

NUTRITION

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Introduction

Children need a nutritious diet so that they may learn, grow and be healthy. Daily nutritional needs can be met by offering a variety of foods as outlined illustrated in the Food Guide My Pyramid. In addition, the Dietary Guidelines for Americans recommends that nutrition education can help to promote good nutrition and physical fitness habits that will last a lifetime by choosing nutrient dense foods that limit the intake of saturated and trans fats, cholesterol, added sugars and salt. Adequate intake of fruits and vegetables, whole grains and low fat dairy are stressed.

State and Federal food assistance and nutrition education programs provide important resources for children and their families. Some of the programs available in Maine include:

- National School Lunch Program, School Breakfast Program, Special Milk Program, Fresh Fruit and Vegetable Program
www.fns.usda.gov/cnd
- Summer Food Service Program, www.fns.usda.gov/cnd/summer
- Supplemental Nutrition Assistance Program (SNAP) www.fns.usda.gov/snap
- WIC, www.fns.usda.gov/wic
- Child and Adult Care Food Program, www.fns.usda.gov/cnd/care
- National Head Start Association www.nhsa.org
- Office of Head Start www.acf.hhs.gov/programs/ohs/
- Action for Healthy Kids www.actionforhealthykids.org/
- Maine Cooperative Extension, <http://extension.umaine.edu/>

Other resources for nutrition education are:

- the Maine Dietetic Association, <http://eatrightmaine.org>
- Maine Nutrition Council, www.mainenutritioncouncil.org
- Maine Dairy and Nutrition Council, <http://www.drinkmainemilk.org/>
- Maine School Nutrition Association, www.mainesna.org
- Maine Nutrition Network, <http://www.maine-nutrition.org/>
- Maine Family and Consumer Science Association <http://maineafcs.wikispaces.com/>
- the Maine Action for Health Kids <http://www.healthymainekids.org/>

School lunches must meet the applicable recommendations of the Dietary Guidelines for Americans that recommend no more than 30 percent of an individual's calories come from fat, and less than 10 percent from saturated fat. Regulations also establish a standard for school meals to provide one-fourth (breakfast) to one-third (lunch) of the Recommended Dietary Allowances of protein, Vitamin A, Vitamin C, iron, calcium and calories. While school meals meet Federal nutrition requirements, decisions about what specific foods to serve and how they are prepared are made by local school food authorities.

Common nutrition issues in children include obesity, eating disorders, under-nutrition, metabolic disorders and iron deficiency. Nutritional requirements during adolescence are increased due to the

growth spurt that occurs during this period. Athletes have additional nutritional needs depending on the intensity, duration and type of exercise. These individuals may need guidance regarding sound nutrition concepts which promote good health as well as improve performance.

Children with special health care needs require similar nutrients as healthy children, but the quantities may vary due to differences in growth, weight, and height; drug-nutrient interactions; oral-motor and/or psychosocial feeding difficulties. Successful feeding may require special eating utensils or equipment, modifications of texture, temperature, and consistency, and use of commercial supplements or formulas and thickening agents. It is important to involve school food service personnel and parent/caregiver(s) when a child needs meal alterations.² More information is available at the Coordinated School Health Program website at www.maine.gov/CSHP.

Role of the School Nurse

- Screening for nutrition problems in children can help prevent illness and promote health.
- Accurately determined anthropometric measurements are one of the best indicators of nutritional status in children.
- Growth charts from the National Center for Health Statistics are used to assess a child's growth progress over time. The section in this manual on physical examination/screening provides guidance on anthropometric measurements. Specific growth charts have been developed for some children with special health care needs including Down Syndrome. The Centers for Disease Control (CDC) has growth charts available to measure this progress. The back of the permanent health record has these printed charts.
- Consult with a registered dietitian when appropriate

The following table outlines potential nutrition problems and recommendations of common childhood diseases and disorders. A registered dietitian should be consulted to provide nutrition assessment, medical nutrition therapy, and monitoring of quality nutrition care.

RESOURCES

1. Centers for Disease Control and Prevention. <http://www.cdc.gov/>
2. MyPyramid.gov
3. www.cdc.gov/nccdphp/dnpa/nutrition.htm
4. www.healthykidshealthyfutures.com/nutritionresources.html
5. www.dairycouncilofca.org
6. www.kidinfo.com/Health/Foods.html -
7. educationcenter.dc.gov/ec/cwp/view,a,1306,q,581255.asp
8. www.cdc.gov/nccdphp/dnpa/nutrition/nutrition_for_everyone/resources/index.htm
9. School Nutrition Programs, Department of Education, 624-6876
10. Women, Infants and Children, (WIC) Division of Family Health, Department of Health and Human Services 287-3391

References

¹*Healthy School Meals Training Manual*, US Department of Agriculture, Food and Consumer Service, April 1996. (Available from your School Food Service Department or the Maine Department of Education, Nutrition program at 624-6876)

²*Accommodating Children with Special Dietary Needs in the School Nutrition Programs, Guide for School Food Service Staff*, US Department of Agriculture, Food and Consumer Service, May 1995. (Available from the Maine Department of Education, Nutrition Education and Training Program)

Potential Nutrition Problems and Recommendations in Childhood Diseases/Disorders

Disease/Disorder	Potential Nutrition Problems	Diet/Nutrition Recommendations
Anorexia Nervosa	<ul style="list-style-type: none"> Excessive dieting/exercise Distorted body image Unusual eating habits Amenorrhea Extreme weight loss 	<ul style="list-style-type: none"> Treatment involves medical, psychological, and nutrition intervention Treatment should be individualized
Bulimia Nervosa	<ul style="list-style-type: none"> Binge eating Purging Vomiting May be underweight, normal, or overweight 	<ul style="list-style-type: none"> Treatment involves medical, psychological, and nutrition intervention Treatment should be individualized
Cancer	<ul style="list-style-type: none"> Weight loss Loss of appetite 	<ul style="list-style-type: none"> Caloric adjustment
Celiac Disease	<ul style="list-style-type: none"> Flare-up with ingestion of wheat products Weight gain or loss Anemia Nutrient deficiencies Delayed growth 	<ul style="list-style-type: none"> Gluten free diet
Cerebral Palsy	<ul style="list-style-type: none"> Feeding problems may include: sucking, swallowing or chewing difficulties; and abnormal bite or gag reflexes Vomiting and refluxing Underweight or overweight Dental problems including caries and gum disease Constipation 	<ul style="list-style-type: none"> Feeding evaluation by qualified professional Use of adaptive equipment Texture modification Caloric adjustment Good oral hygiene Adequate fluid and fiber intake
Cystic Fibrosis	<ul style="list-style-type: none"> Poor weight gain and growth Mal-absorption of fats and proteins Fat-soluble vitamin deficiencies 	<ul style="list-style-type: none"> Diet is high in calories and protein with liberal amounts of fat and sodium chloride If pancreatic insufficiency is present: vitamin supplementation and pancreatic enzyme replacement therapy*
Diabetes Mellitus	<ul style="list-style-type: none"> Uncontrolled diabetes may lead to: hyperglycemia, glycosuria, polyuria, polydipsia, polyphagia, rapid weight loss, ketosis, ketonuria, acetone breath, and coma 	<ul style="list-style-type: none"> Diet modifications are based on individual needs according to activity level, medication and growth rate⁺
Down Syndrome	<ul style="list-style-type: none"> Feeding problems may include: sucking, swallowing and chewing difficulties 	<ul style="list-style-type: none"> Feeding evaluation by multidisciplinary team Texture modification

	<ul style="list-style-type: none"> • Excessive weight gain • Dental problems: delayed tooth development, malocclusion, and gum disease 	<ul style="list-style-type: none"> • Adaptive feeding equipment • Use appropriate growth charts • Caloric adjustment • Good oral hygiene
Food Allergy	<ul style="list-style-type: none"> • Food allergy: abnormal immunologic reaction. The most common food allergens include eggs, milk, nuts, peanuts, seafood, soy, and wheat. Severe reaction will require administration of medications.⁺⁺ 	<ul style="list-style-type: none"> • Avoidance of specific food allergens while maintaining adequate intake
Disease/Disorder	Potential Nutrition Problems	Diet/Nutrition Recommendations
Food Intolerance	<ul style="list-style-type: none"> • Food intolerance is a non-immunologic reaction to a food, or the result of an enzyme deficiency 	<ul style="list-style-type: none"> • Avoidance of problem food(s) while maintaining adequate intake
Hunger	<ul style="list-style-type: none"> • Apathy, irritability • Decreased activity level • Reduction in rate of weight gain • Impaired cognitive development 	<ul style="list-style-type: none"> • Family may need referral to food assistance/nutrition education programs • Assure access to free/reduced school meals • Connect with community resources
Juvenile Rheumatoid Arthritis	<ul style="list-style-type: none"> • Inadequate growth • Side effects from medications: stomach upset, altered taste, increased or decreased appetite • Temporomandibular joint arthritis may lead to poor appetite • Nutritional anemia • Weight gain may occur due to decreased activity level and steroid medications 	<ul style="list-style-type: none"> • Energy and nutrient dense diet • Weight management • Texture modification, small portion sizes • Prolonged use of medications with nutrient interactions may lead to calcium and folic acid supplementation*
Obesity	<ul style="list-style-type: none"> • May lead to other health complications (ie. diabetes, high blood pressure, heart disease) • Anthropometric measurements: high weight-for-height (>95th percentile or 120% ideal body weight) for surveillance purposes only 	<ul style="list-style-type: none"> • Proper diet, exercise and behavior changes that lead to slow weight loss and/or weight maintenance while promoting growth and development • Could potentially be connected to hunger
Phenylketonuria	<ul style="list-style-type: none"> • Excess phenylalanine in the blood can interfere with normal brain development • Since phenylalanine is an 	<ul style="list-style-type: none"> • Diet restricts the essential amino acid phenylalanine •—Formulas come under various names may include: PKU2,

	essential amino acid, it is restricted in the diet to maintain adequate serum levels	Maximaid XP, or Phenyl-Free* <ul style="list-style-type: none"> • Special low protein foods • Foods and beverages containing aspartame are avoided
Seizure Disorders	<ul style="list-style-type: none"> • Drug-nutrient interactions caused by anticonvulsants may include: nutrient deficiencies especially folic acid, vitamin D and calcium, poor appetite, and gum problems 	<ul style="list-style-type: none"> • Caloric adjustment (check the evidence behind this one.)??? • Vitamin/mineral supplements* • Good oral hygiene
Spina Bifida	<ul style="list-style-type: none"> • Excessive weight gain • Urinary tract infections • Bowel management issues 	<ul style="list-style-type: none"> • Caloric adjustment • Adequate fluid and fiber intake • Latex allergy foods including carrots and tomatoes
Tube feeding	<ul style="list-style-type: none"> • Common complications include vomiting, diarrhea and constipation 	<ul style="list-style-type: none"> • Tolerance to the tube feeding should be monitored • Possible causes of complications: feeding is too rapid or too concentrated, bacterial overgrowth, inadequate fluid or fiber, medications, and lack of activity*

- * See Medications section of this Manual
- + See Chronic Conditions section of this Manual
- ++ See Emergencies/First aid section of this Manual