

Nutritional Guidelines in Pregnancy

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Maintaining proper nutrition throughout pregnancy is of utmost importance. A well balanced diet, proper weight gain, and special consideration of the individual's requirements can contribute greatly to the well-being of both the mother and child. The mother's adaptation to the hormonal and physical changes of pregnancy is aided by a proper diet. The rapidly-developing fetus needs the proper nourishment provided by the mother's well balanced diet in order to support proper organ and brain development.

Weight gain in pregnancy

Pregnant women should increase their caloric intake by anywhere from 300 to 700 Calories (1250-3000 kilojoules) per day and gain 25 to 40 pounds (11-18 kg), depending on their pre-pregnancy weight.

Weight gain in early pregnancy is due to increased blood volume and deposition of maternal fat. In the second and third trimesters, weight gain is related to growth of the fetus and the placenta, and to an increase in amniotic fluid volume. Maternal weight gain should be monitored throughout the pregnancy, because adequate gain is generally an indicator of proper nutrition. The recommended weight gain during pregnancy depends on pre-conception weight:

- A woman whose weight is in the normal range should gain 25-35 pounds (11-16 kg).
- An overweight woman should only gain 15-25 pounds (7-11 kg).
- An underweight woman should gain 28-40 pounds (13-18 kg).

The baby's birth weight is directly related to the weight of the mother. Both excessive and insufficient weight gain can lead to pregnancy complications and can affect the health of the growing fetus and newborn baby.

Excessive weight gain in pregnancy can increase a mother's chances of developing gestational diabetes and pre-eclampsia. It also can lead to difficult deliveries, birth trauma, and a higher incidence of caesarean deliveries. Overweight women are also at a higher risk of infection in the post-partum period.

Inadequate weight gain puts a baby at risk of reduced birth weight, intrauterine growth retardation



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(developmental delays), and higher risk of pre-term delivery.

Nutritional counseling

Nutritional counseling can be helpful in establishing dietary guidelines. This is particularly helpful in the following categories:

- Overweight and underweight women.
- Women with known food allergies.
- Women with dietary restrictions such as vegetarians
- Women who suffer from specific medical problems including diabetes.
- Young women and adolescents with poor dietary habits.
- Pregnant women who suffer from nausea and vomiting and thus unable to maintain a normal diet.

The obstetrician should be consulted regarding the need for nutritional advice.

Guidelines for specific foods

1. Fish and Shellfish: Due to the possible accumulation of mercury and other toxins, the consumption of fish should be reduced during pregnancy, and limited to no more than two servings per week.

- Avoid fatty fish that may contain high concentrations of mercury and other toxins. Avoid swordfish, shark, tilefish, king mackerel, striped bass, and bluefish.
- Eat no more than 6 oz (170 g) per week of white tuna, tuna steak, and halibut.
- The following fish have lower levels of toxins and should be consumed preferentially; cod, flounder, salmon, light canned tuna, sardines, pollock,

shellfish, Atlantic mackerel, and haddock.

- Avoid raw fish and shellfish due to the risk of bacterial contamination.
2. Calcium and Vitamin D: Increase the intake of calcium to about 1000-1300 mg per day. Vitamin D supplements should be approximately 200 IU per day.
 - Insufficient calcium and vitamin D can affect childhood skeletal development. Calcium and vitamin D are important building blocks for the developing fetal skeleton.
 - Proper calcium levels are essential for maintaining a normal pregnancy and can reduce the risk of pre-eclampsia and prematurity.
 3. Milk and cheese Dairy products are an excellent source of protein and calcium.
 - Avoid unpasteurized milk due to the risk of Listeria, a bacterium that can have devastating effects on the growing fetus.
 - Some dairy products are high in fat and their consumption should be monitored.
 4. Eggs, Poultry and Meat Avoid raw and undercooked eggs, poultry and meat due to the risk of Salmonella. Undercooked meat can harbor Listeria.
 5. Alcohol consumption has been linked to a condition, fetal alcohol syndrome that is characterized by facial anomalies, mental retardation and learning disabilities. This condition can occur even in women who consume small quantities of alcohol. Therefore there are no "safe" levels of alcohol allowed during pregnancy. Alcohol therefore should be avoided completely during pregnancy.
 6. Caffeine: Excessive consumption of caffeine has been linked to low birth weight and miscarriage. Drinking more than two cups of coffee per day (300 mg of caffeine) should therefore be avoided.
 7. Fat Consumption: Trans-fats found in processed foods and junk food can decrease the levels of "good" cholesterol and increase the bad cholesterol. This will block the transport of omega 3 fatty acids across the placenta and affect the growing fetus.

Vitamins and mineral supplements

1. Folate supplementation: Folate is an important vitamin and its consumption must be monitored carefully during pregnancy. Low folate levels are



linked to neural tube defects (spina bifida etc.). Dietary sources of folate include green leafy vegetables, whole grains, nuts, and oranges, but synthetic supplements are inexpensive and guarantee appropriate dosages.

- High risk (prior history of neural tube defect): 4 mg daily.
 - Low risk 0.8 to 1.0 mg daily.
2. Iron Supplementation Iron rich foods are important to prevent low birth weight infants. Recommended amounts are 18-27 milligrams – generally the amount found in prenatal vitamins. Other sources of iron include spinach, strawberries, eggs, meats, sardines, scallops, shrimp, and turkey.
 3. Prenatal Vitamins: Because most diets do not provide adequate amounts of most vitamins, supplements are recommended in pregnancy.
 - DHA and Omega-3 fatty acids
 - Iron
 - Folic Acid
 - Calcium
 - Vitamin D
 - Vitamin B-1
 - Vitamin B-2
 - Vitamin B-6
 - Vitamin B-12
 - Vitamin C
 - Vitamin A
 - Zinc
 - Magnesium
 - Niacin

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