Nutrition Guide

nutrition from preconception to the teen years

Produced by Navy Fitness

Introduction

Most people know that good nutrition is important to a healthy mind and body, but what is good nutrition for an infant, toddler or adolescent?

- What do you need to eat to ensure your body is ready and equipped to become pregnant?
- Are you fueling your unborn baby well enough to thrive during pregnancy?
- Should you breastfeed or is formula better?
- Are you feeding your infant for optimal growth?
- Should you use supplements for yourself or your baby?
- Are you providing your toddler with all the essential vitamins and minerals needed to help ensure proper mental, physical and social skills development, so that they can grow into adolescents who are able to concentrate and excel in and outside the classroom?

These are just a handful of the questions that new parents and potential parents face each day.

This guide was designed to take the guesswork out of nutrition for you and your child, from pre-conception until they leave the nest. Follow the nutritional information in this guide and your "little one" will be well on their way to optimizing their nutrition for life.

Prime for Pregnancy

That's right! Before the decision is even made to have a baby, it's essential to make sure that mom's body is primed to go through the physical and emotional demands of pregnancy. That's because mom's nutritional status will directly affect the well-being of the fetus. Too often, women wait for a positive pregnancy test to improve their diet, stop drinking alcohol and quit smoking.[1]

According to the Center for Disease Control and Prevention (CDC), women in child bearing years (ages 15-44), whether they are having their first child, their fourth or they have no plans of having a child, should screen for preconception care and follow the preconception recommendations.

The CDC's recommendations are:

1. Individual responsibility across the lifespan
2. Consumer awareness
3. Preventive visits
4. Interventions for identified risks
5. Interconception care
6. Pre-pregnancy checkup
7. Health insurance coverage for women with low incomes
8. Public health programs and strategies
9. Research
10. Monitoring improvements

Since 1996, progress in the United States to improve pregnancy outcomes, including low birth weight, premature birth and infant mortality, has slowed, in part, because of inconsistent delivery and implementation of interventions before pregnancy to detect, treat and help women modify behaviors, health conditions and risk factors that contribute to adverse maternal and infant outcomes.[2] Although not all of the recommendations are related to nutrition risks, such as diabetes, obesity, hypertension and malnourishment, are all

nutritional instances where there is a risk of a fetus failing to thrive.[1] ***Appropriate screening and treatment can help you prevent any harm to your unborn baby!***

The 2005 Dietary Guidelines for Americans has identified calcium, fiber, magnesium, vitamins E and C, carotenoids and potassium as problem nutrients for Americans, including women of childbearing age.[1] Women of childbearing age also need to be sure to consume foods high in iron, such as green leafy vegetables or lean meats, such as beef or poultry. Women should also be certain to consume 400 micrograms of folic acid as part of their diet and from supplements to reduce the risk of neural tube defects.

"Foods high in folate include dark green leafy vegetables such as spinach, collard greens, mustard greens, turnip greens and broccoli. Also high in folate are legumes, such as dried beans and peas (black-eyed peas and black, pinto, kidney and navy beans), peanuts, asparagus, orange juice and oranges, avocado and strawberries." [3]

Choline is another nutrient necessary for the prevention of neural tube defects.[1] Women need 425 milligrams per day and may need more during pregnancy and lactation. Speak with your doctor about supplementing with choline or, better yet, choose foods that are higher in choline, such as egg yolks and lean beef. Cauliflower, navy beans and peanut butter also contain choline.

Future moms should use a daily multivitamin supplement and speak with their doctor about the best multivitamin for any existing health conditions. Research from the University of North Carolina, Chapel Hill, found that taking multivitamins every day prior to conception reduced the risk of preterm birth by almost half in a group of about 2,000 women.[1] Babies who are born preterm are at higher risk of needing hospitalization, having long-term health problems and of dying than babies born at the right time.[4]

The bottom line: Avoid drinking alcohol if you are planning to become pregnant or are at risk of becoming pregnant.

What about a daily cup of coffee? A 2008 study in the *American Journal of Obstetrics and Gynecology* concluded that consuming 200 milligrams of caffeine or more on a daily basis increased the risk of miscarriage in a group of more than 1,000 women.[1] This includes all caffeine; not just coffee. Tea, soft drinks, energy drinks and foods containing caffeine, such as chocolate and coffee-flavored ice cream, need to be limited.

Alcohol can delay conception, so eliminate it from your diet while trying to conceive. Alcohol is also detrimental to the fetus, especially during the first trimester. This is often a time when a woman does not even know that she's pregnant.

Pregnancy

Pregnancy is one of the most nutritionally demanding times in a woman's life. There is an increased need for many nutrients, including proteins and carbohydrates. Protein needs increase by 15-25 grams per day! Good choices of protein include low-fat milk, lean meats, nuts, seeds, tofu and soy. A pregnant woman needs at least 175 grams per day of carbohydrates to prevent ketosis, which can be very harmful to the fetus. Focus your attention on including iron and B-vitamins, especially folate. Prenatal vitamins prescribed by a physician will cover these additional needs, but nutrient-dense foods must be increased during pregnancy, too.

Pregnant women need to avoid drinking, smoking and drugs, along with herbal therapies, heavy caffeine use, X-ray exposure, stress, excess vitamin supplementation and activities that can expose them to a bacteria called listeria.

According to the Center for Disease Control and Prevention, Listeria monocytogenes is found in soil and water. Vegetables can become contaminated from the soil or from manure used as fertilizer. In addition, animals can carry the bacterium without appearing ill and can contaminate foods of animal origin, such as meats and dairy products. The bacterium has been found in a variety of raw foods, such as uncooked meats and vegetables, as well as in processed foods that become contaminated after processing, such as soft cheeses and cold cuts at the deli counter. Unpasteurized (raw) milk or foods made from unpasteurized milk also may contain the bacterium.

Listeria is killed by pasteurization or cooking; however, in certain ready-to-eat foods, such as hot dogs and deli meats, contamination may occur after cooking but before packaging.

Diabetics also need to be extra diligent at keeping their blood sugar level within healthy ranges during pregnancy. It is important to maintain a thorough food, insulin and blood sugar log, and identify foods that greatly increase blood sugars or times of the day when blood sugars may become dangerously low.

Weight gain during pregnancy should be gradual and most of it should be gained in the last three months. Physicians recommend no more than five pounds of weight gain in the first three months, then about one pound per week weight gain during the remaining months. Your total weight gain recommendations depend on your pre-pregnancy weight.

Pre-Pregnancy BMI	Weight Gain (lbs.)
Low (Less than 18.5)	28 – 40
Normal (18.5 to 24.9)	25 – 35
High (25 to 29.9)	15 – 25
Obese (Greater than 30)	11 – 20

If you are underweight, you should gain 28-40 pounds. If your pre-pregnancy weight is a normal weight, you should gain about 25-35 pounds. Overweight individuals should gain 15-25 pounds and obese individuals should gain only 11-20 pounds. Due to many obesity-related risks, some physicians are restricting weight gain even further. It must be understood that although hormones trigger many different cravings, a pregnant woman is not "eating for two." Excessive eating and a poor diet during pregnancy can lead to serious health conditions, such as gestational diabetes, high blood pressure or toxemia. On the other hand, pregnancy is no time to diet for weight loss. Although "pregorexia" has been a focus of the media, cutting back on calories during pregnancy can have grave consequences on you and your baby's health.

There are many concerns about fish consumption in pregnant women, and with good reason. Mercury can be extremely dangerous to the fetus, but the Omega-3 fatty acids in fish can be extremely beneficial to the fetus's development. Most health agencies recommend that pregnant and breastfeeding mothers eat fatty fish at least two times per week, but no more than 12 ounces total per week. Avoid swordfish, shark, king mackerel, tile fish and largemouth bass, and limit albacore tuna to just six ounces per week.

Recommended Daily Intake for Pregnant Women in Their Second and Third Trimesters

- 3 cups milk
- 6.5-ounce equivalent of meat and beans
- 3.5 cups of vegetables
- 2 cups of fruit
- 8-ounce equivalent of grain
- 7 teaspoons of oil
- Up to 400 discretionary calories

The Importance of Proper Nutrition for Your Baby

Babies will grow faster during their first year of life than at any other time. To support this rapid growth and development, an infant's body demands a lot of energy and nutrients.

Important nutrients include calcium, iron and vitamins A and D. Remember: Babies are small; they need fewer total amounts of nutrients than adults do, but pound for pound, a baby needs twice as many of most nutrients than adults.

In most cases, a child who is well fed will have a better chance at fully developing his/her physical and mental potential. A well-fed infant will also have a stronger immune system, which may mean fewer trips to the doctor and better health overall.

Experts agree that during the first year of an infant's life, the most important part of the diet should be human breast milk or infant formula.

Growth Spurts
3-4 days
2 weeks
4 weeks
6 weeks
3 months

Did You Know?

- Your newborn baby's stomach is about the size of a golf ball!
- Babies usually double their birth weight by the time they are 4 to 6 months old and triple it by the time they are 1 year old!

A to Z: 26 Reasons to Nurse Your Baby

Amenorrhea

Bonding

Colostrum ... the perfect first food

Decreased risk of breast cancer?

Easy baby care

Fewer allergies

Good for the whole family

Human milk is specially designed for human babies

Immunities

Jaw development

Kids get more attention when the new baby is breastfed

Laundry is a breeze

Mental development

Natural

Oxytocin and prolactin

Protection against many diseases

Quick weight loss for mom

Rest

Saves money

Traveling is easy

Understanding the baby's needs

Vitamins and minerals

Working goes smoothly when the nursing relationship is maintained

e**X**actly what baby needs

You get to take care of your baby

Zero waste

LEAVEN, Vol. 33 No. 4, August-September 1997, p. 90

Breastfed Infants …

Are less likely to suffer from colic and constipation because breast milk is very easy to digest.

Benefit from appropriate jaw, teeth and speech development, as well as overall facial development.

Are less likely to have food allergies and dental cavities.

Are less likely to get infections because they receive some of mom's immunity through the early form of breast milk (a yellowish substance called colostrum).

Are less likely to become overweight: Parents who formula feed may urge their infant to finish a bottle (even when the infant is full), in order not to waste any formula.

Breastfeeding is Best for Mom, Too!

It's convenient; there are no bottles to sterilize or formula to mix. Plus, your breast milk is always the right temperature. This is a huge benefit, especially in the middle of the night.

It saves money. If you breastfeed for the first year of baby's life, you will have saved more than $1,000 on the cost of formula!

It causes the uterus to contract, which helps it to return to its normal size more quickly.

It burns calories. Breastfeeding may help you get back to your pre-pregnancy weight faster.

It may reduce your risk of breast cancer.

The more you breastfeed or pump, the more milk you will make. If you do not breastfeed or if you wean from breastfeeding to formula feeding, your body will eventually stop making milk.

Feeding Options

Breastfeeding does not always come naturally; it's a skill to be learned and practiced.

If you have a few minor problems getting started, you are not alone. Fortunately, there are many resources available to help you. Almost all problems women have breastfeeding are solvable!

If breastfeeding is not an option, infant formulas are available in ready-to-feed, liquid concentrate and powder form. When looking at nutritional value, no one form of infant formula is better, so choose whichever you prefer. (Ready-to-feed is easiest to use, but costs more.)

Each formula provides comparable nutrients and is usually well tolerated by infants. Other store brand formulas are also available.

Most formulas now contain DHA, which is also found in breast milk and has been known to aid in a baby's visual development. Formulas or breast milk high in DHA have been linked to improved vision.

Although tap water in the United States contains fluoride, it doesn't in many other parts of the world. Fluoride is important in the development of healthy teeth. There are nursery water or fluoride drops that can be added to tap water, or you can use bottled water when the infant develops teeth, usually around 6-7 months of age. Always speak with your doctor or registered dietitian before supplementing your infant's diet. Well water and spring water are not recommended for use in formula preparation because of the potential for hazards. Also, make sure to use a clean bottle and nipple for each feeding. For optimal safety, wash the bottle and nipple in the dishwasher after each use.

Intake may vary for each infant. These are just guidelines and your baby may

consume more or less, depending on their appetite. Your baby's appetite and formula intake will increase as he or she grows, particularly during the first six months. It is recommended that you feed your baby on demand. As a rule, a baby will eat every three to four hours. If you have a very sleepy newborn, you may have to wake the baby to feed. Babies often spit up a teaspoon or two of formula during or soon after a feeding. Some spitting up is normal.

In addition to fluoride, infants also require iron. Iron helps build healthy red blood cells. These blood cells carry oxygen to all parts of the body. Most of the iron stores a baby is born with are used up by the time they are 4 months old. Since a baby's body needs to make new red blood cells as he or she grows, it is very important to get enough iron from the diet. Iron-fortified formula should not cause constipation, diarrhea or stomach cramps. We now know that there isn't enough iron in formulas to cause constipation. Studies have shown that constipation in infants fed with iron-fortified formula compared to those who are fed low-iron formulas is the same. As a rule, problems like constipation stem from other sources, which should be evaluated before changing formulas.

The American Academy of Pediatrics recommends that all healthy infants who are not breastfed should be given iron-fortified formula from birth until 1 year of age. Low iron or diluted formula does not meet your baby's iron needs and can be dangerous for your baby. Only use if recommended by your pediatrician.

Age	Volume	Number of feedings/day	Total intake/day
Birth–1 week	2–3 ounces	6–10	12–30 ounces
1 week–1 month	4–5 ounces	6–8	24–30 ounces
1–3 months	4–6 ounces	5–6	20–36 ounces
3–7 months	6–8 ounces	4–5	24–40 ounces
4–9 months	6–8 ounces	3–4	18–32 ounces
8–12 months	6–8 ounces	3	12–24 ounces

Fact vs. Fiction

Myth: A newborn who wants to eat more than every two to three hours isn't being satisfied by formula or breast milk.
Fact: A newborn should only be fed breast milk or formula. During periods of rapid growth and development, an infant may seem unsatisfied; however, breast milk and formula will support this growth.

Myth: Babies who are hungry at night need additional calories during the day.
Fact: Babies need to eat every two to four hours (even at night), until they can take in enough breast milk or formula during the day and evening. Rice cereal should not be added to the bottle to help the baby sleep through the night.

Introducing Solid Foods

All babies develop at slightly different rates. Go by what your baby can do more than by how old your baby is. Starting solid foods too early may not be life threatening, but it could lead to complications, such as stressed kidneys, constipation, iron deficiency anemia, food allergies or choking.

Your baby will give you signs to let you know when he or she is ready for solid foods. These signs appear somewhere between the fifth and seventh month:

- Sits up, alone or with support
- Uses neck muscles to hold head up straight
- Puts fingers and toys in mouth
- Opens mouth when he sees something coming
- Turns head away if she doesn't want something
- Mouth stays open if he does want something
- Keeps tongue flat and low, so you can put the spoon in
- Closes lips over the spoon
- Scrapes food from the spoon with lips
- Keeps food in mouth, rather than squeezing it back out onto her chin

Don't start solid foods too early.
Your baby will be ready when he or she's ready.

Item	0–4 months	4–6 months	7 months	8 months	9 months	10-12 months
Breast milk (or formula)	5-10 feedings per day (14-39 oz. per day)	5-6 feedings per day (6-7 oz. per feeding)	4-5 feedings per day (7-8 oz. per feeding)	4-5 feedings per day (7-8 oz. per feeding)	4 feedings per day (6-8 oz. per feeding)	3-4 feedings per day (8 oz. per feeding)
Dry infant cereal with iron		1 tbsp. per 2 oz. of breast milk or formula	1 tbsp. per 2 oz. of breast milk or formula	1 tbsp. per 2 oz. of breast milk or formula	1 tbsp. per 2 oz. of breast milk or formula	1 tbsp. per 2 oz. of breast milk or formula
Fruits		1-2 tbsp. plain, strained	1-2 tbsp., plain, strained	9-18 tbsp., strained or soft, mashed (1-2 jars)	9-18 tbsp., strained or soft, mashed (1-2 jars)	¼-¾ cup, strained or mashed, cooked
Vegetables		1-2 tbsp. three times per day	1-2 tbsp. three times per day	9-18 tbsp., mashed, soft, bite-size (1-2 jars)	9-18 tbsp., mashed, soft, bite-size (1-2 jars)	¼-½ cup, well-cooked, mashed
Meat and protein foods				Try plain yogurt	.5 oz. of well-cooked, soft or ground table meat	½-1 oz. finely chopped table meats, fish without bones, mild cheese
Juices, fortified with Vitamin C			100% infant apple juice, 2-4 oz. per day	Try 100% citrus juice, 4 oz. per day	All 100% fruit juices, 4 oz. per day	All 100% fruit juices, 2-6 oz. from a cup per day
Starches						¼ cup mashed potatoes, macaroni and bread
Snacks			Arrowroot cookies, toast, crackers	Arrowroot cookies, toast, crackers, zwieback, plain yogurt	Arrowroot cookies, toast, zwieback, plain yogurt	Same as 9 months, plus cottage cheese, ice cream, pudding and dry cereal
Tips		Make cereal feedings very soupy; thicken slowly; try feeding with a spoon.	Start finger foods and use of a cup			Use spoon and cup; working on self feeding

Foods to Avoid During the First Year

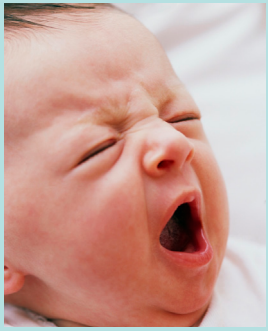
EGGS are one of the most common allergy-causing foods. Your baby's immature stomach cannot digest the larger protein in eggs. This causes the immune system to fight the unknown body. Egg allergies can significantly affect your diet, since many items have egg protein in them.

HONEY may contain botulism spores, which can cause deadly food poisoning.

PEANUT BUTTER should be avoided because of its difficulty for infants to chew and swallow. It may also cause a severe allergic reaction. Peanut butter may be introduced once the infant has teeth.

COW'S and **GOAT'S MILK** cannot be tolerated by an infant's kidneys. The high amount of protein in them can cause a lifelong allergy, if provided too early.

*Infants who are exclusively breastfed or those with dark skin need daily vitamin D supplementation. The usual recommendation is 400 international units per day, but always speak to your pediatrician or registered dietitian before supplementing your baby's diet.



Babies Who Do Not Get Enough Iron May Have the Following Symptoms:

- Fussiness
- Slow growth
- Frequent illness
- Lack of interest in eating or playing
- Pale skin color
- Increased sleepiness

Beginning Feeding Tips

- Take time to help your child relax and prepare to eat.
- Sit down to eat with your child and have a good time.
- Help your child learn to behave well at meals and snack times.
- Allow your child to choose from the food made available.
- Let your child have as little or as much of the food as he wants.
- Offer familiar and popular foods, along with unfamiliar foods.
- Let your child eat what she likes and also try out new foods.

Ages 1-5

The years between one and five are a period of slowing-growth velocity, decreased appetite and the development of motor skills and independence. All of these affect your child's diet and feeding regimen. Self-feeding is important, even though they may not be able to handle a utensil or have good hand-eye coordination.

Toddlers may seem to eat little, and often vary greatly in the amount that they eat on a day-to-day basis. They may accept foods one day and reject the same food the following day. They often will not eat a full meal, but rather only two or three foods. It is common for them to get easily distracted, protest eating various foods and even forget all about eating.

It may take seven to 12 introductions before your toddler makes a decision about liking or not liking a particular food. It is also important to provide your toddler with planned and structured mealtimes. Adults, parents or caregivers are responsible for what, when and where children are fed. Children are responsible for whether or not they eat and how much they have to eat.

Manage their eating with respect to both amounts and types of foods. Meals and snacks are an important part of the day. Children will eat what they need and will learn to eat new foods.

Some days children eat a lot and on other days, not so much; however, they always know how much they need. Don't limit the amount of food a child chooses to eat, but certainly don't force an unwilling toddler to eat a certain amount of food or force

It is the parent's responsibility to provide proper, balanced food choices and to allow exploration and independence. It is the child's responsibility to choose how much to eat. Toddlers do not like new food, but they will learn to like it.

them to eat particular foods. This will only discourage them from trying new foods in the future.

Scheduled meals and snacks are important to ensure your child receives adequate calories, protein, vitamins and minerals. The amounts consumed at any one setting may appear rather small, but a child's stomach is significantly smaller than an adult's stomach. Although they will eat more often than an adult, avoid catering to your toddler, but remember to respect your child's food preferences. He or she may like foods that you don't like.

Keep in mind the serving size for your child. Often, parents provide an adult serving size and require their child to clean the plate. This becomes an issue and can lead to stressful mealtimes. It's better to provide smaller portions and allow your child to have more, if wanted.

Children up to 2 years old need additional fat to aid in brain development and to meet calorie needs for growth. Provide whole milk and whole fat products, and do not limit fat choices. Children 2 years and older should not continue the use of whole milk or whole fat products. They can drink 2% milk or lower, if your pediatrician recommends it. Despite the need for whole fat products, healthy choices can also be offered to those toddlers under 2 years to help lay the foundation for good, life-long nutrition. When preparing food, cook food that is moderate, not low in fat and use meat, poultry, fish and beans. Choose lean red meats, but do not restrict red meats that are higher in fat.

Average Growth Rate for Ages 1 to 4 Years

Age	1–2 years	2–3 years	4 years
Average Weight Gain per Year (in pounds)	5.5–6.6	4.4	4.4–8.8
Average Height Gain per Year (in inches)	3.9–4.7	2.8–3.5	2.4–3.1

For toddlers, just like infants, there is a need for attention to specific nutrients. Some of the more common nutrients include iron, vitamin D, calcium and fiber.

Iron

Iron deficiency anemia is common during these years because of the increase in the consumption of cow's milk and other low iron foods. Often from the first birthday until at least 2 years of age, toddlers drink too much milk and juice, neither of which contains enough iron. Furthermore, large amounts of fluids sometimes cause a decrease in solid food intake.

Typical Servings and Serving Sizes for the Toddler Years			
Food Groups (number of daily servings)	**Age 12 – 23 Months (in serving sizes)**	**Age 2 – 4 Years (in serving sizes)**	**Age 4 – 6 Years (in serving sizes)**
Milk and milk products (4 servings)	4-6 oz. whole milk and milk products; ⅓ oz. cheese	4-6 oz of 2% milk and milk products; ⅔ oz. cheese	4-8 oz. skim milk and milk products; 1 oz. cheese
Meat and other protein foods (2 servings)	½ - 1 oz. meat/eggs or ¼ cup beans	½–1½ oz. meat/eggs or ¼ cup beans; 1 tbsp. peanut butter (after the age of 3)	1-2 oz. meat/eggs or ¼-½ cup beans; 1-2 tbsp. peanut butter
Breads, cereals and starches (4 + servings)	½-1 slice bread; ¼-½ cup cereal, rice and pasta	¾-1 slice bread; ⅓-¾ cup cereal, rice and pasta	1-2 slices bread; ½-1 cup cereal, rice and pasta
Fruits and vegetables (4 + servings)	1-2 tbsp.; 3 oz. juice (1 serving per day)	2-4 tbsp.; 4 oz. juice (1 serving/day)	4 or more tbsp.; 4 oz. juice (1 serving per day)
Fats and oils (3 servings)	do not limit	1-3 tbsp.	1-3 tbsp.
Miscellaneous jams, jelly, soft drinks, candy, sweets (use within reason)	use small amount	use small amount	use small amount

Choose these foods to help ensure your child receives enough iron:

- Iron from meat, fish and poultry is better absorbed than iron from plants.
- Include foods high in vitamin C, such as citrus fruits, melons, dark green leafy vegetables and potatoes with your meals. These foods may help the body absorb more iron.
- Choose iron enriched or fortified breads, cereals and pastas.

Vitamin D

Vitamin D is important in the formation of bones. The body creates some vitamin D from sun exposure, but we can also acquire vitamin D from fortified foods, such as milk. Although it's very important to obtain vitamin D from the sun, it is still necessary to use sunscreen on your toddler to prevent harm from the sun's rays. Enough vitamin D should still be produced despite the use of sunscreen. Keep in mind: Sunscreen should not be used on children younger than 6 months. Be sure to speak with your doctor or registered dietitian before supplementing your child with vitamin D or other supplements.

Calcium
Calcium is one of the major building blocks for bones and teeth. Calcium is found in dairy products, such as milk, yogurt and cheese. There are also some non-dairy sources of calcium, such as green leafy vegetables like broccoli, spinach and collards. Excess amounts of calcium do not provide stronger bones, as it does not stay in the body.

Fiber
Fiber is an important part of all diets, including that of your toddler. Fiber helps with digestive health and fibrous foods contain important nutrients. Fiber is found in whole fruits, vegetables, whole grain breads, cereals and pastas. While it is important to make sure your toddler has adequate fiber intake, it's also necessary to provide enough water so your toddler does not have hard or painful bowel movements.

Multivitamins
Oftentimes parents provide a multivitamin to make sure their child is getting enough nutrients. Be careful, as sometimes multivitamins taste very good, similar to candy, and children may consume more than what is recommended. This will cause an intake of vitamins or minerals in amounts that may cause harm. If you provide a multivitamin, place the container out of your child's reach and provide it at a set time every day.

The most common foods that may cause allergies include:

- Peanuts and tree nuts (walnuts, pecans, etc.)
- Eggs (especially egg whites)
- Fish
- Milk
- Shellfish
- Soy
- Wheat

Allergies
Clinically-diagnosed food allergies are not as common as most people believe. It is important to recognize potential symptoms and discuss them with your pediatrician and dietitian.

These are some of the more common symptoms associated with food allergies:

- Wheezing and difficulty breathing
- Itchy skin rashes (including hives)
- Nausea or vomiting
- Abdominal pain or diarrhea
- Swelling around the mouth and in the throat

These symptoms can develop within minutes or hours after your child ingests the food to which he or she is allergic. Nasal symptoms by themselves, such as congestion or a runny nose, are usually not related to food allergies.

Symptoms of food allergies may be mild or severe, depending upon how much of the food your child has eaten and how allergic he or she is to the food. A severe reaction can include anaphylaxis (difficulty breathing, swelling

Clinically diagnosed food allergies are not as common as most people believe. It is important to recognize potential symptoms and discuss them with your pediatrician and dietitian.

in the mouth and throat, and decreased blood pressure and shock, which could potentially lead to death).

More common than food allergies are food intolerances. Symptoms of food intolerance can include vomiting, diarrhea and skin rashes. A common food intolerance is lactose intolerance, which occurs because of a deficiency of the enzyme lactase, which, in adequate amounts, breaks down lactose (the sugar found in milk) in the digestive tract. Children who do not produce this enzyme or who have a decreased amount of it develop symptoms after consuming food products containing lactose, such as cow's milk, ice cream and cheese. However, because this reaction does not involve the immune system, it is not a real food allergy. If you notice your child develops symptoms after being exposed to certain foods, then you should limit or avoid those foods.

If you begin to notice food allergy or intolerance symptoms when your child ingests certain foods, be sure to keep a food diary for a few weeks. Record what foods your child has been eating, especially new foods, and if or when symptoms develop. The food diary may help you figure out what your child is allergic or intolerant to.

Choking

In addition to intolerances, some food's shapes and sizes can be dangerous to your child's health. The American Academy of Pediatrics recommends that children younger than 4 years old not be fed any round, firm food, unless it is cut into small pieces no larger than one-half inch. Remember: Children under 4 years do not have a full set of teeth and cannot chew as well as older children or adults, so large chunks of food can lodge in their throat and cause choking.

Foods to avoid giving to children younger than 4 years old

- Hot dogs; sausages
- Grapes
- Globs of peanut butter
- Raisins
- Raw vegetables
- Nuts and seeds
- Chewing gum
- Chunks of meat or cheese
- Hard, gooey or sticky candy

Caregivers should also be aware of older children's actions. Many choking incidents occur when older brothers or sisters give dangerous foods, toys or small objects to a younger child.

To prevent choking, parents and caregivers can take steps to reduce the risk by keeping a watchful eye on children who are eating and playing; keeping dangerous toys, foods and household items out of the reach of young children; and learning how to provide early treatment for children who are choking. The American Academy of Pediatrics recommends parents supervise young children during mealtime and teach children to chew their food thoroughly. Children should be sitting, not lying down or in motion while eating. Eating "on the run" can also increase the risk of choking.

Ages 6-12

Children ages 6-12 years old fall into two categories: middle childhood (5-10 years) and preadolescence (10-12 years). Growth and independence are most prevalent during this time. Growth is often steady, but still occurring at a rate of about 7 pounds and 2.5 inches per year.[5] Because of this continuance in growth, children from ages 6 to 11 need to increase calories slightly, with the same emphasis on healthy foods as when they were toddlers. Growth spurts will normally coincide with increased appetite. It's important to monitor growth changes during this time, as both obesity and early signs of an eating disorder may develop. Teaching healthy eating and promoting a healthy lifestyle is still of much importance as children establish more autonomy and independence. Influences are occurring more outside the home by teachers, coaches and friends.

This age group tends to have a better ability at expressing their likes and dislikes of foods, as most parents are already all too familiar. Still, it is a time for experimenting, as taste buds are not fully developed and food preferences can be that much more prevalent for favorites, such as macaroni and cheese, soft drinks and candy. But, do not despair; there is still opportunity to educate and convince your child that there is more to healthy eating than carrots and broccoli.

With that being said, parents and caregivers must still be aware that this is an age range where toddler-like health issues can still occur and more serious issues can arise. Some potential health issues and diseases that tend to occur during these years include constipation, iron deficiency anemia, dental caries (cavities), diabetes, overweight or obesity, as well as additional stressors from school and a need for excellent performance in school. Starting your child with a nutritious breakfast every day is a nice place to start. Research shows that children who eat breakfast tend to perform better in school and maintain a healthier weight.

For fats and oils, substitute saturated fats with healthier alternatives, such as baked fish, nuts, avocados and liquid oils, including canola and olive oils. The discretionary column can be used to include healthy snack options: turkey with whole grain bread cut into squares, or a fruit salad of pineapple and banana with added almonds. Snacks can be a great opportunity for creativity. It is best to avoid the pitfall of including too many foods higher in calories, fat or sugar, such as whole milk, cheese, sausage and biscuits. Additionally, it's important not to use these foods as rewards. It can send a conflicting message.

Keep in mind that discretionary calories are often already present in meals, added during food preparation. These additional calories can include butter, gravy and sauces. Be aware of this and emphasize healthier snack options for better balance and energy. Read labels carefully to avoid high-fructose corn syrup and fully- or partially-hydrogenated oil (trans-fats), which are used to enhance flavor and shelf life. They can also add unnecessary calories to common foods, including sweetened beverages, pastries, cereals, popcorn, ice cream, breads, sauces and salad dressings, to name a few.

Getting your child in the kitchen and teaching them the value of preparing and cooking a meal is a great way to instill independence and develop self-esteem.

Another helpful recommendation to assist your youngster is getting them involved with meal preparation. It may start with simply asking them to choose a meal from a cookbook and having them select the items from the grocery store. Teaching your child responsibility gives them a greater appreciation for what it takes to put mealtime together. Children who are involved in meal preparation are less likely to have any comments of disdain if the meal is not to their liking. The benefits also filter into teaching safety while in the kitchen. An added bonus? Maybe you can get extra sleep come Saturday morning!

In addition to laying a foundation for your child's growth and eating behaviors, physical activity is also imperative for a healthy lifestyle. Children in this age group should aim for 60 minutes or more of physical activity every day. While it's important for your child to enjoy the activities they choose to do, it's also a great opportunity to introduce new ideas and activities that you can both enjoy, such as biking, rollerblading, dancing, walking on the beach or playing catch. Physical activity will help your child prevent weight gain and improve their social and technical skills.

Recommended serving sizes and servings each day for children ages 6-12 [6]

Food Group	Serving Size	Age 6	Age 8	Age 12
Grains	Ounce	5	5	6-7
Vegetables	Cup	1.5	2	2.5-3
Fruits	Cup	1.5	1.5	2
Milk	Cup	2	3	3
Meat and Beans	Ounce	4	5	5.5-6
Oils	Teaspoon	4	5	6
Discretionary Calories	about 165	about 130	about 265	about 165

Ages 13-18

The teenage years are a trying time for both parents and children. It is a time that is extremely important for physical development. It's also a time when peer pressures can influence food and diet behaviors. Many teenagers deal with issues such as eating disorders, fad diets and consuming non-nutritious foods regularly, including fast food, soft drinks and convenience foods, such as donuts and chips. In addition, many teenagers drink limited amounts of bone-strengthening milk. More specific to young women is the lack of iron-rich food consumption, which can lead to anemia. The teenage years are also a time when physical appearance and social acceptance can trump health, leading to poor food choices, eating disorders to help control weight, and alcohol and drug use. Teenagers are also more susceptible to falling for erroneous advertising, leading to experimentation with potentially dangerous supplementation for everything from muscle building to weight loss to acne remedies. On a side note, there is no known relationship between food and acne.

Many teenagers deal with issues such as eating disorders, fad diets, and consuming non-nutritious foods regularly, such as fast food and soft drinks, and convenience foods, such as donuts and chips.

Additional Healthy Options for Teenagers

- Have your teen keep a box of graham crackers or low-fat vanilla wafers in their locker for a handy sweet treat.
- Low-fat yogurt, string cheese or a carton of nonfat milk are quick protein sources to help get them through a "sluggish" afternoon.
- Try the salad bar to get a variety of fruits and vegetables into their lunch.
- No time for breakfast? Have your teen fill a baggie with cereal.
- Carrot or celery sticks and dip are good for ready-to-go snacks.

Unfortunately, for health conscious parents, it is also a time when parents have

limited control over their teenager's diet. Teenagers may leave early in the morning and not return until evening or later, depending on their age and employment status. Don't despair, with good planning you can set your teenager up for nutritional success.

Here are some tips to help set up teens for a nutritious day. First, stock your refrigerator with low-fat milk, vegetable juice or 100% fruit juice instead of soda, sports drinks or sweetened drinks. Get into the habit of adding kidney beans or garbanzo beans to salads at lunch and dinner for protein power without the saturated fat. Educate your teen about the benefits of the vitamins and minerals in fruit and vegetables and their ability to promote beautiful hair, nails, skin and eyes. If your teen is at school, practice or work for most of the day and evening, pack peanut butter and jelly on whole wheat bread, pretzels, nuts, seeds and low-fat popcorn for nutritious snacks.

Similar to all age groups, obesity is a concern with American teenagers, too. Obesity prevalence has doubled in this age group during the past few decades, so it's imperative to find a balance between good nutrition, which provides all the necessary nutrients to help promote optimal growth, and not over-feeding your teen, which will add to the ever-growing teenage obesity epidemic. Although the teenage years can be frustrating for teenagers to gain their peer's acceptance via their appearance, performance in sports and school and experimenting with risky behaviors, they can be well on their way to a healthy body and mind with proper nutrition and diligent planning.

This time is just as difficult for parents, with constant power struggles and dealing with the idea that their "baby" has grown up, but parents must persevere even more during this period by communicating with their child about peer pressures and the potential hazards that can coincide with poor body image. As difficult as it may be at times, it is important for parents to recognize the potentially harmful behaviors of their teenager and speak to their doctor about anything that may seem wrong.

Recommended serving sizes and servings each day for teenagers based on MyPyramid
(Based on 30-60 minutes of physical activity each day. Larger portion is for boys.)

Food Group	Serving Size	Age 13	Age 16	Age 18
Grains	Ounce	6-7	6-10	6-10
Vegetables	Cup	2.5-3	2.5-3.5	2.5-3.5
Fruits	Cup	2	1.5	2
Milk	Cup	3	3	3
Meat and beans	Ounce	5.5-6	5.5-7	5.5-7
Oils	Teaspoon	6	6-8	6-8
Discretionary calories	about 165	about 265-290	about 265-425	about 265-425

Note: The information offered in this booklet is to be used as a guide and is not an official prescription. It should not replace a visit with your doctor for necessary prenatal and postnatal care. Please be sure to schedule an appointment with your physician, nurse practitioner and dietitian to evaluate you and your baby, or your toddler, for specific nutritional needs. This manual is subject to change based on new research. Additional prenatal and postnatal information can be obtained from:

- United States Department of Agriculture: www.mypyramid.gov
- Institute of Medicine: www.iom.edu
- American Academy of Pediatrics: www.aap.org
- Centers for Disease Control and Prevention: www.cdc.gov
- Women, Infants and Children: www.fns.usda.gov/wic/

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6. US Department of Agriculture: www.mypyramid.gov/kids/index.htm

Contributing Authors:
Lt. Stephanie C. Clapper, MS, RD MSC USN, USNH Okinawa
Christopher Halagarda, MS, RD, CNIC, Navy Fitness
Valerie Hoehn, RD, Navy Medical Center Portsmouth


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