



Early Childhood Nutrition

Service Delivery Guidelines

Intervention guidance for service providers and families of young children with nutrition needs.



State of Alaska • Department of Health & Social Services • Office of Children's Services
Alaska Early Intervention • Infant Learning Program

ALASKA EARLY INTERVENTION / INFANT LEARNING PROGRAM

Service Delivery Guidelines

EARLY CHILDHOOD NUTRITION

EARLY INTERVENTION GUIDANCE FOR SERVICE PROVIDERS AND
FAMILIES OF YOUNG CHILDREN WITH NUTRITION NEEDS

JUNE 2011



MISSION

To promote positive development and improved outcomes for Alaska's families by creating a culturally responsive, comprehensive and accessible service delivery system that links service providers, empowers families and engages communities

–Alaska Early Intervention/ Infant Learning Program

SERVICE DELIVERY GUIDELINES FOR ALASKA

EARLY CHILDHOOD NUTRITION

Alaska Early Intervention/Infant Learning Program

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INTRODUCTION

Nutrition is vitally important to all babies. Good nutrition supports brain and body development, while feeding time is an important source of comfort and nurture for children and their parents. Fortunately, most families in the United States are able to provide excellent nutrition to their infants and toddlers through breastfeeding, nutritionally sound formulas, and solid food diets that provide adequate calories and nutrients.

When a child is not developing typically, good nutrition becomes an integral component of early intervention, particularly when a medical condition or a delay prevents the child from easily getting essential nutrients and calories. Families may have to adjust the type of food or method of feeding to make certain their child is getting everything he or she needs both nutritionally and emotionally.

Working with families to address nutrition and feeding issues requires not just an understanding of nutrition science, but an appreciation of the complex social and emotional role food plays in parent-child relationships and a sensitivity to cultural customs and religious beliefs around food. In addition to its rich mix of indigenous Native cultures, Alaska is home to an increasing number of immigrant groups each with its own food traditions and practices.

Our abundant natural resources provide inexpensive and readily available nutrients, essential fatty acids, antioxidants, calories and protein. In fact, many traditional subsistence foods are associated with improved maternal nutrition and neonatal and infant brain development.

Understanding the vital importance of nutrition and feeding in child development, including the social, emotional, cultural and religious importance of food in family and community life, is the first step in building a supportive and productive relationship between parents and service providers.

PURPOSE OF THE GUIDELINES

The purpose of these guidelines is to provide parents and service providers with an overview of the best practices for nutrition screening, assessment and early intervention for young children in Alaska. These include those approaches shown to result in the best outcomes for children from birth to three. The guidelines cover approaches to feeding and lactation issues for children with special needs as well as nutrition care for premature and low birth weight babies.

While most of the recommended practices do not carry the force of regulation, they are intended to guide parents and providers in making informed decisions about the most appropriate assessment procedures and intervention practices. They also provide an overview of the role of nutrition in overall development and information on transitioning toddlers to nutrition services designed for older children. A list of resources for obtaining additional information and support is included in the appendix.

Not all practices will be appropriate in all cases. The guidelines are intended to be flexible, not prescriptive or limiting, and to set the tone for the family to be an instrumental part of early intervention. An Individualized Family Service Plan (IFSP) should be developed for each child based on the child's particular needs, the resources available, and input from the family and the early intervention provider or team.

EARLY INTERVENTION SERVICES IN ALASKA

Early intervention services are federally mandated under Part C of the Individuals with Disabilities Education Act (IDEA), a federal law passed in 1986. IDEA requires states to ensure that young children who may have disabilities or developmental delays receive an evaluation to identify the potential need for early intervention.

Alaska's early intervention services are administered by the Department of Health and Social Services, Office of Children's Services, Early Intervention/Infant Learning Program (EI/ILP). They include a flexible array of services for children birth to 3 years of age who experience disabilities or developmental delays, or who are at risk for developmental delays.

EI/ILP partners with grantees to provide services directly to families at a local and regional level. In 2010, services were provided to children throughout the state by approximately 115 highly qualified staff employed within 17 regional grantee agencies. Programs vary widely by staff and region size. Service may include:

- Developmental screening and evaluation
- Individualized Family Service Plans to outline goals for the family and child
- Child development information
- Home visits
- Infant mental health services
- Physical, occupational or speech therapy
- Specialized equipment
- Referrals to other needed services

EI/ILP APPROACH TO SERVICE DELIVERY

Because no single professional can meet all the needs of a child with developmental delays, EI/ILP encourages the use of a *transdisciplinary* approach, with a primary service provider assigned to each child and a team of professionals from different disciplines who share their expertise with the parents and other team members as needed to support the child's progress and participation in daily activities in the family's home and community.

In addition to taking a team approach to service delivery, the core values of the EI/ILP support services that are *evidence-based* and *family-centered*. By listening to the family throughout the process, intervention techniques can be modified on a continual basis to match the child's and family's unique needs and strengths.

MORE INFORMATION

More information and resources for early intervention services in Alaska are available at the EI/ILP website. The site includes a statewide directory of EI/ILP programs that cover all regions of Alaska.



www.earlyintervention.alaska.gov

UNDERSTANDING EARLY CHILDHOOD NUTRITION

Adequate nutrition is essential to a child’s growth and development from conception to adolescence. During the first year of life, rapid growth occurs:

- A baby’s weight doubles from 3 to 6 months and triples by 9 to 12 months.
- He or she grows almost 10 inches during the first year of life and an additional 4.75 inches by the second year.
- By 12 months, the brain has increased its weight three times.
- By the second year of life, a baby’s head circumference reaches 80 percent of its adult size.

To ensure healthy growth and brain development in a child, it is not enough to make sure the child takes in sufficient calories; vitamin, protein, and mineral intake must also be sufficient. Inadequate nutrition, which may be caused or worsened by feeding problems in premature infants or those with certain medical conditions, can affect all areas of a baby’s development, including cognitive, physical, social and emotional growth. The possible effects of inadequate nutrition and feeding are summarized in Table 1.

In children with significant developmental delays—or with a physical or mental condition that has a high probability of resulting in a delay—the involvement of a nutrition specialist as part of a multidisciplinary EI/ILP team can contribute to the early identification of nutritional problems that could prevent a child from reaching his or her growth potential if left unaddressed.

Nutrition specialists can provide nutrition counseling and education, taking into consideration cultural background, food preferences, food availability, food quality, food attitudes and beliefs, and environmental factors that influence dietary choices. The practice of identifying potential nutrition and feeding problems is covered in the section on *Nutritional Screening and Assessment*. Methods to address feeding and nutrition problems are discussed in *Approaches to Intervention*.

Table 1: Consequences of Inadequate Nutrition in Young Children

| AREA OF DEVELOPMENT | Consequences of Inadequate Nutrition |
|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Brain Development | Impaired cognitive and neurological development |
| Physical Development/ Growth | Motor delays due to inadequate muscle/bone development |
| Social and Emotional Development | Poor feeding behavior impairing readiness for transition to age-appropriate food stages Lack of positive mealtime experience |
| Oral Motor Development | Poor feeding skills leading to inadequate intake Potential language delay |
| Health and Motor Development | Lowered resistance to infection Impaired dental status PICA (eating non-food items) Reduced energy and listlessness due to poor intake Problems with bowel function |

Source: Connecticut Birth to Three System. *Service Guideline 6: Nutrition*, January 2000.

MEETING A CHILD'S NUTRITIONAL NEEDS

Children with special needs have the same nutritional needs as babies who are developing typically, though it may be harder to achieve diet recommendations due to their medical condition, especially if feeding or behavioral issues are present. Exceptions are premature and low birth weight infants, who have even higher requirements for protein, calories and nutrients to support catch up growth, and infants with Prader-Willi syndrome, who may need fewer calories than other infants (1).

For most other children with special needs, the standard, age-appropriate diet guidelines developed by pediatricians are the starting point for good nutrition. If there are reasons for concern due to a medical or feeding issue, nutrition screening

and assessment can help determine if a special or supplemental diet or feeding method is needed to help a child achieve adequate nutrition.

BREASTFEEDING

The American Academy of Pediatrics (AAP) recommends mothers breastfeed exclusively for at least 4 months but preferably 6 months, and that they continue to breastfeed after the introduction of solid foods until the baby is a year old. Nutritionists with the Women, Infants and Children (WIC) program recommend babies be exclusively breastfed for 6 months. Breastfeeding may continue past the first year depending on the desires of the infant and mother. For infants with special needs breastfeeding offers the same nutritional benefits as it does for any newborn, but it has several additional advantages that are particularly important for a child with special needs.

Benefits of breastfeeding:

- Reduces risk for development of allergies
- Imparts greater immunity from infections
- Is more digestible than standard formula
- Makes stools soft and easy to pass, which can help with bowel problems
- Improves mouth and tongue coordination through sucking
- Provides additional stimulation of skin-to-skin contact to infants with low muscle tone
- Increases hand-eye coordination
- May assist with later speech development by exercising the muscles around and in the mouth
- Enhances the relationship between mother and baby

Despite the benefits of breastfeeding, there are some situations in which it is not in the best interest of the infant.

Breastfeeding is not advised:

- **If the infant could be exposed to harmful substances or a serious medical condition.** For example, an infant whose mother uses illegal drugs; an infant whose mother has a medical condition requiring medication known to be harmful to babies; or an infant whose mother has untreated active tuberculosis, has been infected with HIV/AIDS, or has herpes lesions on the breast.
- **If the infant has galactosemia.** Infants with this inherited condition are unable to metabolize galactose, the simple sugar found in human and animal milk.
- **Other metabolic disorders** can also cause breastfeeding to be contraindicated.

Supporting a Mother's Choice

If the mother of an infant with special needs had planned to breastfeed, she may wonder if it is still possible in light of the infant's condition. While general information about breastfeeding should still be helpful, she may need additional information and support from her pediatrician or a lactation specialist.

The role of the service provider can include offering emotional support, assisting with positioning, and providing appropriate education and referral so that the mother may attempt nursing if that is what she chooses. If a mother chooses not to nurse or is unable to nurse due to the infant's condition, she should be equally supported in that decision.

INFANT FORMULAS

There are numerous formulas available for feeding the infant and small child. The child's physician or nutrition specialist can help determine the formula best suited for a child with special medical or nutritional needs. For premature and low birth weight babies, formulas have been developed that are generally higher in calories, protein, vitamins, and minerals than standard infant formulas to meet the higher nutritional needs of these babies.

Infant formulas should never be discontinued or changed without first consulting the child's physician. Home-prepared formulas are not recommended primarily for the greater risk in contamination. Feeding babies milk sources other than breast milk or recommended formulas may also lead to nutritional imbalances. See Appendix 2 **Error! Reference source not found.** for more information on infant formulas.

INTRODUCING SOLID FOOD

Complementary foods should be introduced at 6 months and can be started with infant meats, fruits, vegetables or grains such as infant cereals. There are several developmental milestones to indicate an infant is ready to eat solid foods:

- The birth weight has doubled
- The baby has good control of head and neck
- The baby can sit up with some support
- The baby can show fullness by turning the head away or by not opening the mouth
- The baby begins showing interest in food when others are eating

Pediatricians often advise parents to start solid feedings with iron-fortified baby rice cereal mixed with breast milk or formula to a thin consistency. The cereal may be mixed to a thicker consistency as the baby learns to control it in his mouth (2). See Appendix 1 for more on nutritional guidelines for children from birth to three,

Tips for Feeding Babies

- **Feeding solids too early is not recommended.** It can result in overfeeding.
- **Offer only one new food at a time.** Offer the new foods for a few days. Watch for allergic reactions (hives, vomiting, diarrhea).
- **Use a small spoon to feed the baby.** Cereal should not be given in a bottle unless a doctor or dietitian recommends it, for example, for reflux.
- **Feed the baby directly from the jar only if you use the entire jar contents,** otherwise use a dish to prevent contamination with food-borne illness. Opened containers of baby's food should be covered and stored in a refrigerator for no longer than 2 days.
- **Water can be offered between feedings** though it is not necessary for breastfed babies.
- **Feeding sweets or sweetened beverages is not recommended** because they will spoil the appetite and contribute to tooth decay.
- **If your child dislikes the new food, try giving it again later.**
- **Salt, sugar, and strong spices are not recommended,** nor are caffeine products (soft drinks, coffee, tea, chocolate).
- **A baby put to bed with a bottle can develop bottle mouth,** resulting in tooth decay. Use plain water if a bottle is necessary. (Discuss use of water with your physician. In some cases, use of excess water can lead to seizures in children.)
- **A fussy baby may need attention, rather than food.**

Source: University of Maryland Medical Center. *Age-appropriate diet for children*. Accessed online at www.umm.edu

including recommendations on dietary intake, vitamin supplementation, food safety, and consumption of alcohol and seafood by pregnant and nursing women.

Starting at age two, the principles of the five basic food groups popularized by the U.S. Department of Agriculture (USDA) in its food pyramid and newer food plate campaigns can be applied to a child's diet. As with older children and adults, a healthy diet will be focused on whole grains, fruits and vegetables, and low in sodium, saturated fats and cholesterol to reduce the risk of heart disease, high blood pressure, obesity, Type 2 diabetes and other health problems later in life.

FOODS TO AVOID WITH YOUNG CHILDREN

Before age one: Cow's milk, egg whites, seafood, chocolate, tomatoes, and citrus fruits are not recommended by the AAP due to risk of allergic reactions. An excess of cow's milk protein can irritate an infant's intestine and cause microscopic blood loss. This blood loss is too small in amount for parents to see, but enough for babies

to lose significant amounts of iron over time, becoming anemic. However, cheese, cottage cheese, and yogurt may be given in small amounts.

Never give honey and corn syrup or foods containing these foods to children under a year old as it may contain the spores that cause botulism; an infant's immune system is not fully developed to fight off this disease.

Before age three: Avoid foods that may cause a small child to choke, including popcorn, potato chips, dry flake cereals, nuts, seeds, whole kernel corn, berries, grapes, uncooked apple, raw vegetables, peanut butter, raisins, round candies, hot dogs and sausages.

ROLES & RESPONSIBILITIES IN FEEDING

The following division of responsibility between parent and child was developed by Ellyn Satter, who pioneered the concepts of the feeding relationship and eating competence. In short, parents provide *structure, support* and *opportunities*. Children choose *how much* and *whether* to eat from what the parents provide (3).

The Division of Responsibility for Infants

- The parent is responsible for *what*
- The child is responsible for *how much* (and everything else)
- The parent helps the infant to be calm and organized and feeds smoothly, paying attention to information coming from the baby about timing, tempo, frequency and amounts

The Division of Responsibility for Toddlers through Adolescents

- The parent is responsible for *what, when, where*
- The child is responsible for *how much* and *whether*

Parents' Feeding Jobs

- Choose and prepare the food
- Provide regular meals and snacks
- Make eating times pleasant
- Show children what they have to learn about food and mealtime behavior
- Not let children graze for food or beverages between meal and snack times
- Let children grow up to get bodies that are right for them

Fundamental to parents' jobs is trusting children to decide *how much* and *whether* to eat. If parents do their jobs with *feeding*, children will do their jobs with *eating*:

- Children will eat
- They will eat the amount they need
- They will learn to eat the food their parents eat

- They will grow predictably
- They will learn to behave well at the table

NUTRITION & FAMILY LIFE

Nutrition and feeding issues permeate all aspects of family life and impact the social, emotional, and cultural bonds which strengthen families and help create a sense of community. In our earliest moments in life, as newborns, we enjoy feeding not only for nutrition but also for the closeness, comfort, and security it provides. Parents associate feeding with love. Certain special foods have become part of our family rituals, such as Thanksgiving turkey and birthday cake, which play a central role in holidays and celebrations. Culturally, dining with others and offering hospitality are important social activities that help build and maintain the social bonds that are important supports for families.

A family's food choices are based on a variety of considerations that include but are not limited to food cost and accessibility, convenience, traditional family eating patterns that may be tied to cultural and religious values, and the physical accommodations in the home for cooking and preparing food.

Appreciating the complex social, emotional, and even ritual role food plays in family life and structure may help early interventionists to understand any family resistance to special diets and feeding methods and to work with family members to develop a realistic plan that can be carried out by all parties.

Nutrition specialists and other EI/ILP team members can show their sensitivity by listening to parents' views on nutrition and integrating those views into the plan for intervention. Working with parents in a collaborative manner is the best way to gain support for a nutrition plan that is safe and healthy for the child.

In developing a plan, the potential impacts on family life should be considered:

- **Who will be involved in implementing the plan?** Parents, siblings, grandparents, childcare providers, and community support personnel may all help with shopping, food preparation and feeding infants and toddlers. Is everyone on board who needs to be?
- **Will implementing the plan create a financial burden on the family?** Recommendations for specialized foods and formulas can be costly to the family and may require creative payment sources.
- **Are there any cultural or religious values that need to be taken into account?** How can these be supported?
- **Do parents and other family members need more training or ideas about different diets or methods of feeding?** Feeding is not always a pleasant experience for a child and different methods to encourage eating may be

required. When children have specialized diets, the family may need suggestions for introducing or substituting certain foods.

- **What are the supports for the family when things do not go as planned?**
Parents can have a difficult time accessing nutritional or feeding supports in either hospital or community-based settings. Do parents need more information about available resources?

Parents who have been presented with a medical diagnosis or have concerns about their child's health may be feeling anxiety, depression, anger and guilt, as well as fear for their child's future. It is important for service providers to create the conditions for comfortable communication by assuring parents that all questions are acceptable, by encouraging them to speak up regularly, and by repeating or reviewing important information.

NUTRITION & CULTURE

Providers working with families from cultural or religious backgrounds different from their own should be aware of biases they may have toward other cultures or faiths. An effort to become knowledgeable about other cultures and sensitive to cultural practices, traditional values, and religious beliefs around food and nutrition is the beginning of a supportive and productive relationship between parents and service providers.

One of the core values of EI/ILP is the concept that each family has its own structure, roles, values, beliefs, coping styles and unique needs. It is empowering for children and their families to build intervention services around a family's strengths and resources, which naturally includes their traditional foods and food customs.

TRADITIONAL FOODS

Among immigrant populations, a family's ability to obtain traditional foods may rest at least partially on the availability of a nearby specialty market or ethnic grocery. For Alaska's indigenous peoples, who represent 15 percent of the state population, traditional foods are available through subsistence harvest and communal networks of sharing and bartering. While traditional Alaska Native foods vary somewhat by tribe, region, harvest season, and family and community preferences, typical foods include (but are not limited) to fish, shellfish, game meats (e.g. moose, caribou, ptarmigan), marine mammals, berries and edible plants, including seaweed. Salmon in particular is consumed throughout the state.

The importance of fish and game in Alaska diets and the activities of fishing, hunting and berry picking extend well beyond Alaska Native peoples. For example, over 90 percent of rural households participate in subsistence fishing in Alaska, while less than half the state's rural residents are Alaska Native. Thus, subsistence activities

are important to the culture and foodways of almost all rural families, regardless of ethnicity (4).

Benefits of a Subsistence Diet and Lifestyle

The Alaska Division of Public Health recommends the continued unrestricted consumption of traditional subsistence foods for most populations in Alaska, despite concerns over the presence of heavy metals and persistent, man-made chemicals in the arctic food chain, in particular the presence of methylmercury in fish and shellfish. (See Appendix 1 for specific guidelines on the consumption of fish from Alaska waters for children under 12, nursing mothers, and women who are or may become pregnant.)

For now at least, the benefits of traditional foods are considered to outweigh the risks. They provide inexpensive and readily available nutrients, essential fatty acids, antioxidants, calories and protein and many health benefits such as protection from diabetes, cardiovascular disease, improved maternal nutrition, and neonatal and infant brain development (5).

While policies to minimize pollutants in the environment and the food chain should be pursued, Alaska state epidemiologists caution that severely limiting the consumption of traditional foods may result in more harm than good especially if, by reducing the intake of foods known to have health benefits, the consumption of foods that carry potential health risks is increased.

The Division of Public Health also recognizes that the subsistence diet and lifestyle are central to the cultural identity and self-determination of Alaska's indigenous peoples. The use of traditional foods provides a basis for cultural, spiritual, nutritional, medicinal, and economic health and well-being, while subsistence activities are important in maintaining social bonds and provide opportunity for physical activity, meaningful work and self-reliance. This is especially true in remote areas where cash-paying jobs are few and often temporary or seasonal (4) (6).

Potential Barriers to Traditional Food Choices

When Alaska Native families move to an urban area from village Alaska, their social and cultural connections may be disrupted or altered. Their ability to obtain traditional foods may depend on ties the family has established within the urban setting and with their home village.

For families new to Alaska, cultural ties may be very limited, and a family's access to traditional food choices may depend on the availability of a small specialty grocery store, affordable ethnic restaurants, or their ability to ask for familiar foods in the supermarket using English as a second language. These potential barriers may influence food choices for families new to an area.

Federal Nutrition & Food Safety Resources

Dietary Guidelines for Americans.

Jointly issued and updated every 5 years by the USDA and the U.S. Department of Health and Human Services (HHS), the Dietary Guidelines for Americans are the cornerstone of federal nutrition policy and nutrition education activities. They provide authoritative advice for Americans ages two and older about diet and exercise to maintain a healthy weight, reduce risk of chronic disease, and promote overall health. www.choosemyplate.gov/guidelines

Infant Nutrition and Feeding: A Guide for Use in the WIC and CSF Programs

Revised in 2009, this guide includes information on infant nutritional needs and the development of feeding skills, breastfeeding and formula feeding, transitioning to complementary foods, oral health, vegetarian diets, overweight and obesity, common gastro-intestinal problems, and physical activity/motor skill development. Written for staff that provide nutrition education and counseling to parents and guardians of at-risk infants, it is available from the USDA's WIC Works Resource System and can be downloaded at:

www.nal.usda.gov/wicworks/Topics/FG/CompleteIFG.pdf

National Listing of Fish Advisories

This database includes all available information describing state-, tribal- and federally issued fish consumption advisories in the United States for the 50 States, the District of Columbia, and four U.S. Territories, and in Canada for the 12 provinces and territories.

water.epa.gov/scitech/swguidance/fishshellfish/fishadvisories

See Also...

Food and Nutrition Resource Library: www.fns.usda.gov/tn/library.html

Food and Nutrition Information Center: fnic.nal.usda.gov

Food Safety Education Materials: www.fsis.usda.gov/food_safety_education

Federal Food Safety Gateway: www.foodsafety.gov

KEEPING AN OPEN MIND

It is important for providers to be open-minded in their approach to nutrition and culture. When talking with families, sharing stories about traditional foods often enhances communication and trust. It can be helpful for providers to ask the family about culturally healthy foods used to celebrate special events and any used for medicinal purposes. In addition, it is important to inquire about foods that are traditionally avoided.

Nutritionists and other service providers working in rural Alaska should be familiar with local food sources and customs as they may vary from tribe to tribe and region to region, despite many similarities. A good working rapport between the family and provider affords the opportunity to introduce new foods and promote nutritional education.

NUTRITION SCREENING & ASSESSMENT

The purpose of nutritional risk screening is to identify children who may benefit from nutrition assessment and intervention. A nutrition assessment is a more in-depth evaluation of a child for whom nutritional risks have been identified. While all EI/ILP staff should be able to administer a nutrition screening, a qualified nutrition specialist must carry out a nutrition assessment. In practice, nutrition screening and assessment will most likely be conducted by a nutritionist or WIC provider after referral to EI/ILP.

NUTRITION SCREENING

In Alaska as in other states, many nutrition screenings are performed through the federally funded WIC program. Administered in Alaska by the Division of Public Assistance, local WIC programs provide nutrition and health education, screening and referral free of charge to pregnant women, new mothers and young children. See Appendix 5 for more information about WIC, including contact information.

If not already noted, nutrition concerns may be identified as part of the EI/ILP intake interview and assessment process. A screening tool can help identify children who are at nutritional risk.

A nutrition screening tool is designed to survey a child in the following areas:

- Diagnosis and medical conditions
- Drug and nutrient interactions
- Food allergies and intolerances
- Feeding concerns
- Variety of diet
- Growth

A sample tool is included in Appendix 3. An EI/ILP staff member should complete the survey with the parent and not leave it for the parent to complete alone.

WHEN TO SCREEN

Because a child's food habits, food intake, and growth change rapidly during the earliest years, and the needs of both child and caregiver change as well, screening

for nutrition concerns should be an ongoing process and part of each periodic review of the child's Individualized Family Service Plan, or IFSP. Other times to conduct a nutrition screening:

- During infancy with the introduction of solids
- During the transition from breast to bottle feeding
- When a child is weaning off the bottle or from breastfeeding
- During the transition from infant foods to table foods
- With any surgeries or changes in the child's medical status
- During the transition from tube feedings to oral feedings

Who is A Nutrition Specialist?

Nutrition specialists may earn their license either as a registered dietitian (RD) or as a nutritionist or certified nutrition specialist (CNS). While similar, these specialties are credentialed by different boards and have different training requirements. In Alaska, it is illegal for an individual to use an occupational title using the word dietitian or nutritionist if not licensed by the state.

- **Dietitian or Registered Dietitian.** Dietitians must have at least a bachelor's degree in nutrition or dietetics from an accredited university, complete a dietetic internship, and pass a national exam covering all aspects of nutrition and food-service management. Dietitians are typically employed by hospitals, schools, clinics and community agencies (such as nursing homes, childcare centers, and wellness programs). They may provide counseling to physician-referred patients, plan food service programs, conduct classes or assist with research. They can specialize in pediatric dietetics or in a specific disease or disorder.
- **Nutritionist or Certified Nutrition Specialist.** Nutritionists are typically medical doctors specializing in the role of diet in the prevention and treatment of disease, or they may hold a PhD in nutrition or a related field. Certified nutrition specialists hold an advanced degree (master's or doctoral-level) in nutrition or a closely related field and have significant clinical experience. If not board-certified, a nutritionist may also qualify for Alaska licensure by obtaining a master's or doctoral degree from an accredited college or university with a major in human nutrition, public health nutrition, clinical nutrition, nutrition education, community nutrition, or food and nutrition. These candidates are required to have over 900 hours of work experience in nutrition or nutrition research.

Table 2: Matrix of Nutritional Concerns Associated with Medical Conditions

| MEDICAL CONDITION | Altered Nutrient or Calorie Needs | Problems with Oral Cavity | Nutrient Deficiencies | Gastrointestinal Problems | Poor Appetite/Intake | Delayed Feeding Skills | Malabsorption | Nutrient-Drug Interactions | Poor Growth/Weight Gain | Oral Sensitivity | Inappropriate Feeding Behavior |
|-------------------------------------------|------------------------------------------|----------------------------------|------------------------------|----------------------------------|-----------------------------|-------------------------------|----------------------|-----------------------------------|--------------------------------|-------------------------|---------------------------------------|
| AIDS/HIV | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | |
| Autism/PDD | | | ✓ | | ✓ | ✓ | | | | ✓ | ✓ |
| Bronchopulmonary/Dysplasia | ✓ | | | | | ✓ | | ✓ | | | |
| Cancer | ✓ | | ✓ | | ✓ | | ✓ | ✓ | | ✓ | |
| Cardiac Problems/Congenital Heart Disease | ✓ | | ✓ | | ✓ | | ✓ | ✓ | | | |
| Cerebral Palsy | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | | |
| Cleft Lip/Cleft Palate | ✓ | ✓ | | | | ✓ | | | | | |
| Cystic Fibrosis | ✓ | | ✓ | ✓ | ✓ | | ✓ | ✓ | | | ✓ |
| Diabetes | ✓ | | | | | | | ✓ | | ✓ | |
| Down Syndrome | ✓ | ✓ | | ✓ | | ✓ | | | | | ✓ |
| Dysphagia (difficulty swallowing) | ✓ | ✓ | ✓ | | ✓ | ✓ | | | ✓ | | ✓ |
| Failure to Thrive | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | ✓ |
| Fetal Alcohol Syndrome | ✓ | ✓ | | | ✓ | ✓ | | ✓ | ✓ | | |
| Food Allergy | ✓ | | ✓ | ✓ | | | ✓ | | ✓ | | |
| Gastrointestinal Disorder | ✓ | | ✓ | ✓ | ✓ | | ✓ | | ✓ | | ✓ |
| Hyperinsulinism | ✓ | | | | | | | | | | |
| Lead Exposure | ✓ | | | | | | | | | | ✓ |
| Inborn Errors of Metabolism | ✓ | | ✓ | ✓ | ✓ | | | | ✓ | | ✓ |
| Myelomeningocele/Spina Bifida | ✓ | | | ✓ | | | | ✓ | | | |
| Nutrition Support (Tube/IV Feeding) | ✓ | | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ |
| Prader-Willi Syndrome | | | | | | ✓ | | | ✓ | | ✓ |
| Premature/Very Low Birth Wt. | ✓ | | ✓ | | ✓ | ✓ | | | ✓ | ✓ | ✓ |
| Renal Disease | ✓ | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | | |
| Seizure Disorder | ✓ | | | | | | | ✓ | | ✓ | |
| William's Syndrome | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | ✓ | ✓ |

Source: *Children with Special Health Care Needs: A Community Nutrition Pocket Guide*. Ross Products Division of Abbott Laboratories, 1997

NUTRITIONAL RISKS ASSOCIATED WITH MEDICAL CONDITIONS

Children with medical conditions may have nutritional problems such as those listed in Table 2. Since nutrition concerns may not be readily identified from the child's medical records, parent feedback from a nutritional screening tool as well as observation of the child may be the best way to recognize these concerns. A child with any of these conditions should be screened for feeding, growth, or nutrition problems.

NUTRITIONAL RISKS DUE TO NUTRIENT-DRUG INTERACTIONS

Increasing or decreasing medications can affect a child's appetite, food intake, and meal schedule. Some medications must be taken with food or fluid, while others must be taken on an empty stomach. In addition, some medications can interfere with the normal digestive process by causing diarrhea, constipation or nausea. Others may deplete specific nutrients from the body by decreasing absorption, altering metabolism, and increasing excretion.

Children may be at nutritional risk if they are:

- Receiving chemotherapy
- Using a drug for extended periods (6 months or longer)
- Taking several drugs at one time
- Taking medications that have nutritional side effects (for example, diarrhea with antibiotics)

Parents should check with their child's pediatrician, pharmacist or nutrition specialist regarding their child's individual medications and any possible interactions or nutrition implications.

NUTRITIONAL RISKS DUE TO FOOD ALLERGIES AND INTOLERANCES

There has been an increased awareness of *food allergies* and *food intolerances* in young children over the past two decades. Foods most likely to cause food allergies and intolerances are milk and dairy products, eggs, soy, legumes (e.g., split peas, lentils and kidney beans), peanuts, tree nuts (e.g., walnuts, pecans and almonds), wheat, gluten (wheat, barley and rye protein), fish and shellfish. However, some confusion exists about the differences between the two conditions. Being allergic to milk is different than not being able to digest it properly due to lactose intolerance.

Food Allergies

A food allergy is an immune system response. It occurs when the body mistakes an ingredient in food— usually a protein— as harmful and creates antibodies to fight it. Allergy symptoms develop when the antibodies battle the “invading” food. The most common food allergies are peanuts, tree nuts, fish, shellfish, milk, eggs, soy and wheat (7).

Allergic symptoms can vary greatly in degree, time of onset, location, and the amount of food eaten. The same food can produce very different symptoms in different people. Most symptoms occur within 2 hours of eating the food, but they can be delayed up to 48 hours. However, anaphylactic (severe allergic) reactions are immediate and life threatening. Children can experience this type of reaction after eating a very small amount of the food in question. Table 3 includes some of the problems that can occur if a child eats something to which he or she is allergic.

With food allergies, it is extremely important for parents and other caregivers to read all food labels carefully. Many foods can have multiple names. For example, milk can be disguised on a food label as casein, whey, lactalbumin, lactoglobulin, or ghee. Wheat can be called by a variety of names including bulgur, semolina, spelt, durum, einkorn, farina, or triticale.

Table 3: Common Symptoms Caused by Food Allergies

| AFFECTED AREAS | SYMPTOMS | |
|--------------------------------|---------------------------------------------------------------------------|---------------------------------------------|
| Gastrointestinal | Abdominal pain Distention Swelling of the lips, mouth and throat | Nausea Vomiting Diarrhea Colitis |
| Skin | Hives Eczema Edema | Redness Itching |
| Respiratory | Runny nose Wheezing | Cough |
| Neurological/Behavioral | Headache | |
| Systematic | Failure to thrive | Anaphylaxis |
| Other Clinical Symptoms | Colic Conjunctivitis Otitis Media | Irritability Tension Fatigue Seizures |

Source: Connecticut Birth to Three System. *Service Guideline 6: Nutrition*, January 2000.

Food Intolerance

Food intolerance is a digestive system response rather than an immune system response. Food intolerance occurs when something in a food irritates a person’s digestive system or when a person is unable to properly digest, or breakdown, the food. Intolerance to lactose, which is found in milk and other dairy products, is the most common food intolerance (7).

Intolerances can cause mild to severe nausea, vomiting, cramping and diarrhea. Below is a list of common food intolerances that are commonly confused with allergies (8):

- **Absence of an enzyme needed to fully digest a food.** A common example is lactose intolerance — which can cause bloating, cramping, diarrhea and excess gas.
- **Irritable bowel syndrome.** This chronic condition can cause cramping, constipation and diarrhea.
- **Sensitivity to food additives.** Digestive reactions and other symptoms after eating certain food additives. For example, sulfites used to preserve dried fruit, canned goods and wine can trigger asthma attacks in sensitive people.
- **Celiac disease.** This chronic digestive condition is triggered by eating gluten, a protein found in bread, pasta, cookies, and many other foods containing wheat, barley or rye. Signs and symptoms of celiac disease include diarrhea, abdominal pain and bloating. While celiac disease involves an immune system response, it's a more complex food reaction than a food allergy.
- **Recurring stress or psychological factors.** Sometimes the mere thought of a food may make you sick. The reason is not fully understood.

Identifying symptoms of a food allergy or intolerance can be difficult in young children. An infant or small child may be unable to communicate pain or discomfort. Symptoms such as persistent nasal congestion, wheezing, coughing, chest congestion, vomiting, diarrhea, constipation, skin rashes, irritability, and sleeplessness may indicate a food allergy or intolerance. Parents should consult with their child's primary health care provider who will do a more complete assessment of the child's diet and medical symptoms.

Hypersensitivity to foods can greatly affect the health status of a child. If undiagnosed, the overall nutritional status and development of the child may be affected. When a food allergy or intolerance is suspected, the physician may recommend an elimination diet as part of the diagnostic tests. If a food group is eliminated from a child's diet, even for a brief period, the opportunity for malnutrition can occur because a host of vital nutrients is being eliminated from the diet. It is extremely important that alternative foods or supplements replace these nutrients. It is also important to remember that sensitivity to a particular food may also indicate sensitivity to related foods. For example, a child allergic to soybeans may also be allergic to other legumes.

NUTRITION ASSESSMENT

When screening indicates the need for further information, a detailed nutrition assessment is recommended. The WIC Program requires complete nutrition assessments, performed by professional or paraprofessional Competent Professional Authority (CPA).

FOOD DIARIES

Food diaries are one of the tools a nutrition specialist uses in an assessment. A food diary may be useful to determine calorie and nutrient intakes, identify deficiencies, and provide a picture of both the variety and food preferences in the child’s diet. Parents may be asked to keep a week-long diary of everything the child consumes. This is a record of all foods and fluids consumed over a 7-day period. This diary provides valuable information on eating habits, meal times, food likes and dislikes, serving sizes and food texture preferences.

Actual calorie and nutrient intakes can be determined from a well-recorded food diary. The following is one example of a food diary completed for a day, illustrating the important information to include in the diary (date, meal, type and quantity of food eaten). Only food and fluids actually consumed (not what was served) should be recorded in the food diary.

Table 4: Sample 1-Week Food Diary

| DAY 1 | DAY 2 | DAY 3 | DAY 4 | DAY 5 | DAY 6 |
|---------------------------------------------------------------------------------------------------------------|------------|------------|------------|------------|------------|
| Date: <i>Monday, Aug 1</i> | Date: | Date: | Date: | Date: | Date: |
| Breakfast: <i>6 oz. milk (1%) Half a banana Half cup of Cheerios</i> | Breakfast: | Breakfast: | Breakfast: | Breakfast: | Breakfast: |
| Snack: <i>3 oz. orange juice Half a bagel w/ butter</i> | Snack: | Snack: | Snack: | Snack: | Snack: |
| Lunch: <i>4 oz. cheese ravioli 4 oz. jar garden veggies 4 oz. fruit yogurt 4 oz. milk (1%)</i> | Lunch: | Lunch: | Lunch: | Lunch: | Lunch: |
| Snack: <i>Small box of raisins (1/2 oz)</i> | Snack: | Snack: | Snack: | Snack: | Snack: |
| Dinner: <i>5 1/2 oz. pasta with tomato sauce 4 oz. fruit yogurt 4 oz. milk (1%)</i> | Dinner: | Dinner: | Dinner: | Dinner: | Dinner: |
| Snack: <i>6 oz. milk (1%)</i> | Snack: | Snack: | Snack: | Snack: | Snack: |

GROWTH CHARTS

Growth charts are an important tool to screen, evaluate and monitor growth. The U.S. Center for Disease Control (CDC) now recommends that health care providers use international growth standards from the World Health Organization (WHO) to monitor growth for infants and children ages 0 to 2 years in the U.S., and CDC’s own growth charts for children 2 years and older.

WIC publishes growth charts that have been created by the CDC National Center for Health Statistics with direction from the WIC program. These charts focus only on WIC- aged children, making documentation and tracking easier. They can be downloaded from the Assessment Tools section of the WIC Works online resource library at:



wicoworks.nal.usda.gov

Using Growth Charts to Monitor Growth and Assess Risk

The use of weight, length, and head circumference measurements as a component of nutritional assessment is well established. Plotting measurements on growth charts allows comparisons with reference populations. The series of curved lines, the *reference percentiles*, printed on each chart are based on actual growth data for the population. They illustrate the distribution of children in the reference population for that body measurement at each age on the chart. Typical growth is generally considered to fall between the 10th and 75th percentiles of weight and stature.

Measurements that fall below the 10th and above the 75th percentiles may identify nutrition risk factors and indicate that a nutrition assessment is needed. Exceptionally small or large head circumference or significant discrepancies in a child's height and weight may also be indicators of particular medical or developmental concerns.

However, caution must be used when looking at growth data from a single point in time. Tracking a child's growth over time provides better insight into a child's health. Serial measurements enable determination of improvement or alteration in individual growth patterns. Sudden changes in growth may warrant further investigation. Since many factors influence growth, growth data alone cannot be used to diagnose nutrition deficiencies.

Growth Charts for Special Populations

Standard growth charts may not represent typical growth in the child with special needs. Many of the children in the EI/ILP system fall below the fifth percentile on standard charts. However, standard charts can still be useful for monitoring nutrition and growth. Measuring and plotting a child's growth at frequent intervals from birth to three, allows the physician or nutrition specialist to connect the dots and see the child's growth pattern over time. Measurements that form an upward arc indicate growth.

Specialized growth charts. Specialized growth charts are available for use with children with specific medical conditions known to affect growth status. These specialized charts provide useful growth references, but come with caveats. Generally, they are developed from relatively small homogeneous samples, and the data used to develop them may have been obtained with inconsistent measuring techniques. An option recommended by the CDC is to plot a child's growth on both

the specialized and the standard charts to allow comparisons to the general population and to the references for children with the same condition.

The CDC weight-for-stature charts are useful to determine adequate weight for a child who is small in stature.

Down Syndrome. Children with Down syndrome are generally smaller than their typically-developing peers, so Down Syndrome Growth Charts have been developed for use with this population. The percentile curves were derived from a longitudinal study examining the growth patterns of individuals with Down syndrome. The charts are available from the National Down Syndrome Society:



www.ndss.org

Preterm and Low Birth Weight Infants. The 2000 CDC Growth Charts for the United States include data on low birth weight (LBW) infants, but do not include data on very low birth weight infants (VLBW), those weighing less than 1,500 grams at birth. However, CDC charts can still be used for VLBW infants. Generally, their patterns of growth will be similar, though measurements may fall in the lower percentiles.

Growth charts from the Infant Health and Development Program (IHDP) provide an alternative to using CDC charts for VLBW infants up to 36 months corrected age (9). IHDP growth charts provide a better reference to compare the growth of a VLBW infant with those of other VLBW infants, while standard CDC Growth Charts allow comparison of a VLBW infant's growth with that of non-VLBW infants. However, the IHDP charts are based on data collected in 1985, prior to many advances in medical and nutritional care practices.

The CDC recommends:

- For LBW infants who have reached 40 weeks gestation, use the 2000 CDC Growth Charts adjusted for gestational age.
- For VLBW infants, adjust for gestational age and use either the IHDP or the 2000 CDC Growth Charts.
- Weight should be corrected until the child is 24 months of age, length until 36 months of age, and head circumference until 18 months of age.

WIC has developed growth chart guidelines based on these CDC recommendations for preterm, LBW and VLBW infants to ensure the consistency and accuracy of growth assessments of premature infants performed by WIC agencies (10). It suggests using both CDC and IHDP growth charts for VLBW infants to obtain additional growth reference information to use in providing nutrition services to this population. The most current WHO and CDC Growth Charts can be found on the CDC website:



www.cdc.gov/growthcharts

IDENTIFYING FEEDING PROBLEMS

In most children, feeding skills develop in an orderly progression based on the typical, predictable development of oral-motor skills. As each new skill is acquired, foods that match that skill should be introduced, as illustrated in Table 5. However, children with feeding issues may skip stages or follow a slower or different progression sequence.

Table 5: Typical Progression of Feeding Skills and Food Choices

| AGE | CHILD SKILLS | FOOD CHOICES |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 1-2 Months | Suckle Tongue movement front to back Rarely drools | Breast or bottle feeding |
| 2-4 Months | Head control Minimal liquid loss when sucking Mouth opens in expectation of nipple | Breast or bottle feeding |
| 4-6 Months | Voluntary sucking begins Munching emerges Lips purse and smack Tongue projects intentionally Mouths objects Recognizes bottle | Begin strained foods |
| 6-8 Months | Can sit alone Lips close around a spoon Chewing begins Tongue lateralization begins Brings food to mouth Begins holding bottle Begins sipping from a cup | Advancement of solid foods Begin large, soft finger foods Begin juice from a cup |
| 8-10 Months | Uses upper lip to remove foods from spoon Drools only when teething Begins to finger feed Holds own bottle Sips from an open cup | Begin finely chopped or mashed table foods |
| 10-12 Months | Lips close when swallowing Rotary chewing Begins holding cup Bites through solids Begins self spoon feeding | Begin chopped table foods Begin small finger foods |

Source: Connecticut Birth to Three System. *Service Guideline 6: Nutrition*, January 2000.

The best way to assess whether a child has feeding problems is to observe him during a feeding time in a familiar environment with the parent or caregiver. When

feeding problems are identified, they can usually be attributed to oral motor, positioning, or behavioral issues.

Clues for identifying possible feeding problems in young children:

- The child is hypersensitive to touch in and around the mouth.
- The infant has difficulty sucking from the bottle or breast.
- The infant takes an excessive amount of time to swallow a small amount of liquid.
- The infant or child loses excessive liquids or foods from mouth during feedings.
- The child has difficulty tolerating varying food consistencies and textures according to age-expected levels.
- The child coughs, chokes, gags, spits up, or vomits excessively.
- The child uses limited movements of jaw, tongue, lips, and cheeks when chewing foods or drinking from a cup.
- There is poor lip closure around a nipple, spoon, or cup.
- The child experiences severe dental caries (cavities).
- There is a disconnect between the child’s ability to provide cues or the parent’s ability to read the child’s cues
- Motor skills are impacting the child’s ability to self-feed

Since children with special needs demonstrate a greater number of feeding and eating disorders than do typical children, it is important to identify and address such issues early. Feeding problems can result in slow growth, poor weight gain, nutrient deficiencies, dehydration, constipation, appetite distortions, dental cavities and refusal to consume types of foods. They can also potentially impair the parent-child relationship, which can in turn jeopardize the child’s social-emotional and even cognitive development.

Assessing Parent-Child Interaction with the NCAST Feeding Scale

The NCAST Feeding Scale is a well-developed set of observable behaviors that can be used with infants from birth to 1 year of age as a reliable and valid means of rating caregiver-child interaction during either a breast, bottle or table food feeding or eating episode (11). Scores from interactions with children at 12 months of age show a significant correlation with subsequent measures of children’s cognitive abilities. Widely used as a guide for intervention and as pre and post-test measures, the feeding scale takes the same amount of time to administer as a feeding. The NCAST Feeding Scale can be ordered from:



www.ncast.org

IDENTIFYING SWALLOWING DYSFUNCTIONS

A safe swallow is essential for eating to take place. A swallowing dysfunction can affect a child's food intake, nutritional status, and overall health. Depending on the child, a swallowing problem may be easily determined through observation or it may require more involved medical procedures using X-ray or fiber optic equipment. A child who exhibits signs of a dysfunction should be referred to the primary health care provider for further evaluation.

Signs of a possible swallowing dysfunction:

- History of repeated upper respiratory infections and pneumonia
- History of frequent spitting up, coughing, choking, or difficulties breathing during and after meals
- Wet/noisy upper airway sounds
- More than one swallow needed to clear a bolus (food ready to be swallowed)
- Drooling/pooling of saliva
- Nasopharyngeal regurgitation (loss of food or liquid through nose)
- Food refusal behaviors (for example, turning head away, pursing lips together, pushing food away, spitting out foods or fluids)
- Overreaction to foods or fluids around the mouth (e.g., gagging, crying, strong refusal behaviors)
- No reaction to food or fluid (for example, no awareness of food on lips, no mouth movement, no attempt to swallow)

GASTROESOPHAGEAL REFLUX (GER)

A common issue for young children related to feeding is Gastroesophageal Reflux, or GER. GER is a condition where the contents of the stomach frequently re-enter the esophagus (throat). It happens when the sphincter, which acts as a door between the stomach and the esophagus, does not work properly. GER may be observed as spitting up or vomiting. However, symptoms of reflux may also be silent. A child who frequently has signs or symptoms of GER should be referred to the primary health care provider for further evaluation.

Signs and symptoms of GER:

- Vomiting
- Weight loss
- Oral thrush
- Chronic constipation
- Wet burps
- Heartburn
- Eats small amounts frequently
- Noticeably wet pillow after sleeping
- Foul or sour breath
- Arching back during feeding
- Frequent respiratory illness

APPROACHES TO INTERVENTION

DETERMINING ELIGIBILITY FOR EI/ILP NUTRITION SERVICES

Children are not eligible for EI/ILP services based on their nutrition status alone. To receive early intervention services for a nutritional concern or feeding issue, a child must have a significant developmental delay based on his or her health status—or be considered at high risk for developing a significant delay—and the nutritional needs must be related to the child’s ability to make developmental progress, but not be medical in nature.

For children whose nutritional needs are medical in nature, nutrition assessment and intervention services will be provided either as part of their medical care, through the EI/ILP team, or be coordinated between the two. These two scenarios may help to illustrate:

- **Scenario 1: A child with significant developmental delays receives nutrition services through her local EI/ILP provider.** Brenda was born prematurely and had several health complications at birth. She was eligible for EI/ILP based on her prematurity and significant delays in development. Brenda’s growth was a constant concern for her doctors and her interventionists who were addressing her ability to perform age-appropriate motor tasks as well as support her family in appropriate feeding techniques. A nutrition specialist on her early intervention team completed a nutritional assessment, and an IFSP was written in consultation with Brenda’s pediatrician. As part of the plan, the nutrition specialist consulted with the parent at specific intervals and reassessed Brenda before her annual IFSP review. The family was given a feeding plan which identified appropriate foods and feeding schedules. As Brenda grew in weight, the nutrition specialist continued on as part of the team to assess her changing nutritional needs and monitor her progress.
- **Scenario 2: A child receives nutrition services as part of his medical services.** Kevin is a 2-year-old child with a seizure disorder and significant developmental delays. He has been receiving EI/ILP services since age 1. After his last visit to the doctor, Kevin’s family decided to institute a ketogenic diet to help to control Kevin’s seizures. In order to begin the diet, Kevin is first hospitalized for medical tests and then a strict diet is developed. Ongoing tests are needed to verify Kevin is in a state of ketosis. The EI/ILP staff, while not directly involved with this treatment, stays in touch with Kevin’s doctors and

nutrition specialist throughout this process. Their goal is to know Kevin's progress and understand the requirements of his diet so they can help Kevin's family adjust to the impact the diet has on their daily routines.

A TEAM APPROACH TO INTERVENTION

When a child who is eligible for EI/ILP services has nutritional risks that could affect his or her developmental progress, an intervention plan is developed. As with other EI/ILP services, a team approach is taken with the child's family as integral members of the team.

An EI/ILP family service coordinator will help the family put together a transdisciplinary team of providers who will meet to establish goals and objectives as part of the development of the IFSP. Concerns about a child's nutrition will be included in the plan, and the team will discuss the intervention services essential to achieving the child's nutrition outcomes. They will also determine the frequency, intensity, and method of service delivery.

EI/ILP providers must also see that parents and caregivers receive the education and support needed to achieve the intervention goals. This should include education on any feeding/swallowing risk factors and intervention strategies.

If a child is receiving nutritional support from outside the EI/ILP program, this information should be included in the plan and, with parent permission, ongoing communication between the EI/ILP team and the child's medical or community-based providers can be arranged. The IFSP will also include a plan for transitioning the child to school- or community-based nutrition services if they are still needed once the child reaches 3 years of age.

WHO IS ON THE EARLY INTERVENTION TEAM?

In addition to the child's family and the family service coordinator, the choice of team members will depend on the child's specific needs. They may include a registered dietitian, WIC provider, lactation specialist, public health nurse, speech language pathologist (SLP), occupational therapist (OT), physical therapist (PT), social worker, behavioral psychologist, child care provider, and the child's primary health care provider.

Because there is a wide range of individual skills, experience, and areas of specialization among health care professionals and other service providers, individual providers who work with Alaska's young children should engage only in those aspects of their profession that are within the scope of their competence, considering their level of education, training, and experience. Licensed practitioners should follow the high-quality, evidence-based standards of their professions as determined by their state and national credentialing and professional associations.

Role of the Nutrition Specialist on the Team

In addition to performing nutrition assessments, nutrition specialists can play an active role as part of the EI/ILP team.

In the process of developing a child's IFSP, the nutrition specialist:

- Participates in developmental evaluations and the IFSP process
- Conducts individual assessments in nutritional history and dietary intake anthropometric, biochemical, and clinical variables, feeding skills and feeding problems, and food habits and food preferences
- Develops and monitors appropriate plans to address the nutritional needs of children
- Monitors child's nutrition status and reevaluates care plan as needed
- Initiates contacts with other nutrition services needed by the child
- Provides direct nutrition counseling services (in the home, or by phone contact as appropriate)
- Identifies service gaps based on identified needs
- Provides service coordination for nutrition-intensive cases including ongoing contact with physicians, as appropriate

In providing education, training, and support services for parents and EI/ILP staff, the nutrition specialist:

- Identifies nutrition training needs of parents and staff
- Conducts parent support groups on feeding
- Conducts staff in-services on growth, nutrition, and feeding
- Participates in child/parent groups and other staff activities

INTERVENTION FOR FEEDING ISSUES

Children are identified as having feeding problems when they are either unable to eat or refuse to eat certain foods due to physical or behavioral reasons. When feeding issues exist, intervention is important not only to ensure a child gets the calories and nutrients he or she needs, but also because of the impact feeding has on the relationship between parent or caregiver and child. Research indicates that this first, significant nurturing relationship in a baby's life is vitally important in building the foundation for learning and healthy social emotional development.

Table 6: Roles of EI/ILP Team Members in Addressing Feeding Problems

| TEAM MEMBER | ROLE |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Speech Pathologist | <ul style="list-style-type: none">▪ Improves oral-motor skills for safe management and swallowing of liquids and solids▪ Reduces oral hypersensitivity to touch, taste, textures, and temperatures▪ Safely introduces oral liquids and foods while allowing the child to maintain a sense of control▪ Offers strategies to the family for slowly and safely introducing new tastes, textures, and consistencies |
| Occupational Therapist | <ul style="list-style-type: none">▪ Works closely with the speech therapist on developing a “sensory diet” for the oral-motor area when an aversion to foods is noted due to either a hyper or hypo sensitivity to textures or touch▪ May also help the family with arranging the setting to promote a positive eating experience |
| Physical Therapist | <ul style="list-style-type: none">▪ Educates the family and other caregivers on specific handling techniques or body positions that help develop the appropriate head, neck, and trunk control essential for eating and swallowing▪ Suggests to the family, adaptations to the child’s seating to promote optimal positioning of the child which sometimes requires the ordering of appropriate positioning equipment when adaptations cannot be made to the child’s chair |
| Nutrition Specialist | <ul style="list-style-type: none">▪ In conjunction with the physician, ensures that the intervention plan offers adequate calories and nutrients for the child in order to decrease the severity of these feeding problems |
| Early Childhood Special Educator | <ul style="list-style-type: none">▪ Works in concert with the team members and family in supporting feeding |

Source: Connecticut Birth to Three System. *Service Guideline 6: Nutrition*, January 2000.

Because feeding issues may exist alone or in combination, it is important for the appropriate early intervention team members to work closely with the family when assessing and addressing nutrition and feeding problems. Table 6 gives examples of some of the many roles team members may play in this effort. These roles may vary depending on the individual practitioners training and experiences, and some roles may overlap. Each team member should feel comfortable in reinforcing the other team members’ recommendations, reducing the need for additional professionals to interact directly with the child.

In addition to those listed, other team members may be needed to support the family, such as a social worker or behavioral specialist, depending on the child’s and family’s needs.

TUBE FEEDING

Tube feeding is used when children cannot safely take in enough calories by mouth for proper growth and development. Below are signs and symptoms which, if observed, may indicate the need for tube feeding:

- Child is unable to eat at least 80 percent of estimated calorie needs or 90 percent of their fluid needs by mouth
- History of GER with failed treatment
- Repeated upper respiratory infections or pneumonia
- “Wet cough” noted during or after feedings
- History of weight loss, or lack of change in weight or height over a period of time
- Vomiting, choking, coughing, changes in skin color, or other signs of distress during feedings
- Feeding times exceed a total of 4 hours each day
- Craniofacial anomalies
- Tracheostomy tube

There are several types of feeding routes used to provide the necessary calories, including nasogastric, gastrostomy, and jejunostomy tubes:

Nasogastric tubes (NG tubes). This soft tube runs through the nose and down into the stomach. Surgery is not required to place this tube and parents can be taught how to do this while at home. When the tube is in place, the child can still eat by mouth. NG tubes are used when nutrition supplementation is needed on a short-term basis. The child may experience discomfort in the mouth or throat, and there may temporarily be an aversion to oral stimulation.

Gastrostomy tubes (G-tube). This tube is placed into the stomach wall and provides food directly to the stomach, bypassing the mouth altogether. Surgery is required in order to place the G-tube, and the tube is hidden under clothing. This type of tube can be used on a long-term basis. Sometimes the child with a G-tube can continue to eat by mouth as recommended.

Jejunostomy tubes (J-tube). This tube is placed directly into the wall of the jejunum (the second portion of the small intestine) and provides food directly into the small intestine by bypassing the mouth and stomach altogether. Surgery is required in order to place the J-tube, and the tube is hidden under clothing. This type of tube can be used on a long-term basis. It is rare that a child with a J-tube can continue to eat by mouth.

Common Tube-Feeding Complications

- Complications that occur with G-tube or J-tube fed children can be categorized as gastrointestinal, metabolic, mechanical, and psychological.
- Gastrointestinal complications can include vomiting, diarrhea, and constipation.
- Metabolic complications can result in dehydration, over hydration, electrolyte imbalances, and failure to achieve appropriate weight gain.

- Mechanical complications can result in obstruction (blocking) of the feeding tube or aspiration of formula into the lungs.
- Psychological complications involve the refusal of the child to eat foods orally.

Monitoring a Child on Tube Feedings

Below are some of the questions caregivers for children on tube feedings will be asked by the nutrition specialist, visiting nurse, or physician. This should occur on a regular basis in order to ensure that the child is receiving adequate nutrition to promote growth and good health while on tube feedings.

- What product is going into the tube?
- How many cc's or fluid ounces per feeding?
- What times are the feedings?
- Are night feedings ever turned off?
- Are feedings by pump, bolus, or continuous drip?
- How much water is used to flush the tube?
- How much water is added to the formula?
- Does the child appear comfortable during and after feedings?
- Does the child show signs of hunger?
- Does the child have constipation or diarrhea?
- Does the child vomit frequently?
- Is the child gaining adequate weight?
- Do you have any problems getting the formula?
- Are there any problems with the tube site?
- Does the child remain upright during feedings?

Transition to Oral Feeding

Returning to oral feedings may be a realistic goal for some children, but transition time will vary greatly from child to child. During this transition, the control of feeding returns to the child. Hopefully, the nutritional status of the child will remain stable as the transition occurs. It is vital that the nutrition specialist be involved with the child's care during this transition in order to:

- Help the family identify signs of hunger
- Adjust feedings, in connection with physician, to allow for hunger to occur
- Recommend appropriate foods
- Monitor height, weight, and head circumference
- Monitor food and fluid intake via food diaries
- Provide family support to continue oral feedings despite the child's possible food refusal or behavior problems

INTERVENTION FOR SWALLOWING DYSFUNCTIONS

Depending on the cause of dysfunction, interventions for a swallowing problem will vary from minor changes in positioning, to changes in diet, and interventions that require medical oversight. It will be up to the EI/ILP team, including the family and physician, to determine whether interventions to address swallowing dysfunctions are delivered as part of early intervention services or medical treatments.

LACTATION SUPPORT FOR INFANTS WITH SPECIAL NEEDS

Mothers who choose to breastfeed may find this difficult if their child is born with special needs. Often they will look to their early interventionist for information. This section offers some basic information on lactation to assist parents and EI/ILP staff.

Breastfeeding offers the same nutritional benefits to the child born with medical or developmental problems as it does for any newborn, plus several additional advantages that are summarized on page 10. Mothers of infants with special needs can use general breastfeeding information that is helpful to all mothers of nursing infants, but they may also need additional support and education to effectively deal with the unique needs of their own infant. In that case, they should be referred to their pediatrician or a lactation specialist (IBCLC).

Grief or guilt may be the first feelings a mother experiences if she has given birth to an infant with a physical or developmental impairment, particularly if delivery brings first knowledge of the condition. Initially, this can overwhelm a mother's (and father's) ability to obtain and absorb information about caring for their infant. If the parents had planned to breastfeed their infant, they may wonder if it is still possible in light of their infant's condition.

The role of the early interventionist is to offer emotional support, appropriate education, and referral so that the mother may attempt nursing if that is what she chooses. If a mother chooses not to nurse or is unable to nurse due to the infant's condition, she should be equally supported in that decision. When information is provided, it may need to be repeated more than once, given that parents are likely to be dealing with many emotions at this time, including anxiety for their baby's health, as well as their own fatigue.

BREASTFEEDING OPTIONS

There are several ways to approach breastfeeding an infant with special needs:

- Nursing directly from the breast for all feedings if the infant is able
- Pumping breast milk for all feedings if the infant cannot nurse directly
- A combination of nursing and pumping milk or calorie-enhanced formula

Nutrition Intervention Resource

Nutrition Interventions for Children with Special Health Care Needs

The Washington State Department of Health publishes a 425-page book for registered dietitians and other health educators and providers who work with this children with special needs. (DOH Publication Number 961-158)

Section 1: “Determination of Nutritional Status” outlines the recommended procedures for nutrition screening, and assessment; and addresses the prerequisite steps to take in the development of a nutrition intervention care plan.

Section 2: “Problem-Based Nutrition Interventions” addresses the nutrition-related problems that are more common across a wide range of diagnoses.

Section 3: “Condition-Specific Nutrition Interventions” addresses nutrition management related to specific diseases and disorders that have strong nutrition components.

Order a free CD of this publication or download a PDF from:

here.doh.wa.gov/materials/nutrition-interventions

Each infant should be assessed to determine the appropriate feeding method. Direct nursing or pumping may require additional time and perseverance from the mother of an infant with special needs; however, knowing that she is providing an optimal source of nutrition may empower her. It is important to remember that a woman’s milk supply is established during the first 6 weeks after delivery. A regular schedule for nursing or pumping needs to be established to assist and enhance adequate breast milk production.

Nursing Directly from the Breast

Infants with conditions such as Down Syndrome, Phenylketonuria (PKU), cleft lip and palate, cardiac defects, low birth weight, or neurological impairments may be nursed successfully if parents have access to specific information tailored to their infant’s needs. These may include information on positioning, timing of feedings, and adaptive feeders. It is important that parents work with practitioners who are knowledgeable in breastfeeding techniques for their infant’s specific condition. This may be a lactation consultant, nutrition specialist, neonatologist, speech pathologist, or developmental pediatrician who has specific training in this area, or a combination of these practitioners.

Signs of adequate intake in breastfed infants:

- Eight to 12 feedings in 24 hours
- Audible swallowing in baby when mother’s milk lets down

- Baby alert with healthy skin
- Baby is content between feedings when mother’s milk comes in (without other indicators of fussiness)
- By the fifth day, six or more wet diapers per 24 hours
- Three to eight soiled diapers per 24 hours for the first 6 weeks
- Baby gains 5 to 7 ounces per week (or 1 ounce per day)
- Baby recovers birth weight by 2 weeks of age (newborns normally lose some weight in the first week of life)
- Feedings last at least 10 minutes per breast and generally not more than 20 minutes per breast
- Mother’s breasts feel full before feeding and softer after feeding (this lessens over time)

Pumping Breast Milk

For infants who are unable to nurse directly from the breast due to a weak suck, those who are unable to latch onto the breast, or those who become overtired with feedings, pumping is the effective way to offer the benefits of breast milk. Pumping can often be helpful if the mother cannot decide whether she wants to breastfeed or not. It can offer her time to make the decision that is right for her, without losing the opportunity for establishing milk supply for her infant.

Electric pumps can be rented from hospital maternity units, home care companies, and medical pharmacies and are most effective in establishing and keeping a mother’s milk supply (compared with hand-powered pumps or manual expression). The ideal pumps are those with ability to pump both breasts at the same time. The volume of milk collected will depend on the mother’s ability to relax and have “let down” (milk release) with a pump versus nursing.

Frequent short pumping sessions (10 minutes) increase prolactin levels and milk production more than longer (20 minutes) and less frequent sessions. Pumped milk can be enhanced in calories with additives if weight gain is an issue. Some insurance companies may cover the cost of pump rental due to medical needs of the infant.

Tips on initiating milk supply without infant suckling:

- Begin pumping as soon after delivery as condition permits
- Initiate use of electric pump while in hospital
- Pump at least seven times in 24 hours or at least 100 minutes per day
- Allow a rest period for uninterrupted sleep of at least 6 hours
- Use a double pumping system (pumping both breasts simultaneously) to decrease total pumping time
- Prepare the breast with warm soaks, hot showers, gentle stroking, and light massage to maximize the production of milk

Nursing with Pumping or Supplemental Formula

Sometimes an infant may be able to nurse from the breast, but tires from a full day of feedings. In this case, a lactation consultant, physician, or nutrition specialist may recommend some nursing to promote mother and infant bonding, but supplement it with additional pumped breast milk or formula from a bottle with a soft nipple. If

Tips for Storing Expressed Milk

Handling and storing freshly expressed breast milk

- Wash your hands before expressing or handling your milk.
- Use only clean containers to store expressed milk. Use collection containers specific for the purpose of storing human milk. Don't use ordinary plastic bags or formula bottle bags for storing milk.
- If you will warm the milk in the storage container you might wish to avoid rigid plastic bottles with #7 in the recycling triangle to avoid exposure to bisphenol A (BPA), a potential hormone disrupter.
- Freshly expressed milk can remain at room temperature for up to 4 hours. Use refrigerated milk within 48 hours.

Freezing breast milk

- Freeze milk if you will not be using it within 24 hours. Frozen milk is good for at least 3 months if kept at 0 degrees F or colder.
- Freeze 2-4 ounces of milk at a time, depending on the average amount of a single feeding for your baby. You may also want to freeze some small amounts for certain situations.
- Make sure to label the milk with the date you froze it and possibly your child's name if you are bringing it to an out-of-home child care facility. Talk with your child care provider about how they require breast milk be stored and labeled.
- Store milk at the back of the freezer—never in the freezer door.
- Never refreeze breast milk once it has thawed.

Thawing previously frozen breast milk

- Thaw milk in the refrigerator or by swirling in a bowl of warm water. Do not shake!
- It is not safe to heat milk in a microwave oven or bottle warmer. Excess heat can destroy the important proteins and vitamins in the milk.
- Thawed milk must be used within 24 hours

Source: American Academy of Pediatrics, *Breastfeeding Initiatives*

www.aap.org/breastfeeding/faqsBreastfeeding.html

weight gain is an issue, either the pumped breast milk or formula can be enhanced in calories beyond 20 calories per ounce by concentrating the formula further, and/or adding additional carbohydrate or fat. A qualified pediatric nutrition specialist should be able to provide recipes that enhance the calories in breast milk or formula. Haberman Feeders and Supplemental Nursing systems, available from the Medela Company, can also assist infants who have difficulty nursing from the breast or who need additional calories while nursing from the breast. See Appendix 5 for a list of resources.

DIETARY NEEDS OF NURSING MOTHERS

Breastfeeding increases the mother's requirements for most nutrients since she produces an average of 3.25 to 3.5 cups of breast milk daily during the first 4 or 5 months of the baby's life. The Recommended Daily Allowances (RDAs) are higher during lactation than at any other stage of a woman's life. Infants of women who do not get adequate nutrition will still get the milk and nutrients they need, but the mother's body will suffer from the lack of nutrients. Mothers need to select a variety of foods that meet their increased energy, protein, and other nutrient needs and avoid the temptation to restrict intake in order to lose weight.

Dietary Guidelines for Nursing Mothers

- **Drink plenty of fluids.** Fluids do not stimulate milk production or let down, however they do replace fluid lost while nursing. Women should drink to satisfy thirst, preferably with milk, juice, or water. Coffee, tea, and soda that contain caffeine are okay in moderation, however they are diuretics.
- **Eat a variety of foods.**
- **Eat regular meals and nutritious snacks.** Nursing mothers tend to get hungrier during the day.
- **Eat a little more than usual.** Women who breastfeed tend to have a natural increase in appetite. Calorie needs are about 500 more per day than it took to maintain weight prior to pregnancy.
- **Eat foods high in sugar or fat in moderation** as long as nutritious foods make up most of the mother's diet.
- **Avoid dieting to lose weight rapidly.**

Nutrition and rest play a very important role in helping a mother cope with the additional demands breastfeeding places on her body. Stress, anxiety, and fatigue can all inhibit let down of milk while an infant is nursing, and the mother of an infant with special needs may be feeling all of these emotions during the first month of a baby's life. Well-nourished, well-rested mothers will have better breastfeeding success for their infant with special needs.

NUTRITION CARE FOR PREMATURE & LOW BIRTH WEIGHT INFANTS

Medical advances in the respiratory management and nutrition support of premature and low birth-weight infants over the past 10 to 15 years have led to dramatic increases in the survival rate of these babies. This is particularly true for the Extremely Low Birth Weight infant who is born weighing less than 1,000 grams (2.2 lbs.).

Although, prematurity is broadly defined as infants born less than 38 weeks gestational age, there is considerable diversity among infants classified as preterm. Many prenatal and postnatal factors contribute to this diversity, such as the infant's intrauterine environment, genetics and family issues, medical history and current medical status, growth, nutritional history and current nutritional status.

Many preterm infants are discharged from the hospital when they weigh approximately 1,800 to 2,500 grams (4 to 5 lbs.) and are 35 to 40 weeks gestational age. An infant is usually ready to go home when acute medical problems have been resolved. However, some infants will be discharged with chronic but stable conditions requiring ongoing medical management. This includes infants with bronchopulmonary dysplasia (BPD), short bowel syndrome, or other medical conditions related to prematurity. These infants will require additional medical and developmental follow-up in the community.

Initial birth weight is important because it can be a predictor of an infant's growth potential and overall health status in infancy and childhood. The following birth weight categories are frequently used to refer to premature infants:

- LBW** Low birth weight (less than 2,500 grams)
- VLBW** Very low birth weight (less than 1,500 grams)
- ELBW** Extremely low birth weight (less than 1,000 grams)
(LBW, VLBW, and ELBW terms do not indicate a particular gestational age)
- SGA** Small for gestational age (birth weight is less than 10th percentile for gestational age)
- AGA** Appropriate for gestational age (birth weight is greater than the 10th and less than the 90th percentile for gestational age)
- LGA** Large for gestational age (birth weight greater than the 90th percentile)

GROWTH MONITORING AND NUTRITIONAL NEEDS

Premature and low birth weight babies need special attention because they have very different nutritional requirements than a full term newborn. They have higher requirements for nutrients such as protein, calories, calcium, phosphorous, iron, vitamin A, and zinc to support catch up growth. Special products designed to meet

these nutrient needs are used during hospitalization. These include products for fortifying breast milk (i.e. human milk fortifier) and special formulas designed for premature infants. These products are generally higher in calories (24 vs. 20 calories per ounce), protein, vitamins, and minerals than standard infant formulas.

In the past, once premature infants were discharged, it was common practice to concentrate standard cow's milk-based formulas to 24 calories per oz. or higher. Now, formulas are available as transitional feedings designed for premature infants weighing 1,800 grams or more. These products are preferable to standard infant formulas and may need to be given for a full year to promote catch up growth. The introduction of solids should begin after the corrected age of 6 months or later with the recommendation of the infant's pediatrician.

Many women wish to breastfeed their premature or low birth weight baby and this should be strongly encouraged. Many infants will leave the hospital fully breastfed, while others will be making the transition from bottle to breast. The breastfed premature infant requires both multivitamin and iron supplementation. They will also need assistance with positioning during feeding and growth monitoring.

Because premature and low birth weight infants are at greater risk for poor growth, they should be measured regularly by their pediatrician or other health care provider, and their growth plotted on a growth chart corrected for gestational age. Parents may also be anxious about weight gain and may need reassurance and support in carrying out feeding plans for their infant to promote optimal growth. (See page 26 for more on growth monitoring for special populations, including premature and low birth weight infants.)

FEEDING ISSUES IN PRETERM INFANTS

Healthy, but premature and low birth weight infants show a range of feeding problems that are less likely to be seen in full-term infants:

- Premature infants of 34 to 36 weeks gestational age may not have developed their ability to suck or swallow as yet.
- Neonatal Intensive Care Units (NICUs) often require infants to be fed by several people and allow parents only limited feeding opportunities.
- Parents may be under stress due to their infant's medical progress and growth status.
- Infants may have negative oral experiences, such as feeding tube placement, and have limited mouth play with nipples.
- Some babies may be overly sensitive to objects in their mouth due to previous negative experiences. This sensitivity may extend to different nipples or transitions in food textures from strained to lumpy.
- After discharge, some infants may experience setbacks in feeding and growth.
- For some babies, nipple feeding may increase energy expenditure.

Tips to Promote Feeding Success For Premature or Low Birth Weight Infants

- Small, frequent feedings
- Nutritionally appropriate premature transition formula or supplemented breast milk
- Calm feeding environment (quiet room, low light)
- Pre-feeding preparation (swaddling)
- Positioning to improve suck (chin tucked slightly, head supported, one or both arms forward, straight trunk, bent hips)
- Special feeding equipment (soft nipple, angled neck bottle)
- Cheek and lip stabilization (gently draw cheeks forward)
- Jaw support

In summary, premature and low birth weight infants have increased nutritional needs and are at risk for poor growth and feeding difficulties. Feeding milestones should be based on appropriate developmental readiness rather than developmental age. Regular growth monitoring, nutritional assessment, support, and intervention when necessary, will smooth the transition home from the hospital and establish an appropriate feeding pattern for these infants.

ALTERNATIVE & COMPLEMENTARY MEDICINE

Daily, we hear nutrition-related stories from the media, friends, family, and professionals. The Internet serves as a source of a lot of good information as well as misinformation about the use of vitamins and supplements to treat various health conditions. Many families seek nutritional therapies either as an alternative or as an adjunct to more traditional physician-based care. Some complementary therapies are more common in certain cultural groups, and it is important to be aware of, and show respect for, families' cultural values.

Alternative and complementary medicine encompasses a wide variety of practices and treatments. For the purpose of this document, discussion is limited to herbal preparations, vitamins, and supplements. Professionals should listen with an open mind and try to respond to families' questions and suggestions with information based on sound scientific information when it is available. Though in many cases, the information sources have not been validated or treatments have not been shown to be effective. In some cases, there have been scientific studies completed for adults, but clinical studies are still needed in the United States to test the safety and efficacy of herbal preparations, vitamins, and supplements for use with infants and children.

The public is often unaware of the potential dangers of medication interactions and people often feel that plants and vitamin supplements cannot hurt you. Consumers may also be uneducated in how much to take and when. Any substance taken internally has the potential to do damage. The child's physician should be made aware of any use of herbal or vitamin supplement preparations. If a breastfeeding mother is taking an herbal or vitamin supplement, this is also important information for the pediatrician.

Families should know that:

- Herbal products are not regulated by the U.S. Food and Drug Administration the way medications are.
- No safe and effective dosages of most herbal supplements have been determined for infants and children.
- Natural does not always mean safe.

PLANNING FOR TRANSITION

Part C of the Individuals with Disabilities Education Act requires that the families of all children leaving EI/ILP are given the opportunity to participate in a transition planning meeting and write a Transition Plan with their service coordinator. For many families, this will occur in preparation for their child's third birthday, and will involve the child moving on to preschool special education services or other types of community programs. However, this situation may occur sooner than age three if the child attains age-appropriate skill levels or leaves the EI/ILP by family choice.

Whatever the case, for a child who has received early nutrition intervention, identifying sources for ongoing nutritional support within their community will be important if the transition plan is to be comprehensive and effective. A nutrition specialist on the EI/ILP team can help with transition planning by:

- Identifying community nutrition service providers and resources
- Referring the family for follow-up as part of the transition from EI/ILP services
- Establishing communication with other nutrition care providers
- Providing information and training on the child's dietary needs to school staff and community service providers

TRANSITION TO PRESCHOOL SPECIAL EDUCATION

EI/ILP providers and families need to be aware of the subtle differences in focus and terminology that exist between the EI/ILP and preschool special education services. Under Part C of IDEA, the focus of early intervention services and supports was on all areas of the child's developmental as well as on family needs.

Part B of IDEA, which governs the provision of special education for children ages 3 to 21 or until they graduate from school, focuses more narrowly on the educational needs of the child. For a child who is eligible for special education, school personnel will concentrate specifically on the child's learning needs and will identify specific goals, strategies, and services that will enhance educational progress. Consequently, the school will not continue to address the child's nutritional and feeding needs in the same way that the child's EI/ILP has done.

TRANSITION TO COMMUNITY SERVICES AND SUPPORTS

A transition meeting and plan are required for all children who leave EI/ILP, even those who do not go on to preschool special education services. The child's service

coordinator must arrange for the meeting to occur in a timely manner (at least 90 days before the child's third birthday) so that a family can experience a sense of closure and confidence with the ending of EI/ILP supports. If the EI/ILP has been working with the family to address nutritional concerns, the continuation of these supports outside of the EI/ILP will need to be addressed in the transition plan.

Medical and community resources for nutrition outside of the EI/ILP include commercial health insurance, the WIC program, which is income-based, and the Title V Children with Special Health Care Needs program. Whether these options work for each child will depend on the nature of the supports needed and the family and child's eligibility for these resources. See Appendix 5 for additional resources.

Transition Planning Tools

EI/ILP Transition Planning Handbook

A detailed, step-by-step guide for parents going through the transition process with a timeline of steps as a child gets older and an overview of the process to create an Individual Education Plan (IEP). Available online at:
www.hss.state.ak.us/ocs/InfantLearning/afterage3/ilp_StepAhead.pdf

Alaska Transition Training Initiative

A consortium of early childhood programs and providers in Alaska, ATTI helps address transition issues for special needs children moving from Part C to Part B at age three. Learn more at:
www.alaskaearlytransitions.org/trainers.html

Stone Soup Group: Transitions

Information and resources for parents and caregivers transitioning someone with special needs from one phase of care to the next, including medical and legal issues, guardianship, Medicaid, and transitions into postsecondary programs. Links to parent groups, behavioral supports and assistance programs specifically for kids transitioning from an early intervention to early education can be found at: www.stonesoupgroup.org/transitions.html

The Paper Trail Notebook

An organizational tool available from the Stone Soup Group, the Paper Trail Notebook can assist the family in identifying and organizing information that will be needed for transition, including records of medical history, appointments and providers. Available at no charge to families of children with special health care needs through EI/ILP providers or directly from the Stone Soup Group at (907) 561-3701 or by visiting:
www.stonesoupgroup.org/papertrail.html

CHILD NUTRITION PROGRAMS FOR SCHOOLS AND COMMUNITY PROGRAMS

When planning for the dietary needs of children while they are away from home, parents should work closely with all school, childcare, medical and other community personnel who are responsible for the health and well-being of children.

There are some resources for children who have special dietary needs and who attend a program outside the home. Meals served to children in programs outside the home are often supported by funds from the U.S. Department of Agriculture. These funds are distributed through the Alaska Department of Education and Early Development to schools on the National School Lunch and Breakfast programs and to childcare centers, Head Start Programs, and family child care providers on the Child & Adult Care Food Program.

Because of this federal support, it is possible for these programs to offer meals for free or at a reduced cost to enrolled children. These meals and snacks must meet certain nutritional standards and must be served to all children without regard to race, color, religion, national origin, sex, age, or disability.

Schools and daycare facilities are required to provide substitutions to the standard meal to children with disabilities when the disability restricts their diet. These substitutions must be provided at no extra cost to the parents.

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APPENDICES

1. Dietary Guidelines for Young Children
2. Infant Formulas
3. Nutrition Screening
4. Glossary
5. Resources

DIETARY GUIDELINES FOR YOUNG CHILDREN

The American Academy of Pediatrics says infants need only breast milk or formula during the first four to 6 months of life to meet all their nutritional needs. WIC recommends exclusive breastfeeding for 6 months. After that the variety in a child's diet can increase as new foods are slowly introduced and portions adjusted as the child's appetite changes. Table 7 summarizes the sequence for introducing new, complementary foods along with dietary intake guidelines for infants birth to 12 months.¹ The timing of introduction of complementary foods for an individual infant may differ from this recommendation. The amounts may change from day to day and smaller amounts are listed for younger children.

Table 7: Recommended Sequence of Introducing Complementary Foods

| FOODS | 0-3 MONTHS | 4-5 MONTHS | 6-8 MONTHS | 9-10 MONTHS | 11-12 MONTHS |
|--------------------------------|----------------|----------------|----------------|-----------------------------------------------------------------------------------------|--------------------|
| Breast Milk | Every 2-3 hrs. | Every 2-4 hrs. | Every 3-4 hrs. | Every 4-5 hrs. | Every 4-5 hrs. |
| Iron Fortified Infant Formula | 18-40 oz. | 24-45 oz. | 24-37 oz. | 24-31 oz. | 24-31 oz. |
| Infant Cereal | | 1-4 Tbs. | 6-8 Tbs. | 6-12 Tbs. | 6-12 Tbs. |
| Fruit Juices | | 1-2 oz. | 1-4 oz. | 3-4 oz. | 3-4 oz. |
| Vegetables | | | 1-4 Tbs. | 3-6 Tbs. | 3-6 Tbs. |
| Fruits | | | 1-4 Tbs. | 3-6 Tbs. | 3-6 Tbs. |
| Meat, Beans, Peas, Lentils | | | | 2-4 Tbs. | 4-6 Tbs. |
| Yogurt, Cheese, Cottage Cheese | | | | Small Servings | Small Servings |
| Cooked Egg Yolk | | | | 3 per week at most | 3 per week at most |
| Finger Foods | | | | Small servings of soft fruit, cooked vegetables, macaroni, breads, and certain cereals. | |

Source: University of Connecticut Cooperative Extension System

The consistency or thickness of foods offered may also be increased gradually as the child learns to control the food in his or her mouth. **Error! Not a valid bookmark self-reference.** Table 8 shows corresponding food textures and feeding styles for introducing foods.

¹ Complementary foods include infant cereal, vegetables, fruits, meat, and other protein-rich foods modified to a texture appropriate (e.g., strained, pureed, chopped, etc.) for the infant's developmental readiness.

Table 8: Recommended Textures and Feeding Styles for Introducing Foods

| | 0–3 MONTHS | 4–6 MONTHS | 6–8 MONTHS | 8–12 MONTHS | |
|--------------------------------|------------------------------|-----------------------------------------------|------------|-------------------------------|--|
| Texture of Complimentary Foods | | Strained/pureed (thin consistency for cereal) | | | |
| | | | Mashed | | |
| | | | | Ground/ Finely Chopped | |
| | | | | Chopped | |
| Feeding Style | Breastfeeding/Bottle Feeding | | | | |
| | | Spoon Feeding | | | |
| | | Cup Feeding | | | |
| | | | | Self Feeding/ Finger Foods | |

Source: USDA Food and Nutrition Service, Infant Nutrition and Feeding: A Guide for Use in the WIC and CSF Programs. [Online] www.nal.usda.gov/wicworks/Topics/FG/CompleteIFG.pdf

Table 9 shows dietary intake guidelines for children from 1 to 3 years of age. Parents should consult their child's health care provider regarding the appropriateness of these general guidelines for specific medical conditions. A medical provider or pediatric nutrition specialist will monitor the child's growth and health status and can tailor the diet to meet a child's specific needs.

Table 9: Recommended Daily Intake for Children Ages 1 to 3 Years

| FOODS | 1 TO 2 YEARS | 2 TO 3 YEARS |
|----------------------------------------------------------------------------|----------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Breads, Cereals, Rice, Pasta <i>Six servings per day</i> | ¼ to ½ slice bread (Or) 1Tbsp cooked cereal | ½ slice bread (Or) 2 Tbsp cooked cereal, rice or pasta (Or) ½ to 1/3 cup ready to eat cereal |
| Fruits <i>Two servings per day</i> | ¼ fresh fruit (Or) ½ cup juice (Or) 1 Tbsp. cooked fruit | ¼ to ½ fresh fruit (Or) ½ cup juice (Or) 2 Tbsp. cooked fruit |
| Vegetables <i>Three servings per day</i> | 1 Tbsp. cooked vegetables (Or) 1/3 cup juice | 2 Tbsp. cooked vegetables (Or) ½ cup juice |
| Meat, Poultry, Fish, Eggs, Dry Beans <i>Two servings per day</i> | 1 Tbsp. meat, poultry, fish (Or) 1 egg 3 to 4 times weekly | 2 to 3 Tbsp. meat, poultry, fish (Or) 1 egg 3 to 4 times weekly |
| Milk, Yogurt, Cheese <i>Three servings per day</i> | ¾ cup whole milk* (Or) ¼ to ½ oz. cheese | ½ to ¾ cup whole or low fat milk* or yogurt (Or) ¼ to ¾ oz. cheese |
| Fats, Oils, Sugars | Use sparingly | Use sparingly |

Source: Cornell Cooperative Extension System

***Note on milk guidelines:** A one-year old needs whole milk and a greater quantity of milk to get the nutrients and food energy required at that age, which is why the serving size of milk for a one-year olds is ¾ cup whole milk, more than the lowest recommended serving size for a 2-year old (½ to ¾ cup). The type of milk recommended for 2-year olds may be whole or low fat, depending on the individual needs of the child. Dietary guidelines recommend low fat or skim milk for healthy Americans aged 2 years and older.

APPENDIX 1

VITAMIN SUPPLEMENTATION

The American Academy of Pediatrics, the American Medical Association and the American Dietetic Association all recommend that healthy children get all their nutrients from foods rather than vitamin supplements. A diet that contains a variety of foods from each of the food groups (breads and grains, fruits and vegetables, meats, and dairy) will help prevent nutrient deficiencies.

While routine supplementation for healthy children is not recommended, there is no significant risk if a parent wishes to give their child a standard pediatric multi-vitamin. Pediatricians may advise supplementation in some cases (2). Specific populations and regions in Alaska may be more at risk of some deficiencies.

Vitamin D. Vitamin D may need to be given before 6 months of age in infants whose mothers are vitamin D-deficient or infants not exposed to adequate sunlight.

Iron. Iron deficiency is common in Alaska Native children (12). Several dietary measures may be taken to address the deficiency. Additionally, iron supplementation may be needed.

Calcium. Children who consume little or no dairy products are at greater risk for calcium deficiency that can interfere with bone growth and development. Non-dairy food sources of calcium include broccoli, cooked greens, and canned salmon (with bones), but it may be difficult to get children to consume adequate quantities of these foods.

Fluoride. After 6 months of age, in areas where water is not fluoridated, fluoride supplementation is recommended for all children if the water supply is severely deficient in fluoride (less than 0.3 parts per million). Fluoride should not be administered to infants during the first 6 months after birth, whether they are breast- or formula-fed.

Children with medical conditions that put them at risk of nutritional deficiencies. Children with certain medical conditions will be more likely than other children to be deficient in some nutrients, either due to poor appetite, feeding problems, difficulty absorbing nutrients, food allergies or intolerances, drug interactions, or behavioral issues related to food.

ALCOHOL

Because of the substantial evidence clearly demonstrating the health benefits of breastfeeding, occasionally consuming an alcoholic drink does not warrant stopping breastfeeding. However, breastfeeding women should be very cautious about drinking alcohol, if they choose to drink at all. If the infant's breastfeeding behavior is well established, consistent, and predictable (no earlier than at 3 months of age), a mother may consume a single alcoholic drink if she then waits at least 4 hours before breastfeeding. Alternatively, she may express breast milk before consuming the drink and feed the expressed milk to her infant later (13 p. 31).

SEAFOOD

In addition to the health benefits for the general public, the nutritional value of seafood is of particular importance during fetal growth and development, as well as in early infancy and child-hood. Moderate evidence indicates that intake of omega-3 fatty acids, in particular DHA, from *at least* 8 ounces of seafood per week for women who are pregnant or breastfeeding is associated with improved infant health outcomes, such as visual and cognitive development. Therefore, it is recommended that women who are pregnant or breastfeeding consume at least 8 and up to 12 ounces of a variety of seafood per week, from choices that are lower in methyl mercury, while avoiding four types of fish high in methyl mercury: tilefish, shark, swordfish, and king mackerel. Women who are pregnant or breastfeeding can eat all types of tuna, including white (albacore) and light canned tuna, but should limit white tuna to 6 ounces per week because it is higher in methyl mercury (13 p. 39).

For more information on the risks and benefits of eating seafood, especially for young children and pregnant and nursing women, call the U.S. Food and Drug Administration's food information line at (888) SAFE-FOOD or visit the U.S. Environmental Protection Agency's national listing of fish advisories at:



water.epa.gov/scitech/swguidance/fishshellfish/fishadvisories/

Alaska fish guidelines. The Alaska Scientific Advisory Committee for Fish Consumption have advised that children under age 12, nursing mothers, and women who are or can become pregnant should continue unrestricted consumption of fish from Alaska waters that are low in mercury (including all five species of Alaska salmon, pacific cod, walleye, pollock, black rockfish, pacific ocean perch, halibut under 20 pounds, and lingcod under 30 inches), but that they should limit consumption of fish known to have elevated mercury levels, as follows:

- **Four or fewer meals per week:** Sablefish, roughey rockfish, medium-sized halibut, store-bought halibut, and medium-sized lingcod
- **Three or fewer meals per week:** Medium-large halibut
- **Two or fewer meals per week:** Large lingcod, yelloweye rockfish, and large halibut
- **No more than one meal per week:** Salmon shark, spiny dogfish, very large lingcod, and very large halibut

These guidelines were issued in 2007 based on recommendations of Alaska state epidemiologists (4).

FOOD SAFETY

Specific Populations at Increased Risk. Some individuals, including women who are pregnant and their unborn children, young children, older adults, and individuals with weakened immune systems (such as those living with HIV infection, cancer treatment, organ transplant, or liver disease), are more susceptible than the

APPENDIX 1

general population to the effects of food-borne illnesses such as listeriosis and salmonellosis. The outcome of contracting a food-borne illness for these individuals can be severe or even fatal. They need to take special care to keep foods safe and to not eat foods that increase the risk of food-borne illness.

Women who are pregnant, infants and young children, older adults, and people with weakened immune systems should only eat foods with seafood, meat, poultry, or eggs that have been cooked to recommended safe minimum internal temperatures. They also should take special precautions not to consume unpasteurized (raw) juice or milk or foods made from unpasteurized milk, like some soft cheeses (e.g., Feta, queso blanco, queso fresco, Brie, Camembert cheeses, blue-veined cheeses, and Panela). They should reheat deli and luncheon meats and hot dogs to steaming hot to kill *Listeria*, the bacteria that causes listeriosis, and not eat raw sprouts, which also can carry harmful bacteria (13 p. 72).

INFANT FORMULAS

There are different types of formulas for infants and toddlers. The following categories and some examples of commercial products are listed here for informational purposes. Parents should contact their pediatrician or nutrition specialist for current information and the best formula for their child's age and needs. Inclusion on this list does not imply endorsement by the State of Alaska or individual EI/ILP providers.

Table 10: Types of Infant Formula

| TYPE OF FORMULA | NOTES ON USE |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Amino acid-based formulas Examples: Neocate®, EleCare® | <i>Nonallergenic.</i> May be appropriate for infants with cow's milk protein intolerance, multiple food protein intolerances, reflux esophagitis associated with symptoms of formula intolerance and growth failure |
| Casein hydrolysate formulas Examples: Alimentum®, Nutramigen®, Pregestimil®, Portagen® | <i>Hypoallergenic.</i> May be appropriate for infants and toddlers with damage to the GI tract, malabsorption problems, and carbohydrate intolerance |
| Cow's milk-based formulas Examples: Enfamil®, Similac® | |
| Hydrolyzed whey-based formulas Example: GoodStart® | Not the same as hypoallergenic formulas. May be appropriate for infants with a family history of allergies or those progressing from hypoallergenic formulas |
| Nutrient-dense formulas for children 1 year or older Examples: Pediasure® (with and without added fiber), Kindercal®, Nutren Junior® (with and without added fiber), Resource® | Just for children one year and older, all are lactose free, but contain milk protein |
| Soy-based formulas Examples: Isomil®, Prosobee®, Nursoy® | All soy-based formulas are lactose free |
| Transitional premature formulas Examples: NeoCare®, Enfamil 22® | Provides nutrition for the first full year to assist with catch up growth |

NUTRITION SCREENING: BIRTH TO 3

Child's Name: _____ D.O.B. _____ Date of Screening: _____

Age: _____ Parent/Caregiver: _____

Address: _____ Date: _____

_____ Telephone #: _____

Health/medical condition: _____

Service Coordinator: _____

To the parent or questioner: Circle or check the correct answer or answers.

1. How does your child eat? Check choices below that best describe how.

- | | |
|--------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| <input type="checkbox"/> uses bottle | <input type="checkbox"/> has feeding tube |
| <input type="checkbox"/> breastfeeds | <input type="checkbox"/> finger feeds |
| <input type="checkbox"/> takes sips from a cup | <input type="checkbox"/> fed by spoon |
| <input type="checkbox"/> drinks from a cup with/without lid | <input type="checkbox"/> self-feeds with spoon/fork |
| <input type="checkbox"/> uses a straw | <input type="checkbox"/> uses special feeding equipment, what? |
| <input type="checkbox"/> takes oral feeding supplements (Pediasure®, Boost®, Kindercal®, and Neocate®) | <input type="checkbox"/> takes food other than milk from a bottle |

2. Do you have any concerns about whether your child is eating an appropriate stage for his age? No Yes

3a. Are you concerned about the amount or variety of foods your child takes in from the following groups?

No Yes (If yes, check all that apply)

- | | |
|-------------------------------------------------------------------|-----------------------------------------------------|
| <input type="checkbox"/> milk and dairy foods | <input type="checkbox"/> meats, eggs, fish, poultry |
| <input type="checkbox"/> vegetables | <input type="checkbox"/> fruits |
| <input type="checkbox"/> breads, cereals, rice, beans, and grains | <input type="checkbox"/> fats |
| <input type="checkbox"/> snack foods (chips, soda, etc.) | <input type="checkbox"/> sugars/sweets |

3b. Please note any dietary restrictions in your child's diet.

4. Do you or your doctor have concerns about your child's size? No Yes

If yes, list: Child's latest length: _____ Weight: _____

5. Does your child have food allergies? No Yes (If yes, list below)

6. Does your child take any medications or other supplements (vitamins, iron, fluoride, or herbal supplements) on a regular basis? No Yes (If yes, list below)

7. Does your child experience any of the following? No Yes (If yes, check all that apply)

- | | |
|-----------------------------------------------------------------|------------------------------------------|
| <input type="checkbox"/> difficulty with sucking | <input type="checkbox"/> diarrhea |
| <input type="checkbox"/> difficulty with swallowing | <input type="checkbox"/> constipation |
| <input type="checkbox"/> difficulty with chewing | <input type="checkbox"/> vomiting/reflux |
| <input type="checkbox"/> difficulty tolerating food textures | <input type="checkbox"/> rashes |
| <input type="checkbox"/> difficulty tolerating food temperature | <input type="checkbox"/> gagging |
| <input type="checkbox"/> choking | <input type="checkbox"/> other: _____ |

8. Do you have concerns about your child's mealtime experiences and eating behaviors? No Yes

If yes, check the choices below

- | | |
|--------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> child refuses to eat | <input type="checkbox"/> no scheduled mealtimes |
| <input type="checkbox"/> child spits out food | <input type="checkbox"/> child unable to sit through meal |
| <input type="checkbox"/> child throws food or utensils | <input type="checkbox"/> mealtimes are hectic |
| <input type="checkbox"/> child eats too slowly | <input type="checkbox"/> meal seems to take too long |
| <input type="checkbox"/> child stuffs mouth | <input type="checkbox"/> child eats items, which are not food, (i.e. paint chips, crayons, dirt, paper, cigarettes, etc.) |
| <input type="checkbox"/> child takes bottle to bed | |

9. Has your child ever had a history or diagnosis of any of the following? No Yes (If yes, check all that apply)

- | | |
|----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| <input type="checkbox"/> AIDS/HIV | <input type="checkbox"/> Lead exposure |
| <input type="checkbox"/> Autism | <input type="checkbox"/> Muscle disorders (MS, Spinal Muscular Atrophy) |
| <input type="checkbox"/> Bronchopulmonary Dysplasia | <input type="checkbox"/> Myelomenigecele/Spina Bifida |
| <input type="checkbox"/> Cardiac Problems | <input type="checkbox"/> Nutrition Support (tube or IV feedings, Other – please specify) |
| <input type="checkbox"/> Cerebral Palsy | <input type="checkbox"/> Prader-Willi Syndrome |
| <input type="checkbox"/> Cleft/Lip or Palate | <input type="checkbox"/> Premature birth/Very Low Birth Weight (VLBW) |
| <input type="checkbox"/> Congenital Heart Disease | <input type="checkbox"/> Renal Disease |
| <input type="checkbox"/> Cystic Fibrosis | <input type="checkbox"/> Seizure Disorder |
| <input type="checkbox"/> Diabetes | <input type="checkbox"/> William's Syndrome |
| <input type="checkbox"/> Down Syndrome | <input type="checkbox"/> Other – please specify |
| <input type="checkbox"/> Failure to Thrive | |
| <input type="checkbox"/> Fetal Alcohol Syndrome | |
| <input type="checkbox"/> Gastrointestinal disorders | |
| <input type="checkbox"/> Hyperinsulinemia | |
| <input type="checkbox"/> Inborn Errors of Metabolism – Galactosemia, Glycogen storage disease, Phenylketonuria (PKU) | |

If there are two or more YES answers for questions 2 to 9 the child is likely to have a nutrition problem.

10. Do you feel you have enough foods, formula for your child? No Yes

11. Would you like to meet with someone about your child's nutrition or eating habits? No Yes Later

ACTIONS TAKEN:

- Refer to a nutrition specialist.
- Caregiver requests referral to nutrition specialist.
- No nutrition intervention needed at this time. Recheck again (date) _____
- Is currently receiving nutritional services from _____
These services are _____
- Nutrition services included as early intervention service in IFSP.

GLOSSARY

Anaphylactic Reaction. a severe allergic reaction of a child to a food or environmental substance.

Aspiration. the act of inhaling food, fluid or saliva into the lungs.

Body Mass Index (BMI). a ratio of weight and height; a measure of body fat; a marker of nutritional status. To determine the BMI for a child 1) Divide weight in pounds by 2.2 = weight in kilograms, 2) divide height in inches by 39.4 = height in meters, 3) multiply height in meters by itself = height in meters squared, and 4) divide the weight in kilograms (first step) by the height in meters squared (third step) = BMI.

Bolus. term to indicate feeding being given at one time, usually by gastrostomy or nasogastric tube feeding; volume is generally specified.

Bronchopulmonary Dysplasia (BPD). a form of lung disease seen in infants, the majority premature. Signs of respiratory distress such as chest retractions, crackles and wheezing characterize disease.

Catch Up Growth. growth suppression can occur from malnutrition or illness. During the recovery phase, a child can grow at a rate above that expected for age. As the more rapid growth proceeds, the child “catches up” to his/her growth curve.

Colitis. inflammation of the colon.

Corrected Age. in premature infants, this is the age the child would be if he or she had been born at full term.

Cystic Fibrosis. an inherited disease that affects the secreting glands. Children with cystic fibrosis have difficulty with digestion and breathing as the result of thick, sticky mucous which often clogs up the glands.

Failure to Thrive. term used to describe infants and young children with malnutrition. Commonly used criteria include: 1) a child whose weight (or weight to height) is less than two standard deviations below the mean for sex and age, 2) a child whose weight curve has crossed more than 2% lines on the National Center Health Statistics (NCHS) after having achieved a previously stable pattern.

Galactosemia. an autosomal recessive disorder characterized by the body’s inborn inability to metabolize galactose (a sugar substance derived from lactose, i.e. milk sugar). This causes high levels of galactose and, if untreated, results in liver and kidney disease, cataracts, and mental retardation.

Gastroesophageal Reflux (GER). movement of stomach contents upward through the lower esophageal sphincter; results in uncomfortable, burning sensation; common cause of feeding and eating problems in infants and children with neuromuscular disabilities.

Gastrostomy. surgical creation of a gastric tube-like passage through the abdominal wall, for introducing food into the stomach.

Human Milk Fortifier. powder added to pumped breast milk to increase protein, vitamin and mineral content for premature babies.

Hypoallergenic Formulas. group of infant formulas that are based on hypoallergenic protein source consisting of amino acids and small peptides. They are particularly useful when there has been damage to the infant's GI tract, usually resulting from a viral or bacterial infection.

Jejunostomy. the surgical creation of a permanent opening to provide feeding directly into the small intestine.

Ketogenic Diet. high fat, low carbohydrate diet given to young children with seizure disorders who do not respond well to drug therapy.

Phenylketonuria (PKU). the most common of the inborn errors of metabolism. The amino acid/phenylalanine cannot be used properly in an inherited metabolic disorder.

Prader-Willi Syndrome. a genetic disorder characterized by inability to distinguish hunger from appetite, short stature, and moderate to severe developmental delays. If not treated by calorie restriction and restricted access to food, individuals with this condition develop severe obesity.

Recommended Daily Allowance (RDA). the RDAs are standards against which the nutrient intake of normal healthy children in the U.S. can be evaluated. They are based on the average daily amount of nutrients that healthy population groups should consume over time and are not requirements for the individual.

Short Bowel Syndrome. inadequate absorption of ingested nutrients due to a surgical procedure in which a considerable length of the intestinal tract has been removed or bypassed.

Soy Formula. group of infant formulas made from soy protein isolates.

Suckling. reflex coordinating swallowing and breathing during feeding in which the tongue moves forward and back; generally the first feeding pattern in infants; replaced by sucking.

Tongue Lateralization. ability to move the tongue voluntarily from side to side from its midline position; developmental stage in feeding that signals the ability to manipulate food inside the mouth and to protect the airway.

APPENDIX 4

Weight to Height Ratio. Assessment of body weight in proportion to height thereby distinguishing wasting from dwarfism. Ideal body weight (50%) represents appropriate body weight for height: weight/height lower than the 5th percentile or greater than the 90th percentile should be further evaluated.

RESOURCES

ALASKA RESOURCES

Alaska Breastfeeding Coalition works to improve the health and well-being of Alaskans by promoting, protecting and supporting breastfeeding. It offers lactation consultations and lists breast pump rentals and sales resources. P.O. Box 211124, Anchorage, AK 99521-1124
Phone (907) 337-5245 | Email info@alaskabreastfeeding.com
www.alaskabreastfeeding.com

Alaska Early Intervention/Infant Learning Program (EI/ILP) is a division of the Alaska Department of Health and Social Services, Office of Child Services that partners with grantees around the state to provide services directly to children with special needs and their families at a local level. P.O. Box 240249, 323 East 4th Avenue, Anchorage, AK 99501
Toll-free (877) HSS-FMLY (477-3659). Local (907) 269-8442.
Fax (907) 269-3497
www.earlyintervention.alaska.gov

Find a complete list of EI/ILP providers in Alaska at: www.earlyintervention.alaska.gov/program/program_dir.htm

Alaska Family Child Care Association (AFCCA). As part of the Alaska Family Child Care Food Program, the AFCCA publishes a series of child nutrition resources. It is a nonprofit organization started in 1983 by a group of family child care providers interested in quality child care. 7011 Old Seward Hwy, Suite 200, Anchorage, AK 99518
Toll-free (866) 273-5436. Local (907) 258-5436 | Email afcca@alaskafcca.org
www.alaskafcca.org/Food_Program_Resources.html

Alaska Governor's Council on Disabilities and Special Education (GCDSE) is one of four governor-appointed advisory boards to the Alaska Mental Health Trust. The Council plans, evaluates, and promotes programs for people with disabilities in the state of Alaska. 3601 C Street, Suite 740, P.O. Box 240249, Anchorage, AK 99524-0249
Toll-free (888) 269-8990. Local (907) 269-8990. Fax (907) 269-8995
www.hss.state.ak.us/gcdse

Alaska Nutrition Education Program (ANEP) is a service of the University of Alaska Fairbanks Cooperative Extension Service. ANEP educators serve Alaska communities on a part-time basis by delivering basic nutrition and food-budgeting programs targeted to low-income populations. They coordinate with state and local partners, including public health clinics, food banks, tribal programs, local health organizations, and nonprofit organizations.
Anchorage District Office: 1675 C St, Suite 100, Anchorage, AK 99501
Phone (907) 786-6329. Fax (907) 786-6312
www.uaf.edu/ces/districts/anchorage/alaska-nutrition-educatio

Alaska Women, Infants and Children (WIC) is a program funded by the USDA and administered by the Alaska Department of Public Assistance. Local WIC programs provide nutrition and health education, screening and referral free of charge to pregnant women, new mothers and young children. In addition, WIC provides checks that can be used to purchase infant formula and healthy food free of charge to families meeting WIC income eligibility guidelines. Foster children are automatically eligible for WIC services. They also support breastfeeding mothers with information and access to breast pumps.
130 Seward St., PO Box 110612, Juneau, AK 99801
Phone (907) 465-3100. Fax (907) 465-3416 | Email wic@alaska.gov
www.hss.state.ak.us/dpa/programs/nutri/WIC

Using Loving Support to Build a Breastfeeding-friendly Community is a cooperative effort between USDA, Best Start Social Marketing, and the Mississippi State Department of Health. Using Loving Support promotes the WIC national breastfeeding promotion project, “Loving Support makes Breastfeeding Work.” It provides FAQs, training materials, a downloadable list of breastpump rental stations and other breastfeeding resources,
www.hss.state.ak.us/dpa/programs/nutri/wic/Breastfeeding/BF-LovingSupport.htm

Assistive Technology of Alaska (ATLA). As the state’s Tech Act Project, ATLA provides Alaska’s most comprehensive assistive technology resources, including assessments, training, webinars, demonstrations, education and AT device loans, including technology for deaf and hard of hearing.
3330 Arctic Blvd., Ste.101, Anchorage, AK 99503
Toll-free (800) 723-2852(ATLA). Local (907) 563-2599. TTY (907) 561-2592.
Fax (907) 563-0699 | Email atla@atlaak.org
www.atlaak.org

Child and Adult Care Food Program (CACFP) is a program of the USDA and the Alaska Department of Education & Early Development, which provides healthy meals and snacks to children and adults in day care settings, afterschool programs, and homeless shelters.

801 West 10th Street, Suite 200, PO Box 110500, Juneau, AK 99811-0500
 Phone (907) 465-2800. TTY/TTD (907) 465-2815. Fax (907) 465-4156
www.eed.state.ak.us/tls/cnp/CACFP3.html

La Leche League of Alaska provides information, support and encouragement to women who want to breastfeed. All women interested in breastfeeding are welcome to attend the monthly meetings or call for breastfeeding help. La Leche also provides health care professionals with continuing education opportunities and access to the latest research.

www.llli.org/Web/Alaska.html

NATIONAL AND ONLINE RESOURCES

American Academy of Pediatrics website includes AAP's position on a range of issues, in language suitable for distribution to parents, as well as a resource guide with books, magazines and videos of interest to parents. Find the Education Resources Guide under Policy Statements on the AAP website.

www.aap.org

American Medical Association provides access to an extensive list of journals including Archives of Pediatric and Adolescent Medicine.

www.ama-assn.org

Breastfeeding Links lists nearly 100 organizations that support breastfeeding.

www.bflrc.com/links.htm

Center for Disease Control and Prevention is an online source for CDC and WHO growth charts and recommendations for usage.

www.cdc.gov/growthcharts

Ellyn Satter Associates provides resources for professionals and the public in the area of eating and feeding. The business offers professional training, publishes training materials, teaching resources and books for parents and professionals, and generates magazine and journal articles.

www.ellynsatter.com

Medela, Inc. has information on the Haberman feeders, S&S feeding systems, and breast pumps or see website on next page. Contact them at P. O. Box 660 McHenry, IL 60051-0660, phone (800) 435-8316, fax (815) 363-9941.

www.medela.com

National Down Syndrome Society provides Down Syndrome Growth Charts developed through a longitudinal study examining the growth patterns of individuals with Down Syndrome.

www.ndss.org

NCAST Programs offers training programs and products for promoting nurturing environments in young children, including the Parent Child Interaction Scales, Promoting First Relationships, Baby Cues, Keys to Caregiving and other programs.

www.ncast.org

North American Society for Pediatric Gastroenterology and Nutrition includes both patient and professional information on pediatric gastroenterology and nutrition on their website, plus a list of over 20 organizations prepared to answer questions and supply information on gastrointestinal conditions.

www.naspghan.org

New Visions is a useful, practical information on feeding, oral-motor skills, and mealtimes as well as access to their catalog on oral motor, feeding, and mealtime programs.

www.new-vis.com

Washington State Health Education Resource Exchange (H.E.R.E.) has the 425-page *Nutrition Interventions for Children with Special Health Care Needs* as a resource for registered dietitians, and other health educators and providers who work with this population. It covers both problem-based nutrition interventions (for issues that are common across a wide range of diagnoses) as well as condition-specific nutrition interventions. The 3rd edition includes chapters on breastfeeding, physical activity and autism spectrum disorder. DOH Publication Number 961-158. Available as a PDF download or as a free CD from:

here.doh.wa.gov/materials/nutrition-interventions

WIC Works Resource System is an online education and training center for child and maternal nutrition providers, including staff of the Women, Infants and Children (WIC) program. Includes links to WIC growth charts, USDA Dietary Guidelines for Americans, and resources on using the USDA MyPyramid with preschoolers.

wicworks.nal.usda.gov

USDA Food and Nutrition Information Center is a portal for resources for nutrition and health professionals, educators, and consumers, including the 2010 dietary guidelines for Americans, as well as educational materials on child nutrition and health, cultural and ethnic food and nutrition.

fnic.nal.usda.gov

USDA Food and Nutrition Service Resource Library provides a comprehensive listing of all the resources available through Team Nutrition to schools and childcare facilities that participate in Federal Child Nutrition Programs. For easy reference, these resources have also been subdivided by audience: foodservice professionals, educators, parents, childcare providers, and resources available in Spanish.

www.fns.usda.gov/tn/library.html

USDA Food Safety Education produces many educational materials and campaigns from USDA's Food Safety and Inspection System (FSIS) to educate consumers about the importance of safe food handling and how to reduce the risks associated with foodborne illness. Consumer factsheets, podcasts and other resources are available at the Food Safety Education portal at:

www.fsis.usda.gov/food_safety_education

Additional Copies or Services

These guidelines are available online at www.earlyintervention.alaska.gov

To request additional copies or auxiliary aids and services, please contact:

Alaska Early Intervention/Infant Learning Program
P.O. Box 240249
323 East 4th Avenue
Anchorage, Alaska 99501

Toll-free (877) HSS-FMLY (477-3659)
Local (907) 269-8442
TT Relay (800) 770-TYPE (8973)



Alaska Infant Learning Program

This report, historical data and other publications available at www.earlyintervention.alaska.gov

Call toll free in Alaska: 1 (877) HSS-FMLY (477-3659); In Anchorage 269-8442

INFANT LEARNING PROGRAMS THROUGHOUT ALASKA



The Alaska Infant Learning Program offers developmental services to families of children birth to 3. If you have concerns about your child's development make a referral to your local Infant Learning Program. Our Mission is to promote positive development and improved outcomes for Alaska's children birth to 3 by creating a culturally responsive, comprehensive and accessible service delivery system that links service providers, empowers families and engages communities.

