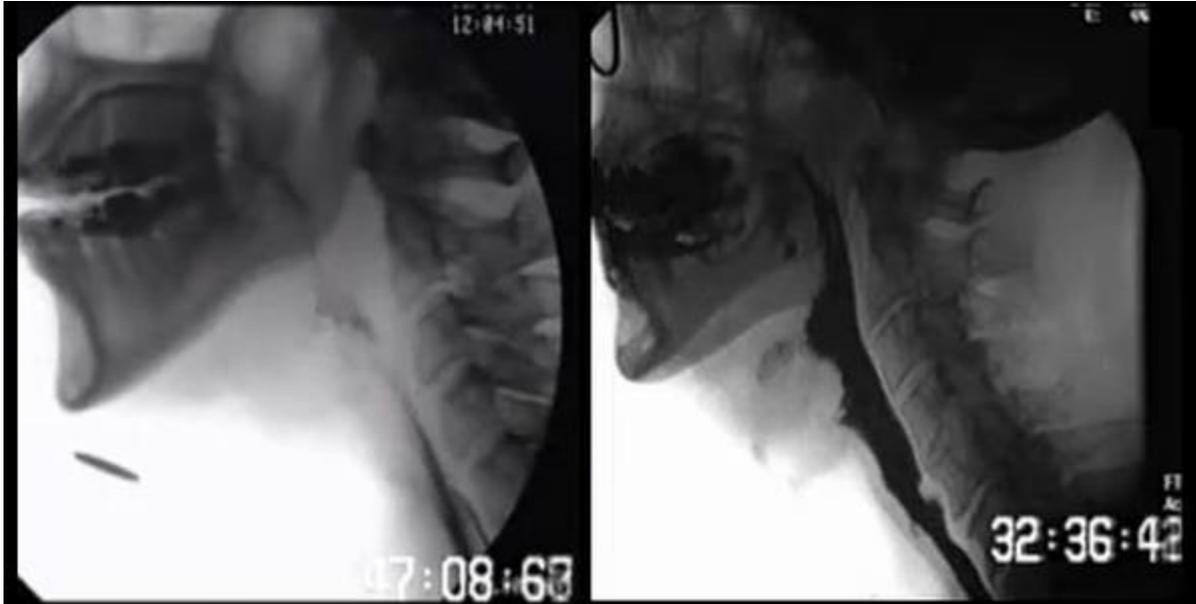


How Aging Affects Our Swallowing Ability

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[Editors note: Click on the image above to view a 16 second video fluoroscopy clip of a swallow by a 20-something year old (on the left) versus a 70-something year old (on the right). Notice how smoothly liquids glide down the throat of the younger subject versus the effort and time required by the older subject to clear his throat. Comment -- How nice it would be to be young again! Video provided courtesy of Rebecca Leonard.]

Swallowing difficulty (dysphagia) is a common consequence of many medical conditions, including stroke, chronic diseases that affect the nervous system and surgeries that affect the head and neck. But swallowing difficulty can also be associated with aging. In fact, it has been estimated that as many as 20% of individuals over the age of 50 years, and most individuals by the age of 80 years, experience some degree of swallowing difficulty. Individuals over the age of 65 years accounted for 12.9% of the U.S. population in 2009, and are expected to account for 19% of the population by 2030. These large and growing numbers motivate us to understand all we can about how aging affects swallowing. Hopefully, what we learn will help us treat, and possibly prevent, dysphagia in the elderly.

Some changes that impact swallowing with aging may be obvious, for example, missing teeth or shifting tooth positions that affect how we “prepare” food to be swallowed. Other changes may be less obvious, but can increase the effort required to swallow, and even interfere with our swallowing safety and effectiveness. These include:

1. **Reduced bulk, and possibly sensitivity, in the vocal cords** that help protect the airway. If the airway is not protected completely or quickly during a swallow, material we swallow may enter our lungs, which is called “aspiration.” One symptom of this would be coughing after a swallow. Another might be a change in your voice after a swallow. Some pneumonias, or lung infections, are related to aspiration.

2. **Reduced bulk, and possibly strength, in the tongue and throat (pharynx)** that constrict tightly from top to bottom during a swallow to help move, or propel, foods and liquids from the mouth into the esophagus (tube that leads to the stomach). If their action is incomplete or ineffective, food may remain in the throat *after* the swallow, and pose a threat to the airway.

3. **The top of the esophagus is a sphincter that must relax in order to open and allow foods and liquids to enter. With aging, the size of opening may decrease.** If so, solid foods, pills or tablets, or even a large sip, may “get stuck,” or be difficult to swallow.

4. **The throat (pharynx) is longer, and more dilated** in elderly individuals than in younger ones. The normal time for a single swallow, about 1 second in younger individuals, can be 20% or so longer in older people. This means that the airway has to be protected longer in order for safe swallowing to occur.

The changes noted here represent just a few of the issues associated with swallowing mechanics in the elderly. Other changes occur in our ability to smell, in how our brain functions, and even how we breathe, during a swallow. In addition, certain diseases associated with dysphagia, e.g. diabetes, osteoarthritis (especially affecting the spine), are more common in the elderly. Aging is also often associated with increasing use of prescription medications that produce dryness, another factor that can lead to swallowing difficulty.

In short, there are many reasons that swallowing changes with aging. Often, we are able to accommodate these changes. We recognize them and assume they are typical of the aging process or we adapt to them so gradually that we aren't aware that we're making compensations. And, most importantly, we continue to swallow safely and effectively. But, questions about, or changes in, your swallowing ability should be addressed with a professional familiar with the swallowing process, such as a physician or a speech-language pathologist who specializes in swallowing problems. Some symptoms, for example, coughing or choking during or after eating or drinking, or a feeling that food or a pill gets “stuck” somewhere, may be an indication of a more serious problem, and need to be brought to your physician's attention right away.

For some swallowing problems, there are coping mechanisms and strategies that can help prevent a small problem from becoming worse. Just taking good care of your teeth, and maintaining good oral hygiene, are excellent starting points. Chewing carefully and taking smaller bites may help foods get into your esophagus. Tucking your chin down to your chest before swallowing can help protect your airway if you experience coughing during swallow. In other cases, swallowing tests may be required to determine the nature of your problem so that appropriate treatments can be prescribed. There are several such tests, and these and other topics will be the subject of future discussions!