



## More Than They Can Chew

**Working with swallowing disorders and intervention strategies**

By [Megan Nahas, CCC-SLP, MA](#)

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There are plenty of common activities that we take for granted everyday because we do them so often without even thinking, like walking, talking, and breathing. However, one that seems to be overlooked more often than many others is swallowing. The average person, in fact, swallows about 2000 times per day. What we don't realize, despite all that swallowing, is how complex the process really is and what it would be like if we couldn't do it anymore.

As a speech-language pathologist (SLP), it is my job to assess a person's ability to eat, drink, and swallow safely; determine the safest, least restrictive diet for that person; and to provide rehabilitation to restore their ability to eat, drink, and swallow without difficulty. In order to do this, we must first understand how this intricate process works. Swallowing occurs in three phases: oral, pharyngeal, and esophageal.

During the oral phase, food is moistened by our saliva, broken down or "masticated" by our teeth, formed into a bolus, and transferred to the back of the mouth. All of this is controlled voluntarily by an innate, conscious process, which enables us to control the size of the bolus and when to transfer it. This control allows us to savor food that we are enjoying or quickly get rid of those that we are not.

The pharyngeal phase is initiated once the bolus reaches the very rear of the mouth, where the pharynx or throat begins. Once this phase begins, the entire remaining swallow process is involuntary, or controlled completely by an intricate series of reflexes. The pharyngeal phase includes initiating this reflexive process, closing off the airway to prevent choking and food or liquid from entering the lungs (aspiration), and squeezing any swallowed material down the throat and into the esophagus at an astounding 25 feet (7.62 m) per second.

At this point, the esophageal phase begins and the top of the esophagus relaxes and opens, the bolus is then squeezed all the way down to where it passes through yet another opening and finally enters into the stomach. Although the esophageal phase is similar to the pharyngeal phase, in that it squeezes the bolus downward, it happens at a much slower pace of about 2-4 cm per second.

Just think: this process happens every time we swallow, whether it is our saliva, a sip of water, or a bite of our favorite cheeseburger. Now consider what it would be like if this ability was inhibited or even taken away. It is estimated that this is the reality for up to 22 percent of people over the age of 50 and, according to the American Speech-Language-Hearing Association (ASHA), approximately 10 million Americans each year are being evaluated for “dysphagia,” or disordered swallowing.



**Anna Bilinsky, MS, CCC-SLP of Fox Rehabilitation works on swallowing exercises with Betty Ann Leaver of Sterling House in Florence, N.J.**  
*(All photos courtesy of Lauren Lazaruk)*

Dysphagia can affect people of all ages from premature infants to the elderly. As a speech-language pathologist for [Fox Rehabilitation](#), a private practice that provides Geriatric House Calls, I treat adult and geriatric patients that suffer from dysphagia. At Fox, we treat all of our clients in their home environment, which can include a family residence, assisted living facility, and/or an adult medical day care program under Medicare part B. However, it was not until July of 2009 that an SLP could be reimbursed under Medicare part B for these services. Fortunately, as a result of the regulation changes that occurred, we are now able to address the needs of this population in their home environment.

Dysphagia is commonly caused by neurological disorders, including stroke, Parkinson's, Multiple Sclerosis, ALS, and traumatic brain injury. Additional causes can include lesions caused by head and neck cancer; psychogenic issues, including depression; and age. In order to determine the presence of dysphagia in these and other at-risk populations, an SLP can evaluate a client by a standard clinical ("bedside") evaluation of swallowing function, which consists of, but is not limited to, a thorough case history review, oral motor exam, swallow trials with varying textures of food and liquids, and a speech screening.

In some cases, further assessment is required and a Videofluoroscopic Swallow Study (VFSS) or Fiberoptic Endoscopic Evaluation of Swallow (FEES) is conducted, which enables the SLP to visually assess the internal anatomy and physiological function of a client's swallowing in real time. These types of assessments can be invaluable in identifying silent aspiration, which is the inhalation of food or liquid without visible or audible signs. Without these instruments silent aspiration could not be positively identified.

Once an appropriate evaluation has been conducted, the SLP will make initial recommendations for the safest diet to be consumed by the patient. Although there is not a universal diet level system, some common solid levels include: regular, mechanical soft, chopped, ground, and puree. Regular indicates a client can safely tolerate any food item, while mechanical soft food items are soft versions of regular food like tender meats, soft fish, cooked or canned vegetables and fruit. A chopped diet consists of all solid foods being cut up into half inch pieces, whereas a ground consistency includes foods that have been cooked and grinded, minced, or mashed.

Finally, puree solids are foods that have been blended or pureed and have a moist, thick consistency, such as mashed potatoes or applesauce. Additionally, the SLP will also determine the safest liquid consistency that a client can ingest without difficulty. Typical liquid consistencies include thin/regular, nectar-thick, honey-thick, and pudding-thick.



Determining the appropriate diet is just one component of the intervention process. A typical dysphagia plan of care may also include therapeutic feeding trials of advancing consistencies and bolus size, oral motor exercise, swallowing maneuvers (such as Masako, Mendelsohn, and volitional swallows), respiratory training, and/or sensory stimulation. The focus of these techniques is to improve the sensory awareness, timeliness, and function of the oropharyngeal structures in order to improve the client's ability to tolerate the safest, least restrictive diet possible.

Another dysphagia intervention strategy utilized by certified providers is Neuromuscular Electrical Stimulation (NMES), which involves the superficial placement of electrodes on the neck or face and uses electrical stimulation of nerves to strengthen muscles and stimulate sensory pathways involved in swallowing to improve swallow function.

As a certified NMES provider, I have seen tremendous results with its use on some patients, whereas others have yielded modest improvement. It is important to remember that NMES is one component of intervention and should be used in conjunction with additional treatment modalities. This technique is reasonably new and, although there have been some promising results, the results have been inconsistent – continued research is needed and recommended to determine more reliable outcomes.

So you may be asking yourselves, what does this all mean for the person with dysphagia? This complex process is one that can dramatically impact a person's quality of life in many ways. First, it can profoundly impact a person's health. A decline in safe eating and drinking can lead to pneumonia, malnutrition, and dehydration, all of which can cause confusion, lethargy, or even death. Although health risks are a major concern, they certainly not the only one.

Just think about the strong relationship in our society between eating, socialization, and enjoyment. We cannot help but recognize all of the holiday celebrations, family get-togethers, and friendly social outings that are centered on a meal. Whether it is Thanksgiving, a birthday, or just an excuse to get together, food is almost always involved. Therefore, it is not difficult to imagine that a decline in a person's ability to eat safely and functionally can cause significant social limitations and withdrawal, as well as feelings of isolation and diminished motivation for interaction and activity.

Therefore, as SLPs we are trained not only to conduct the necessary rehabilitation to improve the resident's ability to eat and drink, but can also serve as a facilitator to a happier and healthier life.

As a Fox Rehabilitation SLP, I have had the autonomy, training, support, and enthusiasm to treat my patients with dysphagia and other disorders, with a goal of optimal functioning that is long-lasting and impacts the person as a whole. With the right support, SLPs can serve the adult and geriatric populations suffering from disorders like dysphagia with new knowledge and a refreshed impact on every person.

**– Megan Nahas, CCC-SLP, MA, is the Director of Speech-Language Pathology Services with Fox Rehabilitation ([www.foxrehab.org](http://www.foxrehab.org)). In collaboration with Fox Rehabilitation's staff, Megan has set the groundwork for one of the first programs in the country to offer geriatric Speech-Language Pathology services in the home reimbursable by Medicare Part B.**

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