

MODULE 3: Feeding Skills

LEARNING OBJECTIVES

After completing this module, you will have the skills and resources to:

- Understand typical feeding development and the development of feeding and eating skills and behaviors
- Understand nutrition management of enteral (tube) feedings, including a basic understanding of equipment
- Describe appropriate routes of feeding for specific situations
- Identify appropriate formulas for specific situations

RESOURCES

Feeding Skills, Behavior, and Assessment of Feeding Skills

Questions about food patterns and feeding skills. This table outlines questions that may be useful in assessing food patterns and feeding skills. It is included at the end of this section.

Suggested Serving Sizes for Children. This table outlines suggested serving sizes for children. It is included at the end of this section.

Feeding and Eating. Feeding and eating. In: Isaacs JS, et al. *Children with Special Health Care Needs: A community pocket guide*. Dietetics in Developmental and Psychiatric Disorders and the Pediatric Nutrition Practice Group of The American Dietetic Association and Ross Products Division. 1997. This chapter outlines normal feeding skill development and discusses assessment of and interventions for some feeding problems. This publication is currently unavailable. A 2nd edition is under development.

Oral-motor Feeding Problems. Glass RP. Oral-motor feeding problems. In: Nardella M, et al. *Nutrition Interventions for Children with Special Health Care Needs*. Washington State Department of Health. 2001. This chapter describes the developmental sequence of oral-motor and self-feeding skills and outlines assessment, intervention, and evaluation of oral-motor feeding problems. To order, contact the Washington State Department of Health, Revenue Section, PO Box 1099, Olympia WA 98504 or visit the Washington State Nutrition for Children with Special Health Care Needs website: <http://depts.washington.edu/cshcnut>. The publication can also be downloaded from the WA DOH website: <http://www.doh.wa.gov/cfh/mch/CSHCNhome2.htm>.

Pre-Feeding Skills: A comprehensive resource for feeding development.

Morris SE and Klein MD. *Pre-Feeding Skills: A comprehensive resource for feeding development*. Therapy Skill Builders, 2000. This revision of the 1987 book includes information about normal feeding development and factors that influence feeding. Assessment and treatment are discussed. Available from the Psychological Corporation <http://marketplace.psychcorp.com> (Item number 076-1674-071)

Feeding and Swallowing Disorders in Infancy. Wolf LS and Glass RP.

Feeding and Swallowing Disorders in Infancy. Therapy Skill Builders 1992. This text addresses diagnosis, evaluation, treatment and follow-up for infants with feeding dysfunction. Available from the Psychological Corporation: <http://marketplace.psychcorp.com> (Item number 076-1641-904)

Collecting and Assessing Food Intake Information. Pipes PL, Glass RP.

Collecting and assessing food intake information. In: Trahms CM and Pipes PL. *Nutrition in Infancy and Childhood*, 6th ed. WCB/McGraw-Hill. 1997. A table in this chapter, Screening of Eating Abilities, lists guidelines for identifying problems with eating and feeding.

Feeding Infants: A guide for use in the Child Nutrition Programs. United

States Department of Agriculture Food and Nutrition Service. *Feeding Infants: A guide for use in the Child Nutrition Programs*. USDA FNS-258. 2001. The 105-page guide includes information on infant development, nutrition for infants, breastfeeding and formula feeding, preventing tooth decay, feeding solid foods, drinking from a cup and choking prevention. This guide was distributed to child care centers, sponsors of CACFP homes, and state agencies, and is available in electronic format at: http://www.fns.usda.gov/tn/Resources/feeding_infants.html.

How to Get Your Kid to Eat...But Not Too Much. Satter E. *How to Get Your*

Kid to Eat...But Not Too Much. Bull Publishing. 1987. This book is written for parents and discusses the impact of child development and parent-child relationships on feeding dynamics from infancy to adolescence. It is available at bookstores, or directly from the publisher: Bull Publishing, <http://www.bullpub.com>.

Child of Mine, Feeding with Love and Good Sense. Satter E. *Child of Mine,*

Feeding with Love and Good Sense. Bull Publishing. 2000. This is a nutrition and feeding reference book for parents of children under 4 years of age. It is available at bookstores, or directly from the publisher: Bull Publishing, <http://www.bullpub.com>.

Nutrition and Feeding for Infants and Children, Handout Masters. Satter E.

Nutrition and Feeding for Infants and Children, Handout Masters. Ellyn Satter Associates. 1995 (with 1997 updates). Information is taken from *Child of Mine* and *How to Get Your Kid to Eat*. This set of handouts is appropriate for families,

educators, and health care providers. It is available from Ellyn Satter Associates, <http://www.ellynsatter.com>.

Influence of Special Health Care Needs

Project SPOON: Special Program of Oral Nutrition for Children with Special Needs. Tluczek A, Sondel S. *Project SPOON: Special Program of Oral Nutrition for Children with Special Needs*. 1991. This report of a 3-year pilot project describes a multidisciplinary approach to feeding problems with children with special health care needs. It is available through the HRSA Information Center: <http://www.ask.hrsa.gov>, item code: MCHE016.

Dietary and Feeding Needs of Children with Cleft Lips and/or Palates. Wong J, Cohea M. Dietary and feeding needs of children with cleft lips and/or palates. *Nutrition Focus*. 2001 16(4). This article presents some of the nutrition- and feeding-related concerns associated with cleft lip and palate and presents some intervention strategies. To order, visit http://depts.washington.edu/chdd/ucedd/CO/co_NutriFocus.html.

Guidelines for the Use of Thickeners in Foods and Liquids. Feucht S. Guidelines for the use of thickeners in foods and liquids. *Nutrition Focus*. 1995; 10(6). To order, visit http://depts.washington.edu/chdd/ucedd/CO/co_NutriFocus.html.

Diagnosis and Treatment of Feeding Disorders in Children with Developmental Disabilities. Schwarz SM, Corredor J, Fisher-Medina J, Cohen J, Rabinowitz S. Diagnosis and treatment of feeding disorders in children with developmental disabilities. *Pediatrics*. 2001; 108(3): 671-676. An abstract is available on-line; non-subscribers can purchase a copy of the article: <http://www.pediatrics.org/cgi/reprint/108/3/671>.

Management of Tube Feedings

Enteral Feeding. Pederson A. Enteral feeding (Tube feeding). In: Nardella M, et al. *Nutrition Interventions for Children with Special Health Care Needs*. Washington State Department of Health. 2001. This chapter outlines assessment, intervention, and evaluation guidelines for determining when an enteral feeding should be used and for evaluating a child who is receiving an enteral tube feeding. To order, contact the Washington State Department of Health, Revenue Section, PO Box 1099, Olympia WA 98504 or visit the Washington State Nutrition for Children with Special Health Care Needs website: <http://depts.washington.edu/cshcnut>. The publication can also be downloaded from the WA DOH website: <http://www.doh.wa.gov/cfh/mch/CSHCNhome2.htm>.

Technical Aspects of Enteral Feeding. Pederson A. Technical aspects of enteral feeding. In: Nardella M, et al. *Nutrition Interventions for Children with Special Health Care Needs*. Washington State Department of Health. 2001. This appendix provides details about some of the technical aspects of tube feeding, including routes of administration, formulas, and complications associated with tube feeding. To order, contact the Washington State Department of Health, Revenue Section, PO Box 1099, Olympia WA 98504 or visit the Washington State Nutrition for Children with Special Health Care Needs website: <http://depts.washington.edu/cshcnut>. The publication can also be downloaded from the WA DOH website: <http://www.doh.wa.gov/cfh/mch/CSHCNhome2.htm>.

Non-oral Enteral Feedings. Non-oral enteral feeding. In: Isaacs JS, et al. *Children with Special Health Care Needs: A community pocket guide*. Dietetics in Developmental and Psychiatric Disorders and the Pediatric Nutrition Practice Group of The American Dietetic Association and Ross Products Division. 1997. This publication is currently unavailable. A 2nd edition is under development.

Pediatric Formula Update. Hattner J. Pediatric formula update 2001. *Nutrition Focus* 2001 16(3). This article describes some of the commercial formulas available for infants and children. To order, visit http://depts.washington.edu/chdd/ucedd/CO/co_NutriFocus.html.

QUESTIONS ABOUT FOOD PATTERNS AND FEEDING SKILLS

The following questions are often useful for eliciting information about a child's food pattern:

- How often does the infant breastfeed?
- How frequently is the infant/child fed?
- How is formula prepared?
- What is the typical meal pattern?
- How much does he eat at one time?
- What supplements are used (energy, protein, enteral, vitamin, mineral)?
- Does the child have food allergies or intolerances or are there any food restrictions?

A discussion about behaviors, relationships, and attitudes related to food and eating might be started with these questions:

- What foods are preferred? Disliked?
- Can your child communicate hunger? Thirst?
- Who is present at mealtimes?
- Are mealtimes pleasant?
- Describe your child's appetite.
- Is your child interested in eating?
- Do you think your child is underweight? Overweight?
- Do you think your child eats too much? Too little?

The following questions may be useful for assessing a child's feeding skills:

- What types of foods does your child eat?
 - Describe the texture
 - Describe the consistency
 - How many times does your child eat each day?
- Do you have concerns about your child's feeding skills?
 - Does your child feed himself? With fingers? With utensils?
 - Does your child have problems chewing or swallowing? Gagging or choking?
 - Are there specific foods or textures that your child has difficulty with?
 - Does your child choke while eating? If so, how often does this happen?
- Can your child clearly communicate hunger and thirst?
- How does your child respond when food is offered?

Asking a caregiver about a child's feeding history can also provide useful information:

- When were solid foods introduced?
- What types of solid foods were introduced?
- When did your child learn to drink from a cup?
- What was your child's reaction to solids? To finger-feeding? To utensils? To the cup?



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Suggested Serving Sizes for Children

These suggestions are not necessarily appropriate for all children (and may be inappropriate for some children with medical conditions that greatly affect nutrient needs). They are intended to serve as a general framework that can be individualized based on a child's condition and growth pattern.

	Suggested serving size for child 1-3 years of age	Suggested serving size for child 4-6 years of age	Suggested serving size for child 7-10 years of age	Suggested serving size for child 11-18 years of age
Grain Products	<ul style="list-style-type: none"> • Bread – ½ to 1 slice • Rice, pasta, potatoes – ¼ to ½ cup • Cooked cereal – ¼ to ½ cup • Ready-to-eat cereal – ¼ to ½ cup • Tortilla – ½ to 1 	<ul style="list-style-type: none"> • Bread – 1 slice • Rice, pasta, potatoes – ½ cup • Cooked cereal – ½ cup • Ready-to-eat cereal – ¾ to 1 cup • Tortilla – 1 	<ul style="list-style-type: none"> • Bread – 1 slice • Rice, pasta, potatoes – ½ cup • Cooked cereal – ½ cup • Ready-to-eat cereal – 1 cup • Tortilla – 1 	<ul style="list-style-type: none"> • Bread – 1 slice • Rice, pasta, potatoes – ½ cup • Cooked cereal – ½ cup • Ready-to-eat cereal – 1 cup • Tortilla – 1
Vegetables	<ul style="list-style-type: none"> • Cooked or pureed – 2 to 4 Tablespoons • Raw – few pieces, if child can chew well 	<ul style="list-style-type: none"> • Cooked or pureed – 3 to 4 Tablespoons • Raw – few pieces 	<ul style="list-style-type: none"> • Cooked or pureed – ½ cup • Raw – ½ to 1 cup 	<ul style="list-style-type: none"> • Cooked or pureed – ½ cup • Raw – ½ to 1 cup
Fruit	<ul style="list-style-type: none"> • Raw (apple, banana, etc.) – ½ to 1 small, if child can chew well • Canned – 2 to 4 Tablespoons • Juice – 3 to 4 ounces 	<ul style="list-style-type: none"> • Raw (apple, banana, etc.) ½ to 1 small, if child can chew well • Canned – 4 to 8 Tablespoons • Juice – 4 ounces 	<ul style="list-style-type: none"> • Raw (apple, banana, etc.) – 1 small • Canned – ¾ cup • Juice – 5 ounces 	<ul style="list-style-type: none"> • Raw (apple, banana, etc.) – 1 • Canned – ¾ cup • Juice – 6 ounces
Milk	<ul style="list-style-type: none"> • Milk, yogurt, pudding – 2 to 4 ounces • Cheese – ¾ ounce 	<ul style="list-style-type: none"> • Milk, yogurt, pudding – ½ to ¾ cup • Cheese – 1 ounce 	<ul style="list-style-type: none"> • Milk, yogurt, pudding – 1 cup • Cheese – 1 ½ ounces 	<ul style="list-style-type: none"> • Milk, yogurt, pudding – 1 cup • Cheese – 1 ½ ounces
Meat, Poultry, Fish, Other Protein	<ul style="list-style-type: none"> • Meat, poultry, fish – 1 to 2 ounces • Eggs – ½ to 1 • Peanut butter – 1 Tablespoon • Cooked dried beans – 4 to 5 Tablespoons 	<ul style="list-style-type: none"> • Meat, poultry, fish – 1 to 2 ounces • Eggs – 1 to 2 • Peanut butter – 2 Tablespoons • Cooked dried beans – 4 to 8 Tablespoons 	<ul style="list-style-type: none"> • Meat, poultry, fish – 2 ounces • Eggs – 2 • Peanut butter – 3 Tablespoons • Cooked dried beans – 1 cup 	<ul style="list-style-type: none"> • Meat, poultry, fish – 2 to 3 ounces • Eggs – 2 • Peanut butter – 4 Tablespoons • Cooked dried beans – 1 cup



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