

Optimal Nutrition During Pregnancy

To support the many changes your body undergoes in pregnancy, and to support the incredible growth and development of your baby, it's critical to ensure that you're meeting your needs of several key nutrients. Below is a discussion of nutrients that deserve special attention during pregnancy.

FOLATE/ FOLIC ACID

Folate (found in food) or folic acid (in pill form) is a B-vitamin that is known to reduce the risk of neural tube defects (NTDs) in your baby. The neural tube is a structure that ultimately becomes the baby's brain and spinal cord. NTDs are birth defects that occur when the neural tube fails to close properly during the early weeks of pregnancy, resulting in abnormalities of the baby's spine, brain or skull. Because the neural tube closes before most women find out about their pregnancy, it is important to take enough folic acid before even achieving pregnancy.

What to Do:

- Start taking a multivitamin pill when there is any chance that you may become pregnant, and at least 3 months before planning a pregnancy. Choose a product that contains at least 400 mcg (0.4 mg) of folic acid.
- When your pregnancy is confirmed, switch to a prenatal multivitamin that contains 1 mg (1000 mcg) of folic acid, such as Centrum Materna. If nausea or stomach upset makes it difficult to swallow a prenatal multivitamin, simply take one small folic acid pill (1000 mcg or 1 mg), such as Life brand, each day.
- Eat plenty of foods naturally rich in folate, such as legumes (lentils, chick peas, kidney beans, baked beans), peanuts, sunflower seeds, oranges and orange juice, dark green vegetables (spinach, Romaine lettuce, asparagus, broccoli, green peas) and bran cereal.
- Some expectant mothers should get even more folic acid to reduce the risk of NTDs and other types of birth defects. Speak to your doctor, and take a supplement containing 5 mg (5000 mcg) of folic acid per day to reduce the risk of NTDs if you meet any of the following conditions:
 - you have had a previous pregnancy affected by an NTD
 - there has been a baby born with an NTD in your family
 - you have a body mass index (BMI) equal to or greater than 35
 - you have diabetes or epilepsy

- you find it difficult to take recommended medications and supplements consistently, or you tend to forget to take medications or supplements
- you have a poor or extremely variable diet
- you are unable to stop using tobacco, alcohol or recreational drugs

IRON

During pregnancy, your blood volume expands considerably to accommodate the needs of the fetus and to supply blood flow to the uterus, kidneys and other organs. Extra iron is essential during pregnancy, because it helps form hemoglobin, the protein on red blood cells that carries oxygen throughout the body.

What to Do:

- During pregnancy, your iron requirement jumps from 8 mg per day to 27 mg per day. It is very difficult to meet this requirement with food alone, which is another good reason to consider a prenatal multivitamin supplement. For example, a 3 ounce serving of beef contains only 3 mg of iron, while a 3 ounce serving of chicken or pork contains a mere 1 mg. Many prenatal multivitamin pills contain 27 mg of iron. If you are found to be iron deficient or anemic, you will be advised to take higher doses of iron, as an untreated deficiency can negatively affect your baby's development.
- Besides taking a prenatal multivitamin, you should also try to include many iron-rich foods in your diet. The best-absorbed sources of iron include clams, liver, oysters, iron-fortified cereals, and animal protein (beef, pork, chicken and fish). Other good sources of iron include legumes (kidney beans, chickpeas, lentils), soybeans and tofu, and grains (amaranth, quinoa, enriched breads and pastas).
- Vitamin C enhances iron absorption. Eat vitamin C-rich foods (citrus fruits, strawberries, papaya, melon, kiwi, bell peppers, parsley, broccoli, potatoes, Brussels sprouts, kale) each day.
- Certain foods block iron absorption. Coffee, tea and calcium supplements are known to interfere with the body's use of iron. Wait one hour between consuming a high-iron food or supplement and foods or supplements known to block iron absorption.

CALCIUM AND VITAMIN D

Calcium and vitamin D work together to build your baby's bones and teeth. If an expectant mother can't obtain enough calcium through her diet, her bones begin to dissolve in order to provide a source of calcium. Vitamin D helps the body absorb and use calcium.

What to Do:

- Excellent sources of calcium include milk, Swiss cheese, tofu made with calcium sulphate, plain yogurt, sesame seeds, and fortified milk alternatives (example: soy milk, rice milk, almond milk). Good sources of calcium include other cheeses (mozzarella, cheddar, Edam, parmesan, Gouda), processed cheese slices and spreads, flavored yogurts, canned sardines and canned salmon including the bones.
- Your calcium requirement is 1000 mg per day. To achieve this, choose 3-4 servings of calcium-rich foods listed above (a serving of milk or alternative is 1 cup, a serving of yogurt is $\frac{3}{4}$ cup, and a serving of cheese is 1 $\frac{1}{2}$ ounces). A standard prenatal multivitamin will supply an extra 200-300 mg of calcium.
- If your diet consistently falls short of meeting your calcium requirement, you may consider a calcium supplement that provides 300-600 mg of elemental calcium per tablet. Look for a supplement with added vitamin D. If you are experiencing indigestion or heartburn, you may find that calcium citrate supplements are gentler on the system.

ESSENTIAL FATTY ACIDS:

Essential fatty acids such as DHA and ALA (also known as omega-3 fats) are important for the proper development of your baby's brain. Expectant mothers are encouraged to consume sources of essential fatty acids on a regular basis in order to promote healthy brain and visual development. New studies suggest that mothers with a higher intake of DHA have a lower risk of postpartum depression.

What to Do:

- On a regular basis, choose foods rich in essential fatty acids such as cold-water fish (salmon, trout, sardines, herring, mackerel), ground flaxseed and flax oil, canola oil, walnuts and walnut oil, non-hydrogenated margarines and foods enriched with omega-3 fatty acids.
- Speak to your health care provider to determine if you would benefit from taking an omega-3 supplement during pregnancy.
- If fish is your preferred source of essential fatty acids, you may be concerned about the level of contaminants in fish, and how to prevent risk to your growing baby. Health Canada recommends that women continue eating at least two Food Guide Servings (2 x 75 grams, or a total of 5 ounces) of fish each week during pregnancy, as recommended in Canada's Food Guide. They also suggest that women pay attention to the types of fish they eat. Since many pregnancies are unplanned, this advice also applies to women who may become pregnant.

- Women should choose fish that have low levels of contaminants and high concentrations of omega-3 fats, including anchovies, mackerel, Atlantic pollock (Boston bluefish), herring, lake whitefish, rainbow trout, salmon, sardines, smelt.
- Click to view York Region's Guide to Eating Fish for Women, Children and Families: www.york.ca/fishguide
- Canadians can limit the amount of mercury they are exposed to by eating no more than the recommended amount of fish. Methylmercury is an organic form of mercury. In high doses, it is very toxic to humans. People are exposed to methylmercury by eating certain types of fish, and it can be passed on to the fetus through the placenta. Mercury accumulates in fish by absorbing into their muscles from their surrounding water. Most mercury enters fish from the prey that they eat. The amount of mercury in fish tends to increase with the size of fish and the type and quantity of food they eat. Large fish that eat other fish contain higher levels of mercury. These fish include fresh and frozen tuna (not canned), shark, swordfish, marlin, orange roughy and escolar.

Fish consumption advice for women who are pregnant, breastfeeding, or may become pregnant:

Species	Maximum Consumption per Month
-Tuna (fresh or frozen), shark, swordfish, marlin, orange roughy escolar	150 g
-Canned albacore (white*) tuna	300 g (= two 170 g cans)

*This advice does not apply to canned light tuna. Canned light tuna contains other species of tuna such as skipjack, yellowfin, and tongol, which are low in mercury. Pregnant women (and all others) do not have to limit the amount they eat of these types of canned tuna.

CAFFEINE:

In pregnancy, caffeine readily crosses the placenta and amniotic fluid to reach the baby. A large intake of caffeine on a regular basis has been linked to increased risk of miscarriage and fetal growth retardation.

What to Do:

-A modest intake of caffeine (1-2 small cups of coffee per day) is thought to be safe for the developing baby, and poses minimal risk to the pregnancy.

-Look for hidden caffeine. Besides coffee and tea, caffeine is found in colas, chocolate, meal replacement shakes and bars, as well as some over-the-counter medications and herbal remedies.