

# The top 10 *'must have'* micronutrients for *pregnancy and breastfeeding*

**W**e all start off as just one cell (a zygote). From that, inside the mother, the cell rapidly divides into billions and billions of cells which become specialized (eg. muscle, nerves, bone, skin, organs etc). So when you think about it, cell division and surrounding pathways are crucial for optimal fetal growth. These mechanisms don't simply function on their own; they require nutrients obtained through the mother's diet to function. This is why pregnant women require additional nutrients, to make sure the baby is developing and growing, while still maintaining her normal levels each day. The table below shows for the top 10 micronutrients, how much more the recommended dietary intake (RDI) during Pregnancy and Breast-feeding compared to the normal female adult RDI:

## 1. B-group vitamins (Folic acid, B1, B2, B3, B6 & B12)



Have you tried to divide and develop your cells without this group of vitamins? You just can't do it! The development of the neural tube, fetal brain and the creation of more red blood cells depend on B group vitamins, each with their own role to play. Increasing the number of red blood cells means more nutrients and oxygen can be transferred to the baby. **Good food sources:** Green vegetables, tuna, beans, mushrooms, meat.

## 2. Omega-3 fatty acids (DHA & EPA)



Omega-3 fatty acids are the must have item in your diet for a growing baby's brain. They have the huge responsibility of developing brain cells, who couldn't use a few more of those! But wait, there's more! Omega-3 fatty acids are also important for developing the immune system and general cell structure and function. **Good food sources:** Seafood.

## 3. Iron



To obtain oxygen, we just have to keep breathing, but for your developing baby, it relies heavily on how well it is transported through the bloodstream and across the placenta. Haemoglobin is the protein responsible for oxygen transport, but to produce this protein, the body requires iron. During pregnancy, more iron is needed to produce more haemoglobin so enough oxygen can be transported to the baby. Iron is also needed for brain and general cell development. Maternal

Percentage increase in the RDI during the period compared to the normal female adult RDI		
Micronutrients	Pregnancy	Breast-feeding
B-group vitamins		
Folic acid	50	25
B6	46	54
B3	29	22
B1	27	27
B2	27	45
B12	8	16
Omega-3 fatty acids	28	60
Iron	50	-
Iodine	47	80
Zinc	38	50
Vitamin C	33	89
Retinol from beta-carotene	14	57
Magnesium	10	-
Vitamin E	-	57
Calcium (with Vitamin D)	*	*

*\* Although there is no additional intake recommended for calcium, it is vital that pregnant and breastfeeding women obtain the recommended daily intake of 1,000mg every day. Deficiencies increase the risk of preeclampsia, hypertension and is the cause of cramps and tender bones during pregnancy and lactation.*

iron intake does not influence the amount of iron in breast milk, so levels can be reduced after birth.

**Good food sources:** Red meat, spinach, beans, lentils.

#### 4. Iodine



Thyroid hormones are essential for general growth and the development of the brain. So what has this got to do with iodine? Everything! Iodine is the key ingredient for making thyroid hormones. In the early stages of pregnancy, the mother will need to make more thyroid hormones to share with the baby. Towards the end of pregnancy and during breastfeeding, your baby's body will learn how to make thyroid hormones. The problem however, they rely completely on you to provide them with the key ingredient, iodine.

**Good food sources:** Seafood, dairy, eggs, fruit and vegetables.

#### 5. Zinc



It's like your cells, tissues and organs are afraid to develop without zinc around. Virtually every little reaction of

development and growth needs to get the all clear from zinc. Around 100 different enzymes depend on zinc! Looks like zinc will be working overtime during pregnancy and lactation, better stock up on him.

**Good food sources:** Seafood, meat, spinach, mushrooms, nuts.

#### 6. Vitamin C



This handy little accessory is needed for tissue repair, wound healing, bone and skin development and offers immune protection. Say no more, I'm sold. Make sure you get enough vitamin C during pregnancy and lactation.

**Good food sources:** Citrus fruits, other fruits and vegetables.

#### 7. Retinol from beta-carotene



Retinol loves visual development so much; it was named after the retina. The main dietary source is via vitamin A, however, in excessive amounts can cause birth defects. The solution; obtain your retinol from alternate sources, like beta-carotene. As soon as the body has enough retinol, it stops the conversion of beta-carotene to retinol, so it's like beta-carotene has its own safe guard mechanism! Retinol is mainly required during the breast feeding period.

**Good food sources:** Carrots, tomatoes, spinach, fruits and vegetables. **AVOID:** Liver (high amount of vitamin A)



#### 8. Magnesium



Over 300 reactions in the body involve magnesium, so it has a lot of cells to look after. Magnesium is essential for tissue growth as well as the development of nerves, muscles, bones and a normal heart beat. Signs of magnesium deficiency in the mother are leg cramps, fluid retention, restless legs and can result in a high blood

pressure.

**Good food sources:** Nuts, spinach, grains, cereals and lentils.

#### 9. Vitamin E



Once your baby is born it will require the anti-oxidant protection that vitamin E provides to the lungs and eyes as they must deal with the exposure to the new, external environment. The services of vitamin E also extend to the

development of all cell types.

**Good food sources:** Vegetable oils, nuts, green vegetables.

#### 10. Calcium (with vitamin D)



Both you and your baby will look and feel great with a good supply of calcium. Your baby needs it for bone formation and you need it to maintain your bone strength and a healthy

circulation, its win-win. However, in order to make use of a calcium supply, vitamin D is needed for it to be absorbed into the body and distributed correctly.

**Good food sources:** Dairy, green vegetables and sunlight for vitamin D.

Other essential nutrients not listed here are still important and vital for a healthy pregnancy and lactation period. During pregnancy and lactation, your nutrient needs increase by over 200%, yet you only require 15% more calories. Many women struggle to obtain those extra nutrient requirements through diet alone. Vitamin and mineral supplements are commonly used to assist pregnant and breastfeeding women reach their daily requirements of essential nutrients every day, avoiding problems associated with nutritional deficiencies. To help that one tiny cell develop into a healthy, happy baby, you will need a supplement and balanced diet that contains all the nutrients listed.