Optimal Nutrition for the Childbearing Year

Course Pack & Additional Resources

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Table of Contents

Prenatal Nutrition Overview 3
Protein Counting Guide 9
Food Warnings 10
Aspartame is, by Far, the Most Dangerous Substance … 12
Folic Acid 18
Iron in Pregnancy 19
Calcium in Pregnancy 24
Pregnancy Tea 27
Optimizing Your Prenatal Nutrition 31
Resources 32
Prenatal Nutrition Overview

I’ve never been one for counting calories and grams or micrograms of this nutrient and that one. Quantitative nutritional information abounds in the literature and tends to be the focus of what passes for nutritional advice for pregnant and breastfeeding mothers. It doesn’t strike me as particularly useful or applicable. I mean, unless we are on a diet, do any of us really measure everything we put in our mouths? And wouldn’t it be rather obsessive-compulsive if we did?

Rather, let’s emphasize a common sense approach that sidesteps the ever-present food pyramid, charts, and tables. The cornerstone of this approach is “how do you feel?” A few tables and numbers are given, not for rigid adherence purposes, but to use as a baseline, to see if you are in the ballpark, so to speak. Our focus will be on qualitative information, basic principles, and a few simple ideas. What does your body need to grow a healthy baby and ensure that, in the process, you maintain good energy levels and do not become depleted or suffer symptoms related to poor nutritional choices? First, let’s address some of the abundant myths.

Myth: Salt intake causes you to retain fluid in your system, leading to swelling of ankles and feet, and should therefore be minimized, if not eliminated, during pregnancy.

Fact: Salt is an essential inorganic constituent of body cells and tissues and regulates fluid balance in the system. It is a component of blood. During pregnancy, the mother’s blood volume expands by almost 50 percent! Salt is needed to help build the blood supply, so go ahead and salt your food to taste. To increase the nutritional value of your salt, use sea salt (as all of the minerals have been removed from common table salt and kosher salt). If your ankles are swelling, make sure you are drinking enough fluids (see more on this subject below) and cut out foods high in chemical preservatives, especially nitrites (such as found in lunch meats and other highly-processed meats).

Myth: Fats make you fat.

Fact: Excess carbohydrate intake spikes the blood sugar and sends a message to the pancreas to produce more insulin (the fat-storing hormone). Fats actually slow down the absorption of carbohydrates in the bloodstream as well as helping the system to digest protein. If you’re worried about excess weight gain, focus instead on stabilizing your blood sugar by limiting intake of refined carbs (white flour products, sugar, and junk food), eating healthy carbs (a variety of whole grains, fresh fruits, and vegetables), controlling the quantity of food eaten at a meal, and eating a moderate amount of satisfying, high-quality fats with your meals.

A lot has been written on the difference between “good” fats and the “bad,” trans, or polyunsaturated fats. See more below.
**Myth:** Animal fats are bad for you.

**Fact:** The opposite is true. Animal fats are good for you! (Check out the publications of the Weston A. Price Foundation, in particular, Sally Fallon’s book, *Nourishing Traditions.*) The single most important dietary influence for prenatal nutrition is adequate omega-3 fats. Flax seeds, walnuts, and other plant sources of omega-3 should not be substituted for animal omega-3s as you will simply not receive the same benefits due to intrinsic metabolic inefficiencies. The human organism will struggle to create a perfectly formed brain and needed hormones without animal fat. Allow yourself to eat butter, cream, and eggs, along with fish (in moderation), meat, and, if you like it, liver. Contrary to popular belief, the truth is that these fats (especially from healthy, clean sources) are essential, satisfying, and delicious.

It is true, however, that the meat industry in the U.S. is rife with unhealthy practices involving contaminated, chemicalized feed for the animals; crowded, unsanitary, and inhumane living conditions; and extensive use of hormones, antibiotics, and other drugs added to the animals’ feed to stimulate unnatural growth and combat the horrible living conditions—all in pursuit of making money at all costs. Free-range, organic, grass-fed animals on the other hand, produce a very healthy source of food. Many small farmers are rising to the occasion, providing healthy, bio-dynamic meat and dairy products for those who want them. Admittedly, clean sources of meat and dairy are more expensive, so what may be “ideal” must be balanced with the realities of your pocketbook.

If you follow a vegan diet and are unwilling to eat animal fats of any kind, do your best to consume good quality fats from non-animal sources such as coconut, olive and flaxseed oils, avocados, and nuts and seeds, and be sure to take a vitamin B12 supplement.

**Myth:** Pregnant women need 100 grams of protein per day.

**Fact:** That’s a lot of protein! Any woman I have ever worked with who was trying to stick to the “Brewer Diet,” struggled to comply with the recommendation, typically complaining about feeling too full and not really having an appetite that matched the regimen. Pregnant women do require extra protein throughout the day, it is true. But rigid adherence to a 100-grams-of-protein daily regimen is quite likely to end in digestive stress, excessive weight gain, and a big baby. Rather than focusing on quantity, emphasize quality sources of protein from clean, organic sources if possible. Avoid over-dependence on packaged lunch meats, for example, which are loaded with chemical preservatives, and substitute sliced fresh chicken or turkey breasts instead. Your kidneys and liver will thank you. These organ systems, after all, are working double hard to purify your bloodstream and eliminate waste from your body. They don’t need extra toxins thrown into the mix.

If you are pregnant with twins or multiples, or were under-nourished when you became pregnant, then extra protein, up to 100 grams per day even, may be beneficial. Sudden growth spurts of the baby may stimulate an appetite for more protein, specific nutrients, or more calories overall. Trust your body’s signals and give it what it needs. 100 grams of protein a day is not wrong; it is probably just not necessary throughout the entire pregnancy.
Myth: Vitamin pills are a good source of essential vitamins and minerals.

Fact: Your body is designed to optimize assimilation of vitamins and minerals from food sources. Vitamin pills and supplements may have their place, but the closer they are to food sources, the more easily digested. Read labels on your prenatal vitamins. If you don’t recognize the list of ingredients as foods, go to your local health food store and ask for a “food grown prenatal vitamin.” They cost more, but since they digest more easily, you may be able to spread out your supply over a longer period of time and, in the end, come out about the same budget wise. If your diet is based on a variety of whole foods and you are drinking the Pregnancy Tea on a fairly regular basis, then you may really limit pill intake to times of stress when you aren’t cooking regularly (such as during illness, moving to a new home, going on vacation, or over-working). Two brands that I recommend are Megafoods and New Chapter prenatal vitamins.

Guiding Principles for Healthy Eating During Pregnancy

Drink More Fluids

How much is “more?” Take your body weight and divide by two. That is the number of ounces of fluid you should drink each day. This is a key concept, important not only during pregnancy, but in labor and birth, and during the early weeks and months postpartum as well. Remember that meeting minimal recommendations is not the same as optimal and may be insufficient if you are losing a lot of fluid through sweating or due to illness that includes symptoms such as fever, diarrhea, or vomiting.

During pregnancy, extra fluid is needed to properly expand the blood volume which, in turn, infuses the placenta with nutrients for your baby. You are also creating amniotic fluid, which constantly replenishes itself. In labor, extra fluid is needed because you are working hard, sweating, possibly leaking amniotic fluid or vomiting, and may be doing lots of mouth breathing, all of which can lead to dehydration. After labor, you need to replace lost fluids, including normal blood loss, make breast milk, and help your system flush out the now superfluous systemic fluids that supported your growing baby. “Drink more fluids” is a consistent theme throughout the year. Consciousness about it and developing new habits and ways of eating will help you feel better.

What are the signs that you are not getting enough fluid?

- Urine may be deeply colored, appear concentrated, have a strong odor, and be reduced in frequency and amount. Look for urine to be pale yellow as a sign that you are drinking sufficient quantities. Be aware that some vitamin supplements (such as B vitamins) may discolor the urine to a bright yellow so that color may not be a reliable indicator in all cases.
- Mucous membranes and skin may be dry.
• Constipation, especially when accompanied by a toxic headache.
• Swelling in the extremities may indicate that your body is holding on to extra fluids because it has gotten the wrong message. The only problem here is that the cell walls are breaking down and fluid is leaving the bloodstream where it is needed, seeping out into interstitial tissues. Drink more and non-pathological swelling should go down while urine output increases.
• Muscle contractions, including uterine contractions. Dehydration can cause premature labor! Experiencing excessive amounts contractions weeks before your due date? Consider your activities, fluid intake, and environmental factors such as excessive heat in the hours leading up to the onset of contractions or uterine irritability. A call to your midwife or doctor will likely result in the recommendation to get off your feet, drink a pint of fluid, and call back in an hour if contractions continue unabated. If dehydration is the cause, the midwife’s simple prescription will likely resolve the problem. However, do not hesitate to seek medical care if contractions continue.
• Under-production of, or decrease in, the milk supply.
• **Warning:** Severe vomiting and diarrhea or high fever during pregnancy may require medical treatment. Call your doctor or midwife and follow his/her advice. I have seen cases of food poisoning and flu lead to premature onset of labor when administration of intravenous fluids could have prevented the problem.

**Vitamins and Minerals**
Pregnant women need increased quantities of all vitamins and minerals. There are two minerals which are especially important—iron and calcium, and each is discussed in depth below.

**Weight Gain**
Try not to worry so much about this! A healthy weight gain is likely to be between 25 and 40 pounds for most women. If you have little to no fat on your body going into the pregnancy, then it may be desirable for you to gain more than the minimum 25 pounds. Your body will naturally want to lay down a fat reserve for breastfeeding which requires more daily calories than needed to grow the baby in utero. If you are overweight when you first become pregnant (by objective medical standards, not insane fashion model standards), then you can shoot for a minimum weight gain of 20 pounds. BUT, give up empty junk food calories and sweets and never go hungry. If you have a tendency to obsess about the scale, consider giving up your scale addiction and going with this idea—if your arms and thighs are getting thinner as your belly grows, then you are not taking in enough calories. Celebrate your growing curves and softness, your essential feminine self!

To avoid the “I gained 10 pounds with each pregnancy that I never lost syndrome” you need to recognize that it’s time to reign it in a bit and go back to your pre-pregnant calorie intake when your baby starts to get non-mom sources of nutrition (but not before!), typically between 6 and 8 months for breastfeeding moms. The challenge here is that you have now developed a 15-month-long habit of purposefully eating more food. Recognize that it is time to cultivate new habits (again) and that your body may give you mixed signals as it is readjusting. In addition, new motherhood throws many of us off former exercise regimens,
usually due to lack of personal time. Look for ways to integrate the baby into a new regimen that works for you both.

**A Word about Cravings**
Cravings are simply information from your body. Step outside yourself a moment and read the message. Your body is telling you what you need. Cravings for eggs (little protein bombs) or milk are not unusual. Try following your cravings. If you are a vegetarian and you are having dreams about a rare steak, you don’t necessarily need to give in to the craving which you might find gross. But you do need to find a way to meet your increased need for protein. If you crave dairy products but can’t digest them well, then look for non-dairy sources of calcium and protein. Meet the true need and the craving should diminish.

If your cravings are for caffeine or sugar, and you are accustomed to feeding this craving, then you may be under the influence of an addiction. Addictions are the one exception to the “follow your craving” rule. Try this instead—observe the pattern of your craving. Do you crave something sweet or a comfort food at the same time each day, say 11am or 3pm or 9pm (between meals)? Are there physical symptoms that precede or accompany this craving such as nausea, lightheadedness, or sinking energy? Or are you simply in the habit of having something sweet at this time of day? Which is it? Feeding the sugar craving will further destabilize your blood sugar and increase your symptoms, enabling you to feel better quickly as your blood sugar rises, but leading to another crash when the spike is over. A proactive high-protein snack before the expected crash should prevent the low blood sugar that is causing your symptoms while helping to stabilize your energy levels throughout the day. On the other hand, if you simply require a treat before bedtime, go for it (but give a whole grain, naturally sweetened treat a chance).

**Tips for the Busy Working Pregnant Woman**
Your relationship with food has changed for the foreseeable future. Make peace with it! Old strategies of skipping breakfast, grabbing something quick (and sweet) on the go, fueling yourself with coffee, and so on, will no longer serve you well (if they ever truly did!). During pregnancy, the body becomes more sensitive. Hunger is an urgent experience, not something to be ignored and pushed past. Think of it as preparation for parenthood. New bio-rhythms are taking hold and food has just become a whole lot more important (as the mother of any newborn, toddler, or child knows). It will take some planning and, going forward, there is no such option as an empty refrigerator or skipping breakfast. That said, a little planning will go a long way. You don’t have to become a fabulous whole foods cook. Packaged foods (yogurt, hummus, trail mix) or pieces of fresh fruit will work just fine if you have them on hand.

A bowl of oatmeal (make it instant if you must) or a couple of eggs with whole grain toast and a piece of fresh fruit for breakfast can be followed up by a handful (or two) of trail mix,
an apple, and a glass of milk mid-morning. A hearty bowl of soup, a sandwich, or salad with protein serves as a satisfying lunch. To keep blood sugar levels even through to dinner time, try some hummus dip with fresh veggies and chips or cheese and crackers for an afternoon snack. And then enjoy some meat, fish, or legumes with fresh veggies and brown rice or potatoes for dinner. Add a glass of milk and a whole-grain muffin or a bowl of yogurt and fruit before bed if you like. And all the while, make it all taste delicious with high-quality fats and salt to taste, and keep your water and Pregnancy Tea readily available.
**Protein Counting Guide**

When pregnant, you will need more protein than you are likely accustomed to consuming. You may especially benefit from a high-protein breakfast each day, as well as high-protein snacks a couple of times per day. Protein, combined with complex carbohydrates, will help to stabilize your blood sugar and keep your energy levels more even throughout the day. If you have had a tendency to feel light-headed, even to the point of feinting, or are craving sweets, this nutritional strategy should help you feel better and avoid the hypoglycemia (low blood sugar) that is causing your symptoms.

**Dairy Products**
- Milk, 1 cup, 8gm
- Cheddar/Swiss Cheese 1 oz., 7gm
- Processed Cheese 1 oz., 6gm
- Cottage Cheese ½ cup, 12gm
- Ice Cream 1 cup, 6gm
- Yogurt 1 cup, 7gm

**Meats/ Fish/Poultry/Beans/Nuts/Seeds**
- Bologna 1 oz., 3.8gm
- Beef 3 oz., 20gm
- Chicken 3 oz., 25gm
- Egg 1, 6gm
- Hot Dog 1, 7gm
- Turkey 3 oz., 27gm
- Pork 3 oz., 21gm
- Liver 3½ oz., 26gm
- Haddock 3 oz., 16gm
- Salmon 3 oz., 17gm
- Halibut 3½ oz., 26gm
- Peanut Butter 1 tbsp., 4gm
- Peanuts 1/4 cup, 9gm
- Walnuts 1/4 cup, 6gm
- Pinto Beans ½ cup, 7gm
- Navy Beans ½ cup, 7gm
- Kidney Beans ½ cup, 7gm

**Starches/Breads/Cereals**
- Brown Rice 1 cup, 6gm
- Corn 1 cup, 5gm
- Noodles 1 cup, 6gm
- Cheerios 1 1/4 cup, 3.8gm
- Granola 1/4 cup, 4gm
- Shredded Wheat 2/3 cup, 3gm
Foods Warnings

Fish/Seafood
It's well known that eating seafood contaminated with mercury is a threat to human health, and particularly to pregnant women and children. The Food and Drug Administration (FDA) warns pregnant women, nursing mothers, children, and women who might become pregnant to avoid or limit eating certain species of fish due to excessively high levels of methyl mercury.

Avoid
- Swordfish
- Shark
- Tilefish
- King mackerel
- Tuna steak

Limit
- Canned tuna
- Sea Bass
- Gulf Coast Oysters
- Marlin
- Halibut
- Pike
- Walleye
- White Croaker
- Largemouth Bass
- Mahi Mahi
- Blue Mussels
- Cod
- Eastern Oysters
- Channel Catfish (wild)
- Great Lakes Salmon
- Gulf Coast Blue Crab
- Lake Whitefish
- Pollack

Best Choices
The following fish/seafood are lowest in methyl mercury levels:
- Catfish (farmed)
- Blue Crab (mid-Atlantic)
- Croaker
- Fish Sticks
- Flounder (summer)
- Haddock
- Trout (farmed)
• Salmon (wild Pacific)
• Shrimp

**Other Foods to Avoid**

• Unpasteurized milk or juice
• Soft cheeses like feta and Brie
• Unheated deli meats and hot dogs
• Refrigerated, smoked seafood
• Undercooked poultry, meat, or seafood
• Dolomite and bone meal (calcium supplements that contain lead, capable of causing neurologic damage)
• Foods with additives such as NutraSweet; phenylalanine in pop; preservatives, especially nitrites found in lunch meats
Aspartame is, by Far, the Most Dangerous Substance on the Market that is Added to Foods

Article from www.Mercola.com

Aspartame is the technical name for the brand names NutraSweet, Equal, Spoonful, and Equal-Measure. It was discovered by accident in 1965 when James Schlatter, a chemist of G.D. Searle Company, was testing an anti-ulcer drug.

Aspartame was approved for dry goods in 1981 and for carbonated beverages in 1983. It was originally approved for dry goods on July 26, 1974, but objections filed by neuroscience researcher Dr. John W. Olney and consumer attorney James Turner, as well as investigations of G.D. Searle's research practices caused the U.S. Food and Drug Administration (FDA) to put approval of aspartame on hold (December 5, 1974). In 1985, Monsanto purchased G.D. Searle and made Searle Pharmaceuticals and The NutraSweet Company separate subsidiaries.

Aspartame accounts for over 75 percent of the adverse reactions to food additives reported to the FDA. Many of these reactions are very serious including seizures and death. A few of the 90 different documented symptoms listed in the report as being caused by aspartame include: headaches/migraines, dizziness, seizures, nausea, numbness, muscle spasms, weight gain, rashes, depression, fatigue, irritability, tachycardia, insomnia, vision problems, hearing loss, heart palpitations, breathing difficulties, anxiety attacks, slurred speech, loss of taste, tinnitus, vertigo, memory loss, and joint pain.

According to researchers and physicians studying the adverse effects of aspartame, the following chronic illnesses can be triggered or worsened by ingesting aspartame: brain tumors, multiple sclerosis, epilepsy, chronic fatigue syndrome, Parkinson's disease, Alzheimer's, mental retardation, lymphoma, birth defects, fibromyalgia, and diabetes. Aspartame is made up of three chemicals: aspartic acid, phenylalanine, and methanol. The book "Prescription for Nutritional Healing," by James and Phyllis Balch, lists aspartame under the category of "chemical poison." As you shall see, that is exactly what it is.

What Is Aspartame Made Of?

Aspartic Acid (40 percent of Aspartame)
Dr. Russell L. Blaylock, a professor of neurosurgery at the Medical University of Mississippi, recently published a book thoroughly detailing the damage that is caused by the ingestion of excessive aspartic acid from aspartame. Blaylock makes use of almost 500 scientific references to show how excess free excitatory amino acids such as aspartic acid and glutamic acid (about 99 percent of monosodium glutamate—also known as MSG—is glutamic acid) in our food supply are causing serious chronic neurological disorders and a myriad of other acute symptoms.
How Aspartate (and Glutamate) Cause Damage
Aspartate and glutamate act as neurotransmitters in the brain by facilitating the transmission of information from neuron to neuron. Too much aspartate or glutamate in the brain kills certain neurons by allowing the influx of too much calcium into the cells. This influx triggers excessive amounts of free radicals, which kill the cells. The neural cell damage that can be caused by excessive aspartate and glutamate is why they are referred to as "excitotoxins." They "excite" or stimulate the neural cells to death.

Aspartic acid is an amino acid. Taken in its free form (unbound to proteins) it significantly raises the blood plasma level of aspartate and glutamate. The excess aspartate and glutamate in the blood plasma, shortly after ingesting aspartame or products with free glutamic acid (glutamate precursor), leads to a high level of those neurotransmitters in certain areas of the brain. The blood brain barrier, which normally protects the brain from excess glutamate and aspartate as well as other toxins, 1) is not fully developed during childhood, 2) does not fully protect all areas of the brain, 3) is damaged by numerous chronic and acute conditions, and 4) allows seepage of excess glutamate and aspartate into the brain even when intact.

The excess glutamate and aspartate slowly begin to destroy neurons. The large majority (75 percent or more) of neural cells in a particular area of the brain are killed before any clinical symptoms of a chronic illness are noticed. A few of the many chronic illnesses that have been shown to be contributed to by long-term exposure to excitatory amino acid damage include:

- Multiple sclerosis (MS)
- ALS
- Memory loss
- Hormonal problems
- Hearing loss
- Epilepsy
- Alzheimer’s disease
- Parkinson’s disease
- Hypoglycemia
- AIDS
- Dementia
- Brain lesions
- Neuro-endocrine disorders

The risk to infants, children, pregnant women, the elderly, and persons with certain chronic health problems from excitotoxins are great. Even the Federation of American Societies for Experimental Biology (FASEB), which usually understates problems and mimics the FDA party-line, recently stated in a review that:

"It is prudent to avoid the use of dietary supplements of L-glutamic acid by pregnant women, infants, and children. The existence of evidence of potential endocrine responses, i.e., elevated cortisol and prolactin, and differential responses between males and females, would also suggest a neuroendocrine link and that supplemental
L-glutamic acid should be avoided by women of childbearing age and individuals with affective disorders."

Aspartic acid from aspartame has the same deleterious effects on the body as glutamic acid. The exact mechanism of acute reactions to excess free glutamate and aspartate is currently being debated. As reported to the FDA, those reactions include:

- Headaches/migraines
- Nausea
- Abdominal pains
- Fatigue (blocks sufficient glucose entry into brain)
- Sleep problems
- Vision problems
- Anxiety attacks
- Depression
- Asthma/chest tightness

One common complaint of persons suffering from the effect of aspartame is memory loss. Ironically, in 1987, G.D. Searle, the manufacturer of aspartame, undertook a search for a drug to combat memory loss caused by excitatory amino acid damage. Blaylock is one of many scientists and physicians who are concerned about excitatory amino acid damage caused by ingestion of aspartame and MSG.

A few of the many experts who have spoken out against the damage being caused by aspartate and glutamate include Adrienne Samuels, Ph.D., an experimental psychologist specializing in research design. Another is Olney, a professor in the Department of Psychiatry in the School of Medicine at Washington University. A neuroscientist and researcher, and one of the world's foremost authorities on excitotoxins, Olney informed Searle in 1971 that aspartic acid caused holes in the brains of mice.

**Phenylalanine (50 percent of aspartame)**
Phenylalanine is an amino acid normally found in the brain. Persons with the genetic disorder phenylketonuria (PKU) cannot metabolize phenylalanine. This leads to dangerously high levels of phenylalanine in the brain (sometimes lethal). It has been shown that ingesting aspartame, especially along with carbohydrates, can lead to excess levels of phenylalanine in the brain even in persons who do not have PKU.

This is not just a theory, as many people who have eaten large amounts of aspartame over a long period of time and do not have PKU have been shown to have excessive levels of phenylalanine in the blood. Excessive levels of phenylalanine in the brain can cause the levels of serotonin in the brain to decrease, leading to emotional disorders such as depression. It was shown in human testing that phenylalanine levels of the blood were increased significantly in human subjects who chronically used aspartame.

Even a single use of aspartame raised the blood phenylalanine levels. In his testimony before the U.S. Congress, Dr. Louis J. Elsas showed that high blood phenylalanine can be
concentrated in parts of the brain and is especially dangerous for infants and fetuses. He also showed that phenylalanine is metabolized much more efficiently by rodents than by humans. One account of a case of extremely high phenylalanine levels caused by aspartame was recently published in the "Wednesday Journal" in an article titled "An Aspartame Nightmare." John Cook began drinking six to eight diet drinks every day. His symptoms started out as memory loss and frequent headaches. He began to crave more aspartame-sweetened drinks. His condition deteriorated so much that he experienced wide mood swings and violent rages. Even though he did not suffer from PKU, a blood test revealed a phenylalanine level of 80 mg/dl. He also showed abnormal brain function and brain damage. After he kicked his aspartame habit, his symptoms improved dramatically.

As Blaylock points out in his book, early studies measuring phenylalanine buildup in the brain were flawed. Investigators who measured specific brain regions and not the average throughout the brain notice significant rises in phenylalanine levels. Specifically the hypothalamus, medulla oblongata, and corpus striatum areas of the brain had the largest increases in phenylalanine. Blaylock goes on to point out that excessive buildup of phenylalanine in the brain can cause schizophrenia or make one more susceptible to seizures. Therefore, long-term, excessive use of aspartame may provide a boost to sales of serotonin reuptake inhibitors such as Prozac and drugs to control schizophrenia and seizures.

**Methanol (aka wood alcohol/poison) (10 percent of aspartame)**

Methanol/wood alcohol is a deadly poison. Some people may remember methanol as the poison that has caused some "skid row" alcoholics to end up blind or dead. Methanol is gradually released in the small intestine when the methyl group of aspartame encounters the enzyme chymotrypsin.

The absorption of methanol into the body is sped up considerably when free methanol is ingested. Free methanol is created from aspartame when it is heated to above 86 Fahrenheit (30 Centigrade). This occurs when an aspartame-containing product is improperly stored or when it is heated (e.g., as part of a "food" product such as Jello).

Methanol breaks down into formic acid and formaldehyde in the body. Formaldehyde is a deadly neurotoxin. An Environmental Protection Agency (EPA) assessment of methanol states that methanol "is considered a cumulative poison due to the low rate of excretion once it is absorbed. In the body, methanol is oxidized to formaldehyde and formic acid; both of these metabolites are toxic." They recommend consumption be limited to 7.8 mg/day. A one-liter aspartame-sweetened beverage contains about 56 mg of methanol. Heavy users of aspartame-containing products consume as much as 250 mg of methanol daily or 32 times the EPA limit.

Symptoms from methanol poisoning include headaches, ear buzzing, dizziness, nausea, gastrointestinal disturbances, weakness, vertigo, chills, memory lapses, numbness and shooting pains in the extremities, behavioral disturbances, and neuritis. The most well known problems from methanol poisoning are vision problems including misty vision, progressive contraction of visual fields, blurring of vision, obscuration of vision, retinal damage, and
blindness. Formaldehyde is a known carcinogen, which causes retinal damage, interferes with DNA replication, and causes birth defects.

Due to the lack of a couple of key enzymes, humans are many times more sensitive to the toxic effects of methanol than animals. Therefore, tests of aspartame or methanol on animals do not accurately reflect the danger for humans. As pointed out by Dr. Woodrow C. Monte, director of the Food Science and Nutrition Laboratory at Arizona State University, "There are no human or mammalian studies to evaluate the possible mutagenic, teratogenic, or carcinogenic effects of chronic administration of methyl alcohol." Monte was so concerned about the unresolved safety issues that he filed suit with the FDA requesting a hearing to address these issues. He asked the FDA to …

"slow down on this soft drink issue long enough to answer some of the important questions. It's not fair that you are leaving the full burden of proof on the few of us who are concerned and have such limited resources. You must remember that you are the American public's last defense. Once you allow usage (of aspartame) there is literally nothing I or my colleagues can do to reverse the course. Aspartame will then join saccharin, the sulfiting agents, and God knows how many other questionable compounds enjoined to insult the human constitution with governmental approval."

Shortly thereafter, the Commissioner of the FDA, Arthur Hull Hayes, Jr., approved the use of aspartame in carbonated beverages. He then left the FDA for a position with G.D. Searle's public relations firm.

It has been pointed out that some fruit juices and alcoholic beverages contain small amounts of methanol. It is important to remember, however, that methanol never appears alone. In every case, ethanol is present, usually in much higher amounts. Ethanol is an antidote for methanol toxicity in humans. The troops of Desert Storm were "treated" to large amounts of aspartame-sweetened beverages, which had been heated to over 86 degrees F in the Saudi Arabian sun. Many of them returned home with numerous disorders similar to what has been seen in persons who have been chemically poisoned by formaldehyde. The free methanol in the beverages may have been a contributing factor in these illnesses. Other breakdown products of aspartame such as DKP (discussed below) may also have been a factor. In a 1993 act that can only be described as "unconscionable," the FDA approved aspartame as an ingredient in numerous food items that would always be heated to above 86 degree F (30 degree C).

**Diketopiperazine (DKP)**

DKP is a byproduct of aspartame metabolism. DKP has been implicated in the occurrence of brain tumors. Olney noticed that DKP, when nitrosated in the gut, produced a compound that was similar to N-nitrosourea, a powerful brain tumor causing chemical. Some authors have said that DKP is produced after aspartame ingestion. I am not sure if that is correct. It is definitely true that DKP is formed in liquid aspartame-containing products during prolonged storage.
G.D. Searle conducted animal experiments on the safety of DKP. The FDA found numerous experimental errors occurred, including "clerical errors, mixed-up animals, animals not getting drugs they were supposed to get, pathological specimens lost because of improper handling," and many other errors. These sloppy laboratory procedures may explain why both the test and control animals had sixteen times more brain tumors than would be expected in experiments of this length. In an ironic twist, shortly after these experimental errors were discovered, the FDA used guidelines recommended by G.D. Searle to develop the industry-wide FDA standards for good laboratory practices.

DKP has also been implicated as a cause of uterine polyps and changes in blood cholesterol by FDA toxicologist Dr. Jacqueline Verrett in testimony before the U.S. Senate.
Folic Acid

Folic acid is a B vitamin that can help prevent birth defects of the brain and spinal cord called neural tube defects (NTDs). Folic acid works to prevent these birth defects only if taken before conception and during early pregnancy.

Because NTDs originate in the first month of pregnancy, before many women know they are pregnant, it is important for a woman to have enough folic acid in her system before conception. Folic acid is recommended for all women of childbearing age because about half of all pregnancies in this country are unplanned. Studies show that if all women consumed the recommended amount of folic acid before and during early pregnancy, up to 70 percent of all NTDs could be prevented. An estimated 3,000 pregnancies in the United States are affected by NTDs each year, most commonly spina bifida and anencephaly. Folic acid may also help prevent prematurity and other birth defects, including cleft lip and palate and some heart defects.

How much folic acid does a woman need?
The March of Dimes recommends that all women who can become pregnant take a multivitamin that contains at least 400 micrograms of folic acid every day starting before pregnancy, as part of a healthy diet. Folate is the natural form of folic acid that is found in certain foods including leafy green vegetables, dried beans, legumes, oranges, and orange juice. Cooking and storage can destroy some of the folate in foods.

Folic acid from vitamin supplements and fortified foods is more readily absorbed and made available for use by the body than natural folate from food. The body absorbs about 50 percent of food folate. By contrast, the body absorbs approximately 85 percent of the folic acid in fortified foods and 100 percent of the folic acid in a vitamin supplement. Many studies have shown that the synthetic form of folic acid helps prevent NTDs. The Institute of Medicine (IOM), the Centers for Disease Control and Prevention (CDC), and the March of Dimes recommend that women who could become pregnant consume at least 400 micrograms a day of the synthetic form of folic acid.

Do women need folic acid throughout pregnancy?
Yes. A pregnant woman needs extra folic acid throughout pregnancy to help her produce the additional blood cells her body needs during pregnancy. Folic acid also supports the rapid growth of the placenta and fetus and is needed to produce new DNA (genetic material) as cells multiply. Without adequate amounts of folic acid, cell division could be impaired, possibly leading to poor growth in the fetus or placenta. The IOM recommends that women increase their intake of folic acid to 600 micrograms a day (from supplements and food sources) once their pregnancy is confirmed. Most health care providers recommend a prenatal vitamin. Most prenatal vitamins contain 800 to 1,000 micrograms of folic acid.
Iron in Pregnancy

Why is iron important?
The mother’s blood volume expands by nearly fifty percent to support the baby’s growth. This expansion is typically completed by the beginning of the last trimester of pregnancy (approximately 28 weeks). As the volume increases, a sufficient quantity of dietary iron is required to manufacture red blood cells, the oxygen-carrying component in blood. Without it, the volume will still increase, but the blood will be relatively dilute with insufficient capacity to circulate oxygen in the system—a medical condition known as iron deficiency anemia.

The symptoms of iron deficiency anemia are:
- Fatigue, especially upon exertion
- Muscular weakness
- Air hunger such as huffing and puffing after climbing a flight of stairs (body’s attempt to take in more oxygen to meet the demand)
- Pallor of the mucous membranes and skin
- Orthostatic hypotension (a decrease in blood pressure while standing, sometimes causing dizziness and/or spots before the eyes upon arising)
- Pica (carvings for non-food substances such as ice, laundry starch, or clay)
- Weakened immune system
- Thin, brittle, or flattened fingernails with pronounced longitudinal ridging
- Loss of sex drive

During labor and birth, the anemic woman may experience:
- Less effective contractions (less oxygen to uterus)
- Longer labor
- Increased experience of pain due to lactic acid build up (caused by lack of sufficient oxygen to the muscle)
- Increased risk of fetal distress, as oxygen supply to baby may be compromised
- Hemorrhage from tired uterus
- Greater susceptibility to shock from normal blood less

After birth, the anemic mother is at greater risk of:
- Increased risk of postpartum infection
- Low overall energy levels

What are the causes of iron deficiency anemia?
The primary cause during pregnancy is insufficient dietary iron to support the optimal expansion of the maternal blood volume. If a woman is borderline anemic when she became pregnant, then she will surely suffer symptoms in the absence of a concerted effort to correct the problem.

Other causes are some rare diseases such as hereditary blood disorders, diseases of the bone marrow, chronic infections, and internal bleeding. Contributing non-dietary causes include:
chronic diarrhea, intestinal parasites, blood donation, menstruation, and the use of certain drugs such as tetracycline, neomycin, or cholestramine.

**Will vitamin pills solve the problem?**
Without a conscious effort to seek out and consume iron-rich foods, most pregnant women will not consume sufficient dietary iron to meet their needs of 30–48 milligrams per day. Vitamin pills containing iron are notorious for their poor absorption rate, tendency to cause constipation and turn the stool black, and tendency to cause indigestion and gastric distress. These symptoms indicate that supplemented iron, in the form of pills, is not recognized as a food by the body and is relatively difficult to digest. So, that means that the pills are not solving the problem as intended, but rather are generating other symptoms of concern. Feel free to ditch vitamins pills that your body is rejecting as un-digestible. If your hemoglobin count is not coming up in response to supplementation, then, quite simply, what you are doing is not working.

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**Iron Supplements Are Not All Equal**

- Ferrous sulphate is commonly prescribed, despite the fact that it has poor absorbability and is associated with miscarriages, nausea, constipation, and the destruction of vitamin E (which is active in preventing red blood cell death and subsequent anemia).
- Sustain-release iron pills are associated with fewer side effects but cause most of the iron to be released after it can be absorbed.
- Ferrous fumarate or ferrous gluconate may also be prescribed by your doctor or midwife and are more easily absorbed with fewer side effects.
- Chelated iron is more easily absorbed than non-chelated iron because it is chemically bonded to another substance more easily absorbed than iron which acts as a carrier of iron through the intestinal wall.
- Floradix Herbs Plus Iron liquid formula is a natural, food-grown source that has excellent absorbability (available at health food stores).

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On a related note, but somewhat off topic, constipation is a much more serious concern during pregnancy than most medical professionals acknowledge. Few even ask the expectant mother about the regularity and ease of her bowel movements, but I believe that they should. The kidneys and liver are doing double duty during pregnancy, filtering twice the amount of blood, for both mom and baby. Ideally, the maternal system would eliminate all waste materials efficiently so as not to create a further burden for her organs. But when the system is constipated, waste materials sit in the colon and begin to reabsorb. Her organs then need to re-filter the same toxins as the blood thickens. Eventually the heart has to work harder as
well. Toxic headaches may begin to manifest and the mom is now tempted to self medicate in an effort to not feel terrible. Constipation (defined as less than one easy and satisfying bowel movement per day) should be corrected promptly and, going forward, prevented.

**Cautions**

- Excesses of certain nutrients can cause deficiencies in others. Before taking mega doses of any supplement, seek the opinion of a healthcare provider who is knowledgeable about nutrition.
- If something is good for you, more is not necessarily better. Once a deficiency is corrected, aim for maintenance and keep an eye on your symptoms and how you are feeling.
- If you have toddlers and small children in the home, treat storage of iron supplements as you would any other medication. Excessive doses are toxic.

**Dietary Sources of Iron**

- Red meat, especially organ meats
- Clams, oysters
- Whole grains
- Bran, farina
- Beans, tofu
- Dark green leafy greens
- Nuts and seeds
- Dark molasses
- Seaweed (powdered dulse and/or kelp can be sprinkled as a salt substitute or taken in capsule form)
- Nutritional yeast
- Dried fruit
- Prune juice
- Pregnancy Tea (Nettles and Red Raspberry Leaves, prepared as an herbal infusion; see more below)

**To increase absorbability of dietary iron**

- Eat high-iron foods (or iron supplements) with vitamin C or foods high in vitamin C, such as orange juice (200–500 mg of vitamin C nearly doubles iron absorption).
- Fat-soluble vitamins increase the absorbability of iron. Foods high in iron that come ready made with fat-soluble vitamins include eggs, fish, caviar, liver (especially calf liver), and red meats. Green leafy vegetables also supply iron, although iron from animal protein is much easier to absorb. Serve leafy greens with butter and the iron is more available.
- The amount of iron absorbed decreases with increasing doses; take prescribed daily iron supplements in two or three equally-spaced doses, preferably with food.
- Use of cast-iron cookware adds iron to food, especially if the food is acidic (tomato sauce, for example).
- Minimize exposure to cigarette smoke and other air pollutants; they rob the body of vitamin C.
• Tannic acid, caffeine, and phosphates in caffeinated teas, coffee, and sodas inhibit iron absorption. Space consumption of these beverages away from high-iron meals, or give them up entirely.
• Avoid antacids. Iron is better absorbed in an acid stomach; antacids neutralize stomach acids.
• Minimize use of laxatives. Laxatives decrease the length of time food remains in the upper intestine; this decreases the amount of time the body has to absorb iron.
• Minimize consumption of refined carbohydrates (sugars and white flour products). High in calories and low in nutrients, they cause the secretion of more alkaline digestive juices, thus decreasing absorbability of iron. Dairy products also neutralize stomach acids and should not be taken simultaneously with iron supplements or iron-rich foods.
• Iron-fortified foods often use a phosphate compound form of iron that is not soluble in the human digestive tract; don’t count on these foods as a reliable iron source.
• Large doses of supplemental zinc or calcium can interfere with iron absorbability.
• The homeopathic cell salt Ferrum Phosphate 6X increases the assimilation of iron in the diet. Dosage is 2 tablets twice per day for up to 6 weeks.

Remember
A hemorrhage at the time of the birth is a likely cause of postpartum anemia for the mother. This will leave her susceptible to infection, low energy, and depression. Focus your efforts on building her blood back up with iron-rich foods, using all the strategies discussed above.
## Food Sources of Iron

<table>
<thead>
<tr>
<th>Food Source</th>
<th>Amount</th>
<th>Iron</th>
</tr>
</thead>
<tbody>
<tr>
<td>Almonds</td>
<td>¼ cup</td>
<td>1.7 mg</td>
</tr>
<tr>
<td>Cashews</td>
<td>¼ cup</td>
<td>1.3 mg</td>
</tr>
<tr>
<td>Pistachios, shelled</td>
<td>¼ cup</td>
<td>2.7 mg</td>
</tr>
<tr>
<td>Bran flakes</td>
<td>½ cup</td>
<td>7.8 mg</td>
</tr>
<tr>
<td>Wheat bran</td>
<td>3 tablespoons</td>
<td>4.2 mg</td>
</tr>
<tr>
<td>Wheat germ</td>
<td>3 tablespoons</td>
<td>2.7 mg</td>
</tr>
<tr>
<td>Cream of wheat</td>
<td>½ cup</td>
<td>7.8 mg</td>
</tr>
<tr>
<td>Millet, cooked</td>
<td>½ cup</td>
<td>1.1 mg</td>
</tr>
<tr>
<td>Pumpkin or squash seeds</td>
<td>2 tablespoons</td>
<td>3.9 mg</td>
</tr>
<tr>
<td>Sunflower seeds</td>
<td>2 tablespoons</td>
<td>2.6 mg</td>
</tr>
<tr>
<td>Mung bean sprouts, cooked</td>
<td>1 cup</td>
<td>1.1 mg</td>
</tr>
<tr>
<td>Tofu</td>
<td>4 ounces</td>
<td>2.3 mg</td>
</tr>
<tr>
<td>Hummus</td>
<td>1 tablespoon</td>
<td>2.9 mg</td>
</tr>
<tr>
<td>Miso</td>
<td>3 tablespoons</td>
<td>1.8 mg</td>
</tr>
<tr>
<td>Beans, dry, cooked</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Garbanzo</td>
<td>½ cup</td>
<td>2.9 mg</td>
</tr>
<tr>
<td>Kidney</td>
<td>½ cup</td>
<td>3.4 mg</td>
</tr>
<tr>
<td>Lentils</td>
<td>½ cup</td>
<td>2.1 mg</td>
</tr>
<tr>
<td>Pinto</td>
<td>½ cup</td>
<td>3.3 mg</td>
</tr>
<tr>
<td>Hamburger</td>
<td>3 ounces</td>
<td>3.0 mg</td>
</tr>
<tr>
<td>Ham</td>
<td>3 ounces</td>
<td>2.6 mg</td>
</tr>
<tr>
<td>Beet greens, cooked</td>
<td>½ cup</td>
<td>1.9 mg</td>
</tr>
<tr>
<td>Spinach, cooked</td>
<td>½ cup</td>
<td>2.0 mg</td>
</tr>
<tr>
<td>Kale, cooked</td>
<td>½ cup</td>
<td>1.6 mg</td>
</tr>
<tr>
<td>Chard, cooked</td>
<td>½ cup</td>
<td>1.8 mg</td>
</tr>
<tr>
<td>Peas, cooked</td>
<td>½ cup</td>
<td>2.1 mg</td>
</tr>
<tr>
<td>Prune juice</td>
<td>½ cup</td>
<td>5.2 mg</td>
</tr>
<tr>
<td>Raisins</td>
<td>¼ cup</td>
<td>1.2 mg</td>
</tr>
<tr>
<td>Prunes</td>
<td>5 medium</td>
<td>1.2 mg</td>
</tr>
<tr>
<td>Blackstrap molasses</td>
<td>1 tablespoon</td>
<td>3.2 mg</td>
</tr>
<tr>
<td>Sorghum</td>
<td>1 tablespoon</td>
<td>2.4 mg</td>
</tr>
</tbody>
</table>
Calcium in Pregnancy

Why is calcium important?
Calcium is the mineral needed to create healthy bones. If mom fails to ingest sufficient amounts of dietary calcium during pregnancy, not to worry, the baby’s bones will be just fine, as he/she will simply leach from the mother’s bones the necessary nutrients. The mother, however, will be depleted and more vulnerable to a condition known as osteoporosis (a tendency for fragile bones which break easily, particularly the spinal vertebrae which may collapse, causing the hunchback noticeable in many elderly folks). So, in the end, the maternal bones are compromised by the pregnancy. If the woman has more than one pregnancy and the pattern repeats itself, the risk is increased. Then, in menopause, when bone density normally drops, vulnerability is further increased. The good news is that with a little proactive attention, this condition can be prevented!

The symptoms of calcium deficiency are:
A calcium deficiency during pregnancy most commonly makes itself known through muscle cramping, in particular the infamous “charley horse” or calf muscle cramp that drives the woman out of bed in the middle of the night. It can also manifest as uterine irritability.

What is the standard medical advice given regarding calcium supplementation during pregnancy?
- Consume dairy products, specifically 4 8-ounce glasses of whole milk per day.
- Take Tums antacids for their high-calcium.
- Take a prenatal vitamin containing 1,000 mg for women over the age of 18 and 1,300 mg for women under the age of 18.

Time constraints on many medical care providers mean that very little time is available for individualized prenatal care. This necessitates a global, non-individualized approach to questions of diet and complaints of pregnancy. Hence the need for childbirth education to fill in this essential gap. Are there any problems with the above advice? In a word, YES. Let’s consider each in turn.

Dairy Products
For those who can easily digest dairy products, they serve as a fine source of dietary calcium. For those who are lactose intolerant, dairy products cause gas, bloating, and gastric distress and are best avoided. Calcium requirements can be met without consuming dairy products. If you find yourself craving a glass of milk, however, this is a sign from your body that you are not getting enough.

Tums
The form of calcium in Tums is calcium carbonate, which is not the most easily assimilated form of calcium. Cautions regarding the aluminum content of Tums have been widespread among natural health advocates. GlaxoSmithKline Consumer Healthcare does not add aluminum during the manufacturing process of the TUMS tablets but one of the raw
materials used in TUMS does contain negligible amounts of aluminum, measured as parts per million (ppm), ranging approximately from 100 to 500 ppm.

TUMS devotees can be found on many internet pregnancy forums. Many women swear by them for relief from heartburn and indigestion. There are, however, higher-quality, more easily-assimilated sources of calcium. One danger of unassimilated calcium is the tendency for kidney stones to form. Avoiding dehydration and taking all calcium supplements with food will minimize this risk.

For heartburn, an alternative to TUMS is papaya enzyme tablets (dose = 4–5 tablets chewed), found at your local health food store.

**Calcium in Prenatal Vitamins**

We have discussed above that humans are designed to get optimal nourishment in the form of food, not pills. While it may be comforting to read the number of milligrams of a specific nutrient contained in a pill and, therefore, be reassured that you are meeting medical recommendations, the number on the bottle and the amount actually assimilated by your body are not necessarily equal. Go with your symptoms. If you are suffering from nightly charley horse cramps, then you are not assimilating the calcium you are inputting. Try a better form—one that your body can digest!
## Food Sources of Calcium

<table>
<thead>
<tr>
<th>Food Source</th>
<th>Amount</th>
<th>Calcium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole milk</td>
<td>1 cup</td>
<td>292 mg</td>
</tr>
<tr>
<td>Low fat milk</td>
<td>1 cup</td>
<td>300 mg</td>
</tr>
<tr>
<td>Cheddar cheese</td>
<td>1 ounce</td>
<td>204 mg</td>
</tr>
<tr>
<td>Yogurt</td>
<td>1 cup</td>
<td>270 mg</td>
</tr>
<tr>
<td>Cottage cheese</td>
<td>1 cup</td>
<td>230 mg</td>
</tr>
<tr>
<td>Tofu</td>
<td>4 ounces</td>
<td>145 mg</td>
</tr>
<tr>
<td>Broccoli, cooked</td>
<td>1 cup</td>
<td>136 mg</td>
</tr>
<tr>
<td>Kale, cooked</td>
<td>1 cup</td>
<td>147 mg</td>
</tr>
<tr>
<td>Orange</td>
<td>2 medium</td>
<td>74 mg</td>
</tr>
<tr>
<td>Rhubarb, cooked</td>
<td>1 cup</td>
<td>211 mg</td>
</tr>
<tr>
<td>Almonds</td>
<td>½ cup</td>
<td>164 mg</td>
</tr>
<tr>
<td>Brazil nuts</td>
<td>½ cup</td>
<td>279 mg</td>
</tr>
<tr>
<td>Sunflower seeds</td>
<td>3½ ounces</td>
<td>120 mg</td>
</tr>
<tr>
<td>Farina</td>
<td>1 cup</td>
<td>183 mg</td>
</tr>
<tr>
<td>Blackstrap molasses</td>
<td>1 tablespoon</td>
<td>137 mg</td>
</tr>
</tbody>
</table>
Pregnancy Tea

Drinking two or three cups per day of the following herbal mixture will add substantially to the mother's health throughout pregnancy and may lessen pain and bleeding during birth. These herbs are primarily nutritive in nature (rather than medicinal), providing much-needed vitamins and minerals in a form the body can easily assimilate. Think of the herbs as dark leafy greens. The tea may be taken postpartum as well, to help tone the uterus and build a healthy milk supply. Partners can enjoy the health benefits of “Pregnancy Tea” as well. Most people find the tea mild and pleasant tasting.

Nausea: Do not force the tea if you are feeling averse to it due to nausea of early pregnancy. You do not want to associate it with the nausea and then be put off the idea for the rest of the pregnancy. Wait till you feel a little better and then give it a try. On the other hand, some women find that it helps, especially with a bit of Spearmint added, so it’s worth a try.

Expecting Multiples: I have seen recommendations, by some authors, to avoid this tea when pregnant with twins. I cannot find any evidence to back up the fear that Pregnancy Tea increases the risk of premature delivery with twins. No doubt, this caution is given due to the toning effects of the Red Raspberry Leaves. (It is interesting to note that calcium deficiency and dehydration, both conditions corrected by the tea, may also cause the uterus to contract.) Discuss it with your doctor or midwife and trust your instincts as to how your body may be responding to the tea. You can always drop the Red Raspberry Leaves from the brew if in doubt, while still benefiting from the Nettles. Women expecting multiples have an even greater need for the extra fluids and bio-available minerals that the tea provides.

Late Pregnancy: If you are 36 weeks pregnant or more and have not experienced regular toning contractions (a.k.a. Braxton-Hicks contractions), then you may notice a decided effect on the uterus from drinking tea made from Red Raspberry Leaves and this is recommended. Toning contractions of late pregnancy are normal.

Ingredients

Red Raspberry Leaves
Contain vitamins A, B, and E, as well as calcium, phosphorous, and iron. Helps tone the uterus.

Nettles
The Stinging Nettle is a blood-cleansing and blood-building herb with high iron content. It is very nourishing to the kidneys and liver. Helps build a good milk supply.
The following herbs may be added to the above mixture for variety:

**Alfalfa**
Contains vitamins A, B12, D, E, and K, as well as calcium and phosphorous. Great for the milk supply.

**Rose Hips**
Contains the entire vitamin C complex, including bioflavonoids. Strengthening for the vascular system (hemorrhoids, varicose veins) and to boost the immune system.

**Spearmint**
Soothing to the stomach, aids in digestion, and lends a pleasant taste to the mixture. A little goes a long way.

**Red Clover**
This blood-purifying herb can be added from time to time

**Directions**
Use a glass or other non-metal (aluminum is the worst) container with a lid. A half-gallon mason jar is perfect. Combine one part red raspberry leaves to one part nettles. Add some or all of the optional herbs if desired. When using a half-gallon mason jar to make the tea, I typically have about 1” of dried herbs in the bottom of the jar. Cover the herbs with almost-boiling water and cap tightly. Steep this mixture from four to eight hours. Pour the mixture through a strainer and discard the herbs. The tea will stay fresh for up to five days if kept in the refrigerator.

A small amount of fruit juice (try grape, apple, raspberry) can be added as a sweetener, if you like. If the taste is overpowering, then use less herbs and/or brew for a shorter time. If you really don’t like the taste, you can try one herb at a time in an attempt to identify the offending taste. Some folks like the Nettles but not the Red Raspberry Leaves while for others, it’s the other way around. Play with it a bit, till you find a mixture that suits you.

**Purchasing the Herbs**
Herbs should be organic or wild-crafted and fresh (dried is fine, but no more than one year old). If the packaging doesn't say "organic" or "wild-crafted," it isn't. Organic, packaged Pregnancy Tea in tea bags is now widely available. It is certainly okay, but not quite the same as what we are recommending here. The amount of herb in the tea bag and the typical length of time that one brews a cup of tea (5 minutes?) will yield an infusion with nowhere near the nutritional content discussed above. You could increase the number of tea bags used and the length of brewing time, but this is not a cost-effective method and likely is not going to deliver the same nutritional boost.

Dried herbs have a shelf life of one year. After that time, the essential oils in the herbs become inactive. A brew made with older herbs may have a funky flavor and the tea will appear cloudy and unappealing. Make sure that your supplier doesn't sell herbs that have
been sitting on the shelf for a long time. Mail order is an excellent way to assure both quality and freshness (see recommended sources below) and is also the most cost effective! If you have these plants growing around you, try harvesting them yourself. Put them on a screen to dry, and then store them (even more cost effective).

All herbs should be stored in air-tight containers, in a cool, dark place. Exposure to sunlight and temperature extremes (such as above the stove) will age your herbs more quickly.

**Sources**
- **Center for the Childbearing Year, www.center4cby.com.** We sell high-quality, organic tea herbs by the quarter pound and pre-mixed individual Postpartum Herbal Baths. Prices are much lower than those charged by local health food stores, but higher than the cost of ordering by the pound through the mail.
- Starwest Botanicals, www.starwest-botanicals.com (has the best prices I have found)
- Mountain Rose Herbs, www.mountainroseherbs.com
- Blessed Herbs, www.blessedherbs.com

For more information about the safe use of herbs during pregnancy, see Susun Weed's book, *Wise Woman Herbal for the Childbearing Year*. 
Optimizing Your Prenatal Nutrition

Increase Fluids

your body weight ÷ 2 = # of fluid ounces per day

Protein
frequent, throughout the day, to appetite
(approximately 60-80 grams per day)

Grains
4-6 servings

Fresh Fruits
2-4 servings

Fresh Veggies
3-5 servings

Fats
do not restrict; eat the good fats!

Good Fluid Choices: water, Pregnancy Tea, herbal tea, 100% fruit juice
Limit: coffee, caffeinated tea, pop
Avoid: alcohol, diet pop, drinks with high fructose corn syrup

Good Protein Choices: red meats, whole turkey breast, chicken, legumes, nuts and seeds, dairy, eggs, tofu, fish and seafood (see advisory on which are safe); eat organic if possible; eat high-protein snacks
Limit: lunch meats and other foods loaded with preservatives; frequent intake of nuts and nut butters
Avoid: Fish and seafood high in mercury and other heavy metals

Eat High-Quality Fats: olive oil, coconut oil, flax seed oil, butter, whole milk dairy products, avocados, nuts and seeds, high-fat fish and seafood (see advisory), lard
Avoid: hydrogenated fats, margarine, rancid fats

Eat a Wide Variety of Fresh Fruits & Veggies: if not fresh, frozen is next best choice; the deeper the color, the higher the vitamin and mineral content (e.g., dark leafy greens are better than iceberg lettuce); organic if possible
Limit: dried fruits and fruit juices—both are high in sugar

Eat Whole Grains Everyday: brown rice, oatmeal, millet, buckwheat, whole grain breads, etc.
Limit: white flour products (white bread, pasta, pastries, etc.), white rice, high-carb treats with refined white sugar, junk food
Avoid: empty calories with artificial ingredients
Condiments & Such:
Good dressings: high-quality oils and a variety of vinegars (balsamic, cider vinegar, etc.); or mix fresh lemon juice and olive oil with a bit of Dijon mustard
Good additions: kelp powder, sea salt, apple cider vinegar
Good natural sweeteners: maple syrup, honey, molasses
Limit: refined white sugar
Avoid: artificial sweeteners in any form (e.g., diet pop)
Resources

Books


- Gail Sforza Brewer & Tom Brewer. *What Every Pregnant Woman Should Know: The Truth About Diets and Drugs in Pregnancy* [out of print, but worth reading if you can find a copy].

- Thomas Brewer. *Metabolic Toxemia of Late Pregnancy: A Disease of Malnutrition*.


- Frances Moore Lappe. *Diet for a Small Planet*.


- Susun Weed. *Wise Woman Herbal for the Childbearing Year*.

Websites


Special Topics

**Low-glycemic eating**

Low-glycemic food database, recipes, and information from the University of Sydney, [http://www.glycemicindex.com](http://www.glycemicindex.com)

**Iron**


**Vitamin D**
Vitamin D: Sunshine for my Spine (a good synopsis of the current research on Vitamin D) [http://www.nafwa.org/downloads/vitD.htm](http://www.nafwa.org/downloads/vitD.htm)