



## Pediatric Feeding and Swallowing Disorders

Difficulties in sucking, swallowing, and breathing can severely compromise nutrition and hydration status in infants who get their nutrition needs met via breast or bottle. Difficulty in swallowing in infants and children, as in older children and adults, can cause food or liquid to enter the airway resulting in some or all of the following: coughing, choking, pulmonary problems, or inadequate nutrition and/or hydration with lack of weight gain—which is like a weight loss in adults and older children. Clinical evidence has documented that children with swallowing and feeding problems benefit from the services of a speech-language pathologist, who may function as part of a team of professionals.

Feeding and swallowing disorders in infants and children are usually caused by multiple factors. They can result from congenital or acquired neurologic damage (e.g., encephalopathies), anatomic and structural problems (e.g., craniofacial anomalies, tracheoesophageal fistula), genetic conditions (chromosomal, syndromic, or inborn errors of metabolism), systemic illness (bronchopulmonary dysplasia, gastrointestinal dysmotility), and

psychosocial and behavioral issues. Incidence estimates for children with cerebral palsy (CP) range from 85–90% at some time in life. During the first year of life, 57% of all children with CP are estimated to have problems with sucking, 38% with swallowing, and 33% with malnutrition.<sup>i</sup> As the severity of CP increases, the severity of swallowing problems also increases.

A meta-analysis of randomized controlled trials in 19 studies revealed that the development of nonnutritive sucking is found to significantly decrease the length of hospital stay in preterm infants.<sup>ii</sup> Examples of oral sensorimotor treatment with children with CP point out that success typically occurs when “total child” focuses are implemented.<sup>iii, iv</sup> Another example showed that intraoral appliance (ISMAR) therapy for one year resulted in significant improvements in jaw stability in some children who demonstrated better lip closure, chewing, and oral manipulation of food.<sup>v, vi</sup> Functional feeding skills in children with moderate dysphagia improved with this type of therapy.<sup>vii</sup> Efficacy studies indicate improvements in swallowing safety (reduced aspiration), improved nutrition, and efficiency as a result of both compensatory and direct treatment procedures in adults.

Speech-language pathologists have extensive knowledge and skills in analyzing, interpreting, and facilitating communication. These skills are critical when evaluating and making management plans related to feeding and swallowing, safety and efficacy.

### Contributors:

Joan Arvedson, PhD  
Children's Hospital of Wisconsin

<sup>i</sup> Reilly, S., Skuse, D., & Poblete, X. (1996). Prevalence of feeding problems and oral motor dysfunction in children with cerebral palsy: A community survey. *Journal of Pediatrics*, 129, 877–882.

<sup>ii</sup> Pinelli, J., & Symington, A. (2000). Non-nutritive sucking for promoting physiologic stability and nutrition in preterm infants. *Cochrane Database System Review*, 2, CD-01071.

<sup>iii</sup> Gisel, E. (1994). Oral-motor skills following sensorimotor intervention in the moderately eating-impaired child with cerebral palsy. *Dysphagia*, 9, 180–192.

<sup>iv</sup> Gisel E.G., Applegate-Ferrante, T., Benson, J., & Bosma, J. (1995). Effect of oral sensorimotor treatment on measures of growth, eating efficiency, and aspiration in the dysphagic child with cerebral palsy. *Developmental Medicine and Child Neurology*, 37, 528–543.

<sup>v</sup> Gisel, E.G., Schwartz, S., & Haberfellner, H. (1999). The Innsbruck sensorimotor activator and regulator (ISMAR): Construction of an intraoral appliance to facilitate ingestive function. *Journal of Dentistry for Children*, 66, 180–187.

<sup>vi</sup> Gisel, E.G., Schwartz, S., Petryk, A., Clarke, D., & Haberfellner, H. (2000). “Whole body” mobility after one year of intraoral appliance therapy in children with cerebral palsy and moderate eating impairment. *Dysphagia*, 15, 226–235.

<sup>vii</sup> Haberfellner, H., Schwartz, S., & Gisel, E.G. (2001). Feeding skills and growth after one year of intraoral appliance therapy in moderately dysphagic children with cerebral palsy. *Dysphagia*, 16, 83–96.