A healthy eating pattern is very important during pregnancy. Good nutrition plays a key role in the health of both mother and baby. As a mom-to-be, you have higher nutrient needs than you did before conception. Yet the general principles of good nutrition—variety, balance, and moderation—still apply during pregnancy.

This resource will help you learn how to eat healthy during pregnancy. This includes how to choose a variety of healthy foods, maintain healthy weight gain during pregnancy, and stay food safe.

**A BALANCED DIET—WHAT A MOM-TO-BE NEEDS**

Eating a BALANCED DIET before, during, and after pregnancy is one part of good health. This section covers the KEY NUTRIENTS pregnant women need and where to find them.

**Calories**

Calorie (aka energy for the body) needs increase during pregnancy. But “eating for two” only requires an additional 340 calories during the second trimester and 500 calories in the third trimester. The first trimester does not require any extra calories.

Choose foods and beverages that are "NUTRIENT-DENSE". This means that they are good sources of the building blocks your body needs. Nutrient-dense foods are full of vitamins, minerals and other nutrients. Eat a variety of foods from all five food groups. These include grains, vegetables, fruits, dairy, and meat and beans. This will ensure that you and your growing baby are getting the nutrients you both need.

Your nutrient and calorie needs are higher if you are carrying more than one baby. Discuss what and how much to eat with your health care provider.
KEY NUTRIENTS

Protein
Protein helps maintain **MUSCLE** and **BODY TISSUE**. It is also key for a baby’s growth—especially during the second and third trimesters. Most pregnant women should take in about 70 grams of protein every day to meet their minimum needs. Keep in mind you may need more than that. Protein requirements vary based on weight and activity level. Talk to your health care provider if you have questions about your daily protein intake. Lean meats, poultry, fish, eggs, dairy products, and legumes (beans) are good sources of protein. These foods also supply iron, B vitamins, and other important nutrients. Dried beans, lentils, nuts, and soy products like tofu are other good sources of protein.

If you are vegetarian, you can meet your protein needs by eating foods that are **COMPLETE PROTEIN** sources. A complete protein has all the essential “building blocks” (amino acids) your body needs. Each day, eat a variety of protein sources to provide your body with essential amino acids. Vegetarian protein options include beans, milk, yogurt, eggs, and soy products. Greek yogurt is another great option. It has twice the amount of protein when compared to regular yogurt. Pregnant vegans are able to meet their protein needs from **SOY**, a complete protein source. Sources of soy protein include soy milk, soy cheese, soy yogurt, tofu, and tempeh. Examples of other protein-rich vegan foods are nuts and beans (red kidney beans, chickpeas, black beans, etc.).

Carbohydrates
Carbohydrates are the primary source of **ENERGY** for the body. Fruits, vegetables, grains, and dairy products contain carbohydrates. **WHOLE GRAINS** are an important source of nutrients, such as dietary **FIBER**. They also provide a variety of health benefits. Other important carbohydrate foods include enriched refined grains. These grains have the added benefit of iron and folic acid, two essential nutrients for the baby’s development. Many carbohydrate foods are great choices for breakfast. Including English muffins, yogurt, bagels, cereals, breads, and fruits. Other carbohydrate-containing choices for meals or snacks include crackers, bread, and pasta.

Aim to get the **MAJORITY** of your daily calories from carbohydrates. For most people, carbohydrates should make up about 45 to 65 percent of daily calorie intake. Most pregnant and breastfeeding women need about 175-210 grams of carbohydrates per day.

Fats
Fat is key for good nutrition, health, and storage of many important vitamins. 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 the body does not make, so they should be included in the diet. Most importantly, **ESSENTIAL FATTY ACIDS** are critical for the baby’s growth and development.

Health experts recommend keeping total fat intake between 20 and 35 percent of total calories. Most fats should come from unsaturated sources. Sources of **UNSATURATED** fat include fish, vegetable oils (canola, soybean, olive, peanut, safflower, and sunflower oils), nuts, and flaxseeds. All women, including those who are pregnant or breastfeeding should follow these recommendations.

**DHA** is an unsaturated fat that is important for babies’ brain and eye development. Pregnant women should aim to get 200 mg of DHA per day. Oily fish such as salmon and tuna contain DHA. For example, a serving of salmon (3.5 oz or roughly the size of a deck of cards) has over 1g of DHA. This is five times the recommended amount. A health care provider may recommend...
a dietary supplement or prenatal vitamin with DHA. For more information on eating fish during pregnancy, see the Food Safety section.

**Calcium**

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

Pregnant women should aim to consume 1,000 mg of calcium per day. This is about three servings of calcium-rich foods. Women 18 years and younger need 1,300 mg per day, or four servings of foods high in calcium. Many women do not get enough calcium, so it is important to focus on calcium-rich foods. Women who do not consume dairy products should consider a calcium supplement or a multivitamin.

**DAIRY PRODUCTS** like milk, yogurt, and cheese are good sources of calcium. Non-fat (skim) and low-fat (1%) dairy have equal amounts of calcium and fewer calories than higher fat (2% and whole) dairy.

Other sources of calcium include **DARK GREEN, LEAFY VEGETABLES**, dried beans and peas, nuts and seeds, and sardines. Calcium-fortified foods and beverages are also good sources of calcium. These include some fortified orange juices, soy milk, tofu, almond milk, and breakfast cereals. It is easiest to meet your calcium needs through dairy foods. If you are vegan, have lactose intolerance, or a milk allergy, ask your health care provider how to consume enough calcium.

Pregnant women should not consume raw (unpasteurized) milk or eat foods that contain raw milk. Raw milk can increase the risk of very dangerous foodborne illnesses, including listeriosis. For more information, see the Food Safety section of this resource.

**Vitamin D**

Vitamin D is important for calcium absorption, immune function and brain health. **SUNLIGHT** is one source of Vitamin D. About five to ten minutes of sunlight to exposed arms or the face can supply a day’s worth of Vitamin D. These times can vary depending on your geographical location and skin color. Aim for fifty mcg, or 2,000 IUs, of Vitamin D per day. This goal can be met with a multivitamin. Milk or yogurt with added Vitamin D can help you meet your daily needs. Oily fish, mushrooms, fortified orange juice, fortified cereals, and dietary supplements also contain vitamin D.

**Iron**

Iron carries **OXYGEN** through the blood and delivers it throughout the body. It also aids in immunity, brain development, and metabolism. About 90 percent of the iron in the body is recycled every day. The growing baby also stores enough iron to last through the first few months of life.

Iron is found in animal products, including red meat, fish, poultry, and eggs, as well as some plant products. Green leafy vegetables, beans, nuts, eggs, and dried fruits are also good sources of iron. Pregnant women have an increased amount of blood in their bodies so they need more iron than non-pregnant women. Pregnant women should aim for a total of 45 mg of iron per day from foods and dietary supplements. Animal products, including red meat, fish, poultry, and eggs, are rich in iron. Other options include enriched and whole grain breads, cereals, and pasta. Green leafy vegetables, beans, nuts, eggs, and dried fruits are also a good source.
Many women enter pregnancy with low iron reserves. Your health care provider may recommend iron supplementation starting at the first prenatal visit. Some women may also need screening for iron deficiency on an ongoing basis. Take iron supplements 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/ Vitamin B9

FOLIC ACID, a B vitamin needed to help the baby grow, is key before and throughout pregnancy. Folic acid reduces the risk of spina bifida and other birth defects of the brain and spinal cord, which are also called neural tube defects (NTDs). “Folate” is the term for the different forms of the nutrient found naturally in foods. “Folic acid” is the form used in supplements and in enriched grain products.

Enriched bread, flour, pasta, rice, cereals, and other grain products are common food sources of folic acid. To see if your food contains folic acid, check food labels to see if the food contains folic acid or FOLATE.

Any woman planning to become pregnant should consume 400 micrograms (mcg) of folic acid daily to help prevent birth defects. This is along with eating foods that contain folate. Women who have had a baby with NTD in the past should take 4 mg per day of folic acid before getting pregnant again.

There are many ways to meet your folate/folic acid needs. First, take a MULTIVITAMIN with folic acid. Also, be sure to eat lots of fruits and vegetables, enriched grain products, legumes (such as peanuts), citrus fruits and juices.

OTHER FOOD INGREDIENTS

Caffeine

Coffee, tea, energy drinks, some soft drinks, chocolate, and some over-the-counter medications contain CAFFEINE. Pregnant or not, it is important to estimate your total

MYPLATE FOR PREGNANCY

Nutrient needs are higher for pregnant women. But the general principles of sound nutrition—variety, balance, and moderation—are still important.

There are no “perfect” foods for pregnant women. Eat a variety of foods over the course of each day to get the right amount of calories and nutrients for you.

Eating should be enjoyable. You can continue to enjoy your favorite foods in moderation. All exceptions are listed in the “foods to avoid” section. It is important to keep an eye on portion size, calorie content, and your frequency of eating. Also, aim to keep total calories under control when choosing occasional treats.

MyPlate was developed by the U.S. Department of Agriculture as a meal planning tool. This great resource offers personalized eating plans and tools to help choose between different foods. It also includes tips for how to get the most nutrition while staying within calorie needs. The MyPlate for Pregnancy and Breastfeeding can help you plan healthy meals throughout pregnancy.
Healthy Eating During Pregnancy

Caffeine intake from all sources. Caffeine from foods and beverages is able to cross the placenta and becomes part of breast milk. Yet, most research finds that pregnant and nursing mothers can consume moderate amounts of caffeine safely. Moderate caffeine intake during pregnancy is about 200 mg/day, which is equal to about **TWO 8-OUNCE CUPS OF COFFEE** or four cups of tea a day. A 12-ounce caffeinated soft drink contains about 37 mg of caffeine, while an 8-ounce energy drink has about 100 mg. It is important to read the food labels on foods and beverages to be aware of how much caffeine they contain.

Some women may have heard about a link between caffeine and miscarriage. There have been many studies on whether caffeine increases miscarriage risk. Yet the results are unclear. Leading health experts agree that 200 mg caffeine per day or less during pregnancy is safe. Talk to your health care provider about your caffeine intake if you have a history of heart problems or high blood pressure.

Low-calorie sweeteners
Low-calorie sweeteners are safe for the general public, including pregnant women. The FDA and other leading authorities affirm their safety. Eight **LOW-CALORIE SWEETENERS** are allowed for use in foods and as tabletop sweeteners. They are acesulfame potassium (Ace-K), advantame, aspartame, neotame, saccharin, sucralose, monk fruit extract, and stevia leaf extract. Studies show that they are all safe to consume during pregnancy.

Anyone with phenylketonuria (PKU) must restrict their intake of phenylalanine from all sources. This includes aspartame. PKU is a genetic disorder that prevents the breakdown of phenylalanine. Phenylalanine is present in aspartame and many other foods. Pregnant women who have the PKU gene but not the PKU disorder can digest aspartame safely.

More vitamin and/or mineral supplementation may be important for certain groups. For example, you may need to **SUPPLEMENT your diet** if you are a strict vegan or follow a restrictive diet. Additional supplementation may also be beneficial if you are carrying twins or triplets. Consider taking a calcium supplement (600 milligrams per day) plus Vitamin D if you are a vegan, are under 25, or do not consume dairy. Also, vitamin B12 supplements (and perhaps vitamin D and zinc) for strict vegans.

Pregnant women should **not** take Vitamin A supplements. Excessive levels of Vitamin A could be toxic to the developing baby. You can meet your vitamin A needs with a healthful diet and a prenatal multivitamin.

Sodium
Sodium is a very important, natural part of fluids in the human body. Sodium works with other minerals to keep **WATER BALANCE** in the body. It is also critical for a healthy nervous system and muscle coordination.

Sodium needs and limits for pregnant women are not different from the general population. The 2015 Dietary Guidelines for Americans recommend limiting sodium intake to 2,300 mg or less per day. Excessive sodium intake has been linked to high blood pressure, heart disease, stroke, and other health conditions.

**OTHER NUTRITION SOURCES**

Vitamin/Mineral Supplements
A balanced diet meets most nutrient needs. Still, your health care provider may recommend you take a daily multivitamin as well. These can also be helpful if you plan to become pregnant. Taken a few months before conception, an over-the-counter **PRENATAL VITAMIN** may help resolve any nutritional deficiencies.

Herbal and Botanical Supplements
There is no scientific evidence to support benefits from herbal and botanical products during pregnancy. In fact, some herbal products may have serious **SIDE EFFECTS** for both mom and baby. For these reasons, pregnant and breast-feeding women should avoid herbal and botanical supplements.
Alcohol and Pregnancy

Drinking alcohol during pregnancy can cause permanent physical, behavioral, and intellectual disabilities. Do not consume alcohol during pregnancy. Also, women who are trying to get pregnant should not drink alcohol. Many women do not know they are pregnant until they are four to six weeks into the pregnancy. Drinking even small amounts during this time could expose their developing baby to alcohol. Women should stop drinking alcohol as soon as they find out they are pregnant.

WEIGHT GAIN DURING PREGNANCY

It is important to track your weight gain during pregnancy. This helps to make sure that both you and your baby are healthy. Women who gain too little weight are at risk of having a small baby (less than 5 1/2 pounds). Yet women who gain too much weight have a greater risk of having the baby early or having a large baby. Gaining too much weight during pregnancy may also lead to other health problems. These may include gestational diabetes, high blood pressure, and varicose veins in the mother.

Pregnant women store fat to prepare for breastfeeding. If you are below your target pregnancy weight, your health care provider will carefully track your progress. Also, ask your health care provider or a registered dietitian to help with meal planning. This will help ensure that you get the nutrients and calories you need for proper weight gain.

Goals for Weight Gain

Weight gain goals are based on pre-pregnancy weight, height, age, and usual eating patterns. Every woman and every pregnancy is unique. Your health-care provider can help you gain weight at a healthy rate throughout pregnancy.

A weight gain of 25 to 35 pounds is normal for women with a body mass index, or BMI, of 18.5 to 24.9 kg/m² (“normal weight”). BMI is one way to determine if you are at an appropriate weight. This tool can determine how much weight you should gain during pregnancy. Women who are below healthy weight when they conceive (BMI < 18.5 kg/m²) should aim to gain about 28 to 40 pounds. Women with a BMI of 25 to 29.9 kg/m² (“overweight”) should gain no more than 15 to 25 pounds.

Women with a BMI over 30 kg/m² (“obese”) should gain no more than 11 to 20 pounds. If you are in this category, a health care provider or registered dietitian

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<table>
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<tr>
<th>PRE-PREGNANCY WEIGHT CATEGORY</th>
<th>BODY MASS INDEX</th>
<th>RECOMMENDED RANGE OF TOTAL WEIGHT GAIN (LBS.)</th>
<th>RECOMMENDED RATES OF WEIGHT GAIN IN THE SECOND AND THIRD TRIMESTERS (LBS./WEEK)</th>
</tr>
</thead>
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<tr>
<td>Underweight</td>
<td>Less than 18.5</td>
<td>28-40</td>
<td>1-1.3</td>
</tr>
<tr>
<td>Normal Weight</td>
<td>18.5-24.9</td>
<td>25-35</td>
<td>1</td>
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<tr>
<td>Overweight</td>
<td>25-29.9</td>
<td>15-25</td>
<td>0.6</td>
</tr>
<tr>
<td>Obese</td>
<td>30 and greater</td>
<td>11-20</td>
<td>0.5</td>
</tr>
</tbody>
</table>
can help you meet these recommendations in a healthy way. Aim to meet your calorie and nutrient needs, while maintaining regular physical activity. Weight loss during pregnancy is not advised.

If you are carrying more than one baby, weight gain recommendations increase. Women with a BMI of 18.5 to 24.9 kg/m² should gain 37-54 pounds. Women with a BMI of 25 to 29.9 kg/m² should gain 31-50 pounds. Women with a BMI over 30 kg/m² should aim to gain 25-42 pounds. There are no set guidelines for weight gain for underweight (BMI less than 18.5 kg/m²) women carrying more than one baby. Work closely with your health care provider to ensure proper weight gain.

Food Cravings and Aversions
Food cravings and dislikes of certain foods are common during pregnancy. There is no evidence that food cravings are linked to nutritional deficiencies. Their cause remains a mystery. It is acceptable to meet your food cravings within reason. Especially when they supply nutrients to the diet.

In rare cases, some pregnant women crave nonfood substances. This is a disorder 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. This can prevent you from getting enough calories or nutrients to stay healthy. Examples of these nonfood items include clay, starch, ice, coffee grounds, or baking soda. If you experience nonfood cravings, talk to your health care provider right away. These symptoms may be a sign of nutrient deficiency (such as Iron), and may need to be treated with an additional supplement.
Physical Activity

Physical activity is another critical part of good health. Include 30 minutes or more of moderate physical activity on most, if not all, days of the week. Try activities like walking or swimming. But avoid activities that have a high risk of falling or injury. If you already do vigorous activities (like running), you can continue them throughout your pregnancy. Discuss adjustments to the activity with your health care provider. Some women cannot fit 30 minutes of one time at one time into their schedules. Feel free to split up the time into three 10-minute intervals throughout the day.

Being Smart About Food Safety

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

Listeriosis

Listeriosis is a dangerous infection caused by bacteria often found in soil, ground water, and on plants. Refrigerated, ready-to-eat foods such as meat, poultry, seafood, and dairy may contain listeria. Also, unpasteurized (raw) milk and products made with raw milk may contain these bacteria. Listeria can be dangerous for pregnant women and their unborn babies. Listeriosis, the infection caused by listeria, can cause many dangers for mother and baby. These include premature delivery, miscarriage, fetal death, and severe illness 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. This makes practicing proper food safety even more critical. Listeriosis can have flu-like symptoms at first. These include sudden onset of fever, chills, muscle aches, diarrhea, and/or upset stomach. Other symptoms could include headache, stiff neck, confusion, loss of balance, or convulsions. A blood test can determine if you have listeriosis, and it can be treated with antibiotics. This can also prevent the fetus from contracting the infection.

Avoid certain foods during pregnancy to prevent listeriosis. These include:

- Hot dogs, luncheon or deli meats, unless they are reheated until steaming hot.
- Soft cheeses such as feta, Brie, Camembert, and blue-veined cheese.
- Soft Mexican-style cheeses (“queso blanco fresco”). Unless they are labeled as made with pasteurized milk.
- Deli salads such as ham salad, chicken salad, egg salad, tuna salad, or seafood salad.
- 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.
Mercury in Fish

Fish contains high-quality protein and other essential nutrients. It is also low in saturated fat, and contains healthy **OMEGA-3 FATS**. These fats contribute to heart health, brain development and children’s proper growth and development. The 2015 Dietary Guidelines encourage pregnant and breastfeeding women to eat a 2-3 meals (8-12 ounces) of seafood each week.

**CONCLUSION**

Food has a big role in maintaining the health of both mothers and their babies. Practice good nutrition and food safety habits during pregnancy. These can have **LIFELONG BENEFITS** for you and your child. Eat a mix of whole grains, fruits, vegetables, low-fat dairy, lean meats, and beans. All food groups provide essential nutrients to your diet. Also, remember that certain foods may pose health risks to the mother and unborn baby. Choose foods based on the principles of balance, variety, and moderation. This is the best approach to enjoying a healthy eating plan during pregnancy and for a lifetime.

**A MESSAGE FROM THE AMERICAN ACADEMY OF PHYSICIAN ASSISTANTS (AAPA)**

PAs are licensed health professionals, and valued members of a health care team that includes a supervising physician. PAs deliver a broad range of medical and surgical services to diverse populations. They can diagnose and treat illnesses, order and interpret tests, develop treatment plans, and write prescriptions in all 50 states, the District of Columbia, and all U.S. territories, with the exception of Puerto Rico. PAs also counsel on preventive health care and assist in surgery.

AAPA is the only national organization to represent the nation’s more than **108,500 PHYSICIAN ASSISTANTS** in all clinical specialties. Founded in 1968, the Academy works to promote quality, cost-effective health care, and the professional and personal growth of PAs. For more information about the Academy and the PA profession, visit AAPA’s Web site, www.aapa.org.

**BASIC RULES OF FOOD SAFETY**

**TO REDUCE YOUR RISK FOR FOODBORNE ILLNESSES, FOLLOW THESE GENERAL FOOD SAFETY GUIDELINES:**

- **CLEAN**
  - Wash hands, clean, and disinfect surfaces well and often.

- **SEPARATE**
  - Do not cross-contaminate.
  - Use separate cutting boards for produce (fruits and vegetables), and meat, fish, and poultry.

- **COOK**
  - Cook food to proper temperatures.
  - Use a food thermometer and follow instructions provided with food products and microwave meals.

- **CHILL**
  - Refrigerate perishable foods and leftovers within 2 hrs of serving.

**ONLY FOUR TYPES OF FISH SHOULD BE AVOIDED DURING PREGNANCY DUE TO THEIR MERCURY CONTENT. THESE HIGHER-MERCURY FISH ARE TILIFISH, SHARK, SWORDFISH, AND KING MACKEREL.**

All popular types of fish in the U.S. are healthy, low in mercury and safe to eat during pregnancy. These include **SALMON, TUNA** (light canned), and **TILAPIA**. All seafood contains trace (very, very small) amounts of mercury. But only four types of fish should be avoided during pregnancy due to their mercury content. These higher-mercury fish are tilefish, shark, swordfish, and king mackerel.
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