

Eating for Two

Dear Expectant Mothers:

Congratulations, and welcome to the most amazing journey of your life.

When sperm meets egg, a miraculous series of biochemical events begins. The DNA of the chromosomes of the original cell divides only 50 times but results in approximately 100 trillion cells, a number that is greater than all the stars in the milky-way galaxy. Furthermore, it is estimated that each of these cells has over 6 trillion biochemical reactions per second, and each cell also knows what all the other cells are doing thru the body's own infinite intelligence. So it is with great humility that I as a scientist attempt to convey any advice on the topic. As the mother of two incredibly healthy children, I am proud that I did the best I could to take care of myself, to give my kids the very best shot in life given what I understood at the time. My girls are 6 and 8 now. Could I have made better choices given what I know now and what is available to me now? Sure. And so it is with great care and humility that I share what I know today with expecting mothers and have updated this document with the latest information available.

Every pregnant mother is concerned with what she eats while nurturing her unborn child. The good news is that it's not that complicated: the rules for good health during pregnancy are pretty much the same as the rules for good health during the rest of your life. Mainly, you should eat a large variety of vegetables, fruits and whole grains (more than 90% of your caloric intake), get plenty of exercise, drink lots of water, and get adequate rest. And unlike common advice "now you are eating for two," I must advise that it is not necessarily good to gain more than 25 pounds at full term. This can be accomplished by not gorging on high fat foods such as ice cream and pizza. These foods add weight, but not nutrition to you and your baby.

I want you to consider all those 6 trillion biochemical reactions that occur in each cell of our body every second. This is not to be taken for granted. That is without proper nutrition, not all those miraculous reactions will always take place as they should to provide optimal health for you and your baby. When the body gets adequate nutrition, it expresses it's full complement of active enzymes that make all those trillions of reactions occur. That is with nutrition, all enzyme making factories are open for business. Otherwise, the body struggles just to maintain a viable pregnancy, making a limited number of critical enzymes, and the luxuries of additional enzymes needed for optimal health go by the wayside.

For instance, if a mother is adequately nourished with plenty of fruit and vegetable nutrition, and happens to experience some stress, even though she is bound to make stress hormones such as cortisol, in a healthy placenta, that cortisol will get broken down by an enzyme before

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it reaches the baby. But if the mother is not getting adequate nutrition, she will not express that enzyme "for the luxury of optimal health" and the cortisol will reach the baby and then the baby will be predisposed to stress for the rest of their life.

What nutrients exactly help to avoid this? We don't know yet. So don't take any chances, give

yourself the full spectrum of nutrients from all the rainbow colors found in the 25 different fruits, veggies and berries it takes to make Juice Plus®. This is why I consider Juice Plus®, with 12 published, independent, peer-reviewed, university studies to be the Mercedes Benz of prenatal nutrition. It also has helped many people conceive babies.

Most doctors, especially those who have not heard of Juice Plus®, recommend a prenatal. Let's take a closer look at the difference between prenats and Juice Plus®.

Evaluating Prenatal Supplements

Excerpts from: Nourishing Mother and Fetus by Margaret Ames, Ph.D.

International Journal of Integrative Medicine, Vol. 1, No. 6, November/December 1999

1. Bioavailability

“The best-formulated product in the world is of little benefit if it cannot be made available for absorption. Indeed in a recent study of nine prescription prenatal supplements indicated that six of those products failed to meet United States Pharmacopoeial Convention (USP) standards for folic acid dissolution.”

How does Juice Plus® compare?

Juice Plus® is the first whole-food nutritional product that has been independently researched in Universities and research institutions all over the world (UCLA, Arizona Cancer Center, University of Arizona, Brigham Young University, Kings College of London, etc.) and found to be bioavailable. For instance, in one study, beta-carotene levels among test subjects increased 510%, alpha-carotene levels increased 119%, vitamin E levels rose 58%, and lycopenes increased 2046%. No vitamin supplement has ever been shown to come close to this much bioavailability.

Juice Plus® orchard and garden blend capsules contain 4 to 10 times more vitamin C, folate, calcium, B-vitamins, food actives, fiber, vitamin E, etc. than even freshly-made juice made from the same 17 fruits and vegetables used to make Juice Plus®. You would have to eat 4 oranges a day to get the same vitamin C increase in your body or 3 carrots a day to increase the carotenes in your body as the 4 capsules of Juice Plus®.

In vol. 57 of Current Therapeutic Research, (a peer-reviewed research journal) the scientists conclude, “The increase in plasma carotenoids in response to Juice Plus® appears to be substantially greater than with similar quantities of carotenoids from food... It appears that they are much more readily absorbed than are the same micronutrients in foods.”

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So let the bioavailability of Juice Plus® go to work for you. This is not to say that you shouldn't eat your veggies. In fact, the majority of your diet should be made up of fruits, vegetables, and whole grains. This is merely the extra insurance you want and are looking for in a supplement.

2. Processing Technique

“Heat is known to destroy nutrients.”

How does Juice Plus® compare?

In the making Juice Plus®, an extremely temperature-sensitive patented process is used to evaporate the water from the juice mix such that heat-sensitive nutrients retain their biochemical activity – the process of going from wet to dry occurs in a matter of seconds! Thus, when you take Juice Plus® with water, you reconstitute real food with active, bioavailable

nutrients. We know this to be true because several independent studies in peer-reviewed journals have shown the incredible response that Juice Plus® has in the body to improve the status of various systems of the body such as the immune system and DNA repair mechanisms.

3. Use of Chemical Solvents

“...most solvents are mutagenic...”

How does Juice Plus® compare?

No harmful solvents are used to make Juice Plus® because solvents are only used to extract vitamins from food. Since Juice Plus® is a whole food, there is no extraction process, and thus there are no solvents to worry about. Furthermore, Juice Plus® is regularly tested for the absence of herbicides, pesticides, or any other harmful chemicals known to man. It is also tested for the absence of microorganisms. In the final analysis, Juice Plus® is cleaner than the organic fruits and vegetables that you buy at the market.

4. Supplement Coatings and Binders

Some vitamins still use pharmaceutical food glaze, better known as “shellac” as a coating.

“One advantage of shellac coating on a supplement is that it yields an attractive, shiny appearance. It also renders the pills slightly slippery, which may facilitate swallowing.

However this coating often results in the phenomenon known as “bedpan pills,” products that move through the gastrointestinal tract intact. Similarly, methylene chloride is an agent commonly used to “bind” nutritional formulations to facilitate the manufacturing process. In fact, methylene chloride is such an effective binder that the nutrients it coats are largely rendered unavailable for absorption.”

How does Juice Plus® compare?

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This is not a problem for encapsulated juice powders as it is for hard-pressed vitamins. The gelatin capsules that are used for Juice Plus® are also kosher.

5. Penny Wise and Pound Foolish

“The less expensive, [the] less effective...”

What about Juice Plus®?

Because there is so much research to back up the efficacy of Juice Plus®, you can rest assured that you are providing your unborn child and yourself with state-of-the-art, exceptionally healthy food that is far better than any pre-natal vitamin. If you compare Juice Plus® to a traditional vitamin, then it might be considered expensive for a prenatal vitamin. Yet, it's inexpensive when you consider the amount of whole-food nutrition that Juice Plus provides – remember it takes 25 different fruits and veggies to make a daily dosage of Juice Plus® Orchard, Garden and Vineyard capsules.

6. An Open-door Policy

“If a supplement manufacturer does not offer an open-door policy to allow you to personally inspect their facility, perhaps it's because they have something to hide.”

How does Juice Plus® compare?

Natural Alternatives has an open-door policy and you can schedule a tour with them through NSA, the marketing company. Ask your distributor for details.

Juice Plus® and Perinatal Complications

While we know that folate is important to prevent neural tube deformations, there are still many other complications that may arise during pregnancy, such as preeclampsia, low birth weight and respiratory distress syndrome in newborns. We know that a healthy baby depends on good circulation in the placenta, especially to avoid problems such as preeclampsia which is when the mother experiences high blood pressure and the baby has to

be delivered pre-term, often with respiratory distress syndrome because of undeveloped lungs.

Dr. Doug Odom, an OB/GYN who is both a medical professor and a private practice physician, has presented research at numerous medical conferences on the topic of pregnancy outcome. His research is further evidence that Juice Plus® is the Mercedes Benz of prenatal supplements.

Juice Plus® and Perinatal Complications

Odom et al

Objective: To assess the effect of antioxidant supplementation on premature labor, preterm birth, preeclampsia, birth weight, and fetal growth.

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Hypothesis:

- 6 – 25% (income related) pregnancies result in preeclampsia
- Placenta highly vascular
- 3rd trimester: rapid growth and possible higher antioxidant needed
- Mechanism unknown: studies suggest high free-radical activity and endothelium dysfunction

Cited Research Studies: Relationship Between Oxidative Stress and Pregnancy Outcome

1. “Basic research during the past two decades has led to increased awareness of the role of lipid peroxidation in various physiologic and pathophysiologic processes. A number of reports indicate that preeclampsia is associated with elevated blood levels of lipid peroxidation products”

Hubel CA et al. Lipid peroxidation in pregnancy: new perspectives on preeclampsia. *American Journal of Obstetrics and Gynecology* 1989

2. “An imbalance between thromboxane [A1, A2 constrictor] and prostacyclin [dilator] and between lipid peroxides and antioxidant activity is implicated in pathologic states such as preeclampsia.

Wang YP et. al. Maternal levels of prostacyclin, thromboxane, vitamin E, and lipid peroxides throughout normal pregnancy. *American Journal of Obstetrics and Gynecology* 1991

Summary of Results

Group 1 n=178 Control Group 2 n=179 Juice Plus®

Preterm Delivery 4% 0%

Preeclampsia 21% 0%

Low Birth Weight <2500 g 12% 1%

Admissions into Neonatal

ICU

21% 0%

Respiratory Distress

Syndrome

8% 0%

Caesarean Delivery 66% 47%

Conclusion

These findings suggest that an inexpensive nutritional solution (Juice Plus®) may be available

to effectively address common and costly obstetric complications.

Additional studies have found that Juice Plus® contains plenty of bioavailable and functional folate. In at least two studies we see that folate is bioavailable and reduces homocysteine.

Samaan. *J Nutrition*. 2003;133:2188-93. (Australian study – healthy, active population)

- Double blind, randomized, prospective, placebo controlled, crossover
- Started in normal range, still saw 8.4% decrease in homocysteine in 30 days

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Panunzio. Nutr. Research. 2003;23:1221-1228. (Italian Study – more smokers, less healthy diet)

- Crossover study for three months
 - Started with an elevated homocysteine and saw a decrease of homocysteine by 33%
- Both populations had homocysteine < 8 µM after taking Juice Plus®

Folate content in Juice Plus®

Orchard Blend 140 µg

Garden Blend 280 µg

Vineyard Blend 360 µg

Total 680 µg

A recent study out of Canada, reported in the January, 2008 issue of the *American Journal of Obstetrics and Gynecology* showed that folate (as an isolated supplement) at doses of 1 mg or higher given in the second trimester of pregnancy is associated with a reduced risk of preeclampsia. Preeclampsia developed in 2.17% of patients taking folate and in 5.04% of those not taking supplements – a reduction of <3% in Preeclampsia using isolated folate. Compare the power of whole foods where the still yet undiscovered mystery of over 25,000 phytonutrients working together:

Dr. Odom works with a particularly susceptible, low-income patient-base where normally they see about a 20% or higher percentage of preeclampsia and still, in the study cited above, there

was a drop from 21% to 0% - a reduction of 21% in preeclampsia using Juice Plus®.

Some extra advice

Having had two healthy pregnancies, I speak from first-hand experience. I have also had many friends with healthy “Juice Plus® babies”. Nutrition is so important for a healthy, happy baby, not to mention a healthy, happy mother. It is crucial to consume adequate quantities of nutrients from fresh fruits and veggies, essential fats, and water.

Here is the regimen that I recommend during pregnancy and breast-feeding. Don't be overwhelmed. It took a long time for me to adopt this diet and to achieve this level of nutritional intake daily. Start slowly and don't feel guilty about what you can't do.

1. Juice Plus® capsules, all three blends, are a must and so easy to do compared to the other suggestions below. Take one orchard, one garden and one vineyard in the am, and one of each again in the pm. The vineyard blend was not available when I was pregnant but I wish it had been. Pregnancy is a highly vascular process and the vineyard blend will further enhance the results seen with just the fruits and veggies blends.

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2. I took no pre-natal vitamins. That part was easy. However, the research from Dr. Odom did include pre-natal supplements (since it was the standard care at his clinic). If you feel that you want to take them as well, go ahead. I was satisfied that the research showed conclusively that Juice Plus® provided sufficient folate as well as thousands of other important nutrients that prenats do not have. Yet, since it is well documented that mental health and peace of mind are as important as physical health, you should make the choices that you feel most comfortable with. Even if it is a placebo effect, I think it is still may be important that you take a prenatal vitamin if you feel that it's the right thing to do.

3. Drink a minimum of 2 liters of water a day.

4. Use two tablespoons of ground up flax seeds (linseeds) daily, either in your morning cereal or a smoothie. I used to recommend fish oils, but they can go rancid so easily on the shelf and in your body. The best way to ensure enough omega-3 fatty acids is from a whole food source, such as freshly ground flax seeds. You can buy them preground (called flax meal if they're already ground) in the refrigerated section of a health food store, or buy organic flax seeds and grind them up daily or even weekly, as long as they are stored in an air-tight, dark container in the fridge.

5. I make a shake at least 4-5 days of the week using the following easy recipe:

- 1 serving of Juice Plus® Complete
- 2 tbsp of organic golden flax seeds ground up
- 2-3 servings of fruit (1/2 cup blueberries, pineapple with core, etc.)
- add filtered water, juices, non-dairy milks (e.g. low fat/no added sugar or flavors - oat milk, soy milk, almond milk, hemp milk) to desired consistency
- mix thoroughly in a good blender, food processor, or Vita-mixer (you don't need to pre-grind flax seeds if you have a Vitamixer)

Another alternative is to use all the above ingredients but mix into muesli or other whole grain cereals for breakfast.

6. Eat at least 5 fruits and 5 vegetables a day, preferably raw. Salads are the easiest way to do this. In fact I highly recommend that over 90% of your calories come from plants. Did you know that most green vegetables have more protein, more bio-available iron, calcium and other minerals than steak or dairy? Did you know that there is no such thing as lean meat (chicken, fish, eggs, red meat, dairy, etc all have too much fat and cholesterol)? If you want to grow a healthy baby and not gain excess body weight in the process, stick to lots of fruits, veggies and whole grains such as quinoa, brown rice, red rice, millet, oats, barley, kamut. Try not to use oils in your cooking or even in your salad such as olive oil. If you must use oil, use very little and only canola (rapeseed) oil. Try sautéing your onions, mushrooms, etc in water or low sodium vegetable stock. It works.

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7. Walk briskly 3-5 times a week for 30-60 minutes.

8. Do pre-natal yoga 3-5 times a week. I prefer Kundalini style during pregnancy and Hatha yoga for recovery.

I have had two very healthy natural childbirths. I introduced capsules into my daughters' diets once they started solid food by sprinkling a part of a capsule into their meals (1/3 capsule per 10 lbs. of body weight). Teaching them to drink water is an ongoing activity, and a very important one. Dry powders can add to the common problem kids have of staying hydrated once they stop drinking breast-milk as their main source on nutrition.

Breastfeeding is the best option for the first two years. Most pediatricians are not well trained in nutrition, and don't always have the healthiest advice when it comes to feeding babies and young children. Many women are discouraged early on because breastfeeding can be difficult

to establish. They may encounter challenges along the way, and are then encouraged by their pediatrician (or well-meaning friends and family) to stop breastfeeding and introduce soy or dairy-based formula. If you are having a difficult time establishing a milk supply, getting

your baby to adequately latch, or with any pain or discomfort, consult sources such as Le Leche League (<http://www.llli.org/>) before giving up on breastfeeding. There are local chapters with leaders who are well-trained and eager to help.

Goat milk may be a last resort option in the first two years if breast feeding is impossible due to another impending pregnancy while breastfeeding. After the first two years, the baby can make their own cholesterol and there should be no need for any milk or animal products in their diet. The mother never needs dietary cholesterol during pregnancy or breastfeeding, so there is never a need for the mother to eat animal products.

The most important thing you can do for your kids is to not give them refined foods or animal products. Avoid sodas, cookies, crackers, processed foods such as macaroni and cheese products or hotdogs and lunch meats. This will also eliminate food colors and flavor enhancers. Also avoid all products with hydrogenated oil. Introduce them early to a plantbased

diet. A child's biggest exposure to antibiotics, dangerous microbes, animal fat, cancercausing animal protein, and artery-clogging saturated fat and cholesterol is animal products.

Even if it is hard for you to change, give your kids a head start in life.

Books and other resources

Even though these aren't on pregnancy, they are about optimal nutrition, which is ideally what

we want to practice during pregnancy:

- The China Study by T. Colin Campbell
- Eat to Live (and other books and DVDs) by Dr. Joel Furman
- Prevent and Reverse Heart Disease by Dr. Caldwell B. Esselstyn, Jr.

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- The World Peace Diet by Will Tuttle, PhD
- www.nealbarnard.org Dr. Neal Bernard (President of Physicians Committee for Responsible Medicine). He also has loads of books and DVDs
- www.drjohnmcdougal.com Dr. John McDougall has loads of great books, DVDs and excellent free e-newsletter.
- www.RAVEdiet.com Book and DVD are pretty straight to the point. Book has loads of recipes.

Here are some sample menus and meal suggestions:

Breakfast ideas

- Fruit bowl
- Whole grain cereal - try with a variety of fruit/berries, Juice Plus® Complete, and plant-based milk (oat milk, rice milk, almond milk, soy milk) and ground up flax seeds
- Herbal tea

Lunch ideas

- Veggie sandwich on whole meal bread (e.g. avocado, tomato, cucumber, hummus, leafy greens)
- Pita pockets with falafel, hummus and veggies
- Last night's leftover dinner

Dinner ideas

- Steamed or baked veggies
- Large salad with one pot leftovers from previous dinners as dressing
- One pot dishes: throw together some beans, whole grains, and your favorite spices

and water; cook until grains and beans are done, and throw in cut up veggies for last 5 min.

Possible grains: quinoa, millet, barley, brown rice, bulgur wheat

Possible veggies to chop up: eggplant/aubergine, zucchini/courgette, mushrooms, beans, carrots, celery, sweet potato, beets, corn, peas, etc.

Beans: Can buy dry beans and soak overnight

Most of all, I wish you the best, as you journey into motherhood!

Mitra Ray, PhD