

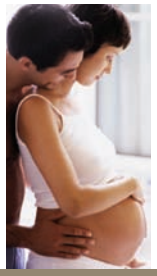

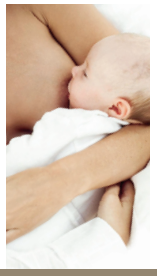


essential nutrients in pregnancy and preconception

CLINICAL INFORMATION FOR PRACTITIONERS AND PATIENTS

You are about to embark on one of the most important journeys of your life...

The creation of a new, unique and very special little person. This is a very exciting and sometimes overwhelming time. You can have a very positive affect on your fertility, the course of your pregnancy, the birth and the health of your baby by making wise and informative lifestyle and dietary choices. This is very important for both parents, particularly in the preconception time.

B Vitamins: B vitamins are essential for a variety of processes that occur in the body including the metabolism of carbohydrates, fats and proteins, and energy production.

Vitamin B1 (Thiamine): The requirement for thiamine is increased by approximately 30 per cent during pregnancy. It is extremely important for energy production, transmission of nerve impulses and for the production of collagen which is the major structural protein in the body. It is an important nutrient during pregnancy, especially to help women maintain healthy blood sugar, because it is necessary for normal glucose metabolism and insulin production. Low thiamine levels have been associated with low birth weight infants.

Vitamin B2 (Riboflavine): Due to high growth and energy demands on the body, the need for riboflavine is increased in pregnancy. Low birth weight infants can be significantly low in riboflavine (also vitamin A, E and folate). Riboflavine is necessary for energy production and metabolism of carbohydrates, fats and proteins.

Vitamin B3 (Niacin): Niacin is necessary for energy production, normal blood sugar regulation and DNA health and repair. It helps to lower cholesterol levels and is important for a healthy nervous system, skin and digestive system.

Vitamin B5 (Pantothenic acid): The biologically active form of vitamin B5 is coenzyme A (CoA) which is involved in energy production and the synthesis of proteins and fatty acids.

Vitamin B6 (Pyridoxine): Vitamin B6 may improve fertility in women because it supports the luteal phase of the menstrual cycle and can help to lower prolactin levels if they are high (high prolactin significantly reduces fertility). It also relieves the symptoms of PMS, helps maintain healthy blood sugar levels, improves immunity and is essential for the production of red blood cells. In pregnancy, vitamin B6 is effective for morning sickness. If you have adequate levels of this vitamin when you conceive you are much less likely to experience morning sickness. In conjunction with vitamins B12 and folic acid, pyridoxine helps to reduce elevated homocysteine. Healthy levels of homocysteine are associated with a normal full term pregnancy.

Vitamin B12 (Cyanocobalamin): Vitamin B12 is necessary for the activation of folic acid. Together with folic acid it is necessary for the formation of healthy DNA and nervous system tissue. It also is a natural antioxidant and together with vitamin B6 and folic acid it reduces elevated homocysteine.

Folic Acid: Folate deficiency is one of the most common vitamin deficiencies and the need for this vitamin doubles during pregnancy. It is necessary for healthy foetal development and reduces the incidence of neural tube defects by 80 per cent when taken at 400-500 mcg a day. Ideally supplementation with folic acid should be started approximately three months prior to conception because neural tube defects occur within the first 22 to 28 days of pregnancy. This is particularly important for women who have taken the oral contraceptive pill, which reduces folate levels.

Vitamin E: Vitamin E is an important antioxidant reducing free radical damage in the body and adequate levels are essential for the developing nervous system. Children who have a vitamin E deficiency and who are not treated with vitamin E rapidly develop neurological problems. Newborn infants, especially premature infants, are vulnerable to vitamin E deficiency because they have low tissue reserves. Vitamin E is important for healthy sperm production and adequate levels may help a normal pregnancy.

Vitamin C: Vitamin C is an important antioxidant and is necessary for healthy immunity. It should be taken as part of preconception care. Vitamin C helps support normal sperm and healthy cell membranes, including those of the ovaries, and may assist in maintaining normal blood pressure in pregnancy. It is absolutely essential for iron absorption. Low levels of iron are common during pregnancy.

Bioflavonoids: Bioflavonoids including rutin and hesperidin are often found in vitamin C rich foods and they work with vitamin C to enhance its activity. Bioflavonoids are important for vascular health.

Vitamin D3: Vitamin D3 is essential for calcium absorption and increases calcium and mineral deposition in bone. It is also important for cell growth and development, and a healthy immune system.

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Biotin: Biotin requirements are increased during pregnancy and lactation. It is important for cell division and growth, DNA synthesis and for the metabolism of fats and proteins.

Choline: Choline is necessary for the formation of cell membranes and the myelin sheath surrounding nerves. It is also important for healthy liver function and for proper functioning of the nervous system.

Inositol: Inositol is closely associated with biotin and choline and it has a close working relationship with vitamin B6, folic acid and pantothenic acid. Inositol is involved with signal control in cells within the nervous system.

Betacarotene: Betacarotene is a powerful antioxidant and is converted to vitamin A in the body. It is found predominantly in yellow vegetables as well as spinach and some fruits such as apricots and peaches.

Vitamin A: Vitamin A is important for cellular differentiation and proliferation, particularly for the development of the vertebrae and spinal cord, ears, eyes, heart and limbs. There is an increased demand during pregnancy. In men, optimum levels of vitamin A are important to maintain sperm count and motility. Deficiency of vitamin A is associated with male and female infertility.

Zinc: An estimated 82 per cent of pregnant women worldwide may have inadequate zinc intakes. Low zinc status in pregnant women has been associated with labour complications, low birth weight and premature delivery. Zinc is extremely important for male fertility. Deficiency results in low testosterone levels and low sperm count.

Calcium: Calcium is an extremely important nutrient leading up to and during pregnancy. It is necessary for the development of bones and teeth in the foetus. Approximately 30 to 40 grams of calcium are transferred to the foetus throughout the pregnancy, the majority in the third trimester. It is important for the mother to have good stores of calcium before becoming pregnant so that the health of her own teeth, bones, nervous system and muscular function is not at risk. Adequate maternal calcium levels can also help to maintain normal blood pressure during pregnancy.

Magnesium: Along with calcium and vitamin D, magnesium is essential for the development of healthy bones, teeth and nervous system, and for maintaining the health of these tissues in the mother. Adequate magnesium will help prevent muscle cramps and keep blood pressure normal. It also plays an important role in regulating normal blood sugar and insulin levels, nourishing the nervous system and alleviating symptoms of PMS.

Selenium: Selenium is a major natural antioxidant present in all tissues in the body. It also supports healthy thyroid and immune function. In pregnancy, adequate levels of selenium may help maintain healthy blood pressure. Although this is an essential nutrient it can be toxic in large amounts, so always read product labels for any supplements, or check with your practitioner.

Chromium: Chromium is essential for healthy blood sugar levels and to reduce cravings for sugar. It works together with B complex vitamins and magnesium for blood sugar regulation. Chromium also plays an important role in cell division and growth, protein and lipid metabolism, and may assist with maintaining healthy cholesterol.

Iodine: Iodine is essential for healthy thyroid function and is important for developing nervous tissue and the brain in the foetus. Research has shown that many pregnant women are iodine deficient. Lack of iodine can be damaging to the development of the brain. On the other hand, excess iodine can also cause health problems for both the mother and baby.

Iron: Iron requirements increase substantially during pregnancy. This increased need cannot always be met by diet alone so supplementation may be beneficial. Menstruating women lose iron with each period; the heavier and longer the menstrual flow the more iron is lost, causing many women to be iron deficient before they become pregnant. Along with fatigue, impaired learning, memory and concentration, iron deficiency also increases the vulnerability to environmental lead and cadmium. Vitamin C is essential for the absorption of iron.

Other Minerals: Manganese and boron are essential for bone formation, and manganese aids cholesterol and carbohydrate metabolism. Manganese and molybdenum are important for amino acid metabolism. Molybdenum and copper are important for iron metabolism. Copper is also necessary for energy production and the metabolism of hormones and neurotransmitters. Silica is essential for healthy connective tissue including bone, cartilage, skin and nails.

EPA/DHA: The rapidly developing foetus has a high need for fatty acids. They are necessary for healthy brain and liver development and for placental growth. Fatty acids are also necessary for the mother to support mammary gland and uterine growth. The omega 6 fatty acids are readily sourced from the diet in the form of vegetable oils. However, omega 3 fatty acids (DHA, EPA) are often lacking. These omega 3 fats, particularly DHA, are critical for central nervous system development which begins 21 to 28 days after conception. At 40 days after conception brain waves are recordable. Therefore, it is essential that women ingest adequate amounts of essential fatty acids prior to conception. Increased intake is also important during lactation.

Even with the best intensions it can be hard to meet the body's needs with diet alone. Taking a natal supplement can ensure that you are getting all of the essential nutrients. Talk to your practitioner today about what is suitable for you.