



AMERICAN
SPEECH-LANGUAGE-
HEARING
ASSOCIATION

Guidelines for Speech-Language Pathologists Providing Swallowing and Feeding Services in Schools

Working Group on Dysphagia in Schools

Reference this material as: American Speech-Language-Hearing Association. (2007). *Guidelines for Speech-Language Pathologists Providing Swallowing and Feeding Services in Schools* [Guidelines]. Available from www.asha.org/policy.

Index terms: swallowing, schools

DOI: 10.1044/policy.GL2007-00276

© Copyright 2007 American Speech-Language-Hearing Association. All rights reserved.

Disclaimer: The American Speech-Language-Hearing Association disclaims any liability to any party for the accuracy, completeness, or availability of these documents, or for any damages arising out of the use of the documents and any information they contain.

About This Document

This guideline document is an official statement of the American Speech-Language-Hearing Association (ASHA). It was developed by the Working Group on Dysphagia in Schools sponsored by ASHA Special Interest Division 13, Swallowing and Swallowing Disorders (Dysphagia), and Division 16, School-Based Issues. Members of the group were Emily M. Homer (chair), Sheryl C. Amaral, Joan C. Arvedson, Randy M. Kurjan, Cynthia R. O'Donoghue, Justine Joan Sheppard, and Janet E. Brown (ASHA liaison). Brian B. Shulman, vice president for professional practices in speech-language pathology, served as the monitoring officer. The ASHA Scope of Practice in Speech-Language Pathology (ASHA, 2001c) states that the practice of speech-language pathology includes providing services for dysphagia (swallowing and feeding). The ASHA Preferred Practice Patterns (ASHA, 2004e) are statements that define universally applicable characteristics of practice. The guidelines within this document fulfill the need for more specific procedures and protocols for serving individuals with dysphagia in schools. It is required that individuals who practice independently in this area hold the Certificate of Clinical Competence in speech-language pathology and abide by the ASHA Code of Ethics (ASHA, 2003), including Principle of Ethics II, Rule B, which states that "individuals shall engage in only those aspects of the profession that are within the scope of their competence, considering their level of education, training, and experience."

Executive Summary

Speech-language pathologists (SLPs) play a significant role in the management of students with swallowing and feeding problems in school settings. The Rehabilitation Act of 1973 (Section 504) and the Individuals with Disabilities Education Improvement Act (IDEA 2004) mandate services for health-related disorders that affect the ability of the student to access educational programs and participate fully. However, uncertainty about the educational relevance of dysphagia management persists, resulting in a lack of guidelines for addressing swallowing and feeding disorders in the schools. ASHA's guidelines for SLPs providing swallowing and feeding services in the schools are intended to clarify the administrative and programmatic issues for SLPs to provide these services and to support the contention that these services are relevant for the education of students with swallowing and feeding disorders.

Addressing swallowing and feeding disorders is educationally relevant and part of the school system's responsibility for the following reasons:

1. Students must be safe while eating in school. This includes providing appropriate personnel, food, and procedures to minimize risks for choking and for aspiration during oral feeding.
2. Students must be adequately nourished and hydrated so that they can attend to and fully access the school curriculum.
3. Students must be healthy (e.g., free from aspiration pneumonia or other illnesses related to malnutrition or dehydration) to maximize their attendance at school.

4. Students must develop skills for eating efficiently during meals and snack times so that they can complete these activities with their peers safely and in a timely manner.

The school-based population covered under IDEA Part B ranges in age from 3 to 21 years. States may provide early intervention services through the school districts for students from birth to 3 years under IDEA Part C. The need for educational and related services may persist for students with dysphagia throughout their school years. Objectives should be updated to accommodate the varying demands of the educational environment and the changing abilities of each student. The scope of swallowing and feeding disorders includes difficulty ingesting food and liquid, managing saliva, and taking oral medications. The disorders may be characterized by choking and aspiration, oral-motor and sensory impairments, maladaptive behaviors during eating activities, refusal to eat, and restricted variety of accepted food and liquid. Anatomic, neurologic, and/or physiologic functions may be affected. These functions include motor planning, postural and oral-pharyngeal motor abilities, sensory processing, respiration, and digestion. Primary global developmental delays, behavioral disorders, and complex medical conditions may also result in swallowing and feeding disorders. The range of severity and persistence of these disorders vary from transient delays in development of eating skills that resolve readily with education and treatment to chronic, complex disorders that have health as well as educational consequences.

In addition to the anatomic, neurologic, and physiologic components of dysphagia, social, emotional, behavioral, nutritional, environmental, familial, communicative, and cultural factors also have a significant impact on a student's swallowing and feeding impairment. Effective evaluation and management typically require a team approach. The SLP collaborates with the student's educational and medical teams and family to address issues related to the student's nutrition, medication administration, medication side effects, family values, and cultural preferences; and to develop educational and therapeutic strategies for advancing and improving skills and behaviors.

SLPs should be mindful of the legal, ethical, and educational frameworks for these services as they work with their school administrators and service teams to develop school policy, procedures, and service delivery models. Similar to other special-needs procedures, the model for optimum delivery of school-based dysphagia services includes a referral process, parent/guardian notification and involvement, screening and evaluation, the individualized education program (IEP), and/or 504 plan. In addition the plan should include the individualized swallowing and feeding plan; the individualized health care plan (referred to as the IHP, IHCP, or HCP); a process for securing physician clearance for clinical evaluation, diet, and prescriptive recommendations for instrumental and other medical assessments; therapeutic intervention; and monitoring of swallowing and feeding status. Use of standard recording forms may facilitate documentation of this process. Depending on the personnel resources in the district, size of student population with dysphagia, and distribution of students in the district, the system may utilize a school-based team, a district-based traveling team, or a combination of the two models to service all the schools in the district. District/school personnel may benefit from the support of community-based SLPs with pediatric dysphagia expertise, and district-supported continuing education opportunities for school-based SLPs.

Management and treatment plans for students with dysphagia are individualized according to the needs of each student. For example, a student may benefit from an individualized mealtime plan to improve eating efficiency and to address deficiencies in swallowing and feeding skills.

The collaboration of the school-based dysphagia team with medical professionals includes consideration of whether a referral is warranted for medical assessment or medical clearance. Typically, this consideration would arise for the student with a medically complex condition as opposed to the student for whom medical conditions are stable and special care during the school day is not specified in the student's IEP or IHP. Although SLPs do not need a medical prescription or other form of medical approval to perform clinical evaluations or implement intervention programs, there may be instances in which a prescription, referral, or medical clearance may be requested. The school-based SLP has a responsibility to participate with the student's dysphagia team, educational team, and family to determine whether the student's medical condition warrants medical clearance for clinical procedures or for medical assessments or consultations for management of dysphagia and dysphagia-related conditions. The school administration policy should include guidelines for funding the collaboration between school-based and medical care providers.

The guidelines recognize the need for collaboration with states, school districts, individual schools, and SLPs to advance the treatment of persons with dysphagia in the schools through the following:

- expansion of continuing education programs focused on delivery of swallowing and feeding services in the schools
- clarification of reimbursement mechanisms
- advocacy at federal, state, and local levels for inclusion of dysphagia services in schools, including appropriate staff and resource allocation
- research on outcomes of dysphagia assessment and intervention in schools and the impact on overall school performance

GUIDELINES

Purpose

The purpose of this document is to provide guidelines addressing issues, models, and procedures for managing students with swallowing and feeding disorders in the schools. The need for guidelines was stimulated by multiple factors: (a) an increase in the number of students requiring swallowing and feeding management in the schools (Logemann & O'Toole, 2000; Martin et al., 2005); (b) lack of clearly identified teams and procedures to address these disorders; and (c) revisions of IDEA (2004) and the Rehabilitation Act of 1973 (Section 504) that mandate services for health-related disorders that affect the ability of the student to access educational programs and participate fully.

Background

In 2005, the American Speech-Language-Hearing Association (ASHA) Coordinating Committee on Dysphagia in Schools was appointed by Celia Hooper, 2003–2005 vice president for professional practices in speech-language pathology, to

- determine the scope of service needs for students in the schools with swallowing and feeding disorders;

- analyze the needs of ASHA members who practice in school settings related to provision of services to students with dysphagia;
- recommend actions and strategies to address these needs;
- develop a long-term plan to implement these recommendations.

The Coordinating Committee's recommendations included forming a committee to write policy documents on this topic. Other recommendations included

- increasing legislation and advocacy to promote the role of SLPs as a provider of dysphagia services in schools and to identify dysphagia as a disorder that affects performance in school;
- gathering more survey and demographic data;
- developing resources to promote awareness and education about dysphagia in schools among ASHA members.

Several ASHA documents provide a broad foundation for these guidelines. The most directly related to this topic are the position statement and technical report on *Roles of Speech-Language Pathologists in Swallowing and Feeding Disorders* (ASHA, 2001a, 2001b) and *Knowledge and Skills Needed by Speech-Language Pathologists Providing Services to Individuals With Swallowing and/or Feeding Disorders* (ASHA, 2002).

Survey Data

On ASHA's 2006 Schools Survey, 10.2% of respondents (SLPs in schools) reported that they treat students with dysphagia, with a mean number of 3.5 students with dysphagia in their caseload (ASHA, 2006). Another survey was fielded to members of Special Interest Divisions 13, Swallowing and Swallowing Disorders (Dysphagia), and 16, School-Based Issues. The three most frequently reported barriers to dysphagia management in the schools were: (a) liability concerns, (b) proving educational relevance, and (c) self-reported lack of experience in dysphagia (Owre, 2006).

Educational Relevance

The educational goal for students with special needs is to optimize each student's developmental potential while maintaining adequate nutrition, hydration, and health so that each student may access and benefit fully from the educational program (Arvedson, 2000).

Schools are mandated to address functional performance in light of their educational impact, according to IDEA 2004. The following examples are arguments that support the educational relevance of addressing swallowing and feeding at school:

1. It is the responsibility of the school system to ensure that students are safe while attending school. Appropriate personnel, food, and procedures must be provided to minimize risks for choking and for aspiration during oral intake.

2. Students must have sufficient physical well-being and energy in order to function in the educational setting. Students who are under-nourished or dehydrated due to swallowing and feeding problems cannot attend adequately to the learning environment, and consequently their performance at school may suffer.
3. Students must have adequate health to attend school and to receive instruction. Students with swallowing and feeding disorders may miss school more frequently than other students due to related health issues. These may include repeated upper respiratory infections or other pulmonary problems related to aspiration during oral feeding or gastroesophageal reflux. In addition, students who have difficulty managing their saliva or who resist tooth brushing due to sensory-based disorders or autism spectrum disorders may have poor oral hygiene. Increased oral bacteria due to poor oral hygiene in adults is associated with greater risk of developing pneumonia (Langmore et al., 1998) and may be similar in children, although there are no published data.
4. In order for students to participate fully in the educational program, they need to be efficient during regular meal and snack times, so that their meal and snack times are completed in similar times as their peers, and preferably with their peers. Optimally, they should complete their meal or snack within 30 minutes or less. Prolonged mealtime is a major “red flag” for a swallowing and feeding disorder. Prolonged feeding times are indicative of excessive effort and energy that interfere with other activities important to a student’s school day experiences. Prolonged mealtimes often are stressful for the student, and this stress can carry over into the remainder of the school day. Some students may require more frequent snacks or meals to maximize educational performance.

Swallowing and Feeding Disorders

Dysphagia is defined as “a swallowing disorder. The signs and symptoms of dysphagia may involve the mouth, pharynx, larynx, and/or esophagus” (ASHA, 2001b). ASHA documents have adopted “swallowing and feeding disorders” as the more inclusive phrase for dysphagia and delays and/or disorders in the development of eating and drinking skills, which are common in varied pediatric populations. Swallowing and feeding include the introduction, preparation, transfer, and transport of food and liquid from mouth through esophagus into stomach. In addition, management of saliva and oral intake of medications are included. Swallowing and feeding disorders vary considerably in their characteristics and severity. Children may demonstrate choking and aspiration, oral sensorimotor impairments, maladaptive behaviors during eating, refusal to eat, and acceptance of a restricted variety of food and liquid. Anatomic, neurologic, and/or physiologic impairments may include, but are not limited to, motor planning, postural control and oral-pharyngeal motor skills, sensory processing, respiration, and digestion. Students with severe disorders may experience deficiencies in nutrition and hydration, as well as reduced respiratory health.

Population

The school-based population covered under IDEA Part B ranges in age from 3 to 21 years. States may provide early intervention services through the school districts for children from birth to 3 years under IDEA Part C. ASHA’s guideline document focuses on children 3 years and older, although some of the information will be relevant to younger children.

Swallowing and feeding disorders affect students with typical development as well as those with difficulties related to medical or neurodevelopmental factors. Prevalence is variable, with estimates ranging from 25% to 35% in normally developing children (Linscheid, 1992). Children with neurologic deficits (e.g., cerebral palsy), as well as airway deficits, are most likely to demonstrate swallowing problems. From 25% to 80% of individuals with cerebral palsy (depending on the subgroup) have additional impairments, with about half showing gastrointestinal and feeding problems (Odding, Roebroek, & Stam, 2006). During the first year of life, 57% of children with cerebral palsy are estimated to have problems sucking, 38% with swallowing, and 33% with undernutrition (Reilly, Skuse, & Poblete, 1996). As the severity of cerebral palsy increases, the severity of oral sensorimotor deficits also increases. As expected, children with spastic quadriplegia are the most severely affected (90% with swallowing and feeding problems; Stallings, Charney, Davies, & Cronk, 1993).

Swallowing and feeding disorders that are apparent in early childhood may resolve, persist, or deteriorate throughout the student's preschool, elementary, and/or secondary education. The education, health, and social/emotional effects of dysphagia change across the educational continuum for each student. Students may be identified as having swallowing and feeding difficulties at any time throughout their education.

In preschool and elementary education, the primary issues for related services are

- identifying students with swallowing and feeding problems;
- determining the strategies to maintain the student's health and safety in the school setting;
- facilitating developmental gains in swallowing and feeding skills.

In the preadolescent, therapeutic and educational intervention continues for

- improving the efficiency of the student's swallowing and feeding behaviors;
- generalizing swallowing and feeding skills for varied social purposes in a variety of settings.

In the adolescent and young adult years, therapeutic intervention continues for

- promoting greater independence for meeting the swallowing and feeding challenges of the student's advancing nutritional needs and increasing complexity of social, academic, and community environments;
- developing and generalizing the compensations that will be needed for the transition to adult environments;
- monitoring for potential regression or changes in swallowing;
- responding to and minimizing regression.

Swallowing and feeding disorders are manifested in varied ways and levels of severity. Problems include, but are not limited to, the following:

- prolonged and/or stressful mealtimes
- coughing and throat clearing when eating and drinking or from accumulation of saliva
- wet breath sounds and/or gurgly voice quality associated with swallowing
- spillage of food and liquid from the mouth
- drooling

- food remaining in mouth (pocketing) after swallowing
- swallowing solid food without chewing
- inability to drink from a cup
- multiple swallows per bite of food or sip of liquid
- effortful swallowing
- gagging or vomiting associated with eating and drinking.

Other relevant problems noted by history and/or parent/guardian report may include the following:

- weight loss or lack of weight gain expected for age
- frequent respiratory illness resulting in reduced school attendance
- constipation, diarrhea, or other gastrointestinal tract problems
- need for special strategies or distractions at mealtimes

Classification of Pediatric Swallowing and Feeding Problems

Several ways to classify swallowing and feeding problems in children have been reported in the literature. Currently, there is no classification system that adequately captures the mixed etiologies of pediatric feeding problems (Burklow, Phelps, Schultz, McConnell, & Rudolph, 1998). A comprehensive classification system is needed to conceptualize the assessment and treatment of feeding difficulties in a multilevel, yet systematic, manner to describe mixed feeding etiologies, which are common among children in schools. Table 1 presents one attempt at categorization of swallowing and feeding disorders of children in schools (with the realization that this table is not all inclusive). SLPs must be aware that children often have problems in more than one of the categories.

Focus of Interdisciplinary Decision Making

Students may present with a wide range of severity in swallowing and feeding disorders. Adequate nutrition and hydration are of utmost importance for these students, along with airway and pulmonary stability. Some students with complex medical conditions may receive all food orally. Others may get their nutrition needs met totally or primarily by tube feeding. Students with complex medical histories may also have developmental and/or behavioral swallowing and feeding disorders that are secondary to their underlying physiologic impairments. Management decisions should relate to the student's current medical, physiologic, and developmental status as well as overall potential. SLPs need to be knowledgeable about specific etiologies and medical conditions associated with dysphagia.

It is particularly important for students with complex medical or surgical histories to have the school team and the medical team (e.g., physician, nurse, dietitian, SLP, psychologist) collaborate to make decisions that optimize the student's health status and facilitate full participation in the school setting. The collaboration involves exchange of information to and from the school. The SLP has a skill set that makes him or her uniquely qualified to make pertinent observations about the student that are valuable to others on the school team and to the medical team. Considerations for determining which students with complex medical conditions need this collaboration and the extent of the collaboration include

- instability of the medical condition;
- increased complexity of the medical issues;
- seriousness of the potential health consequences for the student;

Table 1. Categorization of swallowing and feeding disorders of students in schools.

Category	Examples of diagnoses	Descriptions or implications
Structural abnormalities	Pierre Robin sequence	Airway obstruction Micrognathic mandible Glossoptosis Cleft palate
	Beckwith-Wiedemann	Macroglossia
	Cleft palate with or without cleft lip	Food or liquid out the nose possible prior to surgery as well as with velopharyngeal insufficiency
	Enlarged tonsils and adenoid	Food gets stuck or airway is negatively impacted
	Esophageal stricture or stenosis	Difficulty with solid food that may not move through the narrowed area
	Tracheostomy (may also be complicated by underlying reason for the tracheostomy tube placement)	Restricted hyolaryngeal elevation/excursion with swallowing; limited phonation, may benefit from speaking valve if no contraindications
Primary global developmental delays	Multiple diagnoses that include mental disabilities. Other labels include developmental disability, speech-language impairment, sensory impairment, intellectual impairment, delayed gross and fine motor skills.	Oral skill levels need to be considered in relation to <i>developmental levels</i> of overall functioning; not usually an isolated disorder of swallowing
Neurologic conditions	Cerebral palsy	Variable oral and pharyngeal phase problems
	Muscular dystrophies	Weakness of muscle action
	Cranial nerve dysfunctions	Flaccid dysarthria and high aspiration risks with reduced sensation common
	Traumatic brain injury	Severe swallowing problems common in acute phase, usually improve over time
	Down syndrome	Low tone, global developmental delays, growth retardation, hypothyroidism and celiac disease common, swallowing problems variable, usually total oral feeders.
	Mental disabilities/developmental disabilities	Immature skills common, often appropriate for developmental skill levels, not chronologic age
	Pervasive developmental disorder	Autistic spectrum—often food selectivity with narrow range of textures, tastes, temperature, color of food, etc. Disruptive behaviors may interfere with advancing feeding skills.
Behavioral issues	Psychosocial difficulties that may or may not have an underlying medical diagnosis	Poor environmental stimulation, dysfunctional feeder and student interactions; stressful mealtimes for parent/guardian and student
	Negative feeding behaviors shaped and maintained by reinforcement (internal or external) – learned aversions	Selective food refusal, rigid eating routines, restricted in variety, or ritualistic
	Emotionally based difficulties	Phobias, depression, conditioned emotional reactions
Complex medical conditions: cardio-respiratory problems	Congenital heart disease (may include status following surgery, heart transplants)	Fatigue with feeding, some have incoordination of oral and pharyngeal phase swallowing
	Chronic lung disease; may have history of bronchopulmonary dysphasia	Risk for aspiration with oral feeding in some, but not all. Tachypnea (rapid breathing rate) in some
	Asthma	Aspiration with feeding may be a factor for some students
Gastrointestinal tract problems	Tracheoesophageal fistula	Surgical repair in early infancy to eliminate aspiration between trachea and esophagus. May be somewhat limited in solid foods
	Esophageal motility deficits	May or may not be tube fed. Reflux or vomiting in some
	Sphincter dysfunction	Reflux or vomiting may be persistent
Metabolic dysfunction	Dumping syndrome	Interfere with development and/or maintenance of normal feeding patterns; need medical and dietitian guidance
	Hereditary fructose intolerance	Need for special diets; not oral sensorimotor issues
Renal disease	Multiple specific diagnoses, e.g., uremia (chronic renal insufficiency) or renal tubular acidosis (reduced excretion of acid, with imbalance of acid-base balance in kidney)	Impaired growth almost invariably occurs with altered renal function. Growth failure often first clinical sign. May not have feeding or swallowing problem—other factors interfere with growth that may include gastroesophageal reflux and gastrointestinal hormonal imbalance.

- deficiencies in nutrition and hydration.

Nutrition Issues

Adequate nutrition and hydration are fundamental for all students to participate and fully access the school curriculum. Students may be dependent on classroom staff for assistance during mealtimes to make sure that their nutritional needs are met. Depending on the needs of the students, the school system may need to adapt the regular school menu to ensure that the diet presented to these students at school meets the safety requirements of the swallow and feeding plan as well as providing a nutritionally balanced meal. School system personnel should consult *Guidance for Accommodating Children With Special Dietary Needs in School Nutrition Programs: Guidance for School Food Service Staff* (U.S. Department of Agriculture, 2001) when modifying diets for children who receive federally funded lunch programs. All diet modifications should consider the nutritional needs of students, and when possible the system should consult with a dietitian. School personnel also need to be able to recognize the signs and symptoms of undernutrition.

Medication Issues

Many students with complex medical conditions take multiple medications for a variety of reasons. Members of the dysphagia team need to be knowledgeable about what those medications are, the optimum methods for administering the medications in school, what the side effects may be for swallowing and feeding, and what the interactions of multiple medications may be. Members of the dysphagia team need to appreciate the effects that certain medications may have on a variety of functions, such as hunger and appetite, taste, level of alertness, muscle function, and gastrointestinal tract function. When SLPs and other members of the team become aware of changes in a student's eating behavior at school, they need to consider the possibility that these changes may be related at least in part to medications. For example, reglan (metoclopramide) has been shown to cause movement disorders in some students and adults (Hammer & Bell, 2005). Some commonly used anticonvulsants for seizure disorders may produce drowsiness (Buchholz, 1995). Benzodiazepines, used as anticonvulsants and occasionally for treatment of spasticity, may also reduce activity in brain stem centers that regulate swallowing (Buchholz, 1995; Wyllie, Wyllie, Cruse, Rothnew, & Erenberg, 1986).

Cultural Considerations

Schools today reflect the rich diversity of cultures in the communities in which they exist. The attitudes and beliefs of a culture have a profound impact on the learning environment. One of the most significant aspects of a culture is its relationship with food and eating, as well as feeding. Therefore, best practice in dysphagia services demands sensitivity to cultural differences (Riquelme, 2004).

To deliver competent services in the area of swallowing and feeding that are sensitive to a student's culture, SLPs need to develop knowledge and skills related to

- current research and preferred practice patterns in the identification/assessment of swallowing and feeding disorders;

- community standards of typical swallowing and feeding patterns and preferences;
- incorporation of the dietary preferences of students and their families, related to the identification/assessment of swallowing and feeding disorders;
- application of the standards of the student's community for dismissal/discharge criteria (ASHA, 2004b).

Professionals who work with students with swallowing and feeding disorders (including those who are resistant to feeding) need to be aware of the cultural beliefs and attitudes of each student's family. These attitudes and beliefs guide the family's integration of the feeding program at home. Collaboration is optimal when trust exists between families and school-based teams. This trust, which is based on mutual respect, includes sensitivity to cultural beliefs and preferences.

Part of any successful feeding program will be balancing the parent/guardian's beliefs with new strategies to improve the feeding situation. People of different cultures embrace different expectations for independence in feeding, duration of breast or bottle feeding, and the introduction of solid foods and opportunities for self-feeding. Some cultures may believe in the healing value of specific textures or food types that may conflict with recommendations of the dysphagia team. The school dysphagia team will need to help families

- observe their child to understand his or her communicative cues (too much, more, slow down, not now, etc.);
- become aware of the cues they are sending to their child (verbal or nonverbal) regarding eating;
- develop an understanding of the nature of the swallowing and feeding disorder against a backdrop of their cultural attitudes about disabilities in general;
- address their frustration and feelings resulting from their difficulty feeding their child, as many cultures deem this a primary caregiver function.

Legal Issues

The legal and legislative issues on the provision of swallowing evaluation, management, and supportive services as related to the educational environment are complex. Applicable laws at both the federal and the state levels will govern the provision of services and the nature of services to be provided. Federal laws pertinent to the consideration of dysphagia management in the school setting include, but are not limited to, the following:

- The Individuals with Disabilities Education Improvement Act of 2004, 20 U.S.C. §1400, *et seq* and its accompanying regulations
- The Rehabilitation Act of 1973, as amended, 29 U.S.C. § 701(b)(1)
- The Americans with Disabilities Act (ADA) of 1990, as amended, 42 U.S.C. §12101

In addition to the legislation, case law or court decisions serve to clarify and enhance interpretations and applications of the law. Current case law potentially analogous to the issue of dysphagia management in the school setting includes the following:

- Cedar Rapids v. Garrett, 526 U.S. 883 (1984)
- Irving Independent School Dist. v. Tatro, 468 U.S. 883 (1984)
- Board of Educ. of Henrick Hudson Central School Dist. v. Rowley, 458 U.S. 176, 192 (1982)

- City of Warwick v. Rhode Island Dept. of Educ., No. PC 98-3189, 2000 WL 1879897 (R.I. Super., 2000)
- Tanya v. Cincinnati Bd. of Educ., 100 Ohio App. 3d 52, 651 N.E. 2d 1373 (1995).

Additional legal guidance is found at the state level. Licensure acts and their governing licensing boards regulate the practice of speech-language pathology in most states. Many states outline the speech-language pathology scope of practice in general terms, and therefore assessment and intervention for dysphagia, even though not explicitly authorized, may be encompassed within the general definition. State licensing boards may provide additional clarification, typically through a board policy statement, about whether a particular area of practice is deemed to be included within the scope of speech-language pathology practice.

Ethical Issues

Professional and ethical standards are defined by ASHA's Code of Ethics (ASHA, 2003) and practice policy documents. State licensing boards may also set standards for professional and ethical practice within the state. Certified SLPs living in states with licensure requirements must adhere to both standards.

ASHA's Scope of Practice in Speech-Language Pathology includes assessment and management of swallowing disorders and the use of instrumentation for the diagnosis of swallowing and feeding disorders (ASHA, 2001b). ASHA's Code of Ethics mandates that SLPs must be competent in any area of service that they deliver (ASHA, 2003). ASHA's practice policy documents on swallowing and feeding disorders clarify that the assessment and management of swallowing and feeding disorders in children are sufficiently different from adult dysphagia to warrant different practice patterns and additional knowledge and skills. (ASHA, 2001a, 2002, 2004a, 2004e). Therefore, SLPs who manage swallowing and feeding in the schools are ethically bound to achieve and maintain competence in this area of practice.

Competency Issues

As noted above, experience in adult dysphagia does not in itself qualify an individual to provide services to students without additional knowledge and skills. Mechanisms to develop competency in providing swallowing and feeding services in schools may include the following:

- classes or workshops to acquire, maintain, and update knowledge and skills about normal swallowing and feeding development in the pediatric population and assessment and management of swallowing and feeding disorders in students with various etiologies
- mentored observations of swallowing and feeding assessment and treatment
- mentored hands-on clinical experiences
- verification/documentation of competency level in accordance with organizational policy;
- training in policy and procedures in the school's swallowing program (e.g., process, forms, team function, documentation)

As dysphagia practice continues to evolve, it is incumbent on SLPs to continually update their knowledge of research and practice involving swallowing and feeding for students in the schools. The search for well-documented evidence related to treatment and outcomes is ongoing for all SLPs, who are encouraged to participate in such research where possible.

Reimbursement Issues

Some school districts submit claims to third-party payers for reimbursement of swallowing and feeding services rendered in the schools. SLPs are responsible and accountable for all submitted claims when they have been the service provider. SLPs should have an understanding of the requirements of the payer (e.g., state Medicaid, private health insurance) to ensure that they are in compliance. Requirements of third-party payers (which may differ from school policies) may include but are not limited to the following:

- definition of qualified provider
- student eligibility for services as defined by the payer
- required documentation (e.g., referral, certification, and recertification by the physician, goals and progress notes)
- supervision of support personnel, including SLPs who are not licensed or ASHA-certified (ASHA, 2004c, 2004d, 2005a, 2005b)
- diagnosis codes and/or procedure codes for services provided (e.g., *International Classification of Diseases, Ninth Revision, Clinical Modification* [ICD-9-CM]; Current Procedural Terminology [CPT])

Team Approach

According to Arvedson (2000, p. 29), “Most feeding and swallowing disorders do not occur in isolation, but are part of a broader spectrum of disabilities.” Effective evaluation and management may require the expertise of several disciplines. Therefore, whenever possible, swallowing and feeding disorders are best addressed using an interdisciplinary team approach. The SLP with appropriate training is in a position to play a key role on the school swallowing and feeding team because of his or her unique combination of knowledge and skills, including

- knowledge of the relevant anatomy and physiology related to swallowing and feeding function;
- knowledge of normal and abnormal development of swallowing and feeding;
- knowledge of all phases of the swallow process: oral preparatory (bolus formation), oral transit, pharyngeal, and esophageal;
- knowledge of communication problems as they impact on swallowing and feeding function;
- skills to identify, assess/evaluate, and treat students with dysphagia.

Team Members

The school-based swallowing and feeding team consists of members who serve in the school system as well as medical practitioners outside the school. The school-based team consists of core members who are primarily responsible for decisions regarding dysphagia. The core team typically consists of an SLP (who often serves as dysphagia case manager), the parent/guardian, nurse, classroom teacher, occupational therapist (OT) or physical therapist (PT; as needed), and a school administrator. Additional school team members could include a school psychologist, social worker, and/or cafeteria personnel. Medical professionals outside the school system may include the following: physicians (e.g., pediatrician,

gastroenterologist, neurologist, cardiologist, pulmonologist, physiatrist, ENT, radiologist), SLP, nurse, dietitian/nutritionist, psychologist, OT, PT, and/or social worker.

Typical Core Team Member Contributions

Each profession brings specialized knowledge for addressing the needs of the student with dysphagia. These roles should fit into systematic procedures that may vary from district to district. Typical contributions of core members are described below (Homer, 2003):

Dysphagia case manager (may be SLP or another discipline)

- accepts referrals and disseminates information to appropriate personnel;
- coordinates and assists with scheduling the initial clinical evaluation;
- participates in the IEP with appropriate team members;
- responds to issues and concerns;
- ensures the procedure is being followed and maintains documentation;
- ensures interdepartmental coordination of dysphagia cases;
- maintains communication with interdisciplinary team members.

SLP

- may serve as dysphagia case manager;
- identifies at-risk students;
- provides assessment and treatment;
- recommends the videofluoroscopic swallowing study (VFSS) or other instrumental evaluation when indicated;
- works with nurse to secure doctor's orders for VFSS or diet order;
- attends VFSS when possible;
- communicates closely with SLP performing videofluoroscopic studies;
- establishes swallowing and feeding plan;
- monitors student's swallowing and feeding plan;
- trains school-based personnel and the parent/guardian as needed;
- provides therapeutic intervention;
- communicates with the parent/guardian;
- communicates with medical professionals.

Parent/guardian

- shares knowledge of student's feeding habits, food preferences, and mealtime environment;
- provides medical and feeding history including food allergies, dietary restrictions, and medications;
- shares beliefs related to foods and eating;
- implements swallowing and feeding goals and strategies in home and community environments.

School nurse

- monitors the health, weight, and overall nutrition status of the student;
- writes the IHP (emergency plan) and trains personnel;
- monitors respiration periodically as needed;

- troubleshoots issues related to tracheostomies, feeding tubes, ventilators, etc.;
- assists in contacting and communicating with physicians;
- consults with parent/guardian and teachers;
- administers or assists with administering tube feeding and/or medications.

Occupational therapist

- addresses fine motor skills related to self-feeding;
- addresses sensory and regulation issues;
- addresses positioning and adaptive equipment for eating.

Physical therapist

- addresses postural skills and mobility issues;
- addresses positioning and adaptive equipment needs related to positioning for meal-times.

Classroom teacher

- implements the swallowing and feeding plan in the classroom;
- monitors changes in student's swallowing and feeding in daily classroom activities;
- coordinates the personnel responsible for feeding students;
- communicates with the parent/guardian;
- implements the IHP/emergency plan as needed;
- oversees mealtime environment to make it safe in the classroom or cafeteria;
- supports communication and social goals during feeding.

School System Policy and Procedure

School systems have policies and procedures that are followed throughout the district. Ideally the school system's policy manual will include policies and procedures for addressing dysphagia. The goal of a system-supported process is to develop procedures that are utilized consistently throughout a school district. With a systematic policy in place, employees are knowledgeable about how to deal with various issues involving students who have a swallowing and feeding disorder. It provides the necessary steps to ensure that all team members are accountable within their respective roles on the team. Their responsibilities include accurate documentation throughout the process. A systematic procedure ensures that students with dysphagia are fed safely and effectively, and may protect employees and the entire school system in the event of litigation (Homer, 2003, 2004; Homer, Bickerton, Hill, Parham, & Taylor, 2000). "The keys to minimizing liability exposure are planning, procedures, training, and the proper execution of those procedures" (R. L. Hammonds, personal communication, September 22, 1998).

The process for developing a system-wide approach includes the following:

- determine organizational procedures for developing new programs
- define the population to be served
- estimate the number of students to be served

- educate administrators on scope of practice of SLPs, definition of dysphagia, signs and symptoms of dysphagia, implications of not intervening, educational impact, liability issues, relation to IDEA
- develop an interdisciplinary team procedure
- develop a district-wide plan that addresses dysphagia (Homer, 2003; Homer et al., 2000)

School-Based Dysphagia Service Delivery

The steps in dysphagia service delivery include the following:

- referral
- parent/guardian notification, involvement, and permission to assess following screening as needed
- screening
- evaluation
- IEP or 504 plan as appropriate
- swallowing and feeding plan
- IHP, IHCP, or HCP
- process for securing physician orders
- intervention and monitoring

A detailed description of each step follows:

Referral. Staff members are trained in the referral process so they understand when and how to refer a student in the event that a concern has been raised by school staff members, parent/guardian, or outside professionals. The district determines who will receive and review the referral based on its local policy. The referral process should be easy to use and readily available (see example in Appendix A).

Parent/guardian notification and involvement. Following the initial referral, the parent/guardian is contacted to discuss the dysphagia management process and provide information about the student. Parents/guardians play a key role as active members of the dysphagia team. A parent/guardian interview is an important source of information regarding such factors as medical history, mealtime environment, and cultural factors in the home (see Appendix B). It is important that the dysphagia team establish open communication with the parent/guardian that respects their knowledge of their student. This communication allows for consistency of strategies across varied settings to ensure the health and safety of the student.

Screening and evaluation. Review of the referral is considered part of the screening process. The parent/guardian and teacher interviews also serve as part of the screening and evaluation process. The teacher interview includes gathering information about how the student's dysphagia affects his or her academic progress and ability to participate in extracurricular activities. Following the screening, a comprehensive, interdisciplinary swallowing and feeding evaluation may occur (see Appendix C). Members of the evaluation team may be selected according to the student's needs. An interdisciplinary observation of the student during a typical mealtime at school may be conducted as an initial evaluation of the student's swallowing and feeding. The person supervising or assisting the student during the meal may be directed by the team to try some modifications and strategies as part of the diagnostic process. The information gathered from this evaluation may be

used in determining pertinent team members, swallowing and feeding strategies, and future course of action. Recommendations for further diagnostic workup or testing procedures may occur later in the process. Results and recommendations should be documented. The above information may be used to draft a swallowing and feeding plan, which may be temporary depending on the need for further diagnostics.

IEP/504 plan. An IEP meeting is convened at this stage in the process if a student is determined to be eligible for services. Core dysphagia team members meet with the parent/guardian to discuss the student's swallowing and feeding issues. Evaluation results including team recommendations are reviewed and discussed. All team members, including the parent/guardian, should be aware that the IEP document can be reviewed often and may change depending on the needs of the student throughout a typical school year. If the student does not have an existing swallowing and feeding plan, a plan will be created during this meeting. This discussion lends itself to obtaining additional medical history from the parent/guardian. If a student already has a dysphagia plan in place, it is reviewed and adjusted as appropriate. Goals/objectives and accommodations are written and reviewed during this meeting. It is important for the team leader to confirm that the team members' concerns are discussed and documented before the meeting is adjourned. At times, additional meetings may be needed to allow the parent/guardian to review information provided and feel comfortable with the recommended plan.

Swallowing and feeding plan (Appendix D). The swallowing and feeding plan includes training, service delivery, and daily management. The purpose of the swallowing and feeding plan is to ensure that the student receives adequate nutrition efficiently and in the safest manner possible to minimize aspiration risk. A swallowing and feeding plan typically includes recommendations/guidelines on the following: positioning, equipment, diet/food preparation, feeding plan techniques and precautions (which may include behavioral considerations), and the name and contact information for the dysphagia case manager. All pertinent personnel will require adequate education and training related to the swallowing and feeding plan by the SLP. It is important to verify and document the educational training within the plan.

IHP. The IHP, also called the emergency plan, is drawn up at the IEP conference by the school nurse. The IHP provides classroom information on specific precautions related to the student's dysphagia—for example, how to respond when the student is in distress. Classroom personnel are trained on the IHP, and it is kept in an easily accessible place. The swallowing and feeding plan may be attached to the IHP for additional information on the student's swallowing and feeding safety precautions.

Process for securing physician orders for VFSS, clinical evaluation, and/or diet orders. Collaboration between the dysphagia team and the student's physician or dietitian is advisable for students with complex conditions or severe dysphagia. A written referral or order from the treating physician is required for instrumental evaluations such as VFSS or fiberoptic endoscopic evaluation of swallowing. Some school systems have assumed financial responsibility for these evaluations; however, frequently the students have private insurance or Medicaid that covers

the majority of costs. The dysphagia case manager and/or nurse work with the parent/guardian to secure orders for additional testing as well as for a specialized diet, and for facilitating reimbursement. The hospital-based SLP should be provided with information to fully understand the concerns of the school staff and the purpose for the study (see Appendix E). When possible, the school-based SLP attends the VFSS to discuss the results and recommendations with the hospital-based SLP.

Intervention and monitoring (treatment logs). SLPs may provide direct intervention to students with swallowing and feeding concerns for oral sensorimotor skills, sensory stimulation, and so on. Other students may need only monitoring of swallowing and feeding status. Services should be recorded in treatment logs (Homer, Beauxis, & Fish-Finnigan, 2003).

Documentation of Services

A record (see Appendix F) of the services that a student with dysphagia receives may be facilitated by forms and may include

- meetings and conversations with the parent/guardian and teachers;
- training of school system personnel;
- direct contact with the student;
- monitoring activities;
- dates verifying that the dysphagia procedure was followed (if the system has a specific procedure in place);
- adjustments and changes to a student's swallowing and feeding plan.

Dysphagia Team Models

School districts, depending on the personnel, will need to design a service delivery model that addresses the needs of the students with dysphagia and utilizes the trained personnel available to the system. Each district will need to determine which SLPs on staff are competent to provide dysphagia services. The logistics of providing dysphagia services in the schools will depend on the trained personnel available, the number of students with dysphagia, and the size of the district. Suggestions for structuring teams follow:

School-based teams. Districts with a large number of dysphagia-trained SLPs have the opportunity to develop teams composed of the professionals working together in the same school. The SLP, OT, PT, and nurse who are assigned to the school serve as the interdisciplinary dysphagia team along with the classroom teacher, principal, and other professionals as appropriate. The following are some benefits of the school-based team:

- A school-based team facilitates ongoing monitoring of students.
- It provides regular access to student, teacher, parent/guardian, etc.
- SLP works on speech and language skills as well as dysphagia.
- SLP is on campus in the event that a student chokes or experiences difficulty eating.

District-based team or "traveling team." Many districts will have a limited number of SLPs trained in dysphagia evaluation and treatment. Other districts may be small and have a very limited number of students spread throughout the district who exhibit signs of dysphagia. These districts could form a district-based team in which a core group composed of an SLP serving as the dysphagia case manager,

an OT and/or PT, and a school nurse travel throughout the district to serve the students with dysphagia. The district team would be responsible for accepting referrals, evaluating the students, attending IEP meetings, communicating with physicians regarding instrumental evaluations and diet orders, training staff, and monitoring the swallowing and feeding plans of the students. The following are some benefits of the district-based team:

- Team members, including the SLP, become specialists in dysphagia.
- Districts are able to address dysphagia with only a few trained SLPs.
- Ongoing training is easier with fewer people.

Combination team. In most cases, a combination of school-based and district-based models may serve a district most effectively. Districts that have many dysphagia-trained SLPs may be able to utilize those professionals at their assigned schools to have a school-based team. In addition, the district could have traveling dysphagia team members who work in schools where there is not a dysphagia-trained SLP. For example, a district may have only two schools where the SLP is not trained to work with students with dysphagia. The district could reduce the caseloads of other SLPs who have dysphagia training to allow them to travel to those schools. The OT, PT, and nurse who typically serve those two schools could be on the dysphagia team and collaborate with the traveling SLP. The following are some benefits of the combination team:

- The most knowledgeable professional is on campus in most instances.
- The district can utilize professionals already on staff.
- The district is working toward a goal of having dysphagia teams be school-based (Homer, 2003).

Continuum of Dysphagia Services in the Schools

The relationship between the skills and knowledge of SLPs and the resources available to districts may have an effect on how the district is able to serve students with dysphagia. Following are some suggestions for adapting services to available resources and personnel:

1. The school district has no SLPs with dysphagia training.
 - The school district may contract services with a private consultant or agency to provide dysphagia evaluation and treatment.
2. The SLP has enough dysphagia training to recognize the need for an outside expert, but the district is not supportive of contracting with private consultants.
 - SLP may be able to work with the parent/guardian and refer the student to a medical facility with SLPs who have expertise in pediatric dysphagia.
 - SLP works toward educating the administration and advocating for outside consultants to train and work with district SLPs.
 - SLP provides the safest feeding procedures to the staff and documents this process.
3. The SLP has enough dysphagia training to recognize the need for an outside expert, and the district is supportive.
 - District could bring in a consultant to assist in the development of a swallowing and feeding program to be carried out by school-based employees.

- Consultation would be ongoing.
 - An SLP in a specific school has knowledge and experience in pediatric dysphagia and works with the school's administration. Administration may adopt processes/procedures to work with students who have dysphagia within the school.
 - District at large may not have a formal process/procedure in place, but SLP advocates to develop school-based model and establish district policies.
4. A large district has comprehensive programs in place to evaluate and treat students with swallowing and feeding disorders in the school.
 - District recruits and provides training to SLPs with dysphagia experience.
 - District fosters professional development and is supportive of its clinicians.
 5. A district provides a comprehensive outreach center or clinic with a swallowing and feeding focus.
 - This model may be more common in a special needs school setting with more medically complex students.
 - School districts that have a sufficient number of students requiring dysphagia services may choose this option.

Service Delivery

Management of students with dysphagia in the schools addresses the impact of the disorder on the student's education performance. Some students will benefit from intervention to address oral sensorimotor and broad sensory issues, while others may require training in swallowing and feeding strategies during mealtimes.

Following are examples of service components:

- The case manager monitors that the student is being fed according to the student's swallowing and feeding plan.
- The frequency of monitoring depends on the student's response during feeding and the need to observe/reinstruct the individual who is feeding the student.
- Suggested activities of the SLP:
 - Consult with classroom teacher, paraprofessionals, student health aide, lunch duty teachers, parent/guardian, etc.
 - Observe student during lunch and/or snack.
 - Eat lunch with student at a specified interval.
 - Work directly with student during lunch as needed.
 - Hold a staffing meeting of primary dysphagia team members at specified intervals to discuss student's status.
 - Monitor student during mealtimes more often for the first several weeks. After initial set-up, develop a schedule according to the student's needs.
 - Work directly with the student during speech/language sessions to incorporate dysphagia goals and objectives.

Bridging Medical and Educational Settings

The collaboration between the school-based dysphagia team and medical professionals includes consideration of whether a referral is warranted for medical assessment, medical clearance, or ongoing medical care. Typically, this consideration would arise for the student with a medically complex condition as opposed to the student for whom medical conditions are stable and for whom special care during the school day is not specified in the IEP or IHP.

Medical assessment. If the dysphagia team determines that medical assessment is advisable prior to initiation of a school-based dysphagia program or during the course of a program, the recommendation may be made to the family to seek medical consultation. This recommendation would apply to referral for a VFSS as well as to other medical diagnostic and/or treatment consultations.

Intervention program. Although SLPs do not require a medical prescription or other form of medical approval to perform clinical evaluations or implement intervention programs, there are instances when a prescription, referral, or medical clearance may be requested from the student's primary care physician or other health care provider. This request may be provided to the family for their consideration and implementation or, in instances when the school has approval for direct communication with the health care providers, may be made directly to the provider after discussion with the family. These requests for medical collaboration may include the following:

1. Prescription or medical clearance for clinical dysphagia assessment and/or intervention. This prescription or clearance may be advisable for students who receive part or all of their nutrition or hydration via enteral or parenteral tube feeding and may be considered for students with medically complex conditions, including but not limited to degenerative neurologic disorders and pulmonary disease. Medical clearance may be considered when the student's medical status is a significant variable for determining the appropriate
 - clinical assessment strategies;
 - management of daily activities involving swallowing, such as nutrition, hydration, administration of oral medications, saliva clearance, and oral hygiene;
 - treatment objectives and strategies.
2. In some cases, the school-based dysphagia team or special services team may determine that the IHP for a student with a medically complex condition needs to be approved by the student's primary health care provider or school physician. The school-based SLP consults with the student's swallowing and feeding team and educational team to determine whether the student's medical condition warrants medical clearance of the IHP. The SLP participates in determining the need for medical assessments or medical consultations for management of dysphagia and dysphagia-related medical conditions and requesting the medical referral. The school administration policy should include guidelines for funding the collaboration between school-based and medical care providers.

Future Needs

The diagnosis and treatment of dysphagia in school-aged students require the coordinated efforts of states, school districts, and individual SLPs with the support and guidance of ASHA. Some anticipated needs are listed below:

- expansion of continuing education programs focused on delivery of swallowing and feeding services in the schools;
- clarification of reimbursement mechanisms;
- advocacy at federal, state, and local levels for inclusion of dysphagia services in schools, including appropriate staff and resource allocation;
- research on outcomes of dysphagia assessment and intervention in schools and the impact on overall school performance.

References

- American Speech-Language-Hearing Association. (2001a). *Roles of speech-language pathologists in swallowing and feeding disorders* [Position statement]. Available from: <http://www.asha.org/policy>.
- American Speech-Language-Hearing Association. (2001b). *Roles of speech-language pathologists in swallowing and feeding disorders: Technical report*. Available from: www.asha.org/policy.
- American Speech-Language-Hearing Association. (2001c). *Scope of practice in speech-language pathology*. Available from: www.asha.org/policy.
- American Speech-Language-Hearing Association. (2002). *Knowledge and skills needed by speech-language pathologists providing services to individuals with swallowing and/or feeding disorders*. Available from: www.asha.org/policy.
- American Speech-Language-Hearing Association. (2003). *Code of ethics (revised)*. Available from: www.asha.org/policy.
- American Speech-Language-Hearing Association. (2004a). *Guidelines for speech-language pathologists performing videofluoroscopic swallowing studies*. Available from: www.asha.org/policy.
- American Speech-Language-Hearing Association. (2004b). *Knowledge and skills needed by speech-language pathologists and audiologists to provide culturally and linguistically appropriate services*. Available from: www.asha.org/policy.
- American Speech-Language-Hearing Association. (2004c). *Medicaid guidance for speech-language pathology services: Addressing the "under the direction of" rule* [Position statement]. Available from: www.asha.org/policy.
- American Speech-Language-Hearing Association. (2004d). *Medicaid guidance for speech-language pathology services: Addressing the "under the direction of" rule* [Technical report]. Available from: www.asha.org/policy.
- American Speech-Language-Hearing Association. (2004e). *Preferred practice patterns for the profession of speech-language pathology*. Available from: www.asha.org/policy.
- American Speech-Language-Hearing Association. (2005a). *Medicaid guidance for school-based speech-language pathology services: Addressing the "under the direction of" rule* [Guidelines]. Available from: www.asha.org/policy.
- American Speech-Language-Hearing Association. (2005b). *Medicaid guidance for school-based speech-language pathology services: Addressing the "under the direction of" rule* [Knowledge and skills]. Available from: www.asha.org/policy.
- American Speech-Language-Hearing Association. (2006). *2006 Schools Survey: Caseload characteristics*. Available from: www.asha.org/about/membership-certification/member-data/schools_resources_data.htm.
- Americans With Disabilities Act of 1990, 42 U.S.C. § 12101 et seq.
- Arvedson, J. C. (2000). Evaluation of children with feeding and swallowing problems. *Language, Speech, and Hearing Services in Schools, 31*, 28-41.
- Buchholz, D. W. (1995). Oropharyngeal dysphagia due to iatrogenic neurologic dysfunction. *Dysphagia, 10*, 248-254.
- Burklow, K. A., Phelps, A. N., Schultz, J. R., McConnell, K., & Rudolph, C. (1998). Classifying complex pediatric feeding disorders. *Journal of Pediatric Gastroenterology & Nutrition, 27*(2), 143-147.
- Hammer, D., & Bell, S.G. (2005). Gastroesophageal reflux and prokinetic agents. *Neonatal Network, 24*(2), 51-58.
- Homer, E. (2003). An interdisciplinary team approach to providing dysphagia treatment in the schools. *Seminars in Speech and Language, 24*, 215-227.
- Homer, E. (2004). Dysphagia in the schools: One school district's proactive approach to providing services to children. *Perspectives on Swallowing and Swallowing Disorders (Dysphagia), 13*(1), 1, 7-9.
- Homer, E., Beauxis, N., & Fish-Finnigan, A. (2003). Treatment of dysphagia in the schools: Three case studies. *Perspectives on Swallowing and Swallowing Disorders (Dysphagia), 12*(1), 20-26.

- Homer, E., Bickerton, C., Hill, S., Parham, L., & Taylor, D. (2000). Development of an interdisciplinary dysphagia team in the public schools. *Language, Speech, and Hearing Services in Schools, 31*, 62-75.
- Individuals with Disabilities Education Improvement Act of 2004, 20 U.S.C. § 1400 et seq.
- Langmore, S. E., Terpenning, M. S., Schork, A., Chen, Y., Murray, J. T., Lopatin, D., & Loesche, W. J. (1998). Predictors of aspiration pneumonia: How important is dysphagia? *Dysphagia, 13*, 69-81.
- Linscheid, T. (1992). Eating problems in children. In Walker, C. E. & Roberts, M. C. (Eds.), *Handbook of Clinical Student Psychology* (pp. 451-473). New York: Wiley.
- Logemann, J. A., & O'Toole, T. J. (2000). Prologue: Identification and management of dysphagia in the public schools. *Language, Speech, and Hearing Services in Schools, 31*, 26-27.
- Martin, J. A., Hamilton, B. E., Sutton, P. D., Ventura, S. J., Menacker, F., & Munson, M. L. (2005). Births: Final data for 2003. *National Vital Statistics Report, 54*, 1-116.
- Odding, E., Roebroek, M. E., & Stam, H. J. (2006). The epidemiology of cerebral palsy: incidence, impairments and risk factors. *Disabilities Rehabilitation, 28*(4), 183-191.
- Owre, D. W. (2006). Dysphagia management in schools: Survey results—issues and barriers. *Perspectives on Swallowing and Swallowing Disorders (Dysphagia), 7*(3), 27-28.
- Rehabilitation Act of 1973, Section 504, 29 U.S.C. Ch 16 § 701(b)(1).
- Reilly, S., Skuse, D., & Poblete, X. (1996). Prevalence of feeding problems and oral motor dysfunction in students with cerebral palsy: A community survey. *Journal of Pediatrics, 129*, 877-882.
- Riquelme, L. F. (2004, April 13). Cultural competence in dysphagia. *The ASHA Leader, 8*, 22.
- Stallings, V. A., Charney, E., Davies, J. C., & Cronk, C. E. (1993). Nutritional-related growth failure of students with quadriplegic cerebral palsy. *Developmental Medicine and Student Neurology, 35*, 126-138.
- U.S. Department of Agriculture. (2001). *Accommodating children with special dietary needs in school nutrition programs: Guidance for school food service staff*. Available from: <http://www.fns.usda.gov/cnd/Guidance/>.
- Wyllie, E., Wyllie, R., Cruse, R. P., Rothnew, A. D., & Erenberg, G. (1986). The mechanism of nitrazepam induced drooling and aspiration. *New England Journal of Medicine, 314*, 35-38.

Appendix A: Feeding/Swallowing Team Referral Form

Date form completed: _____

Student: _____ School: _____

Date of Birth: _____ Classroom Teacher: _____

Completed by/Title: _____

Please check all that apply:

Medical Information

- Repeated respiratory infections/history of recurring pneumonia
- Receives nutrition through tube feeding
- Vocal fold paralysis
- Cleft palate
- Reported medical history of swallowing problems
- History of head injury
- Weight loss / failure to thrive
- Frequent constipation, diarrhea, or other gastrointestinal tract problems

Observed Behaviors

- Requires special diet or diet modification (e.g., baby foods, thickener, soft food only)
- Poor upper body control
- Poor oral motor functioning
- Maintains open mouth posture
- Drooling
- Nasal regurgitation
- Food remains in mouth after meals (pocketing)
- Wet breath sounds and/or gurgly voice quality following meals or drinking
- Coughing/choking during meals
- Swallowing solid food without chewing
- Effortful swallowing
- Eyes watering/tearing during mealtime
- Unusual head/neck posturing during eating
- Hypersensitive gag reflex
- Refusal to eat
- Food and/or drink escaping from the mouth or trach tube
- Spitting up or vomiting associated with eating and drinking
- Slurred speech
- Mealtime takes more than 30 minutes

Additional Information or Comments: _____

St. Tammany Parish Schools Dysphagia Team 9/06
Reprinted with permission

Appendix B: Parent/Guardian Input - Swallowing and Feeding

Student _____ Date of Birth _____
 Current Height and Weight _____ Physician _____
 Allergies _____
 Does your student feed himself/herself? Yes, independently Yes, with assistance No
 Does your student enjoy mealtime? _____
 How do you know when your student is hungry? _____
 How do you know when your student is full? _____
 How long does it take your student to complete a meal?
 10-20 min. 20-30 min. 30-40 min. >40 min.
 Does your student have difficulty with any of the following?
 Choking during a meal Tongue thrust Very fussy eating behaviors
 Chewing Breathing Chronic ear infection
 Noisy breathing Gurgly or "wet" voice Gagging
 Vomiting Biting on utensils Drooling
 Coughing with or without spraying of food Chronic respiratory problems (pneumonia)
 Being touched around the mouth Drooling: constant frequent occasional
 Was or is your student fed through a feeding tube? Yes No
 If yes, when? _____
 Why? Aspiration Medication Transition to Oral Feeding Liquids Only Other
 What are your student's food preferences?
 Likes _____ Dislikes _____

 What kinds of food does your student eat?
 Liquids Thickened liquids Pureed Mashed Ground
 Chopped Bite-sized pieces Table foods (whatever your family is eating)
 Does your student take any nutritional supplements?
 Yes No If yes, specify _____
 Do certain foods/liquids appear to be more difficult for your student to eat? _____

 How is your student positioned during feeding?
 Sitting in a chair Sitting in a wheelchair Sitting Held on lap
 Reclined Lying down Other
 What utensils are used?
 Bottle Spoon Fork Sippy cup Cup (no lid) Straw
 Other adaptive equipment _____
 Has your student ever had a swallow study? Yes No If yes, when? _____
 What were the results? _____

 Additional Comments or Concerns _____

 Parent/guardian Signature _____ Date _____

Macomb Intermediate School District, Reprinted with permission

Appendix C: Interdisciplinary Consultation Swallowing and Feeding Observation/Evaluation

Date of Consultation: _____

Student: _____ Age: _____ Date of Birth: _____
Diagnosis: _____ Exceptionality: _____ Physician: _____
School: _____ Classroom Teacher: _____
SLP: _____ OT: _____ Nurse: _____
Medical History: _____

GENERAL INFORMATION

During this consultation the student was:

Seating wheelchair Tumbleform Rifton Chair other _____
Student Position upright semi upright reclining <30° other _____
Food Presented by: classroom teacher paraprofessional parent/guardian other _____
Utensils used: bottle sippy cup cup spoon fork straw

GENERAL OBSERVATIONS

Behavior cooperative resistant refusal other _____
Alertness alert lethargic irritable other _____
Follows directions verbal gestural none single step only
Vision mild impairment moderate impairment severe impairment

GENERAL PHYSICAL OBSERVATIONS

Abnormal reflexes observed: _____
Trunk excessive extension dystonia scoliosis kyphosis asymmetric
Head Control adequate poor excessive head/neck hyper extension
 receives external positioning receives manual positioning reflexive position patterns
Facial asymmetric contortions jaw extension grimaces/tics
 open mouth posture increase tone decrease tone
Breathing Patterns mouth breather audible inhalation nasal congestion

OBSERVATION OF FEEDING

Food Consistencies pureed ground mashed chopped bite size
 mixed (indicate consistencies of mixtures)
Food Presented during evaluation: _____

	Indicate food consistency:	Indicate observed behaviors:	Additional observations:
Accepts food			
Lips			
<ul style="list-style-type: none"> • Poor lip closure • Drooling • Reduced lip action to clear material 			
Tongue			
<ul style="list-style-type: none"> • Poor bolus formation/movement • Decrease anterior/posterior movement • Food residue 			
Absence of rotary jaw movement			
Munching jaw movement			
Delayed swallow initiation			
Swallow delay			
Cough following swallow			
<ul style="list-style-type: none"> • Increased clearing throat 			
Residual food in oral cavity			
Cued swallow			
Fatigues easily			

OBSERVATION OF DRINKING

Liquid Consistencies ___ unthickened ___ nectar ___ honey ___ pudding

Liquid Presented during Evaluation: _____

	Indicate liquid consistency:	Indicate observed behaviors:	Additional observations:
Tongue thrust			
Reduced tongue retraction			
Anterior loss			
Limited jaw opening			
Limited upper lip closure over cup			
Delayed swallow			
Coughing following drink			

OBSERVATION OF DRINKING

Liquid Consistencies ___ unthickened ___ nectar ___ honey ___ pudding

Liquid Presented during Evaluation: _____

	Indicate liquid consistency:	Indicate observed behaviors:	Additional observations:
Tongue thrust			
Reduced tongue retraction			
Anterior loss			
Limited jaw opening			
Limited upper lip closure over cup			
Delayed swallow			
Coughing following drink			

ADDITIONAL COMMENTS

RECOMMENDATIONS

1. _____
2. _____
3. _____
4. _____

INTERDISCIPLINARY CONSULTATION CONDUCTED BY:

Speech/Language Pathologist

Occupational Therapist

Nurse

ADDITIONAL PARTICIPANTS

Signature: _____

Title: _____

Appendix D: Swallowing and Feeding Plan

Date of Plan: _____
Review Date: _____

Student: _____ Date of Birth: _____
School: _____ Teacher: _____
Dysphagia Case Manager: _____ If there are any questions regarding this student's feeding plan,
please contact the Case Manager at the following: Location(s): _____ Phone #s: _____
Case History: _____

Feeding Recommendations:
Positioning: _____
Equipment: _____
Tube Fed: tube fed/nothing by mouth tube and oral fed
(amount fed orally: _____)
Diet/Food Prep:
Food Consistency Pureed Ground Chopped Mashed Bite sized
Liquid Consistency No liquids Thin liquids
 Thickened liquids (circle) nectar honey pudding
Other: _____

Feeding Plan Techniques/Precautions:
Amount of food per bite: _____
Food placement: _____
 Keep student in upright position _____ minutes after meal.
 Offer a drink after _____ bites
Additional precautions/comments: _____

Swallowing and Feeding Plan In Service Training			
I, the undersigned, have read and been trained on implementing the swallowing and feeding plan for _____, I agree to follow the swallowing program as specified.			
Name	Position	Date Review	Date
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

St. Tammany Parish Schools Dysphagia Team 9/06
Reprinted with permission

Appendix E: Pre VFSS Information Form

Name: _____ Date of Birth: _____
Diagnosis: _____ CA: _____
Referring SLP: _____
Brief Medical History: _____

Positional concerns/adaptive equipment currently used at school: _____

Current diet: _____

Summary of Interdisciplinary Consultation: The following was observed during a clinical observation of the student's feeding and swallowing at school.

Oral Phase

- drooling
pocketing lateral sulcus anterior sulcus
not clearing the oral cavity before swallow
anterior loss/poor lip seal
excessive chewing
hyper/hypo sensitivity
difficulty with bolus formation

Pharyngeal Phase Inferences

- coughing/choking: before after during swallow
delay in triggering swallow
wet/gurgly voice quality after swallow
decreased/absent laryngeal elevation
expectorating food
repetitive swallows

Information that the school system would like to get from the VFSS is as follows:

- 1.
2.
3.
4.

We have included a St. Tammany Parish School Board Authorization for Release of Confidential Information.

St. Tammany Parish Schools Dysphagia Team 9/06.
Reprinted with permission.

Appendix F: Swallowing and Feeding Team Procedure Checklist

Student: _____ School: _____
 SLP: _____ OT: _____ Nurse: _____

PROCEDURE:

DATE:

Referral form completed and sent to Dysphagia Coordinator _____
 Parent/guardian informed of concern _____
 Interdisciplinary consultation conducted _____
 IEP meeting held (check attendance) _____

1. Person attending:

- Teacher
- SLP
- OT
- IEP facilitator
- Nurse
- Parent/guardians
- Administrator
- Other _____

2. Issues Addressed at IEP:(check issues addressed)

- Emergency Plan
- Medical History
- Referral to Physician
- Release of Information
- Temporary Feeding Plan
- Special Diet

Training is conducted (check and date) _____
 Emergency Plan Feeding Plan

Medical information/referral from physician is requested (check and date) _____
 Clinical Evaluation VFSS

Studies conducted (VFSS attended by case manager) _____
 Diet prescription is sent to/received from physician _____
 Diet order faxed to food service supervisor _____
 School cafeteria manager and parent/guardian notified of diet order _____
 Diet change started at school _____
 Therapy feeding guidelines and swallowing treatment plan developed _____
 IEP reconvened to update information _____
 School personnel and parent/guardians trained in feeding/treatment plan _____
 Feeding/treatment plan initiated _____

St. Tammany Parish Schools Dysphagia Team, Revised 9/06
 Reprinted with permission