Public Health Service Assessment:
The Role of Speech-Language Pathologists in the Management of Dysphagia, 1989*

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Speech-language pathologists involved in the management of patients with dysphagia provide services that include evaluation, diagnosis, and rehabilitation. Dysphagia is a swallowing disorder that may be due to various neurological, structural, and cognitive deficits. Although dysphagia can affect any age group, it most often presents among the elderly. Rehabilitation efforts by the speech-language pathologist are undertaken after a medical diagnosis and referral have been made. The dysphagia evaluation begins with a bedside examination that is sometimes followed by a videofluoroscopic study. The information obtained by the evaluation results in a feeding recommendation by the speech-language pathologist that includes appropriate diet level, amount of intake per swallow, positioning and other facilitating techniques, and swallowing exercises. Patients who are motivated, moderately alert, and have some degree of deglutition are appropriate candidates for dysphagia therapy. Elements of the therapy program can include thermal stimulation to heighten the sensitivity of the swallowing reflex, exercises to improve oromotor control, training in laryngeal adduction and compensatory swallowing techniques, positioning, and dietary modifications. Significant improvement in the swallowing disorder of appropriately selected patients can be obtained in a rehabilitation program with properly trained and experienced speech-language pathologists.

Dysphagia has been defined as a subjective awareness of difficulty in swallowing due to impaired progression of matter from the mouth to the stomach (Berkow & Fletcher, 1987). Neurological and neuromuscular diseases, head and neck injuries, local structural lesions, cancer, gastrointestinal disorders, birth defects, and developmental disabilities are conditions that can cause dysphagia (Donner, 1986). Dysphagia may manifest as mild discomfort or result in life-threatening aspiration. According to Donner, dysphagia can affect any age group, but the disorder is most often seen in the elderly (Donner, 1986). However, national data do not exist on the incidence of swallowing difficulties in the elderly population (Raub, 1987).

Although there is a clinical impression of an increase in the incidence of serious swallowing disorders among aged persons, especially those in nursing homes, it is unclear whether such problems are normal age-related changes, the result of disease, or a response to medications and surgical procedures.

Recently, programs have been developed to provide a formal rehabilitative evaluation and management plan for patients with swallowing disorders. These programs are being provided in a variety of settings such as hospitals, nursing homes, and the home. Because ingestion is a complex process, a multidisciplinary approach is often used to manage patients with dysphagia (Leopold, 1983). Professionals involved in the management of these patients include an attending physician, occupational therapist, physical therapist, nurse, dietitian, and pharmacist. The role of the speech-language pathologist in evaluating, developing, and implementing a rehabilitative treatment program for the dysphagia patient as a member of a multidisciplinary management team is the subject of this assessment.

BACKGROUND

According to the American Speech-Language-Hearing Association (ASHA), an estimated 6–10 million Americans suffer some degree of dysphagia (ASHA, 1987). Patients with swallowing disorders may be acutely aware of their problem and may be able to describe it. Others may be entirely oblivious to any difficulty with deglutition. Swallowing disorders may accompany almost all of the degenerative diseases as well as stroke, and these disorders are often the first sign of many diseases. Dysphagia can be considered a symptom of esophageal disease, reflecting either a structural or motor abnormality of the esophagus (Marshall, 1985). According to Marshall, it is usually described as a sensation of food or liquid sticking in the alimentary canal during swallowing.

Under normal conditions swallowing takes place about 600 times a day. The swallowing mechanism has been described as having an oral, pharyngeal, and an esophageal phase. Marshall described the first phase as the oral pharyngeal-cervical phase that involves the transfer of the bolus...
from the oropharynx into the esophagus (Marshall, 1985). The anatomic structures involved in this phase include the tongue, pharyngeal constrictors, cricopharyngeus, and the cervical portion of the esophagus (upper one-third). Coordination of muscular movements is necessary to close the buccal cavity and squeeze the food into the esophagus while protecting the airway.

As the food passes through the superior cricopharyngeal sphincter, the esophageal phase of the swallowing mechanism begins. This phase involves the peristaltic propulsion of the bolus from the upper esophagus down the esophageal body and through the lower esophageal sphincter into the stomach (Marshall, 1985). According to Marshall, disorders of the oral-pharyngeal-cervical swallowing mechanism cause a different symptom complex than do disorders of the structures playing a role in the esophageal phase of swallowing.

Oropharyngeal dysphagia, also referred to as pre-esophageal dysphagia, involves difficulty in the transfer of the bolus from the oropharynx into the upper esophagus. Patients with oropharyngeal dysphagia may have difficulty chewing and shaping the food in preparation for the swallow. These patients lack the ability to manipulate the food. Drooling, oral retention, and leakage of liquids placed in the mouth are symptoms of oral phase disorders. Pharyngeal phase disorders may cause patients to have nasal regurgitation, or to choke or cough during swallowing. These latter symptoms are associated with the entry of material into the airway below the true vocal cords (Dobie, 1978; Logemann, 1983). In some of these dysphagic patients, food or liquid may enter the trachea. Normally, food or liquid entering the airway triggers the cough reflex to expel food from the trachea. Coughing or choking due to aspiration is not uncommon in patients with oropharyngeal dysphagia. Some neurologically impaired patients are silent aspirationers. In the case of these patients, food or liquid entering the airway does not trigger the cough reflex. If food enters the lungs, the patient is at risk for aspiration pneumonia.

Difficulty in propelling the food bolus from the mouth into the upper esophagus may be caused by a variety of disorders. Patients with neuromuscular diseases account for about 80% of the oropharyngeal (includes the upper one-third of the esophagus) dysphagic cases. Central nervous system disorders such as stroke, Parkinson’s disease, and amyotrophic lateral sclerosis, myasthenia gravis, and disorders of skeletal muscles such as muscular dystrophy and polymyositis may also cause oropharyngeal dysphagia. Inadequate salivary gland performance and local structural lesions in the pharynx can also result in marked oropharyngeal swallowing difficulties. The best known pathologic entity associated with salivary dysfunction is Sjogren’s syndrome, an autoimmune disease of the exocrine glands. Common causes of local structural lesions are carcinoma, upper esophageal webs, and Zenker’s diverticulum. These disorders, as well as the lack of saliva, account for many of the remaining cases (about 20%) of oropharyngeal dysphagia. Causes of oropharyngeal dysphagia are listed in Table 1 (Marshall, 1985).

Although oropharyngeal dysphagia represents difficulty emptying material from the oral pharynx into the esophagus, esophageal dysphagia is regarded as difficulty in passing food from the esophagus to the stomach. If peristalsis is inefficient, patients may complain of food getting stuck or of having more difficulty swallowing solids than liquids. Sometimes these patients will experience esophageal reflux or regurgitation if they lie down too soon after meals. Inefficient functioning of the esophagus during the esophageal phase of swallowing is a common problem in the geriatric patient. Swallowing disorders occurring in the esophageal stage of the swallow are not amenable to swallowing therapy techniques (Logemann, 1983). Esophageal dysphagia (lower two-thirds of the esophagus) may be the consequence of obstructive disorders such as carcinoma of the esophagus and benign peptic stricture or motor disorders such as achalasia and scleroderma (Berkow & Fletcher, 1987). Causes of esophageal dysphagia are listed in Table 2 (Marshall, 1985).

Some speech-language pathologists have been involved in the management of oral feeding and swallowing disorders since the 1930s when oromotor disorders of both speech and swallowing of cerebral-palsied children were first being managed (ASHA, 1987). Historically, some speech-language pathologists also have been involved in the management of swallowing disorders in neurologically impaired patients with head injuries or neuropathies. Their involvement follows from their work in dealing with communication disorders related to the neurological deficits. Some speech-language pathologists have chosen to focus primarily on the evaluation and management of oral, pharyngeal, laryngeal, and respiratory control problems of children and adults with neurologic and structural abnor-

Table 1. Causes of oropharyngeal dysphagia.

<table>
<thead>
<tr>
<th>Category</th>
<th>Causes</th>
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<tbody>
<tr>
<td>Neuromuscular disease</td>
<td>Central nervous system</td>
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<tr>
<td></td>
<td>Stroke</td>
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<td></td>
<td>Parkinson’s disease</td>
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<td></td>
<td>Multiple sclerosis</td>
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<td></td>
<td>Amyotrophic lateral sclerosis</td>
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<td></td>
<td>Brainstem tumors</td>
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<td></td>
<td>Huntington’s chorea</td>
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<td></td>
<td>Poliomyelitis</td>
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<tr>
<td>Peripheral nervous system</td>
<td>Peripheral neuropathies (diabetes)</td>
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<tr>
<td>Motor endplate</td>
<td>Myasthenia gravis</td>
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<tr>
<td>Skeletal muscle</td>
<td>Polymyositis and dermatomyositis</td>
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<tr>
<td></td>
<td>Muscular dystrophy</td>
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<td></td>
<td>Oculopharyngeal syndrome</td>
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<td></td>
<td>Myopathies</td>
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<tr>
<td>Other causes</td>
<td>Local structural lesions</td>
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<tr>
<td></td>
<td>Cancer</td>
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<td></td>
<td>Surgical resection</td>
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<td></td>
<td>Zenker’s diverticulum</td>
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<td></td>
<td>Webs</td>
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<td></td>
<td>Infections</td>
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<td></td>
<td>Cervical Spurs</td>
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<td></td>
<td>Thyromegaly</td>
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<td>Immunologic disease</td>
<td>Sjogren’s syndrome</td>
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Table 2. Causes of esophageal dysphagia.

<table>
<thead>
<tr>
<th>Category</th>
<th>Causes</th>
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<tbody>
<tr>
<td>Mechanical (obstructive) disorders</td>
<td>Intrinsic</td>
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<tr>
<td></td>
<td>Benign peptic stricture</td>
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<tr>
<td></td>
<td>Lower esophageal ring</td>
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<tr>
<td></td>
<td>Esophageal carcinoma</td>
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<tr>
<td></td>
<td>Benign tumors</td>
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<td></td>
<td>Webs</td>
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<tr>
<td></td>
<td>Stricture due to caustic ingestion</td>
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<tr>
<td>Extrinsic</td>
<td>Vascular compression (aortic aneurysm)</td>
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<td></td>
<td>Mediastinal abnormalities</td>
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<tr>
<td>Motor disorders</td>
<td>Achalasia</td>
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<tr>
<td></td>
<td>Diffuse esophageal spasm</td>
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<td></td>
<td>Scleroderma</td>
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<td>Nonspecific esophageal motor dysfunction</td>
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malalties, and they have developed diagnostic and therapeutic intervention strategies for swallowing dysfunctions.

It is not uncommon for speech-language pathologists working in hospitals, rehabilitation programs, nursing homes, and home health care to be confronted with feeding, swallowing, and respiratory problems related to oral motor pathology.

In addition, communication impaired patients often face the life-threatening risk of dysphagia-induced aspiration. Because of their knowledge of the structures and function of the oropharyngeal musculature, some speech-language pathologists are involved in rehabilitative program to assist individuals with a swallowing disorder.

Rationale

Proponents for employing speech-language pathologists in managing patients with dysphagia argue that the academic and clinical preparation of speech-language pathologists makes them particularly well prepared to deal with problems of communication and swallowing. Speech-language pathologists are trained to perform detailed oral-peripheral examinations, including assessments of oral (mouth) and pharyngeal (throat) sensorimotor systems. They also are qualified to evaluate nonmedical aspects of voice production, including laryngeal function. Moreover, in working with laryngectomized individuals, speech-language pathologists teach esophageal speech production. Providing therapy for dysphagia is a logical extension of speech and language pathology since treatment of communication disorders include stimulation of muscle groups common to both speech and swallowing.

A qualified, trained, and experienced speech-language pathologist can assist the multidisciplinary dysphagia management team by evaluating the oral, pharyngeal, and esophageal stages of swallowing. They can further assist by providing exercises to improve the strength and coordination of the oral, pharyngeal, and esophageal musculature. Speech-language pathologists can recommend appropriate compensatory strategies for dealing with weak muscles in

the oral and pharyngeal areas. Proponents contend that appropriate therapeutic intervention by a qualified speech-language pathologist can reduce the risk of aspiration pneumonia due to nasogastric feeding or inappropriate diets and forestall additional medical problems. Intervention also may contribute to the speed of recovery if it leads to oral feeding and improvement in the nutritional status of the patient.

Review and Discussion of Available Information

According to a 1985 survey by the American Speech-Language-Hearing Association, 35% of speech-language pathologists are involved in the management of dysphagic patients (ASHA, 1987). Although some speech-language pathologists have chosen to play no role in the care of dysphagic patients, others have accepted a primary role. Because of their knowledge and training, speech-language pathologists often take a leading role in establishing rehabilitative programs to manage individuals with a swallowing disorder. Many rehabilitation facilities and hospital-based speech pathology program currently provide evaluation and treatment of swallowing disorders. Although other professional groups could potentially provide a similar service, the speech-language pathologist has had the most interest in these disorders and has the greatest experience with swallowing rehabilitation.

Numerous programs for evaluation and management of dysphagia are available at many institutions across the nation. In hospitals, the program is usually provided by the speech-language pathology department or as part of a larger department of rehabilitation medicine. Rehabilitation therapy for oral and pharyngeal dysphagic patients is also provided in rehabilitation centers, in nursing homes, or through home health care programs (ASHA, 1987). Copies of written procedures and policies provided to OHTA indicate that rehabilitation efforts by the speech-language pathologist are undertaken only after a medical diagnosis and referral have been made. Table 3 lists behaviors often exhibited by patients referred to speech-language pathologists (Potter, 1987). Patients are referred to the speech-language pathologist for identification, evaluation, and treatment of the swallowing disorder. The diagnosis of the

Table 3. Symptoms and behaviors of patients referred to speech-language pathologists.

<table>
<thead>
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<th>Symptoms/Behaviors</th>
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<tr>
<td>Dysarthria</td>
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<tr>
<td>Drooling</td>
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<td>Squirreling food</td>
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<tr>
<td>Food getting caught in the throat</td>
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<tr>
<td>Coughing or choking on liquid, soft, or solid food</td>
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<tr>
<td>Coughing up food after a swallow</td>
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<tr>
<td>Wet or gurgly voice quality after swallowing liquids</td>
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<tr>
<td>Delayed or slow swallow reflex</td>
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<tr>
<td>History of aspiration pneumonia</td>
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<tr>
<td>Difficulty managing own secretions</td>
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<tr>
<td>Unexplained weight loss (especially if accompanied by one of the above)</td>
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Source: Adapted from E. Potter (1987). Written communication.
nature, location, and severity of the dysphagia is dependent on a thorough evaluation by the speech-language pathologist.

The dysphagia evaluation is usually a three or four stage process that begins with a review of the patient's medical history. The medical history is reviewed for information regarding the medical diagnosis and other pertinent facts, such as time of onset of dysphagia, present diet, and respiratory complications that might affect evaluation and treatment. The next stage involves the clinical observation of the patient's status to assess symptoms and existing conditions such as the presence of a feeding tube, paralysis, or a cough. In the oral and swallowing examination that follows, the speech-language pathologist evaluates oromotor function, oral sensitivity, laryngeal function, oropharyngeal reflexes, and swallowing function (Nichols, 1987). Speech-language pathologists refer to these stages of the evaluation process as the bedside examination. The information from this examination is used to manage conditions that impair the eating process of patients with acute swallowing disorders following stroke, head trauma, or head and neck surgery (Groher, 1984). A high percentage of patients with swallowing difficulties of a progressive or chronic nature, especially involving the esophagus, require further evaluation.

The use of other evaluation procedures might include radiographic studies that allow observation of the total swallowing mechanism as it occurs. This approach can demonstrate both the nature of the pathology and any mechanism employed to compensate for a deficit. This technique can also reveal the presence of aspiration.

When an exact diagnosis of a swallowing disorder cannot be substantiated through an oral examination, and there is a question as to whether aspiration is occurring, videofluoroscopic evaluation (modified barium swallow) may be used for diagnostic purposes. A bedside evaluation of the dysphagic patient cannot always identify the precise nature of the swallowing disturbance or the presence of aspiration (Lazarus & Logemann, 1987; Veiss & Logemann, 1985). Some programs for dysphagia management routinely recommend the videofluoroscopic study if the patient presents with any of the following behaviors: coughing or choking with intake of food or liquid, absent gag with wet-hoarse voice quality, recent history of aspiration pneumonia, and an inability to manage secretions. Because of limitations in determining by clinical evaluations alone whether there is a safe and efficient swallowing, the speech-language pathologist must be familiar with the use of videofluoroscopy of the analysis of swallowing habits. The study is usually performed by the radiology department. The patient is given various amounts and consistencies of barium including thin liquid, thick liquid, paste, bread, and pill. The oral and pharyngeal stages of the swallow are observed, and the effects of test feeding techniques, bolus modification, patient positioning, and respiratory maneuvers are determined and videotaped for review. It is considered a safe procedure even for patients who are likely to aspirate. This study not only allows the speech-language pathologist to show there is aspiration, but also may reveal whether it is caused by a delayed swallow, poor pharyngeal peristalsis, or reduced laryngeal closure. Logemann and colleagues studied the use of videofluoroscopy extensively. They found the procedure invaluable in identifying the precise nature of the swallowing disturbance, and the presence and etiology of aspiration (Lazarus & Logemann, 1987; Logemann, 1983; Veiss & Logemann, 1985). In certain cases, the incorporation of medical evaluation procedures such as esophageal manometry, laryngoscopy, esophagoscopy, cineradiography, gastroesophageal scintiscanning, the Bernstein (acid perfusion) test, and biopsy may be of benefit. The various methods used or recommended by the speech-language pathologist to evaluate the various factors influencing the swallowing mechanism have been reviewed by Groher (1984).

The information obtained by the evaluation may result in a recommendation by the speech-language pathologist on how best to eat. The recommendation might cover appropriate diet, positioning, amount of intake per swallow, and other means of facilitating the swallow. The speech-language pathologist may work with nursing and dietary staff to determine the appropriate positioning, feeding techniques, and food consistencies for the patient. An occupational therapist may assist with proper positioning of the patient, neuromuscular facilitation techniques, adaptive feeding devices, and self-feeding skills. A physical therapist may work with the patient to increase muscle strength, sitting balance, and head control. If the patient demonstrates a severe swallowing disorder and appears to be at risk for acquiring aspiration pneumonia, the speech-language pathologist might recommend the patient not be fed by mouth.

Patients suffering from neurological or traumatic impairment of the oropharyngeal swallowing mechanism that causes airway penetration or an inability to take adequate nutrition orally may be candidates for rehabilitation by a speech-language pathologist (Ravich, 1987). If the underlying etiology is the result of neurological trauma, for example a cerebrovascular accident or closed head injury, the prognosis for improvement is considered better than if the etiology was due to neurological disease such as amyotrophic lateral sclerosis, Parkinson's disease, or multiple sclerosis (Gibbons et al. 1987).

Patients who are motivated, moderately alert, and have some degree of deglutition are appropriate candidates for dysphagia therapy. The presence of a nasogastric tube or gastrostomy does not preclude the need for treatment. Removal of a nasogastric tube or closure of a gastrostomy may be the goal of treatment. A more complete list of the criteria used by speech-language pathologists for selecting appropriate dysphagic patients for treatment is presented below (Royal et al. 1987).

- Type of disorder (oral or pharyngeal dysfunction)
- Underlying cause of dysfunction amenable to treatment
- Swallowing videofluoroscopy results that indicate the presence of disorder affecting the oral preparatory, oral, or pharyngeal phase of swallowing and suggest potential benefit from rehabilitative therapy
- Absence of medical problems that might preclude participation in treatment, such as respiratory distress
- Level of alertness
• Ability to follow and remember simple instructions
• Willingness to participate in treatment
• Availability of a support system for follow-through

Treatment for the rehabilitation of the dysphagic patient recommended by the speech-language pathologist will depend upon the information and data derived from the evaluation. Elements of the therapy program can include thermal stimulation to heighten the sensitivity of the swallowing reflex, exercises to improve oromotor control, training in laryngeal adduction, compensatory swallowing techniques, oral sensitivity training, positioning, and dietary modifications (White, 1987).

Delayed triggering of the swallowing reflex has been found to occur among a large number of dysphagic patients (Lazzara, Lazarus, & Logemann). Thermal stimulation (sensitization) is performed to reduce the delay in the trigger of the swallowing reflex. The exercise consists of applying cold (thermal) contact to the base of the anterior faucial arches to heighten sensitivity. When a patient attempts a voluntary swallow it will trigger the swallowing reflex more rapidly. Although thermal stimulation has been shown to improve triggering of the swallowing reflex, the effects of this stimulation diminish following several nonsensitized swallows.

When the swallowing reflex does not function well, neuromuscular facilitation maneuvers can be attempted to improve muscle control and strength of tongue, lip, jaw, and soft palate, and to stimulate the swallowing reflex. According to Groher, when the act of swallowing can be consistently elicited to command or to stimulation, oral feeding may be attempted (Groher, 1984). Prior to oral feeding, other facilitation techniques may be attempted to induce or strengthen important protective responses such as the gag reflex.

Oral and facial weakness can impair the function of the swallowing mechanism as well as the accessory structures that form and manipulate the bolus for chewing and swallowing (Groher, 1984). Oromotor exercises can improve the oral preparatory and oral stages of swallowing through increased control of food and liquids. These exercises may focus on improving range and strength of labial and lingual movement in an effort to improve the oral transit of the food bolus.

According to Dobie, the elevation and forward movement of the larynx is the most important factor in preventing aspiration, with vocal cord closure constituting a second line of defense (Dobie, 1978). Therefore, to reduce the risk of choking and aspiration by a dysphagic patient, therapy programs include laryngeal and vocal cord adduction exercises to strengthen and increase protection against aspiration during the swallow. Aspiration, which may lead to other medical problems including death, may also be controlled by proper head and body positioning.

Speech-language pathologists have found that the posture of the dysphagic patient during deglutition is one of the most important factors in maintaining adequate protection of the airway (Logemann, 1983). A particular posture may help the gravitational flow of food through the oral cavity and pharynx and affect the amount of material entering the esophagus. Food selection (texture, amount, size) and feeding modifications are other therapeutic procedures that do not depend upon the patient's physiologic capability or neuromuscular control. Patients with progressive disorders, such as Parkinson's disease, Huntington's disease, Wilson's disease, multiple sclerosis, or Alzheimer's disease and related dementias, do not typically show improvement in swallowing function, but may be helped through positioning, diet, and feeding modifications.

Although the goal of a dysphagia rehabilitation program is to improve the patient's swallowing function, the program should also be designed to ensure that it is safe for the patient to swallow during oral feedings. A successful rehabilitation program that maximizes the patient's swallowing functions will improve the patient's quality of life by reduction or elimination of alternate nutritional support systems (nasogastric and gastrostomy tubes), and advancement of dietary level with improved nutritional intake.

Because rehabilitation treatment programs are designed to meet individual needs, the frequency of treatment can range from two to three sessions per day to two to three sessions per week. The duration of a rehabilitation program can range from 1 week to 1 year. It has been suggested that a reasonable period of time for determining if a swallowing therapy is effective is about 2 months. For a patient who continues to progress, a reasonable period of therapy may be 6–8 months.

Some states, such as Maryland, recently revised (Maryland Department of Health and Mental Hygiene, 1987) their law related to licensing speech-language pathologists to include swallowing disorders in the legal scope of practice definitions. Also, in its "1988 Accreditation Manual for Hospitals," the Joint Commission for Accreditation of Healthcare Organizations (Joint Commission) provided a description of the services offered by speech-language pathologists to include the evaluation, diagnosis, and rehabilitation of swallowing disorders (Joint Commission on Accreditation of Hospitals, Physical Rehabilitation Services, 1988). The Joint Commission also makes several references to the assessment and treatment of dysphagic patients as a service of speech-language pathology in its recent publication of "Monitoring and Evaluation: Physical Rehabilitation Services" (Joint Commission on Accreditation Hospitals, Physical Rehabilitation Services, 1988). The Joint Commission's standards for the accreditation of home care include patient assistance in oral and pharyngeal sensorimotor function as part of the speech-language pathology service (Joint Commission on Accreditation of Healthcare Organizations, 1988). The Health Insurance Association of America also recognizes that services provided by speech-language pathologists should include evaluating and treating disorders of deglutition (Health Insurance Association of America, 1986).

The National Institutes of Health (NIH) has advised the OHTA that dysphagia is a symptom that may accompany any one of a number of serious or not so serious disorders. All patients who show signs of dysphagia need a complete medical workup to establish a diagnosis and to form the basis of estimates of prognosis and possible treatment. Among other things, the workup will determine whether the swallowing difficulty involves orolingual, pharyngeal, laryngeal, or esophageal malfunction. The NIH further ad-
vised that if symptomatic treatment of an orolingual mal-
function is felt to be appropriate and safe, then referral to a
speech-language pathologist, occupational therapist, or
other professionals with specialized training and experi-
ence in the areas of oromotor control and the prescription
of feeding methods should be considered. Further, the
NIH advised that the efficacy of the treatment of dysphagia
by speech-language pathologists, occupational therapists,
or other professionals has not been evaluated in a clinical
case.

The American Academy of Neurology, through its Prac-
tice Committee, has advised OHTA that qualified, trained,
and experienced speech-language pathologists can be help-
ful in working under the supervision of qualified physicians
in selected patients. In addition, the American Academy of
Neurology requested two expert consultants on swallowing
disorders to provide OHTA with additional comments in
this area (Ravich, 1987; Massey, 1987). Both consultants
were supportive of the role of properly trained speech-lan-
guage pathologists in the evaluation and rehabilitation of
selected patients with dysphagia. It was emphasized that
patients must be selected for this type of therapy after a
proper medical diagnostic evaluation.

Each consultant made numerous comments on many
aspects of the role of speech-language pathologists in the
evaluation and management of the dysphagic patient. In
addition to the supportive comments, some caveats and
concerns were noted. It was acknowledged that swallowing
rehabilitation is a highly specialized area within speech-
language pathology and is not part of the routine education
in most speech-language training programs. Consequently,
only a limited number of speech-language pathologists are
trained in swallowing rehabilitation. It was suggested that
guidelines be established to evaluate and manage dyspha-
gic patients. In addition, because swallowing rehabilitation
requires the application of videofluoroscopy to permit ob-
jective assessment of the specific nature of the swallowing
impairment, speech-language pathologists must be familiar
and comfortable with its use.

According to the American Speech-Language-Hearing
Association (ASHA), while there is no specific credential
for speech-language pathologists who evaluate and treat
patients with dysphagia, the education and training of
speech-language pathologists is appropriate for assuring
competent care for individuals who suffer from swallowing
disorders. Because ASHA has no official policy regarding
the role of the speech-language pathologists in the manage-
ment of the dysphagic individual, it formed an Ad Hoc
Committee on Dysphagia in 1983. A 1987 report by the
committee found a need for guidelines concerning inter-
vention strategies and clinical preparation of speech-lan-
guage pathologists in the treatment of patients with dys-
phagia (ASHA, 1987). The evaluation guidelines recom-
manded by the committee are presented in Appendix I.
Treatment guidelines recommended by the committee are
presented in Appendix II, and guidelines for clinical prepa-
ration and experience are presented in Appendixes III and
IV respectively. According to the committee, there is a sig-
nificant need for additional research and data regarding
treatment efficacy and risk. The committee also recom-
ended the need for more definitive guidelines. Some
state speech-language-hearing association have adopted
the committee’s guidelines or have begun to develop their
own guidelines for the management of dysphagic patients.

SUMMARY

Dysphagia is a swallowing disorder that may be due to
various neurological, structural, and cognitive deficits. The
dysphagic population is varied. Dysphagia may be the re-
sult of head trauma, cerebrovascular accident, neuromuscu-
lar degenerative diseases, head and neck cancer, and en-
cephalopathies. Although dysphagia can affect any age
group, it is most often seen in the elderly.

Historically, some speech-language pathologists have
been involved in the management of disorders of oral feed-
ing and swallowing since the 1930s. Recently, a number of
programs have evolved to provide formal rehabilitative
evaluation and management for patients with swallowing
disorders. These programs are provided across a variety of
settings. In hospitals, the program is usually provided by
the speech-language pathology department, or possibly as
part of the larger department of rehabilitation medicine.
The Joint Commission for Accreditation of Healthcare Or-
ganizations has included in its "1988 Accreditation Manual
for Hospitals" a description of the services provided by
speech-language pathology that includes the evaluation,
diagnosis, and rehabilitation of swallowing disorders.

Because of their knowledge of the structure and function
of the oropharyngeal musculature, speech-language pathol-
ologists have taken an active role in rehabilitative programs
to manage individuals with a swallowing disorder. Inges-
tion is a complex process; therefore, a multidisciplinary
approach in the management of patients with dysphagia is
often utilized.

The information obtained by the evaluation results in a
feeding recommendation by the speech-language patholo-
ist that may involve appropriate diet and amount of intake
per swallow, positioning and other facilitating techniques,
and swallowing exercises. Patients who are motivated, mod-
erately alert, and have some degree of deglutition and
swallowing function are appropriate candidates for dyspha-
gia therapy. The therapy program can include thermal stim-
ulation to heighten the sensitivity of the swallowing reflex,
exercises to improve oromotor control, training in laryn-
geal adduction and compensatory swallowing techniques,
and positioning and dietary modifications. All programs
should be designed to ensure swallowing safety of the pa-
ient during oral feedings and maintain adequate nutrition.
Significant improvement in the swallowing disorder of ap-
propriately selected patients can be obtained in a rehabilita-
ion program with properly trained and experienced
speech-language pathologists.

REFERENCES

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## APPENDIX I

Evaluation Guidelines Recommended by the ASHA Ad Hoc Committee on Dysphagia

Intervention services begin with a thorough evaluation. Clients should be evaluated in a multidisciplinary context. The following information and assessments are required prior to the initiation of intervention:

1. Knowledge of medical diagnosis or evaluation and its implications for diagnoses and intervention of dysphagia
2. Knowledge of the client’s level of alertness and language comprehension relative to the potential for safe oral intake
3. Knowledge of the client’s current nutrition, dietary, or hydration status as well as type and method of intake, including knowledge of special nutritional, dietary, or hydration concerns
4. Knowledge of the client’s respiratory status, including presence and type of tracheostomy tube, and any existing pulmonary disease
5. Knowledge of the general medical status of the client including respiratory and medical history, and drug history
6. Assessment of the integrity of the protective mechanisms of the mouth, pharynx, and larynx
7. Assessment of neuromuscular, sensory, and structural (anatomic) integrity as they pertain to positioning, speech, mastication, and swallowing
8. Determination of the need for additional consultation or diagnostic assessment studies and knowledge of the results of these consultations and studies.

## APPENDIX II

Treatment Guidelines Recommended by the ASHA Ad Hoc Committee on Dysphagia

1. Treatment plans should be based upon the knowledge and data derived from the evaluation.
2. Treatment plans should identify conditions not amendable to improvement with treatment.
3. Dysphagia treatment should proceed in close cooperation with the client’s physician and appropriate team members. The dysphagia team members may include any or all of these people: attending physician, gastroenterologist, radiologist, otolaryngologist, neurologist, pulmonologist, physiatrist, pediatrician, speech-language pathologist, occupational therapist, physical therapist, dentist, prosthodontist, nurse-practitioner, nurse, nutritionist, dietitian, psychologist, social worker, counselor, educator, engineer, third-party payers, administrators, extended family and friends, and the client.
4. Treatment generally requires coordinated services from several specialists. An interdisciplinary or multidisciplinary team management approach is recommended.
5. Treatment techniques should be documented with progress assessed on a specified or routine basis in order to determine relative efficacy of various techniques and to comply with clinician accountability.
APPENDIX III

Clinical Preparation Guidelines Recommended by the ASHA Ad Hoc Committee on Dysphagia

Specialized knowledge, skills, and clinical experience related to the evaluation and treatment of dysphagia may be acquired on the graduate or postgraduate level, in formal coursework, or in a continuing education framework. Guidelines for clinical preparation are outlined below.

Preparation should, in part, include acquiring fundamental knowledge related to swallowing in infants, children, and adults to include:

1. Normal anatomy and physiology of speech structures and processes in infants, children, and adults
2. Normal physiology and development of chewing, suckling, sucking, and swallowing and the normal anatomy of structures involved in these functions
3. The medical, behavioral, and psychological conditions that may cause disorders of suckling, sucking, chewing, and swallowing
4. Medical/surgical terminology
5. The expertise available from health care professions involved in dysphagia management
6. Neuroanatomy and neuropathologies
7. The variety of evaluation techniques and procedures and their implications for differential diagnosis of dysphagia
8. The variety of management techniques and procedures and their implications for management of dysphagia
9. Counseling methods
10. Current research on normal and disordered deglutition, its evaluation, and treatment

APPENDIX IV

Clinical Experience Guidelines Recommended by the ASHA Ad Hoc Committee on Dysphagia

Clinical experiences with clients should be gained in a supervised setting. This experience should provide opportunities to acquire the following skills and experiences:

1. Observations with participation in the evaluation and treatment of clients with impaired swallowing related to a wide variety of structural and neurogenic etiologies
2. Participation in interdisciplinary management of swallowing disorders
3. Evaluation with and interpretation of diagnostic methods
4. Review and understanding of medical records; knowledge of any fine and gross motor deficits that may affect the client’s posture, trunk, and head control, and hand-arm strength and coordination
5. Preparation of medical reports, including evaluation reports, intervention plans, and documentation of progress and outcome
6. Consultation with medical and allied health professionals to acquire a basic understanding of various medical therapies and nutritional intake
7. Emergency and safety techniques to prevent or intervene in the event of medical complications