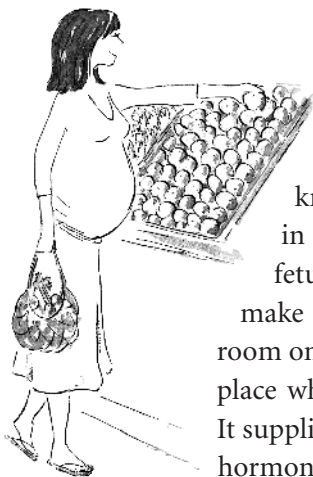


1

THE Womb





The first room your baby lives in is the pear-shaped organ called the uterus, which we know as the nurturing womb—that safe enclosure in the mother’s body that separates the developing fetus from the outer world. In many ways, if you make the right choices, the womb can be the greenest room on the planet. The womb is a warm and comforting place where we have all been rocked, fed, and snuggled. It supplies with natural efficiency the food, water, oxygen, hormones, vitamins and minerals, and complex brew of neurological developmental messages needed by every baby to flourish in safety and good health.

The Greenest Room on the Planet

THE WOMB IS AN incredible piece of living engineering that provides an ideal environment for the amazing transformation that occurs during the forty weeks of gestation—a time when a baby’s brain is developing faster than at any time later in life, at one point making one hundred thousand new neural connections an hour.

While growing and developing in this protected biosphere, your baby is intimately connected to the outside environment, including all the nutrients entering the womb, and the smells and sounds of the outer world, which have a lasting impact on her neurological, physical, mental, and anatomical development. These external influences provide you a once-in-a-lifetime opportunity to give your baby a strong and healthy foundation on which to grow. In fact, at no other time in your child’s life will you have this degree of control over the way her environment influences her development.

The most direct way you can affect the health of your baby before he is even born is by making smart decisions about what you eat, drink, and



absorb (through your lungs and skin), as well as what you introduce into the womb in the way of smells and sounds.

The swift passage of nutrients, protective proteins, and molecular messages through the umbilical cord from mother to baby offers the ideal opportunity to enrich your unborn baby's room in the womb and to contribute to the health of the planet your baby will inherit. You can do this each day through your own careful intake of organic foods and healthful beverages. Bring on the green!

The Umbilical Cord Connection

The umbilical cord is the living link through which a mother feeds her baby and removes its waste. The cord also becomes the conduit of an ongoing exchange, a silent conversation, in which hormones from the mother and the baby signal changes in each other's bodies.

The umbilical cord consists of three blood vessels—two umbilical arteries and one umbilical vein—embedded in slippery connective tissue called Wharton's jelly. The arteries spiral around the vein, giving the cord the toughness of a cable. At one end of the cord is the baby; at the other is the placenta.

The baby's heart pumps depleted blood out of its body through the umbilical arteries to the placenta, where the arteries divide into a network of tiny capillaries. The mother's blood in the placenta forms a free-flowing, living five-ounce lake about the size of a glass of red wine. This blood is refreshed completely three or four times each minute to supply the baby's needs. The replenished blood returns through the umbilical cord like a steady, unhindered river bringing the stuff of life to the fetus.

By the fourth month of pregnancy, seventy-five quarts of blood flow through this river every day, delivering oxygen-rich vital nutrients and removing waste. A typical blood cell will make a complete round trip every thirty seconds. By the time the baby is born, up to three hundred quarts of blood a day will flow through the umbilical cord.¹

Three hundred quarts!

And you, the expectant mom, don't have to do anything out of the ordinary to make that happen as you prepare for the arrival of your little one. The human reproductive system is truly a remarkable thing.

However, this constant flow of blood that stimulates the baby to grow and develop also offers access to elements of our world that can harm a

Green Parent Report



Why Go Green During Pregnancy?

AS A PEDIATRICIAN, I knew that the link between environmental dangers and the many cases of chronic illness in my patients was important, but the magnitude of the situation really hit home when I saw the preliminary results of an umbilical cord blood study conducted by the Environmental Working Group (EWG), in which I was fortunate to participate.

In this study, we examined the umbilical cord blood of ten babies born in August and September of 2004 in U.S. hospitals. We found a total of 287 different industrial chemicals circulating through the body of the newborns. These babies each carried an average of 200 chemicals, which included mercury, fire retardants, and pesticides. The report states, “Of the 287 chemicals we detected in umbilical-cord blood, we know that 180 cause cancer in humans or animals, 217 are toxic to the brain and nervous system, and 208 cause birth defects or abnormal development in animal tests.”² (See “The Womb” in the Green Information in the back of the book for a table of the chemicals.)

This small preliminary study suggests something very important: We are the environment; there is no separation. If a chemical is “out there” it may also be “in here,” in the most protected inner sanctum of our bodies. And the presence of these chemicals in umbilical cord blood demands more research into what this means for babies. In the meantime, this report gives us further motivation to go green before your precious child is even born.

baby in the womb. Just as the umbilical cord can deliver high-quality nourishment and the fortifying hydration of healthy liquids, it also can transport unhealthy air, food, water, and fumes if those elements are coursing through the mother’s body or in her environment.

That’s why the decisions you make during your pregnancy about what to eat, drink, inhale, and put on your skin or hair can help ensure that this primal lake bathes your baby with enriching, beneficial nutrients.

How Do I Get Started?

The answer to this question demonstrates what's so wonderful about your decision to go green. Every small change, every step you take to follow even one of the suggestions in this chapter, can make a significant contribution to the health and well-being of your unborn child and our planet. Throughout this book you'll see many boxes that show the actual impact of specific small changes you can make easily and every day to preserve the health and safety of your baby, as well as sustain the earth for future generations.

Read through all the possible ways you can go green during your pregnancy and make whatever changes you're comfortable with, knowing that however big or small these changes may be, your child is indeed fortunate to have a parent like you who is going green right from the start.

In this chapter, you will learn what you need to know to make smart, green choices that will keep your body as healthy and nurturing as possible during your pregnancy. The following are the five main areas to think about:

1. Food
2. Drink
3. Exercise
4. Personal care products
5. Aromas



Eating for Two

I FREQUENTLY SEE moms-to-be quickly adjust their diets after getting the good news of the pregnancy. Without always knowing exactly how or why, most expectant moms instinctively understand that “eating for two” means they have an opportunity to be the direct source of healthy foods that supply all the nutrients, vitamins, and minerals a tiny fetus needs to thrive.

A case in point is the vital role that choline, a little-known nutrient, plays in protecting your baby's neural tube development in the earliest weeks of pregnancy, when the most rapid cell division occurs. Like the better known folate, it can reduce the risk of devastating brain and spinal

chord defects. The March of Dimes recommends choline, along with protein, calcium, and folate for healthy pregnancies.

Choline remains important throughout your pregnancy as a critical building block of cells in your baby's rapidly growing brain. Getting plenty of choline appears to have a lasting effect on children's memory. Most women do not get an adequate supply from their prenatal vitamins. You can find lots of choline in eggs, cauliflower, asparagus, and spinach, as well as other vegetables, meats, fish, nuts, grains, herbs, and spices.

Choline is just one of the many vital nutrients you'll be supplying your baby through the foods you eat. And like choline, each has a significant role to play in your baby's healthy development. The best way to make sure you're providing everything he needs is to enjoy a varied diet of your favorite fruits and vegetables, whole grains, legumes, healthy fats, and lean sources of protein and calcium—plus a vitamin supplement as a safety net.

Next we'll take a look at how your healthy food habits may influence your baby's own food tastes after birth.

“More broccoli please, Mom!”

Our taste preferences are formed by a complex mix of genetics and how we are raised. The great news is that we can start even before our babies are born to help them to learn to love great foods. The latest science is uncovering fascinating connections between what moms eat while pregnant



and what foods their babies enjoy after birth. Remarkable, but true. Babies have more taste buds before they are born than at any time later in life. Amniotic fluid is a flavored soup of what Mom has been eating, and babies in the womb taste, remember, and form preferences for some of these foods. I call this period “Taste Beginnings.”

Consider a fascinating study involving carrot juice. As part of the study, one group of pregnant women drank ten ounces of carrot juice four times a week for three consecutive weeks. Another group of women in the study drank water. When their babies were old enough to start eating

Green Parent Alert

Preventing Allergies Even Before Birth



CHILDHOOD ASTHMA AND A number of food allergies are frequently diagnosed during early childhood. Often the key events that determine these allergies, it is thought, occur even earlier—in the womb. During this marvelous nine-month period, you might increase your child’s chances of being allergy free by *increasing* your intake of foods

- ❖ Rich in omega-3 fatty acids, found, for example, in wild salmon or flaxseed
- ❖ Containing antioxidants—fruits, vegetables, and whole grains
- ❖ Containing cultures of beneficial bacteria (probiotics), as found in some yogurts

And by *decreasing* your exposure to

- ❖ Tobacco smoke
- ❖ Peanuts
- ❖ Acetaminophen

You might also reduce your child’s allergy risk by making a visit to a farmyard! Studies have found that the children of women who were exposed prenatally to the microbial compounds in a farming environment were protected against the development of immune system changes that led to sensitization and asthma.³

cereal, it was time to look for a difference between the groups. An observer who didn't know to which group each baby belonged studied the babies as they ate cereal mixed with carrot juice. The babies who had missed this earlier experience protested and made unhappy faces when they first tasted the juice, whereas the others readily accepted and enjoyed the carrot juice in the cereal.⁴ There was a dramatic difference between those who had sampled carrot juice in the amniotic fluid and those who had not.

The latest evidence from a 2006 study of identical and fraternal twins supports these findings and suggests that preferences for fruits, vegetables, and desserts are learned behaviors.⁵ So as amazing as it seems, if you make it a priority to eat a diet that is loaded with whole grains, fruits, and vegetables, and short on sugary, fatty, and processed foods, you might actually influence your child's long-term taste preferences. What an opportunity to start training your child's taste buds to eat healthy nutritional food!

When a Peach Isn't Just a Peach

In our modern, industrialized world, achieving good nutrition can be a bit tricky. It's true that fruits and vegetables and lean, high-protein meats are preferable to doughnuts and greasy fast-food hamburgers, but the pollution of our food chain by environmental toxins has turned the simple decision to eat a peach into a reason for pause.

A peach is no longer just a peach.

A peach can be a delicious source of vitamins, minerals, and other nutrients that give our bodies good health, or it can be a tasteless repository of forty-two different types of toxic pesticides that are bad for our bodies and especially bad for a baby in the womb.⁶

Fortunately, by making informed choices and avoiding those foods known to contain high levels of such contaminants, you can easily reduce the harmful chemicals that can pass from mother to unborn child. Choosing foods grown locally, and in their natural growing season can greatly reduce pesticide levels. Choosing organically grown foods can virtually eliminate significant pesticide exposure.

Can You Be Vegetarian or Vegan?

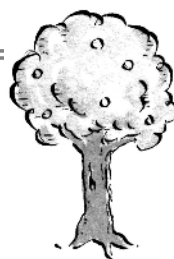
Being a vegetarian or a vegan can be an option for a pregnant woman, if you make informed choices. Here are four things to keep in mind:



1. Being sure to get plenty of **Vitamin B₁₂**, typically found in animal foods (meat, dairy products, and eggs), is especially important for pregnant and nursing women (and for babies and children). Good sources of B₁₂ for vegetarians are dairy products and eggs. Vegans should be sure their diet includes foods that are fortified with B₁₂, like fortified breakfast cereals, fortified yeast extract, and fortified soy milk. Red Star Nutritional Yeast, Vegetarian Support Formula, for example, is one reliable vegan source of B₁₂. It tastes great as a seasoning sprinkled on soups, salads, and even popcorn. And don't forget, a prenatal vitamin is an important safety net for all women.
2. **Calcium** is also very important during pregnancy and nursing (and for moms, in the months just after nursing, to replenish the calcium in their own bones). If you're a vegetarian or vegan, add rich sources of calcium in your diet, such as tofu, tempeh, sesame seeds, greens

Going Green

Find a Farmer's Market Near You



SHOPPING AT A FARMER'S market is a great way to find fresh and often organic locally grown fruits and vegetables. You can also often find unusual and heirloom varieties that aren't sold in supermarkets. At many markets you can buy artisan baked goods, cheeses, and even meats and fish. What's more, you'll have a chance to meet the farmers face-to-face.

The U.S. Department of Agriculture (USDA) estimates that there are 4,385 farmer's markets now operating throughout the country, and this number is growing every year. More than 19,000 individual farmers are now selling their goods only through these markets, and a great majority are able to completely support their small farms through their sales.

Check the USDA's clickable map online to find a farmer's market near you:

www.ams.usda.gov/farmersmarkets/map.htm

(collard greens, turnip greens), and figs. (Check the label on your tofu. Tofu processed with calcium sulfate tends to have much higher levels of calcium than tofu processed with nigari.) You'll also get some calcium from kale, soybeans, bok choy, mustard greens, tahini, broccoli, almonds, and spinach. And you can find many calcium-fortified foods (soy milk, orange juice—even whole grain waffles), and of course, calcium supplements. *The lower animal protein intake of vegetarians does seem to reduce the body's calcium losses, but there is not enough evidence to say that vegans need less calcium when pregnant or nursing.* I recommend getting 1,000 milligrams every day (1,300 milligrams if you are under age nineteen).

3. **Variety** in your diet is especially important. I suggest that you eat a wide variety of fruits, vegetables, and whole grains to take advantage of all the unique phytonutrients in different foods. Phytonutrients are the thousands of different naturally occurring compounds in plants that have a positive effect on human health. While providing color, flavor, and disease-resistance in plants, they also benefit the humans who eat them. And don't rely too much on soy as your only major protein source. Soy contains natural phytoestrogens (plant estrogens). Although getting some can be very healthful, getting too much may not be. Use seeds, grains, and other legumes for balance.
4. Make a point of eating **organic foods**. Because vegetarians tend to eat larger amounts of fresh produce, choosing organic is even more important to reduce pesticide exposure.

What Exactly Is “Organic”?

The word *organic* extends a promise of a food that is natural, pure, and brimming with healthy nutrients. And the benefits extend well beyond the quality and taste of the food on our table. Conventional chemical agriculture depletes our dwindling oil reserves to an astonishing degree, while boosting greenhouse gases. The amount of oil used in agriculture, including that used to make chemical pesticides and chemical fertilizers, is about the same as the amount used in all of the automobiles in the country.⁷ Organic farming is a method that honors our health and the health of the planet.



The criteria required in order to wear the organic label have been established and standardized by the United States Department of Agriculture (USDA).

Organic fruits and vegetables are grown in fertile soil teeming with life. Organic farmers follow earth-friendly cultivation practices, adopting techniques that utilize, as far as possible, renewable resources. This produce is grown and processed without any toxic pesticides, insecticides, herbicides, fungicides, chemical fertilizers, or genetically modified seeds (GMOs).



About 99.5 percent of U.S. farmland—almost 800 million acres—is still stuck in the heavily chemical agricultural system of the post–World War II twentieth century.⁸ This system pollutes our air, water, soil, wildlife, and ourselves with chemical pesticides, while depleting our oil reserves at an alarming rate. Organic meats, eggs, and dairy come from animals that are kept according to strict standards, fed only organic foods, and raised without antibiotics, growth hormones, or cloning.

Organically raised animals are treated in a way that protects their natural development and behavior. For example, as recently as World War II, most American eggs came from local backyards and barnyard flocks. Today, more than 98 percent of the 345 million laying hens in the United States live out their lives in stacked rows of tiny wire cages. Their beaks are often trimmed to prevent them from harming themselves or others when jammed so closely together. In 2005, the United Egg Producers, in response to public concerns, recommended a gradual increase in cage space for each adult Leghorn, the most common breed, to 0.47 square feet. By

Green Parent Report



Choosing Organic

CHOOSING TO GO ORGANIC is a wonderful way to safeguard the health of your baby. In 2002, the USDA's National Organic Program created guidelines to help you find the purest foods possible.⁹

- ❖ A product labeled “100% organic” must contain only organic ingredients. You are most likely to find this designation on single-ingredient foods, such as fruits, vegetables, meat, eggs, cheese, and cartons of milk.
- ❖ The round green USDA seal indicates that at least 95 percent of the ingredients (by weight) are organic, and other ingredients, if any, are acceptable choices.
- ❖ Food packaging that says “Made with organic ingredients” must contain at least 70 percent organic ingredients (by weight). These products will not wear the USDA Organic seal, but they may list up to three organic ingredients on the front of the package.
- ❖ If a product has fewer than 70 percent organic ingredients, it cannot be called organic, but the organic ingredients can be listed as such on the nutrition facts panel.

comparison, an 8.5 x 11 sheet of notebook paper is 0.65 square feet—30 percent bigger than the new “humane” goal.¹⁰

Organic laying hens, however, are given room to walk around and lie down. Their beaks may not be trimmed. As another example, dairy cows get at least four hours of exercise a day, and during the growing season grazing animals must have access to pastures that are not treated with toxic herbicides or other chemicals. Such animals are fed organic feed that does not come from genetically modified seed. In short, the animals are raised in a healthier and more humane manner.



Sadly, conventionally farmed animals, which account for about 99 percent of all the meat and poultry in America, are not so carefully raised and slaughtered. They are often fattened up with hormones and routinely administered doses of antibiotics. The increased use of antibiotics results in the breeding of increasingly resistant bacteria. It's surprising to learn

Green Parent Report

What About Genetically Modified Food?



WHEN MY TWELVE-YEAR-OLD son was born, genetically modified organisms (GMOs) were not a part of the American diet. Today, about 30 percent of our cropland is growing GMOs. That's a fast change! Although 60 percent of Americans believe they have never eaten GM food, most Americans eat them every day, especially genetically modified corn, soy, canola, and/or cottonseed.¹¹ I'm concerned that these may be one of the reasons that food allergies have increased during this time. It will be years before some of the questions about the long-term safety of these new organisms are answered.

Until more is known about GMOs, do your best to eat fewer genetically modified foods during pregnancy and while nursing. This can be challenging, because in the United States GM foods are not labeled as such. Most soy, cotton, corn, canola, and papaya in the United States has been genetically modified, but you usually have no means of distinguishing modified from unmodified. Conventional meat, dairy, and eggs likely come from animals that have been treated with or fed GM products, but again, you may not know. But here's a helpful rule of thumb: you can reduce your intake of genetically modified food by eating fewer foods that contain corn syrup, high fructose corn syrup, vegetable oil (soy, corn, cottonseed, or canola), margarine, soy flour, soy protein, soy lecithin, textured vegetable protein, cornmeal, dextrose, maltodextrin, fructose, citric acid, or lactic acid. Or you could just stick to organic foods, which by law cannot be grown from genetically modified seed or fed GM foods.

that most of the antibiotic use in the United States occurs not in medical settings but rather on our feed lots as a growth promoter for livestock. European countries that have stopped this practice have seen a decrease in bacterial resistance.

Conventional cattle are often raised on “junk food,” such as corn and other grains. (Cow’s stomachs are designed to eat grasses and the like, so for them, corn is a fattening junk food.) These animals are fed grain that may be genetically modified and riddled with toxic pesticides. Corn and other grains make their stomachs more acidic, therefore more hospitable to dangerous *E. coli* bacteria.

The *E. coli* outbreaks of the last decade are a recent phenomenon. They often can be traced back to cattle raised on an unnatural diet in crowded, unhealthy conditions. From these cattle operations and dairies, the bacteria have spread to other crops.¹²

Eat Strategically to Save the Planet

More than four million acres of American farmland have already been dedicated to organic farming, helping our health and our future. That’s four million acres farmed without the use of toxic pesticides or other toxic chemicals; four million acres nurtured with both ancient and modern techniques that are in balance with nature, helping to reduce the production of greenhouse gasses and reduce the threat of global warming.

Growing our foods organically has proven to be one of the hottest, fastest-growing movements of the twenty-first century. When Congress passed the Organic Foods Production Act in 1990, there were fewer than one million acres of organic farmland. In just twelve years, by 2002, that figure had doubled. Then the pace of progress picked up. Within just three more years, the amount of organic farmland doubled again. In 2005, we saw, for the first time, certified organic farmland in all fifty states. There has been exceptional progress, but we need to do more.

If organic cropland continues to double—and *it can!*—we can expect to see a revitalization and renewal of our streams and our soil as we build a smart, sustainable future. I can remember drinking stream water in our national parks when I was a child. I can remember catching and eating fish from our local streams. Today, all of the streams surveyed by the U.S. Geological Survey and more than 90 percent of fish tested in farming regions are polluted with pesticides.¹³



By eating strategically we can reclaim our streams, our food, and our future. Here's my take on the top five organic food choices a pregnant woman can make for the sake of her baby and the health of the planet:

- **Beef.** If you eat beef during pregnancy, I strongly suggest choosing organic beef. The meat from grass-fed, organically raised cattle tends to be leaner overall and has about five times the omega-3s of its conventional counterpart. In contrast, a 2007 study published in the Oxford journal *Human Reproduction* linked mothers who ate beef from conventionally raised cattle during pregnancy with lower sperm counts years later in their adult sons. The men in the study whose mothers ate conventional beef most frequently had sperm counts that averaged 24 percent lower than their counterparts, and they were three times more likely to be infertile. The authors of the study believe the added hormones were the culprit.¹⁴
- **Milk.** If you drink milk, opt for organic. Milk from organic, pasture-fed cows is produced without antibiotics, artificial hormones, and pesticides, and can also provide extra omega-3s and beta-carotene. I find that when women start making organic choices for themselves and for their families, they often intuitively start at the top of the food chain with organic milk. They understand that the foods they eat and the medicines they take will often get into their breast milk, so they easily make the connection that the medicines and foods given to dairy cows may affect their family's health. They prefer avoiding the routine use of antibiotics, artificial hormones, pesticides, and genetically modified feed. And I agree. Recent USDA monitoring data found that 27 percent of the conventional milk samples contained synthetic pyrethroid pesticides. By contrast, lower levels of the pesticide showed up in just 5 percent of the organic samples. There will be much more about milk in Chapter Four: "The Kitchen."
- **Potatoes.** When making the switch to organic vegetables, be sure to put potatoes on your shopping list. As the number one consumed vegetable in the United States, conventionally farmed white potatoes also have one of the highest levels of pesticide contamination. So by switching to organic, you can make a big difference in two important ways: by lowering your own exposure to chemical pesticides and by using your consumer clout to create a bigger market for the organic version of this

Green Baby Story



It's Never Too Late

WHEN I WAS A child growing up on a chicken farm in New Jersey in the 1930s, we never talked about “organic” or “natural” but we did feed our hens without adding anything artificial and let them run all over the range all day. We grew all of our own vegetables and some fruits, never using any chemicals but just natural fertilizer we got from the chickens. Sometimes we’d raise a pig to eat, and we’d buy parts of a healthy cow from a neighbor. I don’t think I was ever in a food or supermarket during my childhood and teens, not until I got married.

Having a family of my own changed everything. I was a young mother with four children living in the suburbs and like all my neighbors, I bought modern processed foods—even TV dinners—from the supermarket. My husband and I wanted our kids to thrive, of course, but at that point we thought we were feeding them well and they seemed healthy enough.

But now everything’s changed back. Our grandchildren are starting to have their own kids now. They’re very con-

cerned and advanced about feeding them properly, avoiding anything processed or fed with chemicals, hormones, or other unhealthy things. They’ve gone “green” they say, and they’ve taught me a lot, believe me, about how eating local organic foods—which was exactly what my parents were doing when I was a kid—cuts down on transportation costs and pollution to the environment. I’ve learned what *sustainability* means and how it can help us preserve our resources so these great-grandkids can inherit a world that can still support a broad variety of natural life.

So it’s been full circle for me and my husband. We’re back to where we started in eating natural, local, organic food, even though we spent our own child-rearing years being pretty unconscious about what was really good for us and the earth. But we’re in our seventies now, so . . . thanks, all you green young people . . . it’s never too late.

Evelyn Rossman
Montclair, New Jersey





popular veggie. And be sure to eat the peels! That way you'll get all the available nutrients, including high levels of potassium and Vitamin C.

- **Apples.** Among fruits, I would start with apples. Based on head-to-head, controlled studies, organic apples tend to have higher nutrient levels and taste better than the conventional variety.¹⁵ And sadly, conventionally grown apples are one of the most pesticide-contaminated fruits tested by the USDA. They are a major source of exposure to organophosphate pesticide, a chemical linked to decreased intelligence and increased attention problems in kids¹⁶ and hormone problems in adults.¹⁷
- **Soy.** Products made from organic whole soy beans can be very nutritious. Unfortunately only a tiny fraction of the nation's soy crop is presently organic. And to make matters worse, 87 percent of the conventionally grown soy in the United States is genetically modified—

Green Parent Alert

Small Amounts Can Be Harmful When Exposures Accumulate



THE GOVERNMENT ASSURES US that when evaluated separately, chemical fertilizers, herbicides, fungicides, insecticides, artificial additives, and preservatives each should be negligible threats. But what about the cumulative amount of additives one consumes on a daily diet of conventionally produced and processed foods?

The Environmental Protection Agency (EPA) acknowledges that there has been no way for researchers to measure cumulative effects. But data collected by Ana M. Soto and Carlos M. Sonnenschein of Tufts New England Medical Center show that *small amounts may be harmful when exposures are combined*.¹⁸ So don't assume that apparently negligible amounts aren't adding up. Instead, avoid this potential danger and eat simple, delicious, whole foods, responsibly grown.

more than any other domestic crop. What's more, in recent years, soy has been the domestic crop most contaminated with organophosphate pesticides. Yet it's hard to avoid soy—it's found in virtually any processed food you eat these days, from soup (Campbell's) to nuts (Jiffy peanut butter). The only way out of this situation is to make sure that the processed foods you purchase are organic. That way you'll know that any soy you're eating wasn't genetically altered, and wasn't grown with any pesticides. So be sure to check the label before you buy.

How to Stay Safe from Some Basic Bacteria Risks

There are certain microscopic bacteria that can pose special health risks to pregnant women and to their babies. Although most people can safely eat food containing a type of bacteria called *Listeria*, pregnant women are ten times more likely to get sick if they eat those same foods. And if they do get sick, the infection can be devastating for the baby. The tricky thing about *Listeria* is that, unlike many bacteria, they can thrive at refrigerator temperatures. To be sure, while you're pregnant, avoid the following:

- Soft cheeses such as Brie, Camembert, feta, and Mexican queso fresco, or any cheeses with blue veins. Most hard cheeses are fine, as are pasteurized cream cheese, cottage cheese, cheese spreads, sliced cheese, and yogurt.
- Foods from deli counters (prepared salads, meats, and cheeses), unless they are heated to steaming right before you eat them.
- Hot dogs, packaged cold cuts, meat spreads, pate, smoked seafood, and leftovers, unless they are heated to steaming right before you eat them. Canned or shelf-stable products are generally fine.
- Raw or unpasteurized milk during pregnancy, including goat's milk, and foods that contain unpasteurized milk.

Raw and partially cooked eggs, meat, and poultry can harbor other unwanted visitors. In addition to *Listeria*, you want to be careful about *E. coli*, salmonella, and *Toxoplasma* by doing the following:

- If you eat ground beef, cook it until no pink is visible, and be sure pork and lamb are well done. If you celebrate with a turkey, or enjoy other poultry, cook thoroughly to 180° F (with a thermometer).



Try This Today



Start Buying Organic

LET'S ALL PULL TOGETHER to build the market for organic foods! If we each demand more organically grown foods on our store shelves, farmers and food companies will work together to supply them. And if organic food consumption rises from its current level of 3 percent to 10 percent of total food sales by the year 2010, the environmental impact will be enormous. We will have done the following:

- ❖ Eliminated pesticides from about *98 million servings* of drinking water per day across the U.S. population.
- ❖ Ensured that *20 million servings* of milk per day are produced without antibiotics and genetically modified growth hormones.
- ❖ Ensured that *53 million servings* of fruits and vegetables each day are free of pesticide residues. (This is enough to give 10 million kids five servings of fruit and vegetables each day.)
- ❖ Ensured that *915 million animals* are treated more humanely.
- ❖ Eliminated use of growth hormones, genetically engineered drugs and feeds, and *2.5 million pounds* of antibiotics used on livestock annually (more than twice the amount of antibiotics used to treat human infections).
- ❖ Captured an additional *6.5 billion pounds* of carbon in soil (the amount emitted per year by 2 million cars driven 12,000 miles).
- ❖ Eliminated *2.9 billion barrels* of imported oil annually (equal to 406,000 Olympic eight-lane competition pools).
- ❖ Restored *25,800 square miles* of degraded soils to rich, highly productive cropland (an amount of land equal to the size of West Virginia).

Source: Mission Organic (www.MO2010.org).

- Cook eggs until both the whites and the yolks are firm. Soft scrambled eggs aren't a pregnancy treat.
- Remember hidden sources of raw or partially cooked eggs, such as cookie dough, unpasteurized eggnog, and Hollandaise sauce.
- You've heard not to change kitty litter during pregnancy to avoid *Toxoplasma*. This is good advice, but you can also pick up *Toxoplasma* from unpasteurized milk and undercooked meats. So be sure your milk is pasteurized and your meats cooked to at least 150° F.
- Even if cooked food is safe, you may get these microbes on your hands or utensils while cooking. Wash before and after handling raw foods. And always wash cutting boards, kitchen surfaces, and utensils after use.



Cut Back on Processed Foods

Back in the 1950s, the TV dinner and packaged convenience foods became the harried housewife's best friend. The ease of use and low cost quickly made processed foods an American staple. Today, the average American consumes 150 pounds of processed food additives each year. This is not an astounding statistic, considering that during the twentieth century more than three thousand different additives found their way into our food.¹⁹



Many processed meats, such as most hot dogs and packaged bologna, salami, and many *other sandwich meats*, are *preserved with food additives called nitrates and nitrites* (on food labels the additive may be listed as sodium nitrate or sodium nitrite).

The link between these nitrates and cancer has been studied for years, but the effects on the growing fetus are still largely unknown. As I've said before about genetically modified foods, until we know more, it's better to be on the safe side. Because nitrates are present in large amounts and are water-soluble, they get into the bloodstream very easily and pass directly to your unborn child. Instead, choose a healthier alternative such as a hot organic chicken breast or a sandwich made with canned salmon.

The packaging of processed foods can also be a health issue. A 2007 study by the Environmental Working Group found a highly toxic chemical called *bisphenol A* (BPA) in the linings of more than half the cans of food tested. In this study, the highest levels of BPA were found in canned pastas and soups. That's another reason I strongly recommend eating more fresh foods and fewer canned foods during pregnancy. We'll talk more about BPA later in this chapter in our discussion of water bottles.²⁰

Evidence That Green Parenting Really Works

Can simple changes make a positive difference? Absolutely. The power of a simple dietary change was shown in a study recently published in the National Institutes of Health (NIH) journal *Environmental Health Perspectives*.²¹ The researchers conducted this study using typical suburban children. They collected morning and evening urine samples daily from each child. Pesticide breakdown products appeared routinely in the urine samples.

Then the researchers made a simple change: the kids began eating organic versions of whatever they were eating before. For example, if they typically ate an apple for lunch, now they ate an organic apple. The kids didn't have to learn to like any new foods—they made the switch only if there was a simple organic substitution available nearby for what the kids were already eating.

Within twenty-four hours, the concentration of pesticide breakdown products in the urine plummeted! The children continued eating this way for five days, with clean urine samples morning and night.

Buying Green

Produce Report Card



Do YOU WANT to reduce pesticides on your plate? It can help to know which conventionally grown fruits and vegetables tend to have the highest and lowest levels of pesticides. This table is based on the results of nearly forty-three thousand tests for pesticides on produce collected by the USDA and the FDA between 2000 and 2004. Items are ranked from worst (highest pesticide load) to best (lowest pesticide load).

Source: Environmental Working Group at www.foodnews.org.

<i>Rank</i>	<i>Fruit or Vegetable</i>	<i>Score</i>	<i>Rank</i>	<i>Fruit or Vegetable</i>	<i>Score</i>
1	Peaches	100	23	Mushrooms	37
2	Apples	89	24	Cantaloupe	34
3	Sweet bell peppers	86	25	Honeydew melon	31
4	Celery	85	26	Tomatoes	30
5	Nectarines	84	27	Sweet potatoes	30
6	Strawberries	82	28	Watermelon	28
7	Cherries	75	29	Winter squash	27
8	Pears	65	30	Cauliflower	27
9	Grapes, imported	65	31	Blueberries	24
10	Spinach	60	32	Papaya	21
11	Lettuce	59	33	Broccoli	18
12	Potatoes	58	34	Cabbage	17
13	Carrots	57	35	Bananas	16
14	Green beans	53	36	Kiwi	14
15	Hot peppers	53	37	Sweet peas, frozen	11
16	Cucumbers	52	38	Asparagus	11
17	Raspberries	47	39	Mango	9
18	Plums	45	40	Pineapples	7
19	Grapes, domestic	43	41	Sweet corn, frozen	2
20	Oranges	42	42	Avocado	1
21	Grapefruit	40	43	Onions	1
22	Tangerine	38			



Then the kids went back to their previous diets. Immediately the children's urine samples indicated an exposure to organophosphate pesticides from their diets, often above the safety limits set by the EPA.

This study suggests that even if you eat organic foods only when convenient and only to replace the conventional versions of foods you are already accustomed to eating, you could immediately reduce the pesticide levels in your body. It's not necessary for you to eat differently. You can eat the same foods. Just opt for organic.

More Options for Fresher Produce

Organic food products are no longer specialty items sold only in hard-to-find "health food" stores. Today they are sold in most supermarkets nationwide. But whether or not you're able to find organic fruits and vegetables, follow these guidelines:

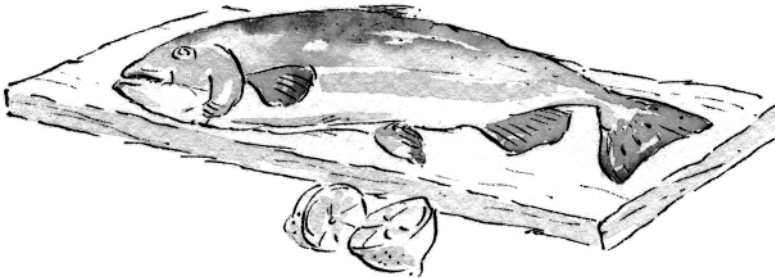
- Try to eat produce that is grown locally. Imported produce often contains higher pesticide levels than food grown in the United States. There are exceptions, where certain countries actually have more stringent rules, but unless you know the regulations of the particular country, it's safer to reduce imported produce.
- Buy produce in its peak season. Skip summer fruits in February! This helps in two ways. First, the food is more likely to be grown in the United States. Second, the timing can further cut down on your intake of pesticides. As produce reaches the end of its growing season, farmers often use more chemicals to keep them growing, keep them from rotting, and keep them from being consumed by insects and other pests.
- Wash all fresh fruits and vegetables in water. This will remove some (but not all) of the pesticide residues on the surface. You can go a step further by spraying and rubbing the produce with distilled white vinegar, followed by a cold-water rinse. This will remove most wax, soil, and surface residues.
- Grow your own. Whether you have a yard with room for a farmer's yield of fruits and vegetables or only a windowsill with a few pots for fresh herbs, what you grow yourself is bound to be fresh and tasty—

and you'll know exactly how the produce was raised. You can even start with organic seeds or seedlings.

- Choose produce known to be less contaminated. Either choose organic or use the Buying Green box on page 29.

What About Seafood?

For an expectant mom, trying to eat seafood as safely as possible is difficult because the USDA has no classification yet for organic seafood. Therefore, seafood is a double-edged sword. On the one edge, some varieties of fish offer high levels of the fatty acids that help a baby's brain grow well. The omega-3 oils in Pacific salmon, for example, offer powerful benefits to both you and your baby. A 2007 study even suggested that women who regularly eat fish during pregnancy have smarter babies.²² But on the other edge of that sword, a number of species—including tuna, swordfish, Atlantic salmon, and Chilean sea bass—can contain high levels of polychlorinated biphenyls (PCBs), mercury, and other contaminants.



In the future I would like to see strict government regulations to control the industrial emissions that cause pollution of our rivers, lakes, and oceans. But for now, the fact is that there is a big difference between the benefits and risks of different types of seafood. So I recommend that you choose those with the greatest health benefits, the least contaminants, and the most positive impact on the environment.



Green Parent Alert



Are Wild-Caught Fish Always Healthier?

WILD-CAUGHT FISH ARE harvested from their natural habitat. They may have a more varied diet, less disease, and lower levels of contaminants than farmed fish—or not, depending on the species and location of the fish. And, despite labels you may see on their packaging, they may not really be wild-caught. Fortunately, the Marine Stewardship Council at www.msc.org provides a certification program. For products from a wild-capture fishery to be eligible to display the MSC logo, the fishery must undergo a certification by an accredited certification body (and the supply chain must undergo a chain of custody



certification) to ensure sustainability, traceability, and prevent mislabeling. You can obtain further information by visiting the MSC's Web site at www.msc.org.

Focus on healthier, eco-friendly seafood that is high in omega-3s and low in contaminants for you and your baby. Here are some great choices:

- ❖ Wild Alaskan or Pacific salmon
- ❖ Canned wild pink or sockeye salmon
- ❖ Sardines
- ❖ Farmed oysters
- ❖ Atlantic mackerel (not king mackerel), Atlantic herring, and anchovies
- ❖ Blue crab, flounder, and haddock (very low in contaminants)
- ❖ Farmed trout (both healthy and ecologically sound, unlike farmed shrimp)
- ❖ Farmed abalone
- ❖ Farmed catfish
- ❖ Farmed (not wild) caviar
- ❖ Farmed clams
- ❖ Dungeness crab
- ❖ Snow crab
- ❖ Stone crab
- ❖ Mahi mahi
- ❖ Farmed mussels
- ❖ Bay scallops
- ❖ Farmed scallops
- ❖ Northern shrimp, Oregon shrimp, spot prawns
- ❖ Farmed striped bass
- ❖ Farmed sturgeon

The high levels of mercury found in some fish is especially troubling for the unborn baby. Mercury damages a fetus's immune system and kidneys, and interferes with normal brain development. For this reason, despite the value of seafood, the Food and Drug Administration (FDA) and the EPA have recommended that pregnant women avoid shark, swordfish, king mackerel, and tilefish entirely. I agree with this, but would recommend that you also avoid canned tuna, sea bass, Gulf Coast oysters, marlin, halibut, pike, walleye, grouper, orange roughy, rock cod, and large-mouth bass while pregnant. And of course, look for local advisories about the safety of fish caught by family and friends in local lakes, rivers, and coastal areas.

Should you eat wild or farmed fish? This is not always an easy choice. Farm-raised fish are fish raised in inland ponds, a room of tanks, or even a net enclosure in a bay, ocean, or lake. Some farmed fish are great for you; some are poor choices, especially during pregnancy. Farm-raised salmon, for example, contains significantly higher concentrations of PCBs, dioxin, and other cancer-causing contaminants than salmon caught in the wild, according to a study of commercial fish sold in North America, South America, and Europe.²³ It also tends to contain lower levels of beneficial omega-3s.



Concerns About Shrimp and Tuna

Shrimp and prawns account for 31 percent of all seafood sales. Although shrimp is low in mercury, it is often not sustainably harvested or raised. In fact, shrimp trawling can be one of the most harmful fishing practices, due to high by-catch (meaning that other species are killed inadvertently along with the shrimp harvest). Shrimp aquaculture can also destroy coastal wetlands and mangrove forests. The often indiscriminate use, or misuse, of antibiotics, pesticides, and other water and shrimp feed additives is another reason to avoid most farmed shrimp. If you want shrimp, northern shrimp, Oregon shrimp, and spot prawns may be your best bets. Or you might also enjoy bay scallops or farmed scallops.



Tuna too should move to your “avoid” list. Despite FDA recommendation that women can safely eat up to six ounces of albacore (white) tuna, weekly,²⁴ an EPA analysis shows that if women follow this advice, more than 90 percent of all women (and their babies) would be exposed to mercury above the government’s safe dose at least once during the pregnancy.²⁵

Try This Today



Save the Fish

SEAFOOD CAN BE HIGHLY nutritious, but the fishing methods used worldwide are endangering this valuable food source. According to the journal *Nature*, 90 percent of large predatory fish, such as tuna, swordfish, and sharks, have already disappeared from the world’s oceans.²⁶ The *New York Times* reports this dire warning: “If fishing around the world continues at its present pace, more and more species will vanish, marine ecosystems will unravel and there will be ‘global collapse’ of all species currently fished, possibly as soon as mid-century.”²⁷

But there is hope. Environmental Defense has published a research-based 2007 plan to replenish our oceans: *Sustaining America’s Fisheries and Fishing Communities: An Evaluation of Incentive-Based Management*. Let’s all keep an eye on which fishing methods are most disruptive, which fish are most endangered, and which fishing locations are most ecologically threatened—and on which seafood choices are healthiest for us and for our planet. You can make seafood choices that help you, your family, and the oceans. As conditions evolve, please visit these two sites for up-to-date information that will help explain this global problem and your role in its solution:

- ❖ Monterey Bay Aquarium Guide: www.mbayaq.org/cr/seafoodwatch.asp
- ❖ Environmental Defense Guide: www.oceansalive.org

Drinking for Two

AH, WATER—THE ELIXIR of life. It keeps our bodies hydrated and healthy—supporting our digestion, oxygenation, and cell efficiency. No wonder so many people are walking around clutching water bottles. Drinking plenty of water is an important part of a healthy lifestyle.

As a pregnant woman, you especially need to stay hydrated. The water you drink carries nutrients through your blood to the baby, and initially it also supplies the liquid needed for the amniotic fluid in the womb. *Remember that your placenta is providing approximately one cup of water needed each hour to replenish the amniotic fluid in the womb.* And for your own sake, water helps flush out the body systems and dilute your urine, which helps you prevent the urinary tract infections so common later in pregnancy. In addition, oddly enough, the more water you drink, the less likely you are to retain water and end up with swollen ankles.

So listen to your body and drink whenever you begin to feel thirsty, and even before you feel thirsty. By the time you feel thirsty you may already be behind on your optimal fluid intake. But drink green. Some sources of fluids contain impurities that pregnant women should avoid, so before you quench that thirst, take some time to consider what you're drinking. Check the labels on bottled water and filter your tap water:



- When drinking bottled water, two good choices are those labeled “purified water” or “sterile water.” **Purified water** can come from any source, but must be treated to meet the U.S. Pharmacopeia (USP) definition of “purified,” meaning that it is free of all chemicals; it may also be free of microbes if it is further treated by distillation or reverse osmosis. **Sterile water** can come from any source, but must be treated to meet the USP standards and therefore be free from all microbes.
- Bottled water may be treated using a number of different techniques, including filtration, ozonation (disinfecting water using ozone) or ultraviolet (UV) light treatment. The water bottle label should state the source and treatment method.²⁸ If you want more detailed information



on any contaminants that may remain in your bottled water, contact the bottler and ask if and how the water is tested for contaminants and ask for the latest testing results.

- Your home tap water can also be filtered with a number of in-home systems, including distillation, reverse osmosis, and micron filtration. See Chapter Four and the “The Kitchen” in the Green Information section at the back of the book for more details.

Green Parent Alert



The Biggest Problem with Bottled Water May Be the Bottle

OK. YOU'RE HAVING A baby, and you want to carry your own really good water that you've checked out and love a lot. It comes in a plastic bottle, however, and the plastic composition of polycarbonate water bottles includes bisphenol-A (BPA), a potent chemical that mimics the estrogen hormone in the body, risking impairment of the reproductive tissues and organs in both males and females—especially before they are born. BPA has been found in the blood of pregnant women, within the placenta, and in umbilical cord blood.²⁹

Studies have recorded the leaching of this chemical from the polycarbonate bottle into the water when the bottle is frozen, heated, at room temperature, damaged, worn, reused, and so on.³⁰ The bottom line is that there are questions about the safety of any kind of polycarbonate plastic container under any condition. PVC and styrene plastics are also known to leach harmful chemicals.

My advice is to minimize eating or drinking from plastics with the recycling numbers 3, 6, or 7 whenever possible. If you use plastic bottles, opt for those with the symbols 1, 2, 4, or 5. This is consistent with the recommendations of the Mount Sinai Medical Center and the Food and Health Program of the Institute for Agriculture and Trade Policy. Or better yet, trade in your plastic bottle for a lightweight stainless steel water bottle—they're easy to carry, durable, and can be washed either by hand or in a dishwasher.

The Caffeine Question

Coffee, tea, cola, and chocolate—for some, these are gifts from the gods, enriching each day with joy for the taste buds and a reprieve from fatigue. But to the unborn baby, they could become the bearers of a potentially harmful caffeine overload. If your fetus could talk, he would certainly ask you to be careful about too many caffeinated products.

Caffeine easily passes through the placenta into the amniotic fluid and umbilical cord blood and into the unborn baby. There the developing fetus sustains higher levels of caffeine than his mother because of an immature metabolism.

And it's not just that morning cup of java that gives the fetus a jolt. Caffeine is a stimulant present in many foods and beverages and in some medications. It enters the mother's central nervous system quickly, and slightly increases both blood pressure and heart rate (also affecting fetal heart rate and movement patterns). Although the negative effects of daily moderate intake of one eight-ounce cup of brewed coffee (typically less than 150 milligrams) on a pregnancy are debatable, there is strong evidence that larger daily amounts of caffeine (more than 150 milligrams) during pregnancy may increase the risks of miscarriage, preterm delivery, and low birth weight. For example, one study found that pregnant women who consumed large quantities of caffeine (five or more cups of coffee a day) were twice as likely to miscarry as those who consumed less.³¹

As much as you might enjoy that morning cup of coffee, it's quite clear that this is one opportunity you have each day to reduce your baby's exposure to potentially harmful products. You might even choose pregnancy as a time to cleanse your body of caffeine. But if you do, don't try to stop your caffeine intake all at once, cold turkey. Your body will miss its daily dose and may complain with a headache when it's suddenly gone. Other symptoms of abrupt withdrawal can include drowsiness, irritability, and even nausea and vomiting. So I suggest that you cut down a little each day until you and your unborn baby are slowly weaned at least down below 150 milligrams of caffeine per day. (A detailed analysis of caffeine's reported effects on pregnancy outcome can be found at www.motherisk.org.)



What About Decaf Coffee?

One way to reduce caffeine is to drink decaffeinated coffee, but be aware that a five-ounce cup of decaf usually still contains from two to five milligrams of caffeine, and sometimes even more. Because many decaffeinated coffees are made from beans processed using methylene chloride (a dangerous chemical also used in paint strippers), it's greener to choose a decaf bearing the "Swiss Water Process" logo. That's your guarantee that the decaf you're drinking was brewed with coffee beans that were decaffeinated using a certified organic chemical-free process. Lots of retailers sell coffees decaffeinated using the Swiss Water Process, including Starbucks (Komodo Dragon Blend), Seattle's Best Coffee (Organic Twilight), and Sam's Clubs (Marques de Paiva Gourmet Coffees). Check www.swisswater.com for other retailers in your area.

A cautionary note: you might come across other decaffeinated coffees described as "water processed" or "European processed," but be sure to ask if they have the Swiss Water Process logo. If not, the beans may have been processed using something called the indirect method, which still uses the same harsh chemicals in combination with a water bath.

What About Alcoholic Beverages?

Many couples enjoy relaxing together with a glass of wine, hanging out at a barbecue with a bottle of beer, or socializing with a round of margaritas. So it's not unusual for moms-to-be to ask me how much alcohol they can safely drink while pregnant. The answer is direct and nonnegotiable: **none**.

Sorry, but no level of alcohol has been proven safe for an unborn child—and that means beer, wine, wine coolers, and hard liquor. All alcohol passes quickly through the placenta to the fetus, and the unborn baby's immature metabolism breaks it down more slowly than an adult's. This can cause a variety of mild to severe birth defects. In fact, alcohol is now recognized as the most destructive environmental agent influencing fetal development. It is the most common cause of mental retardation and is directly responsible for 10 to 20 percent of the cases of mental retardation in the 50 to 80 IQ range, and it is the root cause of cerebral palsy in one in six cases. Fetal alcohol syndrome, one of the most severe outcomes of alcohol consumption during pregnancy, can be devastating. Many fetal alcohol syn-

drome babies are born to alcoholic mothers, but milder features are found in babies born to women who have as little as two drinks per day. These features include a lower IQ, poor growth and development, hyperactivity, and a small head.

Making wise choices to keep your baby healthy in the womb must include eliminating alcohol from your diet. Alcohol exposure is most damaging when the synapses (connections) of the brain are being formed—during the last trimester of pregnancy. Evidence published in *Science* suggests that when the developing baby is exposed to alcohol for even a few hours, a number of brain cells and synapses are permanently destroyed.³²

Health Drinks

Health drinks are a very popular and efficient way to take in important nutrients, vitamin C, and antioxidants, and to provide fiber in the diet. These combination drinks, often with such names as Cider Vinegar and Honey, Wheat Orange, and Papaya Blend, are mixed and sipped on the go, helping busy people get their minimum daily five servings of fruits and vegetables.

Most health drinks made from fresh produce are good for pregnant women—especially if the produce is organic. But there are two reasons to be cautious about health drinks:

1. **They may be too much of a good thing.** The prenatal vitamin supplements often prescribed to expectant moms are packed with 100 percent of recommended daily allowances. The vitamin intake from a balanced daily diet added to the vitamin supplement pushes those levels to the upper limit. Adding a nutrient-packed health drink to the mix can easily push the daily dose of vitamins over the limits of safety. This is especially true with vitamin A.

At proper levels, vitamin A is important for your baby's brain and eye development. But too much (more than the USDA recommended daily maximum of 3,000 mcg or 10,000 International Units) can cause brain development to be slowed and can lead to neural tube defects. In this case, vitamin A overload is definitely too much of a good thing.

2. **They may not be healthy.** Not all products with the words “healthy” or “fruit” or even “vegetable” in their names are actually good for you.



Green Parent Report



Choose Your Caffeinated Beverages Wisely

THIS CHART WILL HELP you make smart choices to reduce your daily intake of caffeine each day.³³ If you must have your daily shot, strive to keep it under 150 milligrams. (Caffeine content of beverages varies due to brewing method, plant variety, and brand.)

<i>Item</i>	<i>Caffeine (milligrams)</i>
Cappuccino mocha, 16 oz.	120–130
Cappuccino, per 16 oz.	116
Iced tea, 12 oz.	67–76
Coffee, brewed by drip method, 5 oz.	60–180
Latte, 12 oz.	58
Espresso, 2 oz.	40–170
Coffee, instant, 5 oz.	30–120
Some dark carbonated beverages, 12 oz.	30–46
Baking chocolate, 1 oz.	26
Brewed teas, 5 oz.	20–90
Semi-sweet chocolate, 1 oz.	5–35
Chocolate syrup, 2 tbs.	4
Cocoa beverages, 5 oz.	2–20
Chocolate milk, 8 oz.	2–7
Decaffeinated coffee, 5 oz.	2–5
Milk chocolate, 1 oz.	1–15
Citrus flavored carbonated beverages, 12 oz.	0–65
Decaffeinated or herbal teas, 5 oz.	0–1
Decaffeinated carbonated beverage, 12 oz.	0

Fruity soft drinks, flavored ice teas, sugary fruit juices, fruity wine coolers, and energy and sport drinks as well as fruit “flavored” drinks may *not* be healthy drinks. They often contain excess sugar, calories, caffeine, and artificial sweeteners and flavorings that easily cross the placenta.



Exercising for Two

EXERCISE IS A GREEN approach to health care. Yes, a green pregnancy means making the most of what you take *into* your body, through what you eat, drink, and breathe, and also absorb through your skin, hair, and nails. But how you *move* your body is another powerful green way to make a difference.

There are many benefits of exercise during pregnancy, including improved physical conditioning, strength, flexibility, and stamina. It builds endurance for labor and delivery and a quicker postnatal recovery. By exercising regularly, you may be able to reduce some of the common discomforts of pregnancy such as backache, swelling, and constipation. Most of all, you feel great about yourself when you exercise.

How Exercise Can Help More Than Medication

Let's take a look at the effects of exercise versus medications for two of the most important complications of pregnancy.

Gestational diabetes. As many as one in eight women will develop gestational diabetes sometime during their pregnancies, increasing health risks for themselves and their babies. Researchers at the University of Southern California School of Medicine studied a group of women who had already developed gestational diabetes and who had fasting blood glucose levels high enough to require insulin.³⁴

Half of the women in the study received the recommended insulin. The other half got personal trainers instead. The trainers supervised the women while they did simple twenty-minute stints on exercise bikes. The results were startling: moderate aerobic exercise was equally effective to insulin! Blood glucose levels were statistically the same in both groups.



If exercise can be a prescription-strength way to control gestational diabetes that has already developed, how much better to be active throughout pregnancy and perhaps prevent the problem in the first place.³⁵

Insulin costs in the United States are staggering. The state Medicaid programs alone pay \$500 million a year just for the drug.³⁶ The indirect costs of diabetes are huge. Exercise is a green approach to health care.

Preeclampsia is complication of a pregnancy in which blood pressure increases and blood flow to the baby decreases. The only effective treatment for preeclampsia is to deliver the baby, so it contributes to the growing epidemic (and resource cost) of preterm deliveries. Again, regular brisk walking or other moderate physical activity begun during pregnancy significantly lowers the risk of preeclampsia. The benefit is even greater if the exercise is begun before pregnancy.³⁷ As thankful as I am for neonatal intensive care units, they also represent one of the most intense uses of resources in health care. A walk in the park is a much greener way to deal with preeclampsia, when possible.

Prenatal Yoga

Yoga is one of the oldest physical practices in existence. Yoga balances mind and body, work and relaxation. Through movement, posture, relaxation, meditation, and intentional breathing, yoga aims to bring a healthy, lively, flexible approach to life. With its emphasis on harmony and balance, it is a beautiful metaphor for raising baby green.

Two recent studies compared an hour of prenatal yoga daily to an hour of brisk walking daily. One of the studies looked just at women with uncomplicated pregnancies. In this study, those who were randomly assigned to the yoga group were significantly more likely to have an ideal weight baby, significantly less likely to have preterm labor, and significantly less likely to develop hypertension than the women who exercised an hour a day by walking.³⁸

The other similar study looked at women with complicated pregnancies, who had already been diagnosed with abnormal blood flow through the umbilical and uterine arteries. These women were at increased risk of delivering babies that were too small. Again, those randomly assigned to the yoga group were significantly more likely to have a normal weight baby than those who walked for the same amount of time.³⁹

If you are interested in a home guide to yoga before and after having a baby, I like Anna Getty's *Guide to Prenatal and Postnatal Yoga*, a DVD boxed set that is great for both beginners and for seasoned practitioners.

As with any exercise, you can overdo it with yoga. Be careful not to strain yourself, and have your instructor check to be sure you're doing it the best way for you.

The Green Exercise Standard

I agree with the American College of Obstetrics and Gynecology in recommending 30 minutes of moderate physical activity every day, or at least on most days.⁴⁰ We all know that this is a good idea, but having a baby is a fantastic time to make this resolution stick.

Talk with your pregnancy health care team before embarking on your activity plan. Some exercise is wonderful. Too much, or the wrong kind, is not. And some pregnant women should not exercise or should exercise in an even gentler way.

But for most women, exercise during pregnancy is a wonderful benefit, giving you stronger muscles, denser bones, healthier joints, and less chance of urinary incontinence. And exercise also wards off the baby blues or postpartum depression.



Personal Care Products

ONE OF THE DELIGHTS of being in love with a pregnant woman is watching the changes in her body, noticing the glow of motherhood suffusing her complexion, and taking in the scent of her femininity that now fills the room. I cherished this special time with my wife, Cheryl.

During pregnancy most women enjoy the wonderful array of hygiene and beauty products available today—soaps to cleanse and nourish the body, skin creams to soothe and moisturize, shampoos and conditioners to enhance and enrich their hair. Others are drawn to new perfumes and makeup that help them feel just a bit pampered.



If you have a sizable collection of personal hygiene and beauty products, this is the perfect time to take a closer look at their ingredients and trade in some of your products for healthier and greener versions.

According to the Environmental Working Group (EWG), the average American's daily use of shampoos, conditioners, deodorants, skin lotions, nail polishes, perfumes, hair gels, mousse, hair sprays, lip balms, and sunscreens deposits small amounts of 126 different chemicals on the skin every day. And unlike food ingredients, these chemicals are not always listed on the product label in a way that can be clearly and totally understood. So this is one more daily situation where you have the power to do something good for you and your baby by being informed and proactive.

Before you buy your next bottle of skin lotion, body bath, or even eyeliner, take a look at "Skin Deep," the searchable database offered by the EWG at www.cosmeticsdatabase.com. It rates products in terms of safety and toxicity, specifically for pregnant women. You might also want to jump ahead to Chapter Five, where I go into greater detail about beauty and personal care products.

If You Color Your Hair

Women often wonder whether they can continue with all their usual beauty routines during pregnancy. There's some question, for example, about whether hair dye is safe to use. Almost all hair dyes contain small amounts of chemicals called aromatic amines—well known to cause cancer in animals. (Dark-colored dyes tend to contain more.) Some studies have found a direct association between personal hair dye use in women and cancers of the bladder, breast, ovaries, and brain, and lymphomas and leukemias.⁴¹ However, there are also good studies that have not found a problem.

The risk appears to depend on dye permanence, dye color, cumulative lifetime use, and the user's genetically determined ability to detoxify these damaging chemicals.⁴² Regardless of whether hair dyes prove safe or not, I strongly recommend that expectant women avoid any type of hair coloring during pregnancy or while nursing. The EPA has concluded that carcinogens are on average ten times more potent for babies than for adults; some chemicals are up to sixty-five times more powerful.⁴³ We don't yet know much about hair dyes and babies, but I wouldn't want to experiment.

Safer Sunscreens

Many mothers slather on sunscreen to protect their skin and their bodies from damaging UV rays. Unfortunately, many sunscreens contain not only phthalates but also estrogen-like compounds as major ingredients. So stay away from this type of sunscreen lotion and instead use physical barrier lotions, such as zinc oxide or titanium dioxide products, which are not absorbed into the skin (unless they contain nanoparticles). We'll talk more about sunscreens in Chapter Five.



What's That Smell?

INHALE AND ENJOY THE warm aroma of fresh-baked bread, the spicy fragrance of a cinnamon stick, or the fresh scent of morning dew. These scents, like all aromas, are composed of the kinds of molecules that can and will go through the placenta and into the womb. These wonderful smells give your baby her first connection with your world.



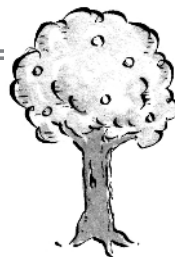


Enriching Aromas

The sense of smell is the first of the five senses that babies in the womb develop.⁴⁴ Molecules that a woman can taste or smell tend to pass through the placenta, where they can also be detected by the amazingly sensitive olfactory cells of the baby.⁴⁵ During the months of gestation, your baby has become quite familiar with the aromas you are experiencing. As we will see in Chapter Two, the unborn baby's ability to smell the molecules in her own amniotic fluid will enable her to navigate to her mother's breasts in those first crucial moments after birth. This same experience will help her prefer and distinguish by smell alone her own mother's breast milk as opposed to that of other women. I suspect that this innate ability helps babies recognize, become familiar with, and prefer their own home, their own parents, and their cultural and ethnic foods. They seem to be drawn instinctively to those pleasant smells to which they have become accus-

Going Green

A Green Baby Shower



MANY MOTHERS-TO-BE are “showered” with lovely gifts that stock the nursery with all kinds of baby items, such as sleepers, quilts, toys, and so on. But rather than have to figure out what to do with some gifts that may be less than safe or healthy, spread the word before your shower that you're going green. Drop well-placed hints that you'd love to surround your newborn with pure, organic cotton clothing and with nontoxic toys, eating utensils, and bedding and bath supplies. You can sign up with gift registries at many online sites that sell wonderfully green baby products. Here are a few to get started:

- ❖ www.ecobaby.com
- ❖ www.babynaturale.com
- ❖ www.purebeginnings.com

tomed. In the best sense, these familiar aromas remind them of their experience in the womb. Surrounding your unborn baby with the scents of good nourishing foods may be an important way to begin to develop familiarity, acceptance, and longing for the kinds of foods that will sustain her in a healthy way for the rest of her life.

Harmful Fumes

Molecules of volatile chemicals from fumes and other harmful aromas, unfortunately, also pass through the umbilical cord into the placenta. Fortunately, many common sources of these odors are easily removed from your home.

The following are sources of harmful smells that you can reduce or eliminate:

- Glues
- Paints
- Furniture wax
- Household cleaners
- New carpets
- Dry-cleaned clothing
- Gasoline
- Gas from barbecues, fireplaces, and appliances
- Pesticides
- Incinerators
- Smog
- Cigarette smoke
- Flame retardants and stain protectors on some carpets, furniture, mattresses, and plastics

We can't possibly eliminate all of these fumes from our daily lives. But it is important to be aware of their potential danger and to avoid them when possible. The specific chemicals that make the fumes of many consumer products toxic are explored in later chapters, but for now, at this early point in your efforts to nurture your baby in utero, you might try one or two of the following suggestions today. Then, try another next week. Every time



you make a choice to breathe in and supply your unborn baby with clean air, you move a step closer to creating a green world for your newborn:

- Take a break and stay out of the house during any painting or other home improvement projects that create fumes. (See Chapter Three for nontoxic products that are safer for you, your baby, and the environment.)
- Treat yourself to full service at the gas station. Don't pump your own gasoline. Most states require a warning on gasoline pumps that says something like:

Warning: Chemicals known to the state to cause cancer, birth defects, or other reproductive harm are found in gasoline, crude oil, and many other petroleum products and their vapors.

- Use nontoxic hobby paints and glues. To check on the safety of specific art materials, you can check with the Arts, Crafts, and Theater Safety group (ACTS) in New York at 212-777-0062, www.artscraftstheater.safety.org.
- Switch to nontoxic organic household cleaners. (See Chapters Four and Five for nontoxic alternatives.)
- Find and use an environmentally friendly laundry service. But if your dry cleaner uses perc (tetrachloroethylene—also called PCE or perchloroethylene) or other dangerous solvents, ask someone else to help out so that you have no contact with this chemical.

Cigarette Smoke

As we've already seen, certain smells and fumes are not beneficial to the baby in your womb. One of the earliest fetal observations that hinted at the likelihood that babies in utero could "smell" their outer environment occurred when mothers were exposed to cigarette smoke. While watching babies on ultrasound, observers noticed that there was an immediate, obvious effect on fetal blood flow. Yes, even in the womb, babies don't like cigarette smoke.⁴⁶

If you smoke, STOP. If other people in the home smoke, get them to stop. If you have a visitor who wants to light up, ask them to step outside. The nicotine and carbon monoxide found in cigarette smoke (whether

inhaled directly or at second hand) are harmful to you and your baby and are known to cause complications in the pregnancy and serious health problems in a newborn. And you can see the effects in school-aged kids. Prenatal exposure to cigarette smoke appears, by itself, to account for more than a quarter million additional cases of attention deficit hyperactivity disorder (ADHD) in children.⁴⁷

The list of proven problems is long, but none is more devastating than the sudden infant death syndrome (SIDS). On average, smoking during pregnancy doubles the risk of SIDS, and the odds increase with each cigarette. Or putting it the other way around, NOT smoking cuts the risk of SIDS in half.

There's no way to soft-pedal the negative effects of cigarette smoke on the unborn. The following are organizations and online sites that can help you purify the air your baby breathes:

- *Smokefree.gov*. An online resource sponsored by the federal government
- *Quit Now*. 800-QUITNOW
- *The Tobacco Research and Intervention Program (TRIP)*. Offers an informational booklet to help pregnant women; call toll-free: 877-954-2548
- *The American Legacy Foundation*. A public health foundation that offers an online information program and a referral service to smoking cessation resources in each state; www.americanlegacy.org

And now onto the next room that you and your baby will visit: the labor and delivery room!

