

# Nutrition: Fertility, Pregnancy, and Breastfeeding - Part 3

Preeclampsia or hypertension is another condition that can develop during pregnancy. Possible causes include poor nutrition, mineral deficiency, insufficient blood flow to the uterus, disruption in hormones that maintain blood vessels, poor immune function. The diagnostic markers here would be high blood pressure and high protein levels in the urine after 20 weeks of gestation. A normal blood pressure during pregnancy, by the way, is 130 over 85, so it's a little different than the 120 over 80 outside of pregnancy. Adequate calorie and protein intake are required to help prevent this. At a minimum, women should be getting 75 grams of protein per day during pregnancy. You want to ensure adequate intake of prenatal nutrients. Salt should not be avoided; there's no evidence of benefit for complete salt restriction during pregnancy, and salt is a very important nutrient. Omega-3 fats like EPA and DHA may help reduce inflammation in the blood vessels, which can contribute to high blood pressure. High intake of K2 can help keep calcium out of blood vessels and keep them more flexible, which would reduce the risk of hypertension. Low calcium and/or magnesium intake may increase the risk of preeclampsia, but there's not very much evidence on that yet. An anti-inflammatory Paleo diet with high levels of antioxidant-rich plant foods is a very good choice if the patient has preeclampsia.

Obesity, of course, is common in pregnancy, since obesity is just common in the industrialized world. Weight gain recommendations for overweight or obese pregnant women are different than normal-weight women, as I mentioned earlier, but I'm going to give you a few more specifics here. Weight gain guidelines segregated by body mass index, normal BMI of 18.5 to 24.9, woman should gain about 25 to 35 pounds total, or if they have twins, 35 to 55 pounds total. A woman who's overweight with a BMI of 25 to 29.9 should gain only 15 to 25 pounds total, or 31 to 50 pounds in the case of twins. And a woman who's obese with a BMI of over 30 should gain only 11 to 20 pounds total, or 25 to 42 pounds in the case of twins. Obese women may gain only about half a pound per week in the second and third trimesters for singleton pregnancies, and that's not unusual or cause for alarm compared to one pound per week in normal-weight women.

Depression is very common in pregnancy, and of course in the postpartum period. About 10 to 20 percent of women experience perinatal depression; certain foods and nutrients may help prevent depression. For example, high intake of EPA and DHA, omega-3 fats, has been shown to help reduce the risk. Probiotic and prebiotic foods can promote neurotransmitter production in the gut. Vitamin D deficiency is associated with higher risk of depression during the perinatal period, and inadequate protein intake may affect neurotransmitter production and cause depression, particularly in vegetarian and vegan women during pregnancy. So, again, aim for at least 75 grams per day of protein during pregnancy. I recommend a more moderate carbohydrate intake diet, which can help with mood imbalances. Make sure to get adequate folate intake, which allows for dopamine production. Vitamin B6 can help promote serotonin production, and pay attention to methylation status, which affects neurotransmitter production.

During the breastfeeding period, women need an extra 500 calories per day to promote good breast milk supply. Breastfeeding women generally do better with a moderate carbohydrate intake, just like during pregnancy. If you look at the composition of breast milk from a macronutrient perspective, it's 39 percent carbohydrate, 54 percent fat, and 7 percent protein. Women generally need to eat some carbohydrate to ensure adequate production of breast milk, so even in a woman who has blood sugar issues, a zero-carbohydrate diet is generally not a good choice. Carbohydrate needs, as always, vary depending on activity levels, and I would recommend a range of between 20 to 50 percent of calories from carbohydrate for breastfeeding women, depending on their activity. For more active women, you would be at the upper end of that range, and for more sedentary, overweight or obese women, I'd probably aim at the lower end of that range. Micronutrient intake during breastfeeding should mimic that of what I suggested for the pre-conception and pregnancy periods.

Exclusive breastfeeding is recommended by many organizations, such as the World Health Organization, for the first six months of the child's life. So, they would get breast milk only during that time and no complementary foods. Breastfeeding should be unrestricted and on demand during that time, and then the WHO recommends complementary breastfeeding for a minimum of 22 months or longer. So, they recommend some breastfeeding as food is being introduced all the way through month 22, and then beyond that, there are not clear health benefits for proceeding, and it's really up to the woman, whether she continues at that point, but that's where the clear health benefits start to decline. Between six and twelve months, complementary foods should be introduced into the child's diet; foods can be pureed, mashed, or semi-solids. At eight months, the baby can start to eat finger foods, and at twelve months most foods can be eaten. Lumpy foods should be introduced before ten months to avoid developmental delays in feeding.

The best first foods for babies are egg things like egg yolk, maybe lightly cooked egg yolk, mashed banana, grated frozen liver, and extra-virgin cod liver oil. At seven months, you could introduce pureed meats and peeled and cooked fruits low in fiber. At eight months, you can introduce bone broth and cooked low-fiber vegetables. At ten months, most meats, fruits and vegetables can be introduced in solid forms; fat should be included for nutrient absorption; fermented vegetables should be encouraged for gut health. At twelve months, nuts and seeds can be introduced, and it's a good idea to introduce one food at a time, and continue feeding that food for four days to rule out the possibility of a negative reaction. Intolerance symptoms include bloating, gas, irritability, fussiness, excessive waking, constipation, diarrhea, spitting up, congestion, and skin rashes. For more detailed information on nutrition for fertility, pregnancy and breastfeeding, you can check out my digital program, Healthy Baby Code.

Let's talk about a case study. K.T. was a 28-year-old female who came to me suffering from endometriosis and pelvic pain, along with a two-year struggle with infertility and amenorrhea. She had severe episodes of pelvic pain that would last several hours at least four days per week, and occasionally couldn't even stand up due to the pain. She was also experiencing significant constipation, bloating, and fatigue on a regular basis. She had experimented with a vegan diet in

the past, which helped her constipation but did nothing for her endometrial pain and amenorrhea, or even made it worse. She and her husband wanted to conceive as soon as possible, but she also wanted to make sure that getting pregnant was safe for her with her condition.

K.T.'s diet was a typical "health-conscious" American diet. She ate lots of whole grains, used olive oil and Earth Balance spread for cooking and adding fat to food, ate two to three servings of low-fat dairy per day, and mostly ate lean proteins, particularly chicken breast with no skin, egg whites, and occasional fish. She was only 130 pounds at 5'10" with a BMI of 18.65, which nearly put her in the underweight category. While she did not want to be that low in terms of weight, she acknowledged that her digestive issues caused her to avoid eating frequently, since it seemed like every time she ate, she had digestive distress. Her vitamin D was 21, which was low, and her B12 was 432, which was borderline.

I started K.T. on a standard Paleo approach that was 100 percent gluten and grain free but allowed full-fat dairy. I asked her to significantly increase her fat intake in the form of butter, fatty meats, avocado, and high-fat dairy products like cheese and full-fat yogurt. I also suggested she increase her fatty fish consumption to four times a week. She stuck to Paleo-friendly starches like potatoes and sweet potatoes instead of eating pasta, bread, cereal, and other grain-based carbohydrates. She couldn't bring herself to eat liver, so I gave her the option of using desiccated liver supplements, and I combined those with extra-virgin cod liver oil to help bring her low vitamin D level up. She started adding grass-fed beef into her protein choices three to five times per week, and started including yolks with her eggs again and cut back on her lean chicken consumption, and she added in bone broth as often as possible.

Three months later, K.T. started menstruating again, she'd gained eight pounds and her episodes of pelvic pain decreased to the point where she would have a small amount of pelvic pain every five days that would only last a minute or two. Eight months later, I was really happy when K.T. e-mailed me to let me know that she had conceived and was 16 weeks pregnant. That's one of the greatest parts of my job is to observe this happening. Now, K.T. has two healthy daughters and continues to follow a 100 percent gluten-free and mostly Paleo diet to keep her endometriosis symptoms at bay. Okay, that's it for this presentation, see you next time.