

Holistic Nutrition During Pregnancy

By Ryan N. Harrison, MA

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Introduction

A young, expecting mother-to-be makes her way into your office. She's excited at having just discovered she's pregnant. In the meantime, she's very concerned about giving her unborn child the right nutrients in order to help it grow and thrive in the womb. She comes to you, because you have been trained in holistic nutrition, and she is very interested in knowing what to do and *not* do during this crucial time of her (and her baby's) life.

Some things, of course, immediately jump to the front of your mind:

No drugs,
No alcohol,
No smoking
Etc., etc., etc.

Most mothers recognize the importance of a good diet, free of the foods and chemicals that can poison and negatively affect a fetus. Here are the words of a mother-to-be who understood this well:

When my Body is Mine
*In six months' time,
When my body is mine
And I can eat what I please
I'll eat pate and tripe
Drink wine and Red Stripe
And mountains of unpasteurised cheese.*
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(<http://www.thelaboroflove.com/prose/poems/food.html>)

Let's talk about some of the fundamental "No's" before we get to the positive "Yes's."

Toxins

A toxin is "anything that is injurious, destructive, or fatal" (<http://www.answers.com/toxin>). Because we'll look closer at prescription medications, alcohol and cigarettes below, for our purposes here, "toxins" refers to everything else that may harm the unborn child: chemicals, pesticides, insecticides, herbicides, household cleaners, air pollution, water pollution...the list is pretty darn long.

What many mothers-to-be don't know is that they – and through them, their babies – are exposed to dangerous toxins everyday of their lives. Did you know:

- Over 69 million Americans live in areas that exceed smog standards.
 - Most drinking water contains over 700 chemicals, including excessive amounts of the heavy metal lead.
 - Some 3,000 chemicals are added to the food supply.
 - As many as 10,000 chemicals in the form of solvents, emulsifiers, and preservatives are used in food processing and storage.
 - U.S. chemical companies hold licenses to make 75,000 chemicals for commercial use; the federal government registers an average of 2,000 newly synthesized chemicals each year.
 - The government has tallied 5,000 chemical ingredients in cosmetics; more than 3,200 chemicals added to food; 1,010 chemicals used in 11,700 consumer products; and 500 chemicals used as active ingredients in pesticides.
 - In 1998 U.S. industries reported manufacturing 6.5 trillion pounds of 9,000 different chemicals, and in 2000 major U.S. industries reported dumping 7.1 billion pounds of 650 industrial chemicals into our air and water.
 - Chemical companies are not required to tell the Environmental Protection Agency (EPA) how their compounds are used or monitor where their products end up in the environment. Neither does U.S. law require chemical companies to conduct basic health and safety testing of their products either before or after they are commercialized.
 - Eighty percent of all applications to produce a new chemical are approved by the U.S. EPA with no health and safety data; eighty percent of these are approved in three weeks.
- (Goldberg group, pg. 168 ; www.BodyBurden.com)

A recent groundbreaking study was conducted by the Mount Sinai School of Medicine in New York, in collaboration with the Environmental Working Group and Commonweal. Researchers at two major laboratories found an average of 91 industrial compounds, pollutants, and other chemicals in the blood and urine of only nine volunteers, with a total of 167 chemicals found in the group. Like most of us, the nine people tested do not work with chemicals on the job and do not live near an industrial facility. Of the 167 chemicals found in those nine tested individuals, 76 are known to cause cancer in humans or animals, 94 are toxic to the brain and nervous system, and 79 cause birth defects or abnormal development. What's more, *the danger of exposure to these chemicals in combination has never been studied.*

In general, it's a frightening – and frighteningly true – scenario, and one that we simply cannot afford to let be swept under the carpet or forgotten. Dr. Marshall Mandell, one of the world's leading allergists and father of bio-ecologic medicine stated:

The current level of chemicals in the food and water supply, and the indoor and outdoor environment, has lowered our threshold of resistance to disease and has altered our body's metabolism, causing enzyme dysfunction, nutritional deficiencies, and hormonal imbalances (Goldberg Group, pg. 168).

What do you think: Are unborn children at risk?

So, one of the first things that you'll want to tell your pregnant client is that – if at no other time in her life – it is vital that during her pregnancy she avoid as many toxins as possible. This means reducing household toxic cleaners, buying and consuming only organic foods, considering a good air and water filter, etc.

Alcohol

FitPregnancy.com suggests “a safe level of alcohol consumption for pregnant women has not been determined, so many experts recommend abstinence. Heavy use during pregnancy can cause fetal alcohol syndrome – a serious, lifelong condition.” Most experts will also reassure you that you don't have to worry yourself sick about that drink you had before you knew you were pregnant. Still, you wouldn't give alcohol to a baby, so you certainly shouldn't be drinking any during a pregnancy. Perhaps we should look at how alcohol affects the human body, especially those that are carrying children.

In the adult human, alcohol provides energy (7 calories per gram), but *no* nutrients, aside from the very small amounts that might remain in some of the fermented beverages such as beer, wine, cider, and kumiss (the fermented milk of a mare or camel, used as a beverage by certain peoples of western and central Asia). Unlike other foods, which have to be digested to become accessible by the body, alcohol flows directly through your membranes and into the blood. In fact, it's absorbed so quickly and efficiently that about 20% of the alcohol in your drink reaches your brain within seconds of drinking it. And then your blood, of course, carries the alcohol to nearly every organ of the body, as well as to an unborn child. The following is an excerpt from a well-written report by the March of Dimes:

When a pregnant woman drinks, alcohol passes swiftly through the placenta to her fetus. In the unborn baby's immature body, alcohol is broken down much more slowly than in an adult's body. As a result, the alcohol level of the baby's blood can be even higher and can remain elevated longer than the level in the mother's blood. This sometimes causes the baby to suffer lifelong damage.

Drinking alcohol during pregnancy can cause a number of birth defects, ranging from mild to severe. These include mental retardation; learning, emotional and behavioral problems; and defects involving the heart, face and other organs. The term “fetal alcohol spectrum disorder” is used to describe the many problems associated with exposure to alcohol before birth. The most severe of these is fetal alcohol syndrome (FAS), a combination of physical and mental birth defects.

Consuming alcohol during pregnancy also increases the risk of miscarriage, low birthweight (less than 5½ pounds) and stillbirth. A 2002 Danish study found that women who drank five or more drinks a week were three times more likely to have a stillborn baby than women who had less than one drink a week.

What is fetal alcohol syndrome (FAS)?

FAS is one of the most common known causes of mental retardation, and the only cause that is entirely preventable. Studies by the Centers for Disease Control and

Prevention (CDC) suggest that between 1,000 and 6,000 babies in the United States are born yearly with FAS.

Babies with FAS are abnormally small at birth and usually do not catch up on growth as they get older. They have characteristic facial features, including small eyes, a thin upper lip and smooth skin in place of the normal groove between the nose and upper lip. Their organs, especially the heart, may not form properly. Many babies with FAS also have a brain that is small and abnormally formed, and most have some degree of mental disability. Many have poor coordination, a short attention span and emotional and behavioral problems.

The effects of FAS last a lifetime. Even if not mentally retarded, adolescents and adults with FAS have varying degrees of psychological and behavioral problems and often find it difficult to hold down a job and live independently.

Obviously, you should recommend that pregnant women refrain from drinking alcoholic beverages, not only for the duration of the pregnancy, but also while they are breastfeeding.

Smoking

According to FitPregnancy.com, “studies have conclusively proven that smoking and pregnancy don’t mix: Babies born to mothers who smoke weigh less on average. Doctors suspect the lower birth weight is due to restricted blood flow, which may also impair the passage of nutrients through the placenta to the baby. The carbon monoxide in cigarette smoke that enters the mother’s bloodstream also reduces the amount of oxygen that reaches the uterus. For these reasons, doctors advise pregnant women to also steer clear of secondhand smoke.”

Medications (Prescription & OTC)

For many people, this is a tough call. In fact, most doctors will suggest that mothers-to-be remain on medications while pregnant if their health depends on it. Nonetheless, with all the side effects associated with even just the most commonly prescribed medications, potential damage to an unborn child is great. Pregnancy-Info.net suggests “When you are pregnant, it is important to understand that everything you take into your body passes from your blood to baby’s blood; therefore, it is best to avoid all over-the-counter medicines especially in the first eight weeks of pregnancy (ten weeks after your last menstrual period). This period is particularly important because it is during the first eight weeks when your baby’s heart, lung and brain systems are being formed.”

General Nutrition for Pregnancy

If good nutrition is necessary for good health when you’re *not* pregnant, then obviously, it’s just as important (if not more so) when you *are*. Indeed, according to Aviva Jill Romm, author of *The Natural Pregnancy Book: Herbs, Nutrition, and Other Holistic Choices*, “many pregnancy problems, including serious complications, can be prevented with optimal pregnancy

nourishment” (pg. 53). Not only will optimal nutrition ensure a healthy baby, it will also ensure that the mother is healthy during the pregnancy and birth.

Most people remember the “four basic food groups” that they learned in elementary school. However, most people do not know what goes into a healthy diet, including the differences in something as universal as drinking water! You will do each of your pregnant clients a favor by taking time to explain some very general nutrition basics.

The first step toward becoming well-nourished is to make a commitment to do so. Ideally, this commitment would also involve the baby’s father and other family members, who can lend support. Pregnant women will also need to learn how to eat when they are hungry, as opposed to emotional eating (a very common act that accompanies feelings of frustration, anger, depression, boredom, etc.). Similarly, it’s important that mothers-to-be learn to not skip meals if they are upset or stressed. This is especially important for women who dread gaining weight during a pregnancy. As a holistic health practitioner, you should make it of high priority to help pregnant women understand that pregnancy is a time to worry only about what and how much a woman is *eating*, not how much she is gaining.

If possible, a pregnant woman will eat every few hours. This doesn’t necessarily mean feasting all day long, but it does mean having high quality, nutrient rich foods throughout the day. It’s always ideal to get your nutrients from foods rather than from supplements. In order to do this, mothers-to-be may need to be taught how to include a wide variety of healthy, natural foods into their diets. Naturally, the best sources of good nutrition are foods that are as close to their natural state as possible, minimally processed with no additives or preservatives.

Essential Nutrients – How Much is Enough?

As with most aspects of nutrition, there is some debate as to how much of each particular nutrient is optimal for pregnant women. Between the Food and Nutrition Board of the National Academy of Sciences, FitPregnancy.com, and the BabyCenter.com Editorial Staff, the amounts listed in the in the chart are suggested for daily intake.

Nutrient	Recommended Daily Amount
Protein	60 – 100 grams
Calories.....	2300 (approximately)
Vitamin A.....	2565 – 5000 IU
Vitamin D	200 – 400 IU (5 – 10 mcg)
Vitamin C.....	80 – 85 mg
Vitamin E	15 mg
Vitamin B1	1.4 mg
Vitamin B2	1.4 – 1.5 mg
Niacin	15 – 18 mg
Vitamin B6.....	1.9 – 2.6 mg
Folic Acid.....	400 – 800 mcg
Vitamin B12	2.6 – 4 mcg
Calcium	1000 – 1200 mg
Phosphorus	700 – 1200 mg
Magnesium	350 – 450 mg
Iron	27 – 60 mg
Zinc	11 – 20 mg
Iodine.....	175 – 220 mcg
Chromium.....	30 mcg
Copper.....	1 mg
Manganese.....	2 mg

Obviously, keeping track of this can be difficult. Most women don’t count their daily nutrient intake numbers even when they’re not pregnant, so expecting a mother-to-be to do so may be a bit much. Still, each nutrient plays a vital role in helping the developing fetus. And, though it’s not often said this way, remember that babies are incredibly effective, loveable parasites! That is, they’ll take from the mother everything that they need for health, regardless of how it will affect the “host.” If the mother is not getting enough nutrition for both herself and the baby, then she is very likely to suffer signs of deficiency both during and after the pregnancy.

Here's a simplified breakdown of some of the most vital nutrients, as well as how many servings to have in order to meet the guidelines **each day**:

Protein: 4 servings

Aids in the production of new cells by providing the amino acids building blocks of the baby's body. It's also needed for the placenta, contributes to the formation of breast milk, and is essential for healthy blood clotting. Additionally, "the baby's hormones, growth, metabolism, and sexual development are made possible with protein" (Romm, pg. 63). Inadequate intake of protein is associated with toxemia.

Get protein from good, protein-rich sources including meat, eggs, yogurt, cheese, beans, legumes, nuts, seeds and nut butters. Of course, any and all meat and dairy products consumed should be organic, free-range, fresh, etc.

Carbohydrates: 4 – 6 servings

In this age of low-carb diets, there can be a lot of confusion for women who don't know how to reconcile their previous diet with their new responsibilities as mothers-to-be. BabyFit.com answers this nicely: "When it comes down to it, your body needs a little bit of everything, so cutting out one food group means possibly removing great sources of nutrients that you need and your baby needs to grow." You may need to educate your pregnant client about complex vs. simple carbohydrates. (Need a refresher? Visit pages 16 – 17 and 46 – 48 of your *Dietary Guidelines* lesson.)

Carbohydrates are the main source of energy for all of a body's functions, including digestion, assimilation, and muscular activity. Therefore, carbs are needed in the largest quantity of all the nutrients required; good quality carbs should make up the bulk of the diet. "If carbohydrate intake is insufficient, the body will use protein and fat for energy. This leads to a harmful chemical residue in the body known as 'ketones,' which if present consistently or in high amounts can be dangerous for both the mother and the baby" (Romm, pg. 66). This means that you'll want to recommend that pregnant women be very consistent and conscious about their carbohydrate intake.

The best sources for healthy carbs include whole grains, unprocessed, whole wheat pastas, seeds, and a variety of starchy vegetables like potatoes, squashes, and beets.

Fats: 2 servings

Fats are a necessary part of the diet for any person, pregnant or not, and in general, the same rules apply: steer clear of trans fats and saturated fats, aim for monounsaturated fats, and watch your polyunsaturated fat intake. I asked Dr. Shannan Kirchner, if she had any sage advice for pregnant women, as she just recently had her own first child and had done extensive investigative work regarding proper nutrition for pregnancy. Dr. Kirchner pointed out that new research has indicated the incredible benefits associated with an increased intake during pregnancy of omega-3 fatty acids. BabyFit.com supports this suggestion: "researchers are now finding that Omega-3 also helps to develop the eyes and brains of unborn babies" (<http://www.babyfit.com/articles.asp?id=432>).

For Aviva Jill Romm, a good way to supplement the diet with healthy fats is to take “one tablespoon of fat daily in the form of a pure vegetable oil (unrefined, cold-pressed oil), as well as foods rich in this nutrient” (pg. 66). You can get quality fats from nuts, seeds, and vegetable oils. Alternately, she suggests a supplement of both evening primrose oil and a high-quality fish oil, in order to get a balance of both omega-3 and omega-6 fatty acids. (Of course, it’s not necessary to supplement with fish oil if fish is eaten regularly during the weekly diet.)

Calcium Foods: 4 servings

Calcium aids in the baby’s skeletal development. It also helps with the growth of healthy nerves, muscles, and heart tissue. Because calcium and magnesium work together, whenever a pregnant woman supplements with calcium, she should be sure to take a supplement that includes magnesium. (There are many Cal-Mag supplements on the market.) A deficiency of calcium in the pregnant woman’s diet may manifest as muscle cramps, backache, high blood pressure, intense labor, osteoporosis, tooth problems and pre-eclampsia (Weed, pg. 21). It is possible to get enough calcium in the diet, if the woman is very conscious about her food choices.

Calcium can be obtained from dairy products, spinach and other dark leafy greens, legumes, broccoli, enriched-soy and -rice drinks and juices, and herbal sources such as alfalfa, dandelion, kelp, and dulse.

Folate/Folic Acid: 400 – 800 mcg

Folic acid is a synthetic form of folate, which is a B vitamin essential for cell growth. According to Answers.com, “it is an important cofactor in the synthesis of DNA and RNA of dividing cells, particularly during pregnancy and infancy when there is an increase in cell division and growth.” As a supplement, it’s most well-known for its ability to prevent neural tube defects in the baby (such as anencephaly and spina bifida). Romm writes, “Folic acid is needed in much greater amounts during pregnancy, acting as a safeguard against anemia, miscarriage, premature birth, and birth defects” (pg. 69).

Again, it’s optimal to obtain folate from whole foods. Such sources include green leafy vegetables, wheat germ, nutritional yeast, eggs, whole grains, lentils, nuts, and liver. Of course, it is very common – and in most cases, advised – to get folic acid through supplementation. Any good prenatal vitamin will contain it.

Iron Foods: Some daily

Iron is needed to make blood for both the mother and child. It supplies oxygen to cells for energy and growth, and plays a part in the formation of healthy bones and teeth. It is very common to supplement with iron during pregnancy (as above, 27 – 60 mg/day), but according to The Vegetarian Society, “Iron tablets may not be needed unless a blood test demonstrates anemia. Iron levels normally decrease during pregnancy as the blood becomes more dilute” (<http://www.vegsoc.org/info/preg.html#nutr>). Nonetheless, iron is needed more during pregnancy, especially during the later stages.

Good sources of iron can be found in wholegrain cereals, green vegetables, dried fruits, blackstrap molasses, sea vegetables, legumes, eggs, and liver. Herbal sources include nettle,

dandelion, yellow dock, kelp, alfalfa, watercress, and fennel. Iron absorption is increased if taken with a good source of vitamin C, so whether in the diet or by supplementation, it is recommended that a source of vitamin C (dietary or otherwise) be taken simultaneously.

Zinc: 11 – 20 mg

Zinc is essential for the healthy development of fetal cells, helping to form organs, nerves, skeleton and circulatory system. Unfortunately, its intake is often lower in women than recommended (BabyFit.com). Dietary sources of zinc include oysters and other shellfish, herring, nuts, seeds, beef and other meats, whole grains, peas, soy products, and fruits and vegetables.

General Guideline for Daily Intake

Aviva Jill Romm has suggested (pg 62) that the following list be used as a guideline for getting a wide variety of nutritious foods into the diet.

Calories: Eat plentifully of healthy foods to ensure adequate calories daily – pregnancy is not a time to try to minimize calories.

Protein: 4 servings

Vitamin C foods: 2 servings

Calcium foods: 4 servings

Green leafy vegetables and yellow fruits and vegetables: 3 servings

Other veggies and fruits: 1 to 2 servings

Whole grains and other complex carbohydrates: 4 to 6 servings

Iron-rich foods: Some daily

High-fat foods: 2 servings

Salt: Daily in moderation to taste

Fluids: At least 6 to 8 glasses a day

Supplements: Nutritious herbs, highly concentrated food supplements such as spirulina, and, when necessary, a vitamin/mineral supplement.

Of Special Note: Vitamin A, while an important nutrient, is a tricky subject for nutrition during pregnancy. Both deficiency and excess of this vitamin can be harmful, and unfortunately, requirements for it may vary widely from person to person. Therefore, it is very important to eat foods rich in vitamin A, so that supplementation is not necessary. Rich sources of vitamin A include yellow and orange fruits and vegetables, dark green vegetables, dairy products, and eggs.

Coffee, Milk, Sugar & Spicy Foods

A good way to look at foods when pregnant is to ask: Do I want my baby to have this? If not, you shouldn't eat or drink it. Here are a few guidelines where coffee, milk, sugar and spicy foods are concerned:

Coffee: As it contains a high amount of caffeine, it should be avoided. Caffeine passes quickly through the placenta to the baby, and animal studies have shown a connection between caffeine intake and birth defects. A startling look at the connection between caffeine and fetal development is detailed here: <http://www.chem-tox.com/pregnancy/coffee.htm>.

Milk: Most people associate milk with calcium, though it has been proven that cow's milk is actually not an optimal source for that mineral. As a holistic health practitioner, you will probably find that most of your clients are resistant to the idea of switching from cow's milk to soy, rice, or other "milk" drinks. In this case, it is of utmost importance that you recommend they go the extra mile and only purchase dairy products that are from free-range, organic sources and free of BGH and other hormones.

Sugar: A diet low in (or completely devoid of) sugar is always a good idea, and this is doubly so when pregnant. While it may be hard to find support for lowering sugar intake during pregnancy – (I actually found a website that suggested it's actually healthy to load up on it!) – common sense should rule your decision. We know, for example, that sugar depresses the immune system, interferes with hormone production, and alters the quality of blood, among many other negative side-effects. Considering that anything ingested by a pregnant mother will eventually be introduced to the unborn child, why would anyone take the risk? Add to this the complication that can arise of gestational diabetes (when blood glucose levels of pregnant women are too high) and its attendant complications for the baby (e.g., being born very large and with extra fat, low blood glucose right after birth, breathing problems), and common sense will suggest that the lower the sugar intake, the better.

Spicy Foods: Such foods can cause complications for the mother, such as heartburn and acid reflux. This occurs more frequently in pregnant women because hormones released during pregnancy relax muscles in the digestive tract, allowing the stomach acids to rise more easily into the esophagus, especially when lying down. Otherwise, it seems that most sources agree that eating spicy foods is okay. (My suggestion: Go mild. If you are worried about the effect spicy foods could have on the baby, simply reduce the spiciness.)

During Each Trimester

Let's take a closer look at each trimester, including what exactly is happening within the womb, and whether there are any specific dietary/nutritional needs.

1st Trimester

The first trimester of pregnancy lasts for three and a half months or 14 weeks. This is the stage of pregnancy during which many expecting women experience the dreaded "morning sickness" (which, actually, can occur anytime during the day...not just during the morning). This is also

when women start to notice that their breasts are enlarged and sometimes sore. This is a very important stage in the development of the fetus; it is vital that nutrition be at its best.

Of note is FirstBabyMall.com's suggestion that during the first trimester, it may be wise to exercise some caution in the use of herbal (medicinal) teas as the composition and safety of many of them are unknown, in relation to their effect on a developing fetus. At the very least, pregnant women should consult a knowledgeable midwife or herbalist before "self medicating" with herbal remedies.

StrongHealth.com, an online collaboration of doctors, nurses, and health professionals, suggests that during the first trimester, the following guidelines be met:

- 2200 calories/day
- Well balanced, healthy diets with adequate fiber promotes baby's growth and mother's energy and comfort
- Take prenatal vitamins as prescribed
- Avoid the use of alcohol and tobacco
- Small, more frequent meals may help a nauseous woman get good nutrition
- Many women can continue to exercise regularly.
- Daily exercise that suits your level of fitness can help decrease fatigue and stress
- Discuss your exercise habits with your health care provider
- Avoid overheating and maintain good hydration during exercise

TheMothersHeart.com recommends exercise, especially during this first trimester:

Believe it or not, you will be hooked on exercising once you do it and feel the results. Regular exercise done in moderation while you're pregnant will help your posture, your overall appearance, and your general sense of well-being. It will also strengthen the muscles that you need for labor and birth, and lift your spirits.

2nd Trimester

This second stage of pregnancy lasts until the end of the seventh month and is many times the easiest stage of pregnancy as most women will start to regain some of their energy. During the second trimester, the stomach will begin to expand. Feelings of morning sickness should abate, though some women continue to experience it. This is an exciting time, when it becomes possible to feel the baby moving (or kicking and punching, as many mothers have expressed it). And then comes *the* question: Whether to find out if it's a girl or a boy!

The mother-to-be should continue to eat a well-balanced diet and increase it by about 300 calories a day. These extra calories should primarily come from protein derived from organic, whole grains, hormone-free meat and poultry, non-meat alternatives, and/or organic milk. A good way to get these extra calories is simply to add them to the diet as snacks eaten during the day.

Regarding those extra calories and snacks, here is a rather clever suggestion from DecaturGeneral.org:

Snack swap your favorite “empty calorie” snack such as ice cream, cheese doodles or potato chips with a yummy something that will provide you with nutritious value. If you like cheese doodles, for example, try some cheese and crackers instead and gain the value of protein and calcium. Do you enjoy peanut butter cups? Try a slice of whole wheat bread with peanut butter. Better yet, top it off with banana slices. Is ice cream your weakness? Try yogurt with fruit. And a tray of fresh-cut vegetables is always good to keep in the refrigerator for nibbling. These are all good, healthy snacks that can satisfy that empty-calorie craving. Some snacks to keep in your purse or at work are crackers, a piece of fruit, peanuts, raisins or even breadsticks.

StrongHealth.com’s dietary and exercise suggestions for this trimester include:

- 2500 calories/day
- Continue to maintain a well balanced diet with plenty of fiber
- Continue to take prenatal vitamins if prescribed
- Continue to avoid the use of alcohol
- Modify your exercise regimen if needed to protect weight bearing joints, back and abdominal muscles
- Take care with lifting and carrying

During the second trimester, it’s not uncommon for expecting women to experience more problems with their digestive systems and to find themselves more intolerant of certain foods such as milk products. According to the Stamford Health System (an affiliate of Columbia University-College of Physicians and Surgeons), as a woman’s pregnancy progresses and the baby grows, her stomach slows down, sometimes causing gas and indigestion. To help offset this issue, it is suggested that the woman eat more slowly, eat smaller main meals and more snacks, walk after eating, and drink a lot of liquids between meals.

If dairy products in particular become difficult to tolerate, you might suggest dairy alternatives (soy or rice, for example), or dairy products that are easier to digest such as yogurt and cottage cheese. This would be an opportune time to provide a list of alternate sources of calcium (as listed above).

3rd Trimester

In the final three months before delivery, the baby’s weight should more than triple. For the mother, that means feeling fuller faster, which makes it harder to eat as usual. Of course, it is still necessary to eat a well-balanced diet with sufficient calories, however inconvenient that may be. Again, the best way to do this is to eat smaller amounts of food more often. It’s not uncommon for women to snack all day rather than sit for full meals. If this is the case, it is vital that the mother-to-be select a variety of snacks that will supply the nutrients she and the baby both need.

The key is variety – trying to get as many colors and different types of nutrients (carbs, protein, fats, etc.) can be challenging, but possible.

Women entering into the final trimester may notice that they are feeling more sensitive, emotional and anxious. According to StrongHealth.com, these feelings are very natural. Many times, the increased size and weight of the baby can cause increased pain (especially in the back), increasing discomfort and anxiety.

Nutrition and exercise tips for this last trimester include:

- 2500 calories
- You may need to resume small frequent feedings to prevent heartburn
- Continue prenatal vitamins as prescribed
- Continue to avoid the use of alcohol
- Adequate hydration and avoiding overheating are important to protect the baby and you
- Further modify your exercise regimen as needed to protect muscles and joints
- Shortness of breath is common on exertion-You may need to reduce the intensity of your exercise regimen if you are becoming too winded
- Stretch and tone to prepare for childbirth

Herbal Support During Pregnancy

Pregnancy is not the time for a woman to start experimenting with herbal remedies. Herbs and herbal concoctions can exhibit powerful influence in a person's body; a developing fetus can be even more directly (and negatively) affected. As the old adage goes, "Just because it's natural, doesn't mean it's not dangerous." If you are not trained as an Herbalist, you should refer your herb-desiring pregnant client to someone who is. Even Susun Weed's *Wise Woman Herbal: Childbearing Year* suggests that holistically-minded pregnant women shouldn't necessarily run first to the herbal medicine chest:

Wise Women healing proceeds in this order (when life is not threatened): 1) Do nothing; the body heals itself. 2) Use a homeopathic remedy or flower essence; the vibration of a plant is harmless but healing. 3) Use herbs and foods, especially wild greens, to nourish and tone the body or a particular organ; billions of your cells are replaced each minute. 4) Cautiously take cleansing or potentially toxic herbs; side effects are more likely when alkaloid-rich plants are consumed. 5) Use concentrated, refined, or synthesized herbal medicines; these are commonly known as drugs. 6) Intervene with surgery; healing is complicated and likelihood of infection is increased when surgery is used. (page xv)

When choosing herbal products, Weed (pg. xvii) suggests the following guidelines:

- Begin by using gentle nourishing and tonic herbs; avoid plants that may be toxic.
- Use one herb a time.
- Learn about one wild plant at a time from an experienced guide.

- Seek out the miracle medicines on your own doorstep.
- Remember that crude herbs (as opposed to the refined extracts known as drugs) rarely cause fatal allergic reactions or severely disabling side effects.

For all intents and purposes, however, the following herbal remedies are time-tested, tried and true and can be used with confidence during pregnancy. Naturally, if you have concerns or questions, feel free to contact a trained herbalist.

Morning Sickness

Drink a cup of Anise or Fennel seed tea when you wake up to help prevent morning sickness. To help relieve it, sip Peppermint or Spearmint infusion first thing in the morning. Weed's favorite for this ailment is Wild Yam root:

Wild Yam root (Dioscorea villosa) is specific and powerful for nausea of pregnancy. It is slower to work, but more effective and far safer than Bendectin, the allopathic medicine. Take sips of the infusion throughout the day. Or take teaspoonfuls of the decoction several times daily. Or use a dropperful of the tincture in a glass of water or Mint tea once or twice a day. (pg. 25)

Constipation

Laxatives should not be used during pregnancy, herbal or otherwise. Eating less red meat, more whole grains, and getting some exercise may all help prevent constipation. If troubled by constipation, a mother-to-be should take some bran with plenty of water, drink some prune juice and eat prunes to help soften the feces, and/or use (cooked or dried and made into an infusion) fresh greens (such as Amaranth and Violet leaves) to help promote bowel movements.

Backache

It is very common for a pregnant woman's back to ache. The increasing weight of the unborn baby along with stress on the kidneys and difficulty sitting and rising make backache nearly inevitable. Weed states:

There are no medications, not even aspirin, which are safe to take during pregnancy to prevent or relieve backaches. Painful backaches can be forestalled and relieved with exercise, intelligent food selection, and wise use of herbs. Strong abdominal muscles, firm beds, and hard chairs will support the growing fetal weight and take the pressure of the back. Good posture and regular exercise will establish the new center of gravity. Herbs can nourish and strengthen the kidneys. (pg. 37)

She goes on to suggest that calcium and magnesium can help to both prevent and minimize backaches; both can be found in all fresh green vegetables, apples, figs, seeds and nuts. Lemon juice added to pure water (up to six glasses a day) strengthens the kidneys. And Wheat Grass juice also receives high praise for its abundant supply of nutrients, which are needed to properly

nourish the muscles, ease the nerves, and maintain a flexible spine. Other suggestions include heat (such as a warm bath or shower, or a hot water bottle) and herbal liniments and rubs (Tiger balm, Olbas, Zheng Gu Shui, Wintergreen oil, etc.) that can help to relieve tension and pain.

Heartburn

Heartburn often results from relaxed muscles that allow stomach acids to rise. Common commercial remedies should be avoided during pregnancy. Prevention seems to be the key, where this ailment is concerned. Here are some things to try:

- Eat small meals frequently throughout the day.
- Chew slowly and deliberately.
- Don't drink while eating; consume plenty of fluids between meals.
- Keep track of which foods produce heartburn and eliminate them from the diet. (Greasy foods are often suspect.)
- Avoid lying down after eating.
- Drink a cup of Anise or Fennel Seed tea after meals or during meals as a beverage.
- Eat a small amount of pineapple or papaya after meals (as they contain enzymes which help food digest properly).

(pg. 40 – 41)

When heartburn strikes, some simple remedies you can call upon include sipping yogurt, cream or milk (if it's caused by overproduction of stomach acids), slowly chewing on almonds, or Weed's favorite: eating a teaspoon of Slippery Elm (*Ulmus fulva*) mixed with a little honey. This should neutralize stomach acids and help dispel intestinal gas. (Slippery Elm lozenges are certainly a viable option.)

In her book *The Natural Pregnancy Book*, author Aviva Jill Romm gives a list of herbs to avoid during pregnancy. Because it is simply too long to use here I refer you to the book itself. However, here are the herbs that Romm *does* recommend (pgs. 87 – 92):

Alfalfa – high in protein, vitamins A, D, E, B6, and K, calcium, iron, magnesium, phosphorus, trace minerals, and digestive enzymes. Also a great source of chlorophyll and carotenes. Helps prevent anemia and hemorrhage during childbirth.

Burdock Root – mineral rich, great for strengthening the liver and supporting urinary organs. Helps balance blood sugar, stimulates digestion, acts as a gentle, natural laxative, reduces skin complaints, and helps cleanse the blood.

Dandelion Root & Leaves – highly nutritious, digestive tonic, liver strengthener, and supportive of kidneys and bladder. Helps regulate blood sugar and blood pressure. Dandelion tincture can help alleviate nausea.

Ginger Root – a well-known antinauseant, antiemetic herb helpful for morning sickness. Excellent for helping sluggish circulation, chills and diarrhea. (Contraindicated in large amounts (more than one to two grams a day.)

Kelp – rich in a variety of vitamins and minerals.

Lavender – makes a relaxing tea to help promote sleep, reduce anxiety, lift depression, and calm heart palpitations. Can also help relieve gas and indigestion, while simultaneously stimulating the appetite.

Lemon Balm – calms the spirit, reduces tension, promotes digestion.

Motherwort – strengthens the heart, reduces stress and can be useful (under professional guidance) for treating mild hypertension. (Take only after 1st trimester.)

Nettle – supplies highly usable vitamins and minerals, promotes healthy kidneys, strengthens blood vessels, and decreases likelihood of hemorrhage at birth. Nourishes blood, prevents anemia.

Oatstraw – gentle nervine rich in calcium and magnesium. Promotes relaxed nerves and healthy muscle functioning, increases calcium uptake, prevents insomnia and cramps. Can be used as a reliable nervous system tonic.

Partridge Berry – one of the best uterine and nervous system tonics for pregnancy.

Red Raspberry Leaves – rich in vitamins and minerals, helps tone the uterine muscles and prevent hemorrhage.

Rose Hips – high in vitamin C, boosts both the circulatory and immune systems.

St. John's Wort – used most often as an external remedy (oil) for treating aching muscles, sore back, sciatica, etc. Can be used internally (with supervision) for treatment of viral infection, depression, and nerve pain.

Yellow Dock – excellent liver support, prevents and remedies constipation, supports digestion, hormone balance and skin health.

Common Questions During Pregnancy

There are some questions that mothers-to-be (especially new ones) are known to ask. By knowing these questions (and their answers) in advance, you can help a pregnant woman feel confident, calm, and “in the know.”

1. Can I exercise while I'm pregnant? How much exercise is too much?

Not only can a woman exercise while pregnant, but she should be encouraged to do so. According to Aviva Jill Romm:

Exercise is vitally important for health in pregnancy. It increases circulation, which promotes well-being and prevents depression; it helps oxygenate the blood, reducing fatigue; it prevents the buildup of tension in the muscles; it reduces pelvic congestion and thus cramping, low backache, ligament pain, and constipation; and it prevents congestion of blood in the lower extremities, reducing leg cramps and tension as well as varicosities. Exercise promotes tone in the muscles, making the body ready for birth, aids recovery of organ tone and placement after birth, and also prevents prolapse of the pelvic organs. (pg. 93)

Nonetheless, there are certainly things to consider before advising your pregnant client go for a nice long jog! Pregnancy experts agree that a woman should always check with her physician before engaging in an exercise plan while pregnant. Beyond that, here are some things to keep in mind:

- In optimal circumstances, it's safe to engage in 30 minutes or more of moderate exercise on most, if not all, days of the week.
- Steer clear of dangerous sports.
- Skip outdoor activities when it's hot and humid.
- Wear loose-fitting, breathable clothing and supportive shoes.
- Drink lots of water before, during, and after exercising.
- Warm up before starting your workout.
- Avoid lying on your back after the first trimester (Besides being uncomfortable, this position can make a woman, as it puts the uterus square on top of the vena cava, a major vein, diminishing blood flow not only to the uterus but also to the brain.
- Keep moving. Standing motionless for prolonged stretches, which certain yoga and dance positions call for, can decrease blood flow to the uterus and cause blood to pool in the legs, leading to dizziness. Keep moving by switching positions or walking in place.
- Avoid overdoing it. Regardless of personal health before pregnancy, a woman should not "go for the burn" or exercise to exhaustion. She should generally stick to 60 percent of her maximum heart rate (which should not exceed 140 beats per minute) while pregnant. Also, your heart rate should not exceed 140 beats per minute. A good rule of thumb: Slow down if you can't comfortably carry on a conversation.
- Stop if it starts hurting.
- Get up from the floor slowly and carefully. Your center of gravity shifts during pregnancy. That's why you should take great care when you change positions. Getting up quickly can make you dizzy, and cause you to lose your footing and fall.
- Cool down. Walk in place for a few minutes or stretch. It gives your heart rate a chance to gradually return to its normal pace.

(From <http://www.babycenter.com/refcap/pregnancy/pregnancyfitness/622.html>)

The following three categories come from BabyFit.com and are intended to help a woman determine whether or not to exercise and when to stop:

Relative Contraindications to Exercise

Use extra precaution, and discuss with your medical professional how your exercise program should be limited and what to avoid. Only proceed with an exercise program under supervision of your healthcare provider, if you have any of the following: (ACOG Guidelines)

- Heart Problems, High blood pressure/hypertension, or maternal cardio arrhythmia
- Anemia
- Asthma, Chronic bronchitis or lung problems
- Diabetes
- Thyroid Problems
- Seizures
- Extremely over or under weight
- Muscle or joint problems
- History of spontaneous miscarriages
- History of previous premature labors
- Carrying multiples (e.g., twins, triplets)
- A previously sedentary lifestyle
- Smoking (BabyFit recommends immediate cessation of smoking during pregnancy)
- Orthopedic limitations
- Intrauterine growth restriction in current pregnancy

Absolute Contraindications to Exercise

Conditions that indicate a woman should not participate in an exercise program during pregnancy. (ACOG Guidelines)

- Hemodynamically significant heart disease
- Restrictive lung disease
- Incompetent cervix/cerclage
- Multiple gestation at risk of premature labor
- Persistent second or third trimester bleeding
- Placenta previa after 28 weeks of gestation
- Premature labor during current pregnancy
- Ruptured membranes
- Preeclampsia/pregnancy induced hypertension

Warning Signs to Stop Exercise

Stop exercise immediately and contact your healthcare provider if you experience any of the following during or after exercise: (ACOG Guidelines)

- Bleeding
- Dyspnea (labored respiration) prior to exertion
- Premature labor
- Dizziness
- Severe abdominal pain
- Feeling unusually tired
- Headache

- Chest pain
- Muscle weakness
- Calf pain or swelling (need to rule out thrombophlebitis)
- Decreased fetal movement
- Amniotic fluid leakage

2. Is it okay to eat soy products while I'm pregnant?

The ingestion of soy during pregnancy can be somewhat of a hot topic. Some health experts (including the influential Dr. Mercola) suggest that pregnant women should not eat soy or soy products. There is evidence that suggests that an abundance of soy in a pregnant woman's diet can lead to risk of hypospadias (a correctable malformation of the penis) in male children. Additionally, much (if not most) of the soy raised in America is genetically modified and introducing such biological anomalies to a developing fetus may have incalculable risks.

Yet, other sources suggest that soy is a wonderfully nutritious, meatless option, especially where protein is concerned. VegetarianBaby.com states that:

"There is no evidence that I know of to suggest that soy consumption during pregnancy is dangerous or will have an effect on the sexual development of your baby. As long as you are consuming soy as a balanced part of a varied diet, then you should have nothing to worry about. Be sure to include lots of beans, nuts, whole grains, fruits and veggies as well, and you'll meet your dietary needs without needing to worry about over-consumption of soy. According to the Sept. 2000 issue of the Loma Linda University Vegetarian Nutrition and Health Letter, "For nearly all healthy individuals soy appears to be perfectly safe when consumed in reasonable amounts (up to two to three servings per day), as part of an overall healthy diet."

You may want to do more research to come to a conclusion of your own. What I would suggest, in the meantime, is that pregnant women consume only organic soy products and no more than 3 servings a day. Women who are very concerned about potential developmental risks to the fetus can find many alternate means of meeting their nutritional requirements.

3. What about sex? Can I have sex while I'm pregnant?

Probably one of the most frequently asked questions (by both fathers- and mothers-to-be) is whether sexual intercourse needs to be sacrifice during pregnancy. Pregnancy-Info.net suggests

"It is safe to have sex throughout [all stages of the] pregnancy, as long as there are no complications, such as vaginal bleeding. As pregnancy progresses couples may have to experiment with positions which will maximize the woman's comfort, and allow her to control the amount of penetration. If she is experiencing any discomfort the use of a lubricant might be helpful."

It's only natural to worry that sexual intercourse may somehow negatively affect the unborn child. Pregnancy-Info.net helps allay such fears:

“The mucus plug that blocks your cervix protects your baby from any infections that may be introduced when you are having intercourse. The amniotic sac that your baby develops in will also protect him from any bumps that may occur during sexual intercourse. Your baby might move around a bit after you have an orgasm, but this is not because he is in pain or any discomfort. It is merely because your heartbeat rises when you experience orgasm. And don't worry – your baby cannot see what is going on between you and your partner.”

In general, it's good to keep in mind that during pregnancy, a woman's desire for sex can fluctuate widely. Some women lose all interest while others find theirs goes through the roof! But there are some special concerns that pregnant women deal with when it comes to sex. This website: http://www.pregnancy-info.net/sex_during_pregnancy.html is a great one to visit if you or your client need some quick answers to common questions.

There are some circumstances in which sexual intercourse should be avoided during pregnancy. Though this list is available at the site just above, I'll put it here, as well:

When not to have sex during pregnancy

- Your practitioner has advised against it
- You have a history of premature birth or labor
- If *placenta previa* is known to exist. (Where part of the placenta is covering the cervix)
- Your water has broken
- You are currently experiencing bleeding
- You or your partner has an active sexually transmitted disease
- During the first trimester if a woman has a history of miscarriages or threatened miscarriage, or shows signs of a threatened miscarriage.
- During the last 8 to 12 weeks if a woman has a history of premature or threatened premature labor, or is experiencing signs of early labor.
- In the last trimester, if twins are being carried.

4. Why do I have these crazy food cravings? And do I need to worry about them?

Craving different – and sometimes odd – foods is a common phenomenon for pregnant women. Aviva Jill Romm suggests that “cravings are specific clues about our nutritional needs” (pg. 77). She does state that deciphering the craving-code may take some practice. Her example:

A pregnant mother in my practice craved the proverbial pickles and ice cream. She was busy tending to her two older children, both under three years of age, and didn't bother to eat. She then became ravenous for the pickles and ice cream. It struck me that her body perhaps needed more protein and calcium (the ice cream). As for the pickles, vinegary food encourage our bodies to release calcium into the bloodstream. When I suggested she begin to improve her intake of protein and calcium, she reported that she had no more of those cravings. (pg. 78)

She goes one step further and suggests a couple “decoder” tips: Craving sweets is a physical need for more protein; cravings for chips or pretzels can be a sign that you need more salt or even fats.

On the other side of the issue, some health experts are not so sure that cravings = nutritional needs. In particular, there is a condition called *pica* (which is Latin for magpie, a bird that will eat almost anything), which is an abnormal craving or appetite for *non-food* substances, such as dirt, paint, clay, toothpaste, and even cigarette butts! It is suggested that “a combination of biochemical, psychological, and cultural factors may be at work” (<http://www.babycenter.com/expert/pregnancy/prenatalhealth/1186643.html>). Some studies suggest that an iron deficiency may be linked to *pica*, though none of the typically craved items contain significant amounts of iron.

In the case of *pica*, pregnant women shouldn’t be told that they are iron-deficient, nor that they should go ahead and consume what they crave! “In fact, eating non-food substances can interfere with your body's ability to absorb nutrients and may even cause a deficiency. And while eating ice is not likely to be harmful (except possibly to your teeth!), eating dirt and most of the other items mentioned can lead to illness, such as lead poisoning or bowel blockage, or in rare cases, even death” (Ibid.). Your best bet, for a client who exhibits symptoms of *pica* is to have her talk openly with a physician or midwife. (This kind of craving *does* occur in healthy pregnant women.)

But what about cravings for food? Contrary to Romm’s suggestion, Elizabeth Somer, author of *Nutrition for a Healthy Pregnancy* suggests “People think their cravings are significant, but studies show no link between cravings and nutritional requirements. If people craved what the body needs, we would all eat more broccoli and less chocolate” (<http://www.babycenter.com/refcap/pregnancy/pregnancynutrition/1313971.html>). There may be something to her assertion.

Whichever school of thought you follow, there’s an easy solution to the question. If it’s healthy, (e.g., craving watermelon, peanut butter, juice, citrus) just work it into the diet. If it’s not healthy (e.g., *pica*, or unhealthy amounts of chocolate, sweets, cookies, etc.), you might suggest either an alternative or that the mother-to-be eat small amounts with regular meals. For example, having a square or two of organic dark chocolate after lunch.

In general, health practitioners agree pregnancy cravings should certainly be noticed and watched. When possible, suggest alternatives to good nutrition no-no’s. Here are a few examples, taken (and modified) from BabyCenter.com:

Ice Cream	→	Fresh fruit sorbet
Cola	→	Mineral water with 100% fruit juice or a squeeze of lemon and lime
Donut/Pastry	→	Whole grain bagel with organic jam/preserves
Slice of Cake	→	Banana or Zucchini bread
Sugared Cereal	→	Whole grain cereal or oatmeal topped with molasses

- Potato Chips → Whole wheat pretzels or homemade vegetable chips
- Sundae Toppings → Fresh berries, sliced bananas, chopped nuts
- Canned Fruit in Syrup → Fresh fruit in organic yogurt or in fruit juice
- Chocolate → Homemade trail mix with a handful of organic dark chocolate chips

Other ways to curb unhealthy cravings include eating breakfast every day (skipping breakfast can make cravings worse), getting plenty of exercise, and receiving a lot of emotional support. This last can be particularly important, as emotional eating can really kick in during pregnancy.

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