

## Introduction

A Zenker's Diverticulum is a blind pouch or sac of the mucosa of the pharynx. It is located above the upper sphincter of the esophagus (image 1 & 2). Zenker's is the most common type of esophageal diverticulum and was named after German pathologist Friedrich Albert von Zenker in 1877.

## How does Zenker's Diverticulum Occur?

Exact etiology is uncertain but it is thought to be caused by tightness of the cricopharyngeus muscle. This muscle makes normally relaxes during swallowing to allow food to pass into the esophagus. When this muscle fails to relax, the pressure of swallowing pushes the food against the posterior wall of the hypopharynx, causing it to bulge slightly. Over time the bulge becomes wider and deeper resulting in the diverticulum (image 3).

## What Are The Symptoms Of Zenker's

The most common symptoms of Zenker's is dysphagia (difficulty swallowing) and a sense of a lump in the throat. Food might get trapped in the outpouching, leading to: Regurgitation, reappearance of ingested food in the mouth, cough (due to food regurgitated into the airway), halitosis, as stagnant food is digested by microorganisms, and infection. It rarely causes any pain.

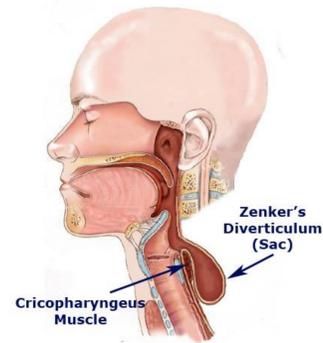


Image 1. Diagram of Zenker's Diverticulum in correlation to the esophagus

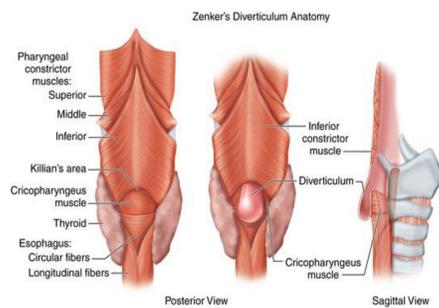


Image 2. Anatomy of Zenker's Diverticulum.

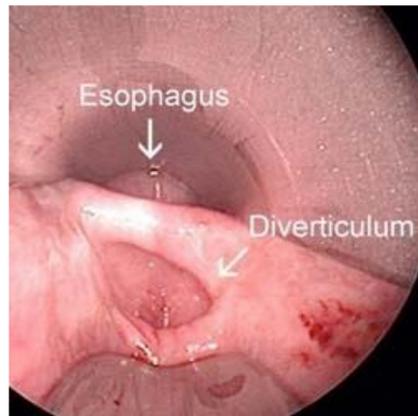


Image 3. Endoscopy showing Zenker's

## How is It Diagnosed?

Esophagram (barium swallow) image 5. It may also be found on an upper GI endoscopy and CT with oral contrast (image 4)



Image 4. CT scan showing Zenker's diverticulum



Image 5. Esophagram with barium contrast showing a Zenker's diverticulum

## Types of Treatment

If asymptomatic and small, no treatment is necessary. Larger and symptomatic, had been treated with neck surgery to resect the diverticulum. Non-surgical endoscopic technique has become more popular because of faster recover time currently preferred treatment is endoscopic stapling (image 6).

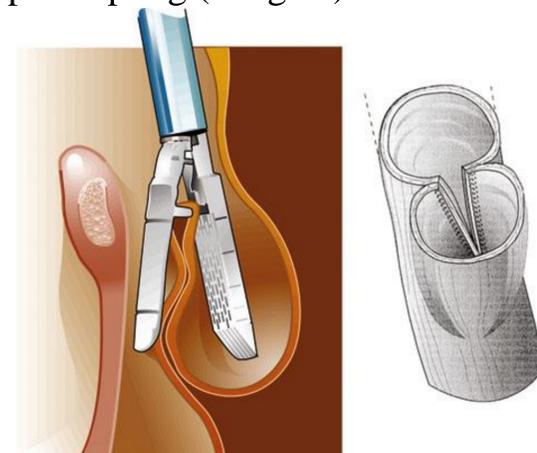


Image 6. Endoscopic stapling

## Post- Operation Instructions

Clear liquids by mouth after anesthesia for the first 24 hours. After 24 hours begin a soft food diet for 1 week post operative visit. Foods such as mashed potatoes, yogurt, scrambled eggs, etc.. Until cleared by the doctor avoid foods that have a hard edge or are difficult to chew such as steak, French bread, and Tortilla chips.

## Conclusion

Diagnostic radiography is a very important step in finding Zenker's Diverticulum, whether it's an Esophagram or CT. Esophagrams are a very common procedure step for Zenker's so it's important for the radiographer to become familiar with the step up and procedure so the radiologist can give the patient a clear diagnoses.

## References

1. BIZZOTTO, G. (2013). *Zenker's diverticulum: exploring treatment options*. [online] PubMed Central (PMC). Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3773964/>
2. Aggarwal, MD, N. (2016). *Are there alternatives to surgery for Zenker diverticulum?*. [online] Mdedge.com. Available at: <https://www.mdedge.com/ccjm/article/112087/gastroenterology/are-there-alternatives-surgery-zenker-diverticulum>
3. MSD Manual Professional Edition. (2018). *Esophageal Diverticula - Gastrointestinal Disorders - MSD Manual Professional Edition*. [online] Available at: <https://www.merckmanuals.com/professional/gastrointestinal-disorders/esophageal-and-swallowing-disorders/esophageal-diverticula>
4. Le Mouel, M.D., J. (2017). *Zenker's Diverticulum* | *NEJM*. [online] New England Journal of Medicine. Available at: <https://www.nejm.org/doi/10.1056/NEJMc1701393>
5. Mayo Clinic. (2019). *Treatment of Zenker's diverticulum - Mayo Clinic*. [online] Available at: <https://www.mayoclinic.org/diseases-conditions/zenker-diverticulum/diagnosis-treatment/drugs-herbs/symptoms-causes/uci-20431393>