame well enough to protect the baby.

Although saccharin can cross the placenta, there is no evidence that it is harmful to the developing baby. Both the American Dietetic Association and the American Diabetes Association state that saccharin can be consumed in moderation during pregnancy.

SODIUM

Sodium is a very important, natural part of fluids in the human body, and is found in blood and sweat. Working with other minerals, such as potassium,
magnesium, and chloride, sodium’s main role is to keep water balance in the body and the acid-base balance of body fluids.

Sodium requirements for pregnant or breastfeeding women are not different from those of other women. The IOM recommends no more than 1,500 mg of sodium per day (3,800 mg of salt). It is estimated that individuals in the United States consume almost twice the recommended amount daily (3,200 mg).

At one time, salt was restricted during pregnancy to reduce the incidence of toxemia (a condition with symptoms including high blood pressure, fluid retention and protein in the urine). However, there is no scientific evidence that restricting sodium will prevent toxemia.

Women who have been advised by their healthcare provider to limit their sodium intake before becoming pregnant should continue to do so.

ALCOHOL
There is no data to support how much alcohol is safe to drink during pregnancy. Therefore, most health care providers recommend drinking no alcohol during pregnancy. Alcohol consumption during pregnancy can cause a number of birth defects, ranging from mild to severe. Babies born to mothers who consumed alcohol during pregnancy may suffer from mental retardation; learning, emotional, and behavioral problems; and defects involving the heart, face, and other organs. Also, women who may be pregnant or are trying to get pregnant should not drink alcohol.

Some women are concerned about having consumed moderate amounts of alcohol soon after conception, before becoming aware of their pregnancy. Generally, women should not worry if they consumed small amounts of alcohol during this time. However, they should stop drinking alcohol as soon as they find out they are pregnant.

OTHER NUTRITION SOURCES

VITAMIN/MINERAL SUPPLEMENTS
Most nutritional needs can be met through a balanced diet, but many experts recommend that pregnant women take a daily vitamin/mineral supplement as well. Vegans, women under age 25, and those who don’t consume dairy products (such as those individuals with lactose intolerance or milk allergy) should also take a calcium supplement (600 mg per day) plus Vitamin D.

Vitamin/mineral supplements are especially recommended for pregnant women who may be at nutritional risk. This includes women who are strict vegetarians and consume no animal products, those who are breastfeeding, following restrictive diets, are heavy cigarette smokers, consume high amounts of alcohol (multiple drinks per day), or who are carrying twins or triplets. For strict vegetarians who consume no animal products, vitamin B12 supplements (and perhaps vitamin D and zinc) are also recommended.

Vitamin A supplements are not recommended during pregnancy, except at low levels, because excessive levels of Vitamin A could be toxic to the developing baby. Adequate levels are available through a healthful diet.

There is no evidence that taking Vitamin B6 is an effective treatment for morning sickness, nor is there scientific evidence to support benefits from herbal products. In fact, some herbal products may have serious side effects.
Weight Gain DURING PREGNANCY

Gaining the right amount of weight during pregnancy helps to make sure the pregnancy outcome for both mother and baby is healthy. Women who gain too little weight are at risk of having a small baby (less than 5 1/2 pounds). On the other hand, women who gain too much weight have a greater risk of having an early baby or a large baby. Additionally, gaining too much weight during pregnancy may be associated with health problems such as gestational diabetes, high blood pressure (preeclampsia), and varicose veins in the mother.

In addition to weight gain associated with the growth of the baby during pregnancy, pregnant women store fat to prepare for breastfeeding. Women below optimal weight need careful monitoring and meal planning advice in preparation for breastfeeding.

The chart, “Where Does Weight Gain Go?” highlights the typical distribution of weight during pregnancy.

GOALS FOR WEIGHT GAIN

Goals for weight gain should be based on pre-pregnancy weight, height, age, and usual eating patterns. In 1990, the IOM issued guidelines for weight gain during pregnancy, which are still used today. Because every woman and every pregnancy is unique, pregnant women should talk to their healthcare provider to ensure proper weight gain throughout their pregnancy.

A weight gain of 25 to 35 pounds is considered normal for healthy women of normal weight (with a BMI of 18.6 to 24.9). BMI is one way to determine if individuals are at an appropriate weight. This tool can also be

<table>
<thead>
<tr>
<th>WHERE DOES THE WEIGHT GO?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Approximate Weight Gain, in pounds</strong></td>
</tr>
<tr>
<td>Baby</td>
</tr>
<tr>
<td>Placenta</td>
</tr>
<tr>
<td>Amniotic fluid</td>
</tr>
<tr>
<td><strong>Mother</strong></td>
</tr>
<tr>
<td>Breasts</td>
</tr>
<tr>
<td>Uterus</td>
</tr>
<tr>
<td>Body fluids</td>
</tr>
<tr>
<td>— Blood</td>
</tr>
<tr>
<td>— Maternal stores of fat, protein, &amp; other nutrients</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
</tr>
</tbody>
</table>


Women should listen to their bodies’ signals and stop eating when they feel full, instead of overeating because “you’re eating for two.”
used to determine how much weight a woman should gain during pregnancy. See chart on page 3.

Obese women (BMI > 30) can have successful pregnancies and healthy babies if they watch their weight gain. Obese women should gain no more than 15 pounds, but cutting calories below required levels during pregnancy has been associated with reduced birth weight and is not recommended. It is also suggested that obese women receive nutrition counseling to ensure they get enough nutrients and regular physical activity, and to discourage weight loss during pregnancy.

Carrying multiple babies presents unique challenges. Regardless of their pre-pregnancy weight and height, women carrying twins should gain 35 to 45 pounds, and women carrying triplets, 50 pounds.

**PATTERN OF WEIGHT GAIN**

Patterns of weight gain are as important as total weight gain. While setting goals for total weight gain is important, weight gain progress needs to be carefully monitored. These records of weight gain will begin with taking accurate measurements from the first prenatal visit with regular weigh-ins recorded at each visit.

Weight maintenance or slight weight losses are normal during the first trimester, or first 13 weeks of pregnancy. However, women should aim to gain a total of four pounds during this time. Weight gain should come from the nutrient-dense foods described earlier in this brochure. Women should listen to their bodies’ signals and stop eating when they feel full, instead of overeating because “you’re eating for two.”

Women with healthy pre-pregnancy weights should gain an average of one pound a week during the second and third trimesters. Women who are underweight before conception should gain slightly more than one pound per week. Those who were initially overweight should gain at a slower rate (slightly more than a half a pound per week).

**FOOD CRAVINGS AND AVersions**

Food cravings and dislikes of certain foods are common during pregnancy. There is no evidence that food cravings result from nutritional deficiencies, and their cause remains a mystery. It is acceptable to satisfy food cravings within reason, especially when they supply nutrients to the diet.

In rare cases, some pregnant women crave nonfood substances, such as laundry detergent or clay. This is called *pica*. The consumption of nonfood items can be dangerous for both mother and baby. In some cases *pica* involves eating large amounts of nonfood items that displace foods and interfere with getting enough nutrients. Examples of these nonfood items include clay, starch, ice, coffee grounds, or baking soda. If a woman experiences nonfood cravings, she should talk to her healthcare provider right away.

**PHYSICAL ACTIVITY**

Physical activity is another critical part of good health. Pregnant women are encouraged to include 30 minutes or more of moderate physical activity on most, if not all, days of the week. Activities may include walking or swimming, but should not include those associated with a high risk of falling or injury. If being physically active for 30 minutes at one time is not possible in your schedule, you can split up the time into three 10-minute intervals throughout the day. Women with special circumstances should consult with their healthcare provider about how much exercise and at what intensity is right for them.
Breastfeeding

Research has shown that there is no better food than breast milk for a baby’s first year of life. Breast milk provides good nutrition, immunity boosters, and nutrients aimed at brain development for newborns and infants. Also, current scientific evidence shows that breastfeeding may help prevent childhood obesity.

Some components of breast milk enhance the baby’s natural defenses and promote development of the immune system. In fact, research suggests that breastfeeding may be associated with a reduction in risk of food allergy in high-risk infants (those with a parent or sibling with food allergies). That said, there is still some debate surrounding the degree to which breastfeeding prevents, reduces, or delays the development of allergy. Research has also shown that children who are breastfed may have a lower risk of developing asthma.

The World Health Organization (WHO)/UNICEF infant feeding guidelines support exclusive breastfeeding for the first six months of life and the continuation of breastfeeding, together with age-appropriate solid foods, up to two years of age or beyond. While breastfeeding is highly encouraged, iron-fortified and water-based soy formulas can also be given to infants, if breastfeeding is not possible.

Breast milk provides good nutrition, immunity boosters, and nutrients aimed at brain development for newborns and infants.
**Listeriosis**

*Listeria monocytogenes* is a type of bacteria often found in soil, ground water, and on plants. These bacteria can also be found in refrigerated, ready-to-eat foods such as meat, poultry, seafood, dairy, unpasteurized milk, and milk products or foods made with unpasteurized milk. When eaten, *Listeria* can cause an illness called listeriosis, which can be dangerous for pregnant women and their unborn babies. Listeriosis can result in premature delivery, miscarriage, fetal death, and severe illness or death of the newborn.

Symptoms of listeriosis can take a few days or even weeks to appear and can be mild. You may not even know you have listeriosis, which makes practicing proper food safety even more critical. Listeriosis can produce flu-like symptoms initially, including sudden onset of fever, chills, muscle aches, diarrhea, and/or upset stomach. If the infection spreads to the nervous system, additional symptoms could include headache, stiff neck, confusion, loss of balance, or convulsions.

Certain foods are associated with a higher risk of listeriosis and should be avoided during pregnancy. Pregnant women should not eat:

- Hot dogs, luncheon or deli meats, unless they are reheated until steaming hot.
- Soft cheeses such as feta, Brie, Camembert, blue-veined cheeses, and certain Mexican-style cheeses (“queso blanco fresco”) unless they are labeled as made with pasteurized milk.
- Refrigerated meat-based pâté or spreads.
- Refrigerated smoked seafood, unless it is an ingredient in a cooked dish such as a casserole.
- Raw (unpasteurized) milk or foods that contain unpasteurized milk.

Toxoplasmosis is another illness that can be caused by food. If a pregnant woman becomes infected, serious health problems, including mental retardation and blindness, can occur in the unborn child. People can get the parasite by eating meat (especially pork and lamb) that is infected or by eating food contaminated by soil that contains the parasite. It is important to cook food thoroughly to the recommended temperature, and peel or thoroughly wash vegetables and fruits before eating.

---

**Tips for Prevention of Foodborne Illness**

Food safety is important for everyone, but there are certain foods that pose an additional risk to pregnant women and their unborn babies. In particular, pregnant women should be aware of their increased risk of listeriosis.

To prevent listeriosis, pregnant women should avoid:

- Soft cheeses such as feta, Brie, Camembert, blue-veined cheeses, and certain Mexican-style cheeses (“queso blanco fresco”) unless they are labeled as made with pasteurized milk.
- Refrigerated meat-based pâté or spreads.
- Refrigerated smoked seafood, unless it is an ingredient in a cooked dish such as a casserole.
- Raw (unpasteurized) milk or foods that contain unpasteurized milk.

HTTP://WWW.FIGHTBAC.ORG/
**MERCURY IN FISH**

Pregnant women should eat up to 12 ounces a week of seafood that is low in mercury for daily nutrient goals. Examples of fish low in mercury include shrimp, canned light tuna, salmon, pollock, and catfish as these do not pose an increased health risk. In fact, fish contains high-quality protein and other essential nutrients, is low in saturated fat, and some types contain healthful fats such as omega-3 fatty acids, which contribute to heart health, brain development and children’s proper growth and development.

While fish provides important nutrients, certain types of fish may contain chemicals that can cause health risks for pregnant women. Specifically, fish that have high levels of mercury can harm the developing nervous system of an unborn child or young baby. FDA, Environmental Protection Agency (EPA), and USDA recommend that pregnant women avoid swordfish, shark, king mackerel and tilefish during pregnancy because these larger fish tend to have higher levels of mercury than other fish. However, these fish are very uncommon in most women’s diets.

**CONCLUSION:**

Food plays a significant role in maintaining the health of pregnant women and their babies. Good nutrition and food safety habits adopted during pregnancy, when continued after giving birth, can have lifelong benefits for the mother and child. Knowing that whole grains, fruits, vegetables, low-fat dairy, lean meats, and beans provide essential nutrients, as well as knowing foods that may pose health risks to the mother and unborn baby, is critical for a healthy pregnancy. Choosing foods based on the principles of balance, variety and moderation is a good approach to enjoying a healthful eating plan during pregnancy and for a lifetime!