

A Nutritional Commentary on Food for the Food Bank

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PEANUT BUTTER

Contrary to what their name implies, peanuts are not true nuts but a member of a family of legumes related to peas, lentils, chickpeas and other beans. Peanuts start growing as a ground flower that due to its heavy weight bends towards the ground and eventually burrows underground where the peanut actually matures.

Peanuts are a very good source of monounsaturated fats. Not only do peanuts contain oleic acid, the healthful fat found in olive oil, but new research shows these tasty legumes also contain some antioxidants. In addition, peanuts are a good source of vitamin B3 (niacin), vitamin E, tryptophan, , folate, copper, manganese, and protein.

Caution: some peanut butters have added sugar in the form of icing sugar. This is NOT a healthy addition to this food product. And Organic is always preferred.

CHUNKY SOUP

Chunky vegetable soup is preferred because it is difficult to find good quality meat in a canned soup, and there are just so many more nutrients in a vegetable soup that have health-promoting qualities. If the soup has added beans, lentils, or barley this will help boost the protein content of the soup. Here is a nutritional profile of a super energy kale and potato soup that contains:

- 1 medium onion, chopped
- 4 cloves garlic, chopped
- 5 cups chicken or vegetable broth
- 1 medium carrot, diced into ¼-inch cubes (about 1 cup)
- 1 cup diced celery
- 2 red potatoes, diced into ½-inch cubes
- 3 cups kale, rinsed, stems removed and chopped very fine

- 2 tsp dried thyme
- 2 tsp dried sage

vitamin K	excellent
vitamin A	excellent
vitamin C	excellent
manganese	very good
potassium	very good
dietary fiber	very good
vitamin B6 (pyridoxine)	good
iron	good
calcium	good
copper	good
tryptophan	good
molybdenum	good
folate	good
protein	good
vitamin B1 (thiamin)	good
magnesium	good

Caution: canned soups are notorious for added salt, sugar, and MSG. Please read labels carefully. These are NOT healthy additions to an otherwise healthy food product.

WHOLE WHEAT PASTA

Wheat, in its natural unrefined state, features a host of important nutrients. Therefore, to receive benefit from the wholesomeness of wheat you need to choose wheat products made from whole wheat flour rather than those that are refined and stripped of their natural goodness.

History: Wheat is an ancient grain. Thought to have originated in southwestern Asia, it has been consumed as a food for more than 12,000 years. As it was looked upon as the Staff of Life, it

played an important role of religious significance and was part of the sacred rituals of many cultures. Greek, Roman, Sumerian and Finnish mythology had gods and goddesses of wheat. This exceptionally nutritious grain is still considered to be sacred in some areas of China.

Wheat was not native to the Western Hemisphere and was only introduced here in the late 15th century when Columbus came to the New World. While wheat was grown in the United States during the early colonial years, it was not until the late 19th century that wheat cultivation flourished, owing to the importation of an especially hardy strain of wheat known as Turkey red wheat, which was brought over by Russian immigrants who settled in Kansas.

A Few Quick Serving Ideas:

Use whole wheat bread when you make sandwiches.

Wheat flakes look similar to rolled oats and can be prepared as a hot breakfast cereal.

Use sprouted wheat berries in vegetable and grain salads.

Make individual pizzas using whole wheat pita breads as the crust.

Whole wheat pasta has become very popular and is available in many different types (e.g., spaghetti, spirals, penne, etc.) to suit your recipe needs.

Nutritional Profile:

Whole wheat is a very good source of dietary fiber and manganese. It is also a good source of magnesium, B1 (thiamin), B2 (riboflavin), B6, folate, vitamin E and vitamin K. Whole wheat also contains some calcium, copper, iron, potassium, phosphorus, and zinc.

BROWN RICE

Rice is one of the most important foods in the world, supplying as much as half of the daily calories for half of the world's population. No wonder that in Asian countries, such as

Thailand, rice is so highly valued that the translation of the word "to eat" literally means "to eat rice."

Asked to name the types of rice they are familiar with, people may be able to recall one or two. Yet, in actuality there is an abundance of different types of rice—over 8,000 varieties. Oftentimes, rice is categorized by its size as being either short grain, medium grain or long grain. Short grain, which has the highest starch content, makes the stickiest rice, while long grain is lighter and tends to remain separate when cooked. The qualities of medium grain fall between the other two types.

Another way that rice is classified is according to the degree of milling that it undergoes. This is what makes a brown rice different than white rice. Brown rice, often referred to as whole rice or cargo rice, is the whole grain with only its inedible outer hull removed. Brown rice still retains its nutrient-rich bran and germ. White rice, on the other hand, is both milled and polished, which removes the bran and germ along with all the nutrients that reside within these important layers.

History:

Everyone knows that rice is an ancient food, but only recently have we discovered just how ancient it is. Rice was believed to have been first cultivated in China around 6,000 years ago, but recent archaeological discoveries have found primitive rice seeds and ancient farm tools dating back about 9,000 years.

For the majority of its long history, rice was a staple only in Asia. Not until Arab travelers introduced rice into ancient Greece, and Alexander the Great brought it to India, did rice find its way to other corners of the world. Subsequently, the Moors brought rice to Spain in the 8th century during their conquests, while the Crusaders were responsible for bringing rice to France. Rice was introduced into South America in the 17th century by the Spanish during their colonization of this continent.

Nutritional Profile:

Besides carbohydrates, dietary fiber, and some protein, Brown Rice is an excellent source of the trace mineral manganese, and a good source of the minerals selenium and magnesium. It also contains fairly good amounts of B1 (thiamin), B2 (riboflavin), B3 (niacin), B6, biotin, phosphorus, and omega 6 fatty acids.

CANNED FRUIT

Fruit contains a wide variety of vitamins, dietary fiber, and antioxidants that are key in promoting heart and cardiovascular health, colon health, and healthy vision. The canning process can cook out some nutrients, so be sure to choose fruit canned in it's own juice and not in sugary syrup as consuming refined sugar depletes the body of it's own stores of vitamins and minerals. And Organic is always preferred.

CANNED VEGETABLES

Clearly, lowering your intake of red meat and animal fats and increasing physical activity contribute to the health benefits of a mainly vegetarian lifestyle. However, recent research has focused on the presence of a variety of specific nutrients in plant foods that have health-promoting qualities.

- **Fiber:** Plant foods such as whole grains, beans, legumes, fruits, vegetables, and nuts provide dietary fiber. High intake of dietary fiber may reduce your risk of developing heart disease, diabetes, premenstrual syndrome, and colon cancer.
- **Antioxidants:** Fruits and vegetables contain high amounts of vitamin C, vitamin E, and carotenoids, all of which act as antioxidants, protecting your cells from the damaging effects of free radicals
- **Phytonutrients:** Plant foods contain a variety of unique nutrients such as phytoestrogens, indoles, isothiocyanates, and flavonoids. Emerging research indicates that these nutrients may help prevent cancer, heart disease, and other degenerative diseases.

Choose low salt options and organic is always preferred.

CEREAL

Look for cereal grains that feature whole grains and no sugar added. Diets that feature significant amounts of whole grains have been shown to offer protection against the development of cardiovascular disease and certain types of cancer. While whole grains provide an array of important constituents such as fiber, resistant starches, vitamins and minerals, the whole story of whole grains can't be told without appreciating the important health contribution of the phytochemicals that they contain.

The germ and bran of whole grains such as rice, barley and oats contain a concentrated amount of important phytochemicals that belong to the organic acid family. Included among this family of compounds are caffeic acid, ellagic acid as well as ferulic acid, a phytochemical at the crux of recent research efforts. While whole grains are significant sources of ferulic acid, certain fruits and vegetables such as spinach, parsley, grapes and rhubarb are also known to contain this important compound.

In support of the observations that whole grain consumption may be protective against cancer, ferulic acid has been investigated by scientists and shown to prevent colon cancer in animals and other experimental models, researchers have hypothesized a variety of ways in which it may offer this protection. Ferulic acid has been found to be a potent antioxidant that is able to scavenge free radicals as well as protect against radiation-induced oxidative damage to cells and tissues. It has also been shown to be able to inhibit the formation of the cancer promoting n-nitroso compounds. Choose boxed cereals that contain a variety of whole grains and nuts and seeds and some dried fruit for a natural nutty and sweet taste and nothing artificial – Kashi is a good brand.

BABY FORMULA 0–12 MONTHS

BABY FOOD – ALL FLAVOURS

Anyone who spends any time with babies recognizes that they grow and change almost before your eyes. In the span of 12 months, most infants learn to sit up, cut many teeth, start to crawl, move from crawling to walking, begin to communicate verbally, and triple their body weight. At no other time in the child's life, will he/she again experience such rapid growth and development. Good nutrition is the key to ensuring that growth and development proceeds optimally. Infants require all the essential vitamins and minerals and also need large amounts of calories and protein. For most of the first year of life, breast milk is often all a baby needs. As the baby develops the physical skills necessary to eat solid foods, simple and hypoallergenic foods should be introduced on a one-by-one basis.

Physical Factors:

Infancy is characterized by extremely rapid physical growth and development. During the first few days of life, most infants lose a little bit of weight. But, within a week, they typically regain their birth weight and set off at a pace of growth that, on average, more than doubles their initial birth weight and increases their length by 5–10 inches by the time they reach their first birthday! At the same time, the individual organ systems of the infant are developing to allow for increasingly more complex functions. To ensure that this growth and development proceeds optimally, infants need to obtain adequate amounts and high-quality forms of protein, essential fatty acids, vitamins, minerals, and other nutrients.

Nutrient Needs, Macronutrient Overview:

Like all human beings at all stages of life, infants need a healthy supply of macronutrients – including proteins, carbohydrates, fats and calories – to thrive during this critical period of development. A healthy supply means the right

amount, because over-consumption and excess intake of macronutrients can be just as problematic for infants as under-consumption and deficiency. Quality is also very important, and sometimes overlooked in the feeding of infants and children. During the first year of life, breastfeeding is usually the best path of nourishment for an infant, with very few supplemental foods needed (or none at all) to provide a healthy supply of macronutrients. This period of breastfeeding also places a unique emphasis on the mother's diet. The quality of a mother's milk depends in great part upon the mother's diet, not only with respect to macronutrients, but also to vitamins, minerals, phytonutrients, and potentially problematic food components. Allergic reactions in a nursing infant, for example, can often be improved by changes in the mother's diet. Several aspects of macronutrient quality are worth a special look during this period of development.

Fats and Fatty Acid Quality:

During the first 6 months of life, fat should account for approximately 50% of the infant's total calorie intake based on DRI (Dietary Reference Intake) recommendations that have been established by the National Academy of Sciences. Between months 7–12 this percentage drops somewhat, but a range of 35–40% is still recommended for fat intake as a percent of total calories. This amount is easily provided in the milk produced by a healthy mom and consumed by a regularly breastfeeding infant.

The quality of fat consumed during infancy is also important. The DRI recommendations include a suggested intake of at least 4–5 grams of the omega-6 essential fatty acid, called linoleic acid, on a daily basis. This amount can often be provided in human milk without especially careful attention to the diet on the part of a nursing mom. However, the DRI recommendation of $\frac{1}{2}$ gram intake of linolenic acid – an omega-3 fatty acid – may not be as easily met by a nursing mom without more careful attention to her meal plan. Because the role of omega-3 fats in early growth and development

seems so important to us based on our review of research studies in this area, we would go even further in our own recommendations about omega-3 intake by mothers who are breastfeeding. We believe it makes sense for nursing mothers to make certain that they include at least one source of omega-3 fats in their diet every day, in a serving size that provides closer to 1-2 grams of omega-3s. This amount can be found in 5-10 walnut halves, or 2-4 teaspoons of flaxseeds. 2-4 ounces of baked salmon would also do the trick, and in the case of salmon, a nursing would also get important amounts of another omega-3 fatty acid called DHA (docosahexaenoic acid). This omega-3 plays a critical role in the development of an infant's brain and nervous system. Mothers who decide not to breastfeed should select an infant formula that contains omega-3 essential fatty acids, or supplement the baby's diet with these critical high-quality fats.

Protein and Calories:

DRI recommendations for protein and calories are not dramatically high for infants and young children. During the first year of life, protein recommendations range between 9-14 grams per day. Between the ages of 1-8 years, they range from 13-19 grams. The protein content of human milk varies greatly, but averages approximately 1/3rd gram per ounce. An nursing infant who consumes 15-30 ounces of milk will average 5-10 grams of protein and fall right in line with the DRI recommendations. While excess protein intake is unlikely when it comes to breastfeeding, formula feeding is another matter. Infant formulas often contain as much as 1 gram of protein per ounce, and an infant consuming 30 ounces of formula may be getting as much as 30 grams of protein. This amount of protein is 2-3 times the DRI recommendation, and may be too much from the perspective of optimal health.

The same situation is true for calorie recommendations. During the first year of life, approximately 500-750 calories are needed each day. By this age of 8, this range has increased to approximately 1650-1750 calories. When an infant formula

contains 35–40 calories per ounce, and an infant consumes 30 ounces of formula, the result can be 1,050–1,200 calories, or more than double the DRI recommendation. Nursing infants are less likely to go overboard on calories, because human milk averages approximately 20–25 calories per ounce. 30 ounces in this case would leave an infant with approximately 600–750 calories, and right alongside the DRI recommendation range.

Micronutrient Overview:

It's impossible to single out two or three micronutrients when it comes to special attention needed by newborns and infants. From large-scale health and nutrition studies like NHANES III (National Health and Nutrition Examination Survey III), we've learned that some vitamin and mineral deficiencies are more likely when infants overeat! This relationship is true for iron deficiency, which is more common in overweight and obese infants and children than it is in infants and children of average weight. In the case of a nursing infant, it is the quality of the mom's diet that is extremely important here, and in the case of formula-fed infants and older children consuming foods, it's the quality of the formula and the foods that is equally important. We've seen organic baby formulas that not only contain all DRI nutrients, but additional vitamins and minerals as well (together with omega-3 fatty acids). The entire spectrum of B-vitamins, including biotin and choline, and trace minerals like selenium, chromium, molybdenum, and manganese are just as important as the more familiar micronutrients like vitamin C, vitamin E, or calcium and zinc. There are many high-quality infant formulas on the market that contain all of the nutrients above. However, in almost all cases, the best bet for optimal nourishment of infants is breastfeeding by a mother whose diet is filled with a balanced mix of whole, natural foods.

Nutrient	0-6 Months	7-12 Months	1-3 Years
Energy (calories)	520-570	676-743	992-1046
Protein (grams)	9.1	13.5	13
Vitamin A (mcg RE)	400	500	300
Vitamin D (mcg)	5	5	5
Vitamin E (mg alpha-TE)	4	5	6
Vitamin K (mcg)	2	2.5	30
Thiamin (mg)	.2	.3	.5
Riboflavin (mg)	.3	.4	.5
Niacin (mg NE)	2	4	6
Pantothenic Acid	1.7	1.8	2
Vitamin B6 (mg)	.1	.3	.5
Folate (mcg)	65	80	150
Vitamin B12 (mcg)	.4	.5	.9
Choline (mg)	125	150	200
Biotin (mcg)	5	6	8
Vitamin C (mg)	40	50	15
Calcium (mg)	210	270	500
Phosphorus (mg)	100	275	460
Magnesium (mg)	30	75	80
Iron (mg)	.27	11	7
Zinc (mg)	2	3	3
Iodine (mcg)	110	130	90
Selenium (mcg)	15	20	20
Copper (mcg)	200	220	340
Manganese (mg)	.003	.6	1.2
Chromium (mcg)	0.2	5.5	11

Dietary Choices:

Naturally, newborns and infants have little control over what they eat, and their parents are responsible for selecting and

providing any source of nourishment they receive. The clear ideal to shoot for, in virtually all circumstances, is breastfeeding. The composition of breast milk, even in mother's who are not optimally healthy, is still clearly superior to formula. Of equal importance is the relationship between mother and infant that is made possible by breastfeeding. (Mothers who decide not to breastfeed can still work to establish this same kind of relationship when bottle feeding.) The decision about whether and how long to breastfeed is complex for many mothers, and often involves issues related to employment outside the home and lack of support for breastfeeding from the social and home environment. (For more information about breastfeeding, you may want to consult the official web page of La Leche League International at [La Leche League](http://www.la-leche-league.org). Breastfed or bottle-fed, the importance of the infant's nutritional intake and early-life relationship with food cannot be overstated.

Sometimes an infant's dietary choices become affected by a condition called colic. This condition is characterized by inconsolable crying for several hours during the day and frequent gas. Food allergy has been identified as a common cause of colic. Consequently, a mother of a colicky breastfed infant may need to change her diet. Often, excluding dairy products can help. Formula-fed infants with colic may need a hypoallergenic formula. Colic is usually a temporary condition, but it can affect the infant's intake of food and should be addressed.

The appropriate time to introduce solid foods is a controversial issue. Some nutritionists suggest introducing cereals as early as 4–6 months after birth, while many others suggest that the digestive and immune systems of infants are not developed sufficiently at this point to handle solid foods and argue that premature introduction of solid foods may lead to food allergies, poor digestion, and obesity. So, how do you decide the best time to give your baby solid foods? To be safe, it is advisable to wait until your baby is at least six months of age. At around five months, begin to watch for signs that your child

is developing the physical skills necessary to begin eating. He/she should be able to sit up and should start to display chewing motions (up and down movement of the jaw). Select simple, unprocessed, and hypoallergenic foods (see the Allergy Avoidance Diet for more information). Puréed cooked vegetables and fruits (such as sweet potatoes, squash and applesauce) are best. Once your baby cuts his/her first few teeth and develops the hand-eye coordination necessary to grasp and hold foods, you can begin to introduce a wider variety of foods. In addition to these physiological, growth-related benchmarks, many parents let their child's interest in solid foods help guide their decision about when to try them. The first hypoallergenic foods should always be introduced one at a time, to allow accurate assessment of their compatibility with the child.