

Clinical Forum

Establishing a Public School Dysphagia Program: A Model for Administration and Service Provision

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Many speech-language pathologists (SLPs) who graduate with coursework and training in dysphagia are interested in working with children and, as a result, are choosing to work in school systems (Owre, 2001). They bring with them knowledge and skills for working with students with dysphagia and the ethical responsibility to help students who need their skills (Lefton-Greif, 2001; Wagner, 1998, 2001). The result has been that SLPs have accepted the challenge of working with students with dysphagia in many instances in the absence of set procedures or policies concerning the diagnosis and treatment of swallowing disorders in the school setting. At the same time, the debate continues whether dysphagia should be addressed in a school system (Wagner, 2001). Some professionals have expressed to this author that dysphagia is a medical issue and is not the responsibility of the school system or the school-based

SLP. In 2001, Lefton-Greif suggested that SLPs who have been trained in the evaluation and management of dysphagia were faced with the ethical dilemma of using their knowledge and skills in a setting that often offers little or no support in terms of a procedure to follow, roles and responsibilities of professionals involved, proper training on all levels within the school system, administrative support, financial support in terms of instrumental diagnostics and therapeutic intervention, and adequate personnel.

Since 2001, some school systems have adopted procedures to be used throughout their systems to offer guidance and direction in the identification and treatment of students with dysphagia. The process of establishing an interdisciplinary dysphagia program in a school system in Louisiana was described in Homer, Bickerton, Hill, Parham, and Taylor (2000). This system has an organized team that ensures that students with swallowing and feeding disorders

ABSTRACT: Purpose: Many school-based speech-language pathologists (SLPs) are hampered in participating in managing children with dysphagia by their school systems' lack of supportive policies and procedures. A need exists to better define the dysphagia-trained SLP's role and clarify the district's responsibility. The purpose of this article is to address the critical administrative issues and administrative components surrounding dysphagia in the schools and to offer the SLP some solutions to these problems.

Method: A narrative review of the relevant literature addresses the following questions that are important for administrative planning and implementation of programs for students with dysphagia in the schools: (a) Should school systems assume responsibility for working with students with dysphagia? (b) Why is a system-supported procedure recommended? (c) What service delivery

models can a system use to serve students with dysphagia?

(d) What components should be included in a dysphagia procedure?

Conclusion: SLPs should be proactive in providing dysphagia services to students in the schools. A procedure that is adopted by a school system for all of its employees to follow will offer direction and guidance. This system-supported procedure may provide assurance that dysphagia services are being provided in a professionally acceptable manner. Ongoing staff development and training is essential. A system can implement dysphagia services using existing staff, when possible, and policies and procedures that have been approved by the system.

KEY WORDS: pediatric dysphagia, public schools, system-supported procedure, interdisciplinary teaming, training

receive adequate and safe nutrition and hydration while at school. Another system, the Macomb Intermediate School District in Michigan, formed a task force consisting of teachers, SLPs, occupational therapists (OTs), physical therapists (PTs), nurses, social workers, and administrators who wrote a manual of guidelines for serving students with dysphagia. Currently, the state of Michigan is working on state guidelines based on the Macomb system's work (M. Staskowski, personal communication, September 20, 2006). Connecticut's State Department has written in draft form an extensive document titled *Guidelines for Feeding and Swallowing Programs in Schools and Birth to Three Settings* (Isakson & Richards, 2006), which offers detailed information for school personnel on the management of dysphagia in the schools. Selected school districts in Florida, Texas, and Virginia have procedures that have been in effect for years.

These school systems have accepted the responsibility of diagnosing and treating dysphagia in the schools and, as a result, have addressed many of the dilemmas expressed in 2001 by Lefton-Greif. They have taken steps to ensure that students with dysphagia are fed safely at school and that school system employees have the knowledge and skills needed for feeding children with dysphagia in their classes. However, SLPs who work in school systems and states that have not included dysphagia services in their policies and procedures continue to experience many challenges associated with dysphagia identification and treatment in the school setting. The purpose of this article is to provide solutions to some of the pressing issues surrounding dysphagia in the schools.

ADOPTING A SYSTEMWIDE DYSPHAGIA PROCEDURE

School systems adopt specific policies and procedures in order to set standards for functioning within the system. These policies and procedures provide the consistency and accountability that is important when completion of a variety of tasks is required by numerous personnel. The Gatehouse Project, a program designed to provide health services to schools, proved that by focusing on a systemic change rather than individual change, previous assumptions about what constituted successful health promotion in schools was more effectively changed (Bond, Glover, Godfrey, Butler, & Patton, 2001). A system-supported interdisciplinary team procedure provides the best case scenario for addressing swallowing and feeding in the schools (Arvedson & Brodsky, 2002; Kurjan, 2000). Organized systemwide team procedures are beginning to be developed nationwide. However, it is still possible that school system administrators and supervisors may not know what dysphagia is and, therefore, may not feel a need to add it to the services they offer. The steps to adopting a procedure involve (a) forming a task force, (b) summarizing educational relevance and legal responsibilities, (c) establishing the number of students with dysphagia, (d) summarizing safety issues, (e) identifying and estimating expenses, and (f) designing a plan for addressing dysphagia.

Forming a Task Force

School system personnel who are interested in establishing an interdisciplinary dysphagia team may find it helpful to form a task force consisting of district employees such as SLPs, OTs, school

nurses, and teachers. This task force of professionals should be responsible for providing information to administrators concerning the importance of working with students with dysphagia and designing a plan for addressing dysphagia that fits within the structure of the system (Homer et al., 2000). Typically, the SLP is the most trained and knowledgeable professional in the area of pediatric dysphagia management in the school system and, therefore, should be the driving force in this effort (American Speech-Language-Hearing Association [ASHA], 2002; Homer, 2003).

The task force will need to prepare information that will assist the process of informing school personnel, including school system administrators, on swallowing and feeding disorders in children. The task force may begin this process by providing a clear definition of dysphagia, including its signs and symptoms, as well as information regarding which students are most at risk and the complications associated with the disorder (see Appendix A). Administrators who understand the disorder and its effect on students while at school will then be able to make informed decisions regarding the system's responsibility to students with dysphagia.

Summarizing Educational Relevance and Legal Responsibilities

A system may have questions regarding the educational relevance of providing swallowing and feeding services in the schools as well as the legal responsibilities for a system to provide these services. It is suggested that the task force prepare a summary of statements that support the responsibility of a school system to provide swallowing and feeding services to students with dysphagia in the schools. It is well documented that undernourishment affects a student's alertness, energy level, and cognition (Arvedson, 2000; Arvedson & Brodsky, 2002). According to the Individuals With Disabilities Education Improvement Act (IDEA, 2004), all students are entitled to a free and appropriate public education (FAPE). Students who suffer from undernutrition are less able to access the school curriculum and, as a result, are denied FAPE (Arvedson, 2000; Arvedson & Brodsky, 2002; Arvedson & Homer, 2006). In a survey conducted in a Louisiana school system, parents and teachers reported that students observed by the dysphagia team were eating better during mealtimes and appeared happier and more alert. They also indicated that some of the students were gaining weight and experiencing a reduction in the number of illnesses related to respiratory infections (Homer, 2003).

In addition to preparing information on educational relevance, the task force may summarize for administrators federal laws such as IDEA (2004), the Rehabilitation Act of 1973 as amended (Section 504), and the Americans With Disabilities Act (ADA), as amended in 1990, (1991), which offer information on providing services to students with disabilities. Furthermore, the task force may provide administrators with case laws that support dysphagia management in the schools and may provide a legal framework for services (O'Toole, 2000; Power-deFur, 2008).

Establishing the Number of Students With Dysphagia

In supporting the argument that initiating dysphagia services is beneficial, an estimate should be provided to the system

administration of the number of students who may need these services. This accounting should include those students who have already been diagnosed with dysphagia, those with signs and symptoms of dysphagia, and populations known to be at high risk (Arvedson, 2000, 2001; Arvedson & Brodsky, 2002; Logemann, 1998; Newman, 2001; Sheppard, 2001). A detailed description of this process may be found in Homer et al. (2000).

Summarizing Safety Issues

Information on the safety risks associated with dysphagia in students may help administrators to make informed decisions. It may be beneficial for the task force to provide a summary of the safety issues that result from students with dysphagia being fed incorrectly at school. Students with dysphagia are particularly susceptible to undernutrition, especially if their swallowing and feeding disorder is left untreated. According to Arvedson (2000), "All children need adequate nutrition provided in nonstressful ways so they can maximize their learning potential in educational settings" (p. 28). A child suffering from undernutrition or failure to thrive often has significant developmental delays and frequently will exhibit some behavioral symptoms that may include lethargy and irritability. Students may be hypotonic, weak, and lack stamina. If undernutrition is severe and longstanding, brain growth may be affected (Arvedson & Brodsky, 2002). With improved technology and medical care, preterm and term infants with congenital problems are surviving. Students who begin their lives in the neonatal intensive care unit (NICU) of hospitals have a high prevalence of dysphagia. They are eventually placed in the schools, where the ongoing medical issues that surround them in infancy often continue as they become eligible to attend public school (Arvedson, 2000; Arvedson & Brodsky, 2002; Logemann, 2000; Newman, 2001).

Aspiration can be a major safety risk for students with dysphagia. According to Tutor (2001), the combination of aspiration and dysphagia has been linked with significant respiratory morbidity and, in some cases, mortality in infants and children. Treatment and/or management of students with dysphagia may prevent aspiration (ASHA, 2007; Logemann & Robbins, 2007). Students who are developmentally delayed often present with poorly developed oral motor skills. These students with oral preparatory and oral phase dysphagia are at high risk for coughing, choking, and congestion during meals (Arvedson, 2001; Sheppard, 2001; Sonies, 2003). According to Sheppard, some of these students will have eating behaviors that also predispose them to choking. Diet modifications, behavior management of feeding, and oral motor exercises to improve chewing skills are some of the interventions that may be used by the interdisciplinary dysphagia team to reduce the risk of choking (Arvedson, 2001; Sheppard, 2001).

Identifying and Estimating Expenses

The school system's administration may want an estimate of potential expenses that may be incurred following establishment of a dysphagia team. This can be determined by looking at four areas: personnel, training, materials, and instrumental evaluations.

Personnel. When educating students, school systems frequently operate using an interdisciplinary team approach (Freeman, Miller, & Ross, 2000). This team approach, which is already being used

in school systems, can provide a successful framework for swallowing and feeding teams and may require little if any additional personnel. School systems frequently have on staff SLPs, OTs, PTs, and nurses, as well as teachers, paraprofessionals, and administrators. Some systems, however, will not have SLPs with dysphagia knowledge or training. Those systems may contract with private, experienced, and knowledgeable SLPs to assist in addressing dysphagia in the schools. Systems may choose to train their existing personnel by funding coursework and providing opportunities for continuing education in the area of pediatric dysphagia. As systems hire new SLPs, dysphagia training and experience could be considered as one criterion for employment.

Training. Training expenses will depend on each system's needs. An ongoing commitment to providing adequate training to SLPs as well as to teachers and other professional personnel helps to ensure that staff members have the information needed to safely address dysphagia in the school system. Once a school system has approved and adopted a procedure, it then has the responsibility of ensuring that the procedure adopted is thorough and is followed by all employees involved. In order to achieve this goal on a systemwide basis, there are three types of training that may be necessary: procedural, ongoing staff development on pediatric dysphagia, and cardiopulmonary resuscitation (CPR). The expenses associated with training will depend on the resources within the district and the community.

The first training need required for team members involves the specifics of the approved school system procedure. Each professional will need to know what dysphagia is, what its signs and symptoms are, and what the risks are for a student with dysphagia. Individual roles for team members will need to be defined. Adequate training of school system personnel will enable them to follow the procedure, which could affect the safety of students. SLPs, OTs, school nurses, special education teachers, and paraprofessionals will all need to be trained on the steps of the procedure.

The second training need requirement is for SLPs on the team. In most cases, SLPs will serve as the most knowledgeable professional or the dysphagia case manager. It should be noted that only SLPs with training and experience in dysphagia should serve as case managers (ASHA, 2002). The SLP will need ongoing training in the diagnosis and management of students with dysphagia as well as on the system procedure itself. Many university training programs emphasize adult dysphagia in coursework and offer minimal training in pediatric dysphagia. SLPs in schools may need to increase their dysphagia knowledge to include pediatric dysphagia. Although SLPs have a professional responsibility to improve and maintain their skills, it is also the responsibility of the school system to provide training in areas where their personnel need support (IDEA, 2004). The system may choose to send its SLPs to conferences or to bring in speakers with expertise in the evaluation and management of pediatric dysphagia to ensure that team members have the necessary training to work with students in their schools. Ongoing training is important to keep staff knowledgeable and current in all areas of the diagnosis and treatment of pediatric dysphagia (Homer, 2004).

Finally, school personnel will need CPR training and Heimlich maneuver training, updated on a regular basis, to ensure that the staff who are feeding students with dysphagia are adequately trained to respond in an emergency. Some districts will have trained CPR instructors on staff who conduct the training. Others will need to contract with external personnel to provide this training.

Materials. The management of dysphagia may include the need for materials. Typically, school systems have funds within their budgets for materials to be used by school staff, including SLPs. There may be additional expenses incurred for adaptive/assistive feeding equipment and commonly used therapeutic tools such as suction bowls, noney cups, infant toothbrushes, chewy tubes, food processors, and protective gloves.

Instrumental evaluations. There will be cases when in order to proceed safely with the student's mealtimes at school, the dysphagia team will need a current videofluoroscopic swallow study (VFSS). The referral is driven by the needs of the school system to evaluate students' swallowing and feeding abilities adequately so that the students will receive the appropriate special services needed to participate successfully in their educational program. In these cases, the school system may need to assume financial responsibility for the VFSS. It is the experience of the Louisiana school system that the majority of these costs are frequently covered by the student's private insurance or Medicaid.

Designing a Plan for Addressing Dysphagia

Once the task force has gathered information, it can use the information to design a plan for how the school system can address the evaluation and management of students with dysphagia. This plan will take into consideration the system's resources and personnel. The plan will assist the task force in answering questions that may arise during the process of getting administrative approval.

The task force should follow the school system's chain of command when it presents its plan to the system administrators. The goal is to convince supervisors that a system-supported procedure would be in the best interest of the school system as well as its employees and students. Some benefits of a system-supported procedure in the schools include the following (Homer, 2003):

- The school system has a clearly written, systematic procedure that is used throughout the system.
- Employees are knowledgeable about how to react and what procedure to follow when presented with a student with a swallowing and feeding disorder.
- The necessary steps are provided that, when followed, ensure that all team members are accountable for the student and that documentation is on file.
- Employees, students, and the system may be protected in the case of due process.

Having guidelines will assist school systems in being proactive to prevent serious health and/or medical issues that can result from students with dysphagia being fed incorrectly. Although school systems are required by IDEA (2004) to address health issues, safeguards that are so obvious in a medical setting are not as easily available in a school setting. As a result, school systems may want to anticipate the complications that may occur and have planned responses prepared. School systems may achieve this by adopting an approved procedure for addressing dysphagia. "The keys to minimizing liability exposure are planning, procedures, training, and the proper execution of those procedures" (Robert L. Hammonds, personal communication, September 22, 1998).

In summary, the task force may prepare information that attempts to answer all of the pertinent questions that school system

administrators may have regarding the formation of a dysphagia team and procedure. As a result, the task force will be prepared to answer questions that may be presented with well-researched responses. Additional questions presented by the system administrators may require legal advice.

Seeking legal opinion. When presented with the issues surrounding dysphagia, special education supervisors frequently want to know whether school systems are required by IDEA to identify and treat this condition. This remains a legal question that is subject to interpretation by a myriad of school board attorneys (Homer, 2003). In 1997, a Louisiana school system drafted questions for its school board attorney regarding issues surrounding establishing a dysphagia team in the schools. The attorney's responses offered support and guidance in the formation of the team (Homer et al., 2000). School systems may want to seek the advice of the attorney who represents their particular system. It is suggested that the task force draft specific questions for the attorney that reflect the issues and concerns of their system within the legal parameters of the state (Homer et al., 2000). Task force members may assist the attorney by providing him or her with informational materials on dysphagia, its signs and symptoms, and its implications. As with many other professionals who are approached with this issue, it cannot be assumed that attorneys understand dysphagia or its potentially dangerous effect on students. By providing attorneys with information, research completed in the legal arena should better address each system's most pressing issues related to the seriousness of pediatric dysphagia. As you structure your team and procedure, look at things from a legal perspective each step of the way, including documentation, delineation of responsibilities, administrative support, and team decision making (Homer, 2004).

TYPES OF DYSPHAGIA TEAMS IN THE SCHOOLS

School systems may have within their personnel the makings of an interdisciplinary dysphagia team. According to Arvedson and Brodsky (2002), the interdisciplinary approach involves each member of a group of professionals, each of whom brings a specific area of expertise. A true interdisciplinary approach involves each member of the group sharing the philosophy for diagnosis and treatment in addition to being willing and able to work with other team members. Systems can design a model that will fit their system based on the number of students, trained professionals, and system policies. A school system considering using an interdisciplinary team approach to dysphagia may consider three models for serving students.

School-Based Team

The school-based team is perhaps the ideal way for students to receive services for dysphagia. In this team approach, the essential personnel for the interdisciplinary dysphagia team are assigned to the school. The dysphagia-trained SLP addresses dysphagia as well as other speech/language concerns. In addition, the other professionals assigned to the school are also involved with the dysphagia team. Most schools have an SLP, OT, PT, nurse, teacher, principal, paraprofessional, cafeteria manager, and social worker (counselor or mental health provider) who are serving students for other

disorders. When dysphagia team personnel are based on the school campus, they are able to provide regular monitoring of students who are being fed by the teachers and paraprofessionals. Team members are available to interact frequently with other school staff as well as with parents/guardians. As part of their speech and language therapy program, students may receive regular therapeutic intervention to improve oral motor skills and to train them to use compensatory strategies. In the event of an emergency, the most knowledgeable dysphagia professional is on campus.

Adopting a school-based team approach requires that a district have a dysphagia-trained SLP for every campus. In many schools and systems, the personnel based at schools may not have the experience or training to work with students with dysphagia. Therefore, they may need to consider other models.

System Core Team

A system core team, consisting of an SLP, OT, and nurse who specialize in dysphagia, travels to various school sites to serve the students with dysphagia. The system team works collaboratively with the school-based personnel (including the teacher, administrator, SLP, OT, and nurse). This team model eliminates the need for many dysphagia-trained SLPs in a school system. Instead, the members of the system team have a larger caseload of students with dysphagia, thereby enabling them to develop more experience and knowledge. Fewer professionals also means that ongoing training and staff development are obtained more easily. The system team can focus on training school staff to follow the swallowing and feeding plan and to report to the team any concerns and changes in the student's feeding skills. Ongoing monitoring by the dysphagia team may be more difficult than when the case managers are school based.

Combination Team

SLPs with training and experience in dysphagia are often interested in working with the students on their caseloads who exhibit dysphagia. In many school systems, a combination of the school-based team and the system core team may be the most efficient use of personnel. When possible, the system uses a school-based team. This decision would be based primarily on the dysphagia-trained SLP. In the schools that are not served by a dysphagia-trained SLP, the students with dysphagia would be the responsibility of the system core team. The benefits of the combination team are the same as the school-based team and the system core team (Homer, 2003).

The school system in Louisiana (Homer et al., 2000) has used the combination team model for the past 10 years. Through the years, the number of dysphagia-trained SLPs in the district has increased significantly. Fifty-nine percent of this school system's SLPs serve as dysphagia case managers. In using the combination model, it is easy to see the benefits and disadvantages of both the school-based model and the system core model. Many SLPs who have dysphagia training in graduate school are pleased to be able to use their knowledge and skills in the school setting.

Other Options

Systems may design other team models that meet their particular needs. For instance, systems that do not have any trained personnel on their staff may need to contract with private SLPs.

Other systems may choose to send their personnel for intensive training.

It has been the experience of the Louisiana school system that the primary success or failure of a team is contingent on its personnel, their training, organization, and dedication. All models have within their design the ability to serve students with dysphagia successfully. The important piece in this puzzle is that only adequately trained personnel work on the interdisciplinary dysphagia team (Green & Wills, 2004; Power-deFur, 2000; Wagner, 2001). The end result of all of these teams is that students receive the services they need to ensure their safety when eating and to allow them to function at school.

COMPONENTS OF A DYSPHAGIA TEAM PROCEDURE

It could be assumed that virtually all school systems are run differently, with unique rules and regulations. When designing an interdisciplinary dysphagia team procedure, each system will need to mold it to fit within the parameters of its own system and state. There is not one procedure that will work for every system. There are, however, some guidelines that all systems should consider before designing their own unique program.

The components that are necessary to include when designing a dysphagia team should flow easily into what the school system already does as part of its policies and procedures. Table 1 lists the suggested components of an interdisciplinary dysphagia team procedure that will help to ensure that the procedure is comprehensive.

Student Referral Process

There needs to be in place a process by which a school system employee or parent/guardian can refer a student to the interdisciplinary dysphagia team. The referral process should be very easy to use and should be available to teachers, SLPs, OTs, administrators, and parent/guardians when needed (see Appendix B). It should be clear when to refer a child and who to send the referral to.

Assignment of a Dysphagia Case Manager

Once a referral is made, a team member will need to be designated as the person responsible for managing the case. The dysphagia case manager is responsible for (a) making and accepting referrals; (b) conducting the initial clinical evaluation (along with other team members) to determine the presence of dysphagia; (c) working with the team to conduct the individualized educational program (IEP); (d) arranging the VFSS when indicated, including securing physician referrals; (e) working with the nurse to secure diet orders; (f) writing the swallowing and feeding plan and training classroom personnel; (g) monitoring the student's swallowing and feeding plan implementation; (h) providing therapeutic intervention; (i) responding to issues and concerns; and (j) ensuring that the procedure is being followed.

If the school-based or combination model team is used, then at the beginning of the school year, the school system will need a process in place where dysphagia case managers are assigned for every school in the system. In order to achieve this, there should be an administrator who understands dysphagia and the importance of having only trained professionals assigned as case managers.

Table 1. Suggested components of an interdisciplinary dysphagia team procedure in the schools.

<i>Suggested component</i>	<i>Definition</i>	<i>Purpose</i>
Student referral to the dysphagia team	Procedure and related forms for referring a student to the dysphagia specialist or team for evaluation or other attention	To allow parents/guardians, teachers, SLPs, and other school personnel to easily refer a student to the dysphagia team
Assignment of a dysphagia case manager	Person designated to coordinate implementation of the dysphagia team procedure; requires knowledge and skills in the evaluation, and treatment of dysphagia	To take responsibility for ensuring that the procedure is followed and documented; to keep team members informed
Communication with parents/guardians	Methods for contacting parents/guardians including phone conferencing, forms for gathering information and direct contact at school	To involve parents/guardians from the beginning of the procedure as part of the problem-solving team
Screening and clinical evaluation	Procedure and related forms for determining the presence of dysphagia, the extent of involvement, and its effect on the student	To determine if a student should be followed by the dysphagia team; to identify the student's physical and sensory-motor issues
Individual education plan	Special education plan involving essential team members that documents student's academic, social, communication, self-help, and motor programs, including dysphagia	To outline a plan for addressing the student's swallowing and feeding concerns
Swallowing and feeding plan and training	Plan written by dysphagia team members that provides information on each of the components necessary to feed a student safely at school	To ensure that classroom personnel and parents/guardians know how to feed the student safely and effectively
Individualized health plan and training	Written by the nurse when a student has health issues that need to be addressed during school hours	To outline steps for classroom personnel to follow when a student chokes at school; requires training of all personnel
Referral for instrumental evaluation	Procedure and related forms for referring a student for an instrumental evaluation to determine oral and pharyngeal phase involvement and response to strategies	To secure physician orders, set up the evaluation, communicate with the hospital staff, and receive the report
Implementation of the swallowing and feeding plan	Process of ensuring that the swallowing and feeding plan is followed in the classroom	To work with classroom staff to ensure that they know the swallowing and feeding plan and are using it in the classroom; level of service is individualized and depends on the needs of each student; plan is modified as needed
Therapeutic treatment	Treatment program for each student's individual needs in relation to his or her swallowing and feeding skills	To increase swallowing competency, advance skills, and improve behaviors related to swallowing and feeding
Process for transferring and discharging students	Procedure and related forms for sharing information on a student's swallowing and feeding to move within a system, to other systems, or for the purpose of discharging the student	To inform other schools or systems of the student's swallowing and feeding status as well as to indicate that a student no longer needs to be followed by the team

Ideally, this would be done by a coordinator of speech/language services or a speech/language administrator. As referrals are received, the dysphagia case manager should be assigned to the student. In some cases, the manager will be the SLP who is assigned to the school, or there may be a system team that travels to schools. In other cases, it may be necessary to assign the student to an SLP who works at another school and would need to serve the students with dysphagia at a neighboring school. This is typically done when there are not enough dysphagia-trained SLPs in the system and caseloads would need to be adapted. The dysphagia case manager leads the team members through the process.

Communication With Parents/Guardians

Parents/guardians are our most important ally in our efforts to ensure that students are safe at school. It is necessary to involve

parents/guardians immediately when a concern about swallowing arises. One of the most important components of a dysphagia team is a system for open and active communication with the parent/guardian. Parents/guardians provide invaluable knowledge about their children regarding feeding habits at home, medical history, cultural considerations, and personality characteristics. Parents/guardians are the experts on their children and, in many instances, have figured out the safest way to feed them. By respecting parents' knowledge, you establish their role on the problem-solving team and often avoid contentious situations. There will always be cases where parents/guardians are uncooperative or make requests that do not seem to be in the students' best interest; however, in the majority of cases, parents/guardians are caring and loving and want the best for their children (Homer, 2004). Handleman (1995) suggested that "asking the parents what they regard as helpful can often serve to validate their perspective and promote successful collaboration" (p. 361). Because

parents/caregivers may not be aware of or knowledgeable about dysphagia and its implications, the team may serve as a support and information source. When the atmosphere is one of collaboration and respect, the entire team functions better.

Method for Evaluating the Student

Once the referral process is complete and the parents/guardians have been contacted, the team will need a method for evaluating the student to determine whether he or she needs to be followed by the dysphagia team. According to Sheppard (2001), the assessment and treatment of students with dysphagia in the schools should address the primary physiological and sensory-motor issues as well as the functional consequences of dysphagia. The following issues and consequences should be stated in educationally relevant, functional terms:

- failure to adequately perform the task components that occur immediately before the food enters the mouth
- failure to develop adequate movement patterns to perform the basic task components of oral preparation that form the bolus
- failure to master the more advanced skills of chewing, drinking, and self-feeding
- failure to develop competencies for initiating and completing the swallow for larger and more viscous boluses and for airway protection
- failure to acquire the skills for attention to task, tolerance for task, task persistence, and compliance that are appropriate for skill acquisition and for treatment
- failure to develop the competencies for management of the saliva bolus

In most cases, the student will be eating at least one meal per day at school. This provides an opportunity for the interdisciplinary team to observe and evaluate the student to determine if the signs and symptoms reported appear to indicate that the student has dysphagia. The dysphagia case manager and team members can use a clinical evaluation format to note the observations. The dysphagia team reviews the student's medical history, observes him or her in a variety of settings when possible (cafeteria, classroom), determines if further assessment is indicated, and identifies the need for intervention. This observation/evaluation provides information on how to feed the student safely, including positioning, diet and food preparation, equipment, and special precautions. If the result of the observation indicates that the student has some form of dysphagia, then the next component works with a process that is already in place in school systems.

IEP

The IEP drives the rest of the procedure. An IEP conference is called immediately once the decision is made that the student has dysphagia. The essential team members who need to attend the IEP are the parent/guardian, teacher, SLP, OT, nurse, and administrator. Other personnel such as the social worker and dietician may be invited as needed. At the IEP conference, important subjects that should be addressed are (a) gathering additional medical history, (b) informing parents/guardians of the findings of the team based on screening and evaluation, (c) discussing and signing the individualized health plan (IHP), (d) discussing the need for and

setup of the VFSS or clinical evaluation, (e) obtaining a signed release or medical information form to allow the system to talk to physicians and other medical personnel, and (f) reviewing information gathered in order to write a swallowing and feeding plan. The school system must follow the rules and regulations outlined in the Family Educational Rights and Privacy Act (FERPA) of 1974 and the Health Insurance Portability and Accountability Act (HIPAA) of 1996 before contacting the student's physician.

When the IEP process is completed, the parents/guardians should sign the IEP. The IEP can be an effective tool for communication, planning, implementation, and documentation.

Swallowing and Feeding Plan and Training

Once the IEP-approved plan is in place, a swallowing and feeding plan should be written based on all of the information available at the time. The swallowing and feeding plan (see Appendix C) should provide the teacher and paraprofessionals with the information needed to feed the student at school safely and effectively. It is suggested that the plan include (a) identifying information including the name, location, and phone number of the dysphagia case manager; (b) brief case/medical history; (c) detailed feeding recommendations including positioning, special equipment, diet/food preparation, feeding plan techniques/precautions, and any additional information that may be pertinent; and (d) verification of teacher and paraprofessional training of the swallowing and feeding plan.

Once a swallowing and feeding plan is drawn up, it is necessary to train the teachers, paraprofessionals, and parents on the specifics of the plan. According to Winstock (2005), all staff members involved in preparing the student's food or feeding the student should receive training in the management of eating and drinking difficulties, including first aid to deal with choking. This training is extremely important because it teaches the primary feeders how to feed the student safely. To document that training occurred, teachers and paraprofessionals should verify the training by signing and dating the swallowing and feeding plan. This eliminates the confusion that results when one party claims that it was not informed on how to feed the students. Employees and administrators should keep a record of all training and attendance (Banotai, 2003; Homer, 2003).

The swallowing and feeding plan is the tool that lets all of the personnel know how to feed the student safely and effectively. In addition, the swallowing and feeding plan provides the feeders with a written reference to refer to, which will need to be updated periodically.

IHP and Training

The IHP, part of the IEP, informs teachers of the protocol for addressing health issues and provides specific information on how school personnel should react in a health emergency. Each system will have its own method of informing classroom personnel of a student's health issues. Examples of health issues that may be addressed include food allergies, diabetes, and asthma. According to Lotze (1995), when initiating a feeding program for children with developmental disabilities, it is important for parents and caregivers to be aware of the increased risks of choking and airway obstruction. As a precaution in the event that the student chokes or the airway becomes obstructed while at school, an IHP or emergency plan should be written. The swallowing and feeding plan can be incorporated into the IHP to provide detailed information in the IEP

on feeding the student safely. Once the IHP is written, the school nurse will come to the student's school to instruct the teachers and paraprofessionals on what to do if the student is choking. The training should be student specific. Parents/guardians sign the IHP once it is completed, which is typically done at the IEP conference.

Medical Referrals

Working as an interdisciplinary team includes close collaboration with the student's physician. Regular contact with the student's physician by the school team will ensure that the physician is informed of the student's status at school and of the specific and unique concerns that face the school system's team (Wagner, 2001). In cases where a student with dysphagia needs a referral for a VFSS, the district should have in place a system for securing physician referrals. The parents/guardians or the dysphagia case manager may contact the physician to discuss the student's dysphagia issues. Once the orders are received, the dysphagia team may assist in setting up the study. In some cases where the district assumes financial responsibility for the VFSS evaluation, it may be more efficient for the school system to set up the study directly with the hospital, including instructions that the school system will cover the cost of the study that is not covered by private insurance or Medicaid. This facilitates payment if it becomes necessary. Communication with the hospital SLP who will be conducting the swallow study is essential. Hospital SLPs usually speak to the parents/guardians before a swallow study. When the referral is initiated by the school system, it is extremely important that the dysphagia case manager inform the hospital SLP of the reasons the system is making the referral for the swallow study. This communication between the medically based team and the school team is essential to ensure interactive decision making in the area of dysphagia (Arvedson, 2001). When talking solely to the parents/guardians, the hospital SLP often does not get a complete picture of the concerns. The system is responsible for the student's health and safety while at school and may have questions and concerns that parents/guardians do not have at home. It is advised that the dysphagia case manager send written information to the hospital SLP in addition to talking on the phone (see Appendix D). When possible, a member of the school team, preferably the dysphagia case manager, should attend the VFSS. The school-based SLP is aware of the system's issues and concerns and can work with the hospital SLP to ensure that the study addresses all of them. FERPA (1974) and HIPAA (1996) guidelines must be followed whenever a district employee contacts a physician, SLP, or other medical personnel regarding a student in the schools.

It is optimal to have physician referrals for clinical evaluations and diet orders. Whenever possible, the school team wants to use procedures that are already in place within their system. Frequently, physicians give orders for other diets such as diabetic diets and peanut allergies. In the case of dysphagia, it may be necessary to temporarily alter the student's diet for the sake of safety while waiting to receive diet orders from the physician.

Implementation of the Swallowing and Feeding Plan

An interdisciplinary dysphagia team will need to have in place a system for implementing the swallowing and feeding plan. The plan should be implemented immediately following the IEP and

training. The dysphagia team members will monitor the student's swallowing and feeding progress to ensure that the classroom staff is following the student's plan safely.

Therapeutic Treatment

Management of students with dysphagia will be individualized and dependent on the level of services that the students require. Some students will need to be monitored on a frequent basis; others may need fewer monitoring checks. Some students will benefit from direct therapy to improve oral motor skills and to work on compensatory strategies. Students who are more physically and/or cognitively involved may require that the case manager eat with them once a week to monitor their progress.

Monitoring of the student presenting with dysphagia has been the most prevalent model of dysphagia intervention in the Louisiana school system (see Table 2). This model is only implemented after the proper assessment and training of personnel has taken place (Homer, Beauxis, & Fish-Finnigan, 2003). Monitoring activity includes (a) educating staff and parents/guardians, (b) observing the staff providing intervention using the swallowing and feeding plan and IHP upon completion of training, (c) modifying any interventions or equipment, (d) documenting the current feeding status and progress of the student, (e) documenting and researching any complications in the feeding progress, (f) observing the student feeding in several settings at school (e.g., cafeteria, snack time in the room), (g) developing a new swallowing and feeding plan as needed, (h) serving as a resource to the staff and parents/guardians regarding feeding issues, and (i) serving as the interventionist as needed. The therapeutic aspect of dysphagia treatment, however, should not be overlooked. Students have benefited from direct dysphagia therapy in the schools (Homer et al., 2003).

System for Transferring and Discharging Students

Finally, it will be necessary to have a system for sharing information when transferring students with dysphagia to other

Table 2. Breakdown of service delivery for students with dysphagia in the Louisiana school district.

<i>Service delivery model</i>	<i>Percentage of model is used</i>
Monitoring/consultation	54
NPO (no food by mouth) monitoring	11
Total monitoring/consultation	65
Direct therapy	31
NPO with oral feeds therapy/stimulation	4
Total direct therapy	35
Frequency of services	
SLP scheduled time with dysphagia students	Percentage
3 times per week	7
2 times per week	20
1 time per week	30
2 times per month	10
1 time per month	22
1 time per quarter	2
As needed	10

schools within and out of the system. This procedure will allow case managers to share information on the students with dysphagia with case managers from other schools. This transition needs to be efficient and thorough. In addition, there should be guidelines and procedures for discharging students from the dysphagia team. It is suggested that students who no longer need the services of the dysphagia team be discharged through the IEP. Using the IEP ensures that all team members are present and in agreement, including the parents/guardians. This decision may be critical to the student's health and well-being and should be made using system guidelines, professional opinion and, in some cases, physician collaboration.

Administrative Management

The school system in Louisiana has a coordinator who is designated to address the administrative issues surrounding dysphagia management in the schools. There is a need for management of the logistical aspects of the dysphagia team. The dysphagia team administrator's responsibilities include tracking students with dysphagia, including new referrals, transfers in and out of the system, and students who have been discharged from school-based dysphagia services. The administrator is in a position to assign case managers, monitor implementation and documentation of the procedure, purchase materials and equipment, and organize training and staff development. In addition, the involvement of an administrator may facilitate the referrals and scheduling of the VFSS evaluations. The complex nature of dysphagia warrants the involvement of an administrator providing support and networking for therapists in the schools as well as serving as a mediator with difficult cases. SLPs on dysphagia teams that travel throughout a school system, without access to an administrator for dysphagia services, may be responsible for performing many administrative organizational and supporting duties.

ONE SYSTEM'S EXPERIENCE

In the 10 years that the Louisiana school system has been using an interdisciplinary dysphagia team, more than 250 students with varying degrees of dysphagia have been served. In 1996, the school system adopted a system-supported procedure (Homer et al., 2000). For the past 10 years, SLPs have been able to identify, diagnose, and treat children with pediatric and adult dysphagia in the system using a combination team model. The population of students with dysphagia in this system is currently 93 students. The system has approximately 35,000 students, with 5,400 special education students. The dysphagia population in this district is approximately 2% of the special education population. There are currently 63 out of 106 (59%) SLPs within the system who are trained in dysphagia and are able to serve as case managers in their schools. Seventy-six percent of the schools have teams that are completely school based. The other 24% of the schools are served by SLPs who are members of the system's assistive technology team and who already travel to the schools. The school-based OT, nurse, classroom teacher, paraprofessionals, and administrator also serve on the team. School-based SLPs who have not had adequate training in dysphagia are trained by the dysphagia case manager to assist in monitoring and to follow through on therapeutic goals. Every year, this system gets closer to the goal of being totally school based.

Comments on Dysphagia Intervention by School Board Personnel

Fifteen SLPs and two OTs in the Louisiana district responded to a request for observations on intervention by the dysphagia team. According to the SLPs who responded, every student with dysphagia in the system has a dysphagia plan that results in safe feeding at school. There has been an observed increase in the amount and variety of food intake and a decrease in coughing/choking during meals with use of strategies by the dysphagia team. Students appear better nourished, happier, and better able to learn because of improved nutrition. In addition, one SLP noted that when the feeder feels more comfortable and is adequately trained, then the student also picks this up and eats better. An SLP working in an elementary school stated that her student's diet progressed from a puree diet with thickened liquids to chopped soft diet with thin liquids, moving him toward a more normalized diet. Team members also reported the importance of working as a team and the result of increased team collaboration on other issues with the student in addition to dysphagia. It was the consensus of several SLPs and OTs that with proper management of the student's dysphagia, the psychological aspects of feeding were lessened, which resulted in decreased food refusal and the appearance of feeling more secure.

What We Have Learned

It has been 10 years since the Louisiana school system began investigating the establishment of an interdisciplinary dysphagia team. There have been many lessons learned throughout the years. Initially, the dysphagia team adopted the acronym SWAT (SWallowing Action Team) as its name. However, the team was perceived as coming on too strong in its expert approach with parents/guardians of children with dysphagia. The result was that parents/guardians did not feel part of the decision-making process and were resistant to team suggestions. Once the team learned that the parents/guardians are our most important team member, the procedure has gone remarkably smoothly. We are now referred to as the Dysphagia Team, a term that school system employees are familiar with.

Initially, core team members were concerned that teachers and paraprofessionals in the classrooms would not be able to understand the complex issues related to dysphagia and the serious implications of not following the plan. In reality, the teachers and their staff have embraced the team and not only follow the plans, but constantly share with case managers their observations and concerns. They work as active dysphagia team members, supplying essential knowledge of the student and the classroom routine to the case manager.

Throughout the 10 years, the school system has provided staff training yearly. Case managers receive approximately 9 hr of staff development in the system's dysphagia procedure and the diagnosis and treatment of pediatric dysphagia per year. The classroom staff in the early intervention, severe/profound, and mild moderate classes receive basic training on understanding dysphagia and on the procedure primarily from the dysphagia case manager but also as part of their annual staff development. Ongoing training has proven to be effective. Teachers ask thoughtful questions and rely on the expertise of the dysphagia case manager for solutions to their concerns. Dysphagia case managers consult with one another regarding cases

and issues of concern. The more experience the team has gained in school-based dysphagia management, the more it has realized that knowledge gains in this area are an ongoing and consistent need.

Students with dysphagia may go long periods of time without apparent swallowing and feeding changes. However, they also can have moments of crisis that pull core team members together to help the student, their parent/guardians, and classroom staff. It is during these more intense times that team members learn the benefits of having a group of professionals with their own areas of expertise. The result has been that members of the dysphagia team recognize each other's contribution. Mutual respect is evident, and team members have expanded their teamwork to other educational areas.

Finally, what began as radical and difficult has evolved into acceptance and routine. Addressing dysphagia in the Louisiana school system is viewed by the SLP staff as part of their job description. It is no longer something extra, but part of what they as SLPs bring to the school environment. SLPs who have recently graduated are no longer surprised to find out that dysphagia is part of their caseload. They come to the system with coursework and practicum in dysphagia and are ready to use their skills.

The past 10 years have shown that there is a need for these services in the schools. Children spend most of their time and in many cases eat most of their meals at school. Public school SLPs have the opportunity to become specialists in swallowing and feeding for students 3 years of age and above. They have met this challenge in the Louisiana system and, as a result, have experienced the result of healthier students at school.

CONCLUSION

This article addressed many of the issues and concerns that are critical to identifying and treating students with dysphagia in the public schools. According to IDEA (2004), health services are a related service that must be provided to students with disabilities. In addition, public school systems in this country have the responsibility to provide children with FAPE. Students who suffer from the effects of undernutrition and dehydration as a result of dysphagia are unable to access their curriculum adequately and therefore are deprived of FAPE. It is this author's opinion that the primary responsibility for the student's diagnosis and treatment lies with the trained SLP (Homer, 2003). SLPs must be willing to use their training to help students in the schools. Addressing dysphagia is always a team effort; however, SLPs have the training and skills needed to take the initiative in their systems.

School systems have within their structure a team of professionals who together can form an interdisciplinary dysphagia team, with each professional contributing his or her own skills. As school systems begin the process of addressing dysphagia, the ultimate goal should be a system-supported procedure that outlines what is done, when it is done, and who is responsible for each task. This provides school system employees and the school system with set procedures that, when followed, guarantee that the system has taken steps to ensure that the student is fed safely at school. In designing a procedure, a system should consult with the trained professionals to be certain that the procedure contains the essential components. This article provided some guidelines for a dysphagia procedure. Finally, the benefits of SLPs using a team

approach to managing students with dysphagia may ensure that students are healthier and safer at school. They are better able to participate in their curriculum and in school activities and are reportedly happier. As a school system goes through the process of setting up a program for diagnosing and treating dysphagia, it is recommended that it asks the question, "What is best for the students?" Using this question to guide the decision-making process will make it easier and facilitate arrival at the correct conclusion.

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APPENDIX A. WHO AND WHAT OF SWALLOWING AND FEEDING DISORDERS

What is dysphagia?

- Dysphagia is difficulty moving food from the mouth to the stomach. An impaired swallow of a swallowing disorder results from a breakdown in one of the three phases of the normal swallow: oral, pharyngeal, and esophageal. (Logemann, 1998)
- Dysphagia means difficulty in swallowing. (Arvedson & Brodsky, 2002)

Who is at risk for dysphagia?

Swallowing disorders occur in all age groups, from newborns to the elderly, and can occur as a result of a variety of congenital abnormalities, structural damage, and neurological disease or disorder. Primarily those at high risk for a swallowing disorder are those who may be identified as:

- Cleft palate
- Cerebral palsy (CP)
- Traumatic brain injury (TBI)
- Neurological impairment
- Various syndromes
- Certain medications (such as diuretics, antihypertensives, and antidepressants)

What is aspiration?

- Aspiration is the entry of food or liquid into the airway (trachea) below the true vocal folds that leads to the lungs.

What are the signs and symptoms of dysphagia?

- Repeated respiratory infections/history of recurring pneumonia
- Poor oral motor functioning
- Maintenance of open mouth posture
- Drooling
- Nasal regurgitation
- Cleft palate
- Food remains in mouth after meals (pocketing)
- Coughing/choking during or after meals
- Weight loss/failure to thrive
- Refusal to eat
- History of head injury
- Wet or "gurgle" voice/sound after meal

What are the complications of dysphagia?

- Dehydration
- Pneumonia
- Undernutrition
- Choking

What are some feeding concerns that parents/caregivers may report?

- Sucking and swallowing in coordination
 - Weak suck
 - Breathing disruptions or apnea during feeding
 - Excessive gagging or recurrent coughing during feeding
 - New onset of feeding difficulty
 - Feeding periods longer than 30–40 min
 - Unexplained food refusal
 - Nasal regurgitation
 - Increased drooling
 - Receives nutrition via tube feeding
 - Premature infants intubated or ventilated for more than 12 days
-

APPENDIX B. SWALLOWING AND FEEDING 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 cord paralysis
- Cleft palate
- Reported medical history of swallowing problems
- History of head injury
- Weight loss/failure to thrive
- Frequent constipation, diarrhea, or other GI tract problems

Observed Behaviors

- Requires special diet or diet modification (i.e., 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
- Meal time takes more than 30 minutes

Additional Information or Comments: _____

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APPENDIX C. SWALLOWING AND FEEDING (DYSPHAGIA) 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: _____

Feeding/Swallowing Plan In Service Training

I, the undersigned, have read and been trained on implementing the feeding/swallowing plan for _____. I agree to follow the swallowing program as specified.

Name	Position	Date	Review Date
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

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APPENDIX D. PRE VFSS/MBSS INFORMATION

Date form completed: _____

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

Pharyngeal Phase

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

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

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

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