

vitamin C can be low.¹³ These nutritional deficiencies can affect growth, repair, and maintenance of developing tissues and are easily prevented with simple adjustments in the diet.

The Calorie And Protein Needs Of The Growing Child

The RDA's are not nutrient requirements; they are recommendations. Although the RDA's include a margin of safety, they should be used only as general guidelines since individuals can vary in their needs for nutrients and calories. (*Table 1, Page 7*)

During a growth spurt a child will consume large amounts of foods and might appear to be exceeding the RDA's. At other times, when growth and eating decline, a child can appear to be deficient in nutrients. Recommendations for carbohydrate and fat are not included in the RDA's. Generally, it is recommended that approximately 55% to 60% of the calories in the diet should come from carbohydrate, 25% to 30% should come from fat, and the remainder should come from protein.¹⁴

Common Nutritional Deficiencies In Children That Affect Growth And Development

Protein

Children need more protein per pound of body weight than adults to provide for rapid tissue growth. Protein needs of children are not well understood. Amino acid requirements, which are the "building blocks" of protein, are still being studied. For this reason, it is recommended that children be

Breakfast is an important meal. Studies show that when children go to school without a morning meal they are less attentive, more irritable, and lethargic.⁶⁶ Without breakfast, children make more errors on problem-solving tasks.⁶⁷

Lunch and dinner should provide a variety of nutritious foods and not emphasize favorite foods that are often empty calorie foods. The majority of foods should come from whole grain breads and cereals, fresh fruits and vegetables, dried beans and peas, low-fat dairy foods, lean meats, chicken, fish, and nuts.

A child who is overweight or obese in the school-age years has an increased risk for obesity in later life.⁶⁸ The longer a child is overweight the harder it might be to lose that weight and maintain the weight loss.⁶⁹

If a child is at risk for obesity, he or she should be monitored by a physician so that dietary and lifestyle changes can be made if necessary. This is also a good age to emphasize the importance of exercise. Children who are likely to have a weight problem later are those who become "addicted" to television at this age, rather than exercise.⁷⁰

Daily Food Guide For Adolescents (13 to 18 years old)

The teen years are the second phase of very rapid growth. This stage of growth not only varies between males and females but also from individual to individual. This growth continues for five to ten years but in an 18 to 24 month period within these

4. additives and colorings added to foods; or
5. the fermentation of some foods in the digestive tract, which results in bloating, discomfort, and diarrhea.

Although the symptoms of food intolerance can mimic food allergy, the two are very different. True food allergies are difficult to diagnose because symptoms may vary widely from individual to individual. Symptoms range from severe reactions, such as anaphylaxis to mild reactions, such as itching or headache. Anaphylaxis is a form of severe shock brought on by hypersensitivity to a foreign substance such as a protein in food.

Most food allergies (95%) are delayed with reactions occurring from one to five days after exposure to a specific food.⁷⁶⁻⁷⁸ Only about 5% of food allergies produce an immediate response where an individual develops a rash or shows some other sign of a reaction to the food. Delayed reactions are usually less severe, but difficult to detect. In children, common complaints include headache, abdominal pain, bloating, vomiting, diarrhea, and complaints of "growing pains", especially in the neck, upper back, and extremities. Eczema, a red itching rash, is also common in toddlers less than 3 years old.

Between 1% and 38% of children experience food allergies.⁷⁹ Food allergies are more common in infants and children because of their immature digestive and immune systems.

There is no dependable laboratory test to diagnose the delayed food allergy action. The diagnosis is made based on a physical exam and history of the child. In

young mother. Many teens do not seek prenatal care during the first trimester of pregnancy, and many diet in an effort to conceal the pregnancy.⁹⁹

A weight gain of 20 to 30 pounds is recommended during pregnancy.¹⁰⁰ Most teens would benefit from close monitoring of weight gain and dietary assessment during pregnancy. A weight gain of 2 to 4 pounds for the first trimester is considered normal. During the second and third trimesters weight gain should average one pound a week. Protein intake is important for the growing needs of the young mother and the baby. Prenatal vitamin-mineral supplements are advised to help meet the increased requirements for vitamin A and vitamin C, calcium, iron, and the B vitamins, especially folic acid. Constant medical supervision is important for the health of both the mother and baby throughout and following pregnancy. (*Table 11, Page 50*)

Sports Nutrition

Physical activity is an important component of a healthy lifestyle at all ages.

Children and adolescents involved in sports have additional caloric needs and increased needs for vitamins and minerals. Calorie requirements might increase to 4,000 to 5,000 calories depending on the intensity, duration, and frequency of exercise.¹⁴ Daily servings of nutritious foods, such as fresh fruits and vegetables, whole grain breads and cereals, low-fat milk and dairy foods, and lean meats or dried beans and peas, can be increased to meet these calorie demands. Sugary snacks should be avoided