

NUTRITION AND PREGNANCY

The most important message for pregnant women about nutrition can be summarized in one word: **EAT!** in two words: **EAT WELL!**



During pregnancy, more than at any other time in a woman's life, it is vitally important to eat lots of healthy food

It is now a well-known scientific fact that the **nutritional status of the pregnant woman affects the outcome of the pregnancy**, especially related to birth weight.

Low birth weight is associated with an increased risk for infant deaths and developmental disabilities, and is seen more often in children from undernourished and underweight mothers.

During a healthy pregnancy, the body undergoes many changes to allow for the

- ❖ growth of the fetus and
- ❖ to prepare the mother for labor, delivery and lactation.

Many of these changes increase the nutritional requirements of the mother.

Physical changes In Your Body

- *During the course of a normal pregnancy, the mother-to-be experiences physiologic changes that affect nearly every function of the body.*
- *These changes are necessary to support the growth of the fetus and to prepare the mother for labor, delivery and lactation.*

NUTRIENT NEEDS: As these changes occur, the nutrient needs of the mother increase.

MATERNAL BLOOD VOLUME

- Pregnancy is accompanied by a 50% increase in maternal blood volume. To produce the additional blood needed to support the growth of the fetus, your body needs extra fluid, iron and vitamin B12.

How much weight should I gain during my pregnancy ?

- Maternal weight gain is a necessary physiologic change of pregnancy.
- Interestingly, the fetus, placenta, and amniotic fluid account for less than half of the total amount of weight gained.
- Most of the added weight is found in maternal reproductive tissues, fluid and blood, and maternal fat stores, which serve as an energy reserve during pregnancy and lactation.
- PREPREGNANCY WEIGHT
 - For women who fall within a normal prepregnancy weight range, a 25 to 30/35 pound weight gain is healthy.
 - Women who start pregnancy underweight usually need to gain 28 to 40 pounds, which may require caloric intake above that typically recommended during pregnancy.
 - Overweight women are often encouraged to gain between 15 and 20 pounds.

How can I plan healthy meals during pregnancy?

Planning healthy meals during pregnancy is not hard. The United States Department of Agriculture has made it easier by creating www.choosemyplate.gov. This web site helps everyone from dieters and children to pregnant women learn how to make healthy food choices at each mealtime.



How does MyPlate work?

With MyPlate, you can get a personalized nutrition and physical activity plan by using the “SuperTracker” program. This program is based on five food groups and shows you the amounts that you need to eat each day from each group during each trimester of pregnancy. The amounts are calculated according to your height, prepregnancy weight, due date, and how much you exercise during the week. The amounts of food are given in standard sizes that most people are familiar with, such as cups and ounces.

What should I know about eating fish during pregnancy?

- Some types of fish have higher levels of a metal called mercury than others.
- Mercury has been linked to birth defects.

What is mercury?

- *Mercury occurs naturally in the environment and can also be released into the air through industrial pollution.*
- *Mercury falls from the air and can accumulate in streams and oceans and is turned into methylmercury in the water.*
- *It is this type of mercury that can be harmful to your unborn baby and young child.*
- *Fish absorb the methylmercury as they feed in these waters and so it builds up in them cumulatively.*
- *It builds up more in some types of fish and shellfish than others, depending on what the fish they eat, how long they lived in the water (larger, older fish live longer in the water) which is why the levels vary.*
- *If you regularly eat types of fish that are high in methylmercury, it can accumulate in your blood stream over time.*
- *Methylmercury is removed from the body naturally, but it may take over a year for the levels to drop significantly. Thus, it may be present in a woman even before she becomes pregnant.*
- *This is the reason why women who are trying to become pregnant should also avoid eating certain types of fish. * **

- **THE LATEST FDA AND EPA RECOMMENDATIONS CAN BE FOUND AT (1/2017)**

<https://www.fda.gov/Food/FoodbornellnessContaminants/Metals/ucm393070.htm>

To limit your exposure to mercury, follow a few simple guidelines.

Choose fish and shellfish such as shrimp, salmon, catfish, and pollock.

- * * **DO NOT EAT KING MACKAREL, MARLIN, ORANGE ROUGHY, SHARK, SWORDFISH, TILEFISH (Gulf of Mexico), BIGEYE TUNA.**
- **Limit** white (albacore) tuna to 6 ounces a week.

- You also should check advisories about fish caught in local waters.
- Generally, fish sticks and fish sandwiches are made from fish lower in mercury.
- If you eat more than the recommended amount of fish in any week, try to balance it with the next week so your fish consumption averages out.

Exactly what do You Need?

To support the growth and development of the fetus, a pregnant woman requires extra amounts of nearly all essential nutrients.

- To ensure that nutritional needs are met, pregnant women are encouraged to consume a diet rich in vegetables, fruits, and whole grains
- *In fact, the recommended intake of some of the nutrients, including iron and folic acid, increases so much over non-pregnancy amounts that we encourage pregnant women to take a vitamin and mineral supplement (**Prenatal vitamin**) each day to ensure nutrient needs are met.*

In addition to maximizing nutrient intake, the mother-to-be is also encouraged to completely avoid ALCOHOL and limit intake of CAFFEINE to no more than the equivalent of 2 cups of coffee.

~ BE SURE TO TAKE YOUR PRENATAL VITAIN EVERYDAY ~

The nutrients highlighted below are of special importance:

- **Calories:** *Additional calories are required during pregnancy.*
 - ***It has been estimated that it takes 75,000 to 80,000 calories to make a baby***, which represents approximately 2400 to 2600 calories per day throughout the pregnancy.
 - Food and caloric intake must be high enough to ensure that all nutritional needs are met, and to
 - allow for a 14-ounce weight gain per week during the last 30 weeks of pregnancy.
 - Nevertheless, daily calorie needs are highly individual, and will vary depending on the woman's prepregnancy weight, the level and type of exercise the woman participates in, and her rate of weight gain throughout the pregnancy.
- **Protein:** Extra protein is needed during pregnancy to help with the synthesis of maternal and fetal tissue. The Institute of Medicine recommends **60 grams of protein per day** during pregnancy. (1989)
- **Fat:** The fats you eat provide energy and help build fetal organs and the placenta.
 - The recommendations for the amount of fat as a percentage of total calories do not change during pregnancy, so like all adults, pregnant women should consume **no more than 30% of calories as fat**.

- However, the type and quality of fat eaten during pregnancy is especially important.
 - Mothers-to-be are encouraged to increase their consumption of the foods containing **omega 3 fats**, as the omega 3 fat docosahexaenoic acid (DHA) is necessary for the development of brain and nerve tissue in the fetus. You are also encouraged to consume fats from plant sources. You should limit the fats you consume from processed food. These are not healthy fats.
- **Folic acid:** It is hard to get all the folic acid you need from food which is why it is critical to take your prenatal Vitamins. In recent years, the need for extra folic acid before and during pregnancy has been widely publicized, as researchers continue to establish a connection between the neural tube defects and folic acid deficiency. Current dietary guidelines recommend that pregnant women get at least 600 micrograms of folic acid daily.
 - Neural tube defects, such as spina bifida, are among the most common birth defects in the United States, with approximately 2500 new cases occurring the each year.
 - **Iron:** Iron is needed to produce hemoglobin, the oxygen-carrying molecule found in red blood cells. Red blood cells carry oxygen to your organs and tissues.
 - Because the maternal blood supply increases during pregnancy, the body's need for iron also increases.
 - In many circumstances, the need for iron is not met from food sources alone, and supplementation is required to prevent iron-deficiency anemia.
 - You also can eat iron-rich foods, including lean red meat, poultry, fish, dried beans and peas, iron-fortified cereals, and prune juice.
 - Iron also can be absorbed more easily if iron-rich foods are eaten with vitamin C-rich foods, such as citrus fruits and tomatoes.
 - **Calcium:** Although the requirement for calcium does not increase during pregnancy, it is important that pregnant women ensure adequate intake of this mineral.
 - High dietary intake of calcium is needed for skeletal development of the fetus and to preserve maternal calcium stores.
 - Additionally, calcium may also help prevent hypertension, a dangerous pregnancy complication.
 - If you have trouble digesting milk products, you can get calcium from other sources, such as broccoli; dark, leafy greens; sardines; or a calcium supplement.
 - **Vitamin D** Vitamin D works with calcium to help the baby's bones and teeth develop. It also is essential for healthy skin and eyesight.

- All women, including those who are pregnant, need 600 international units of vitamin D a day.
 - Good sources are milk fortified with vitamin D and fatty fish such as salmon.
 - Exposure to sunlight also converts a chemical in the skin to vitamin D.
- **Vitamin B12:** Additional vitamin B12 is needed for synthesis of red blood cells.
 - **Thiamin, riboflavin, and niacin:** These B vitamins participate in the production of energy throughout the body, which is especially important during pregnancy.
 - **Vitamin B6:** This vitamin is required for your body to utilize protein (synthesis). In addition, vitamin B6 may help reduce severe nausea and vomiting, and may also help prevent depression during pregnancy.
 - **Zinc:** Zinc participates in many physiological functions as a constituent of several enzymes, and zinc deficiency is known to cause birth defects in animals.
 - **Magnesium:** Extra magnesium is needed to support fetal and maternal tissue growth.
 - **Iodine:** Iodine deficiency during pregnancy is associated with cretinism, a congenital condition characterized by lack of thyroid hormone. Cretinism can cause physical and developmental delays.
 - **Vitamin A:** It is important to note that the requirement of vitamin A does not increase during pregnancy. Vitamin A can be toxic to the fetus when consumed by the mother in amounts greater than 7500 RE per day.
 - **Pregnant women should not take supplements of vitamin A that exceed the Dietary Reference Intake, and should avoid all prescription and OTC drugs used in the treatment of acne that made from vitamin A analogs, such as isotretinoin.**
 - **Water:** While not exactly a nutrient, **water is definitely essential for a healthy pregnancy.** Due to the increase in blood volume during pregnancy, fluid needs increase dramatically. In addition, extra fluid intake can help prevent constipation, a common problem during pregnancy.

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How can food poisoning affect my pregnancy?

Food poisoning in a pregnant woman can cause serious problems for both her and her baby. Vomiting and diarrhea can cause your body to lose too much water and can disrupt your body's chemical balance. To prevent food poisoning, follow these general

guidelines:

- Wash food. Rinse all raw produce thoroughly under running tap water before eating, cutting, or cooking.
- Keep your kitchen clean. Wash your hands, knives, countertops, and cutting boards after handling and preparing uncooked foods.
- Avoid all raw and undercooked seafood, eggs, and meat. Do not eat sushi made with raw fish (cooked sushi is safe). Food such as beef, pork, or poultry should be cooked to a safe internal temperature.

What is listeriosis and how can it affect my pregnancy?

Listeriosis is a type of food-borne illness caused by bacteria. Pregnant women are 13 times more likely to get listeriosis than the general population. Listeriosis can cause mild, flu-like symptoms such as fever, muscle aches, and diarrhea, but it also may not cause any symptoms. Listeriosis can lead to miscarriage, stillbirth, and premature delivery. Antibiotics can be given to treat the infection and to protect your unborn baby. To help prevent listeriosis, avoid eating the following foods during pregnancy:

- Unpasteurized milk and foods made with unpasteurized milk
- Hot dogs, luncheon meats, and cold cuts unless they are heated until steaming hot just before serving
- Refrigerated pate and meat spreads
- Refrigerated smoked seafood
- Raw and undercooked seafood, eggs, and meat

Can being overweight or obese affect my pregnancy?

Overweight and obese women are at an increased risk of several pregnancy problems. These problems include gestational diabetes, high blood pressure, preeclampsia, preterm birth, and cesarean delivery. Babies of overweight and obese mothers also are at greater risk of certain problems, such as birth defects, macrosomia with possible birth injury, and childhood obesity.

DIETARY CHOICES

It is common for pregnant women to experience fluctuations in appetite and food intake due to hormonal changes and changes in the gastrointestinal tract as the fetus develops. Several of the factors that affect dietary choices during pregnancy are listed below:

Morning Sickness: During the first trimester and sometimes extending into later months of pregnancy, women suffer from morning sickness.
....Nausea and vomiting may decrease appetite and limit food intake.
....In addition, excessive vomiting may cause loss of minerals and vitamins, and lead to dehydration.

....Some women find that eating small, frequent meals helps them get some food down despite the nausea. (also see SAFE MEDICATIONS IN PREGNANCY)

Cravings and Aversions: Many pregnant women experience intense food cravings and food aversions.

In addition, the sense of taste and smell is frequently altered during pregnancy. These changes can lead to excessive consumption of certain foods or food groups, and insufficient consumption of other foods.

Constipation is a common occurrence during pregnancy, resulting from a variety of factors including pressure exerted on the intestines by the enlarged uterus, mineral supplements, and/or decreased physical activity.

Constipation is not only uncomfortable, but it also leads to reduced appetite and food intake, which can have nutritional consequences.

To prevent constipation, pregnant women are encouraged to increase their fluid intake and their consumption of fiber-rich foods such as fruits, vegetables and whole grains. (also see SAFE MEDICATIONS IN PREGNANCY)

As the womb grows, the space for the stomach shrinks, causing the mother-to-be to fill up faster. In addition, the valve between the esophagus and the stomach relaxes, which can cause heart burn and/or acid reflux.

In the later months of pregnancy, many women find it more comfortable and enjoyable to eat small, frequent meals throughout the day.

Remaining upright after meals helps prevent heartburn.

Vegetarian or Vegan Diet: Many women choose to follow a vegetarian diet during pregnancy. Although it is possible to obtain sufficient amounts of all nutrients from a vegetarian diet, pregnant women following a vegetarian or vegan diet should take extra care to ensure adequate intake of iron, calcium, vitamin D, zinc, and vitamin B12.

Certain diseases and/or medical conditions impact the dietary choices of pregnant women.

For example, a pregnant woman with adult onset diabetes or gestational diabetes must pay special attention to the type of food she eats and the timing of meals to maintain blood sugar levels within a normal range.

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Food and Nutrition ...EATING FISH 1/2017

El pescado y otros alimentos ricos en proteínas tienen nutrientes que pueden ayudar al crecimiento y desarrollo de su hijo.

Para las mujeres en edad reproductiva (aproximadamente entre los 16 y los 49 años de edad), especialmente para las embarazadas y las que están amamantando, y para los padres y cuidadores de niños pequeños.

Consejos Sobre el Consumo de Pescado

Lo Que las Embarazadas y los Padres Deben Saber

El pescado y otros alimentos ricos en proteínas tienen nutrientes que pueden ayudar al crecimiento y desarrollo de su hijo.

Para las mujeres en edad reproductiva (aproximadamente entre los 16 y los 49 años de edad), especialmente para las embarazadas y las que están amamantando, y para los padres y cuidadores de niños pequeños.

- Coma de 2 a 3 porciones de pescado por semana de la lista "Mejores opciones" o 1 porción de la lista "Buenas opciones".
- Coma una variedad de pescados.
- Sirva de 1 a 2 porciones de pescado por semana a los niños, a partir de los 2 años de edad.
- Si come pescado capturado por familiares o amigos, consulte las recomendaciones sobre el consumo de pescado. Si no hay ninguna recomendación, coma solo una porción y ningún otro pescado esa semana.*

¡Use esta tabla!

Puede usar esta tabla como ayuda para elegir qué pescados comer y con qué frecuencia, en función de sus niveles de mercurio. Las "Mejores opciones" tienen los menores niveles de mercurio.

¿Qué es una porción?

Para darse una idea, ¡use la palma de su mano!



Para un adulto
4 onzas



Para niños de 4 a 7 años
2 onzas

Mejores opciones		COMER DE 2 A 3 PORCIONES POR SEMANA	Buenas opciones		COMER 1 PORCIÓN POR SEMANA
Sardina	Arenque	Perca, de agua dulce y de mar	Lutjánico o pargo	Blanquillo o lololátilo (Océano Atlántico)	
Corvina	Tilapia	Boquerón o anchoa	Caballa española	Atún, albacora/blanco, enlatado y fresco/congelado (Atún, aleta amarilla)	
Caballa	Lisa o pargo	Platija o lenguado	Chopa	Corvinata real/trucha de mar	
Róbalo	Ostra	Gado o abadejo	Carpa	Corvina blanca/Corvina del Pacífico	
Palometa	Lucio	Pez gato o bagre	Mero	Gallineta o pescado de roca	
Salmón	Vieira	Trucha, de agua dulce	Rape	Bagre búfalo (o bagre boca chica)	
Almeja	Lacha	Atún, enlatado claro (incluye el bonito)	Pez azul o anjova	Perca de mar chilena/Merluza negra	
Bacalao	Camarón	Pescado blanco	Halibut o fletán		
Cangrejo	Raya	Estornino del Pacífico	Dorado/pez delfín		
Calamar	Pejerrey	Platija o lenguado	Bacalao negro		
Eglefino	Lenguado		Perca rayada (de mar)		
Merluza	Cangrejo de río				

Opciones a evitar				LOS MÁS ALTOS NIVELES DE MERCURIO			
Macarela rey o caballa	Blanquillo o lololátilo (Golfo de México)	Aguja	Pez espada				
Reloj anaranjado, raya o pez emperador	Atún de ojos grandes o patudo	Tiburón					

* Algunos pescados capturados por familiares y amigos, como la carpa grande, el pez gato, la trucha y la perca, es más probable que tengan recomendaciones de consumo debido al mercurio u otros contaminantes. Las recomendaciones estatales le dirán con qué frecuencia puede comer esos pescados en forma segura.

Food and Nutrition ...EATING FISH 1/2017

FDA and EPA have issued **advice regarding eating fish**. This advice is geared toward helping women who are pregnant or may become pregnant - as well as breastfeeding mothers and parents of young children - make informed choices when it comes to fish that is healthy and safe to eat.

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?



For an adult
4 ounces



For children,
ages 4 to 7
2 ounces

To find out, use the palm of your hand!

Best Choices EAT 2 TO 3 SERVINGS A WEEK			OR	Good Choices EAT 1 SERVING A WEEK		
Anchovy	Herring	Scallop		Bluefish	Monkfish	Tilefish (Atlantic Ocean)
Atlantic croaker	Lobster,	Shad		Buffalofish	Rockfish	
Atlantic mackerel	American and spiny	Shrimp		Carp	Sablefish	Tuna, albacore/white tuna, canned and fresh/frozen
Black sea bass	Mullet	Skate		Chilean sea bass/ Patagonian toothfish	Sheepshead	
Butterfish	Oyster	Smelt		Grouper	Snapper	Tuna, yellowfin
Catfish	Pacific chub mackerel	Sole		Halibut	Spanish mackerel	Weakfish/seatrout
Clam	Perch, freshwater and ocean	Squid		Mahi mahi/ dolphinfish	Striped bass (ocean)	White croaker/ Pacific croaker
Cod	Pickrel	Tilapia		Choices to Avoid HIGHEST MERCURY LEVELS		
Crab	Plaice	Trout, freshwater				
Crawfish	Pollock	Tuna, canned light (includes skipjack)		King mackerel	Shark	Tilefish (Gulf of Mexico)
Flounder	Salmon	Whitefish		Marlin	Swordfish	Tuna, bigeye
Haddock	Sardine	Whiting		Orange roughy		
Hake						

*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



THIS ADVICE REFERS TO FISH AND SHELLFISH COLLECTIVELY AS "FISH." / ADVICE UPDATED JANUARY 2017