

## Zenker Diverticulum

Zenker Diverticulum is a false diverticulum that emerges from an area of weakness in the esophageal muscular wall to form an outpouching which can become symptomatic. It most often occurs in male patients over 60 years old. A history of dysphagia, food regurgitation, and halitosis is hallmark. The best confirmatory test is a barium swallow. Surgery is the mainstay of treatment.



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### Pathophysiology

#### False Diverticulum

##### False Outpouching

In contrast to a “true” diverticulum (see Picmonic on “Meckel’s Diverticulum”) which contains all three layers of the intestinal wall (mucosa, submucosa, and muscle), a false diverticulum only involves the mucosa and submucosal layers.

#### Junction of Pharynx and Esophagus

##### Junction of Pharaoh and Sarcophagus

Zenker’s diverticulum generally occurs at the junction of the pharynx and esophagus; if the outpouching becomes large enough, a palpable mass can appear in the neck.

#### Inferior Pharyngeal Constrictor

##### Pharaoh Constrictor

The posterior cricopharyngeal muscles refer to the muscles of the posterior wall of the hypopharynx. One is the inferior pharyngeal constrictor muscle. This muscle consists of two muscles: the thyropharyngeus and the cricopharyngeus. Between these two muscles there is an area of relative weakness called the Killian triangle. Zenker’s diverticulum outpouches through this weak area.

### Symptoms

#### Dysphagia

##### Dice-fajita

An initial complaint of patients is often difficult or painful swallowing. This dysphagia may prevent patients from obtaining proper nutrition.

#### Regurgitation of Undigested Food

##### Regurgitating Undigested Food

As a food bolus passes by the diverticulum opening, it may slide into and be retained by the sac, only to be later regurgitated back into the patient’s mouth. It may also cause a cough or aspiration.

## Halitosis

### [Halo-breath](#)

If the food bolus is not regurgitated, it will remain in the outpouching, only to rot and give the patient foul breath, or halitosis. Friends and family are often first to complain about this.

## Diagnosis

### Barium Swallow

#### [Swallowing Berries](#)

An esophagram, or barium swallow, is a test to determine causes of swallowing abnormalities. It involves ingesting a liquid containing barium sulfate, a contrast dye that helps to distinguish structures when viewed via X-ray. If contraindicated, ultrasound may be useful in addition to flexible endoscopic visualization.

## Treatment

### Surgical Repair

#### [Surgeon with scalpel](#)

Open or endoscopic surgery may be performed to treat Zenker's diverticulum. Perioperative antibiotics and nasogastric tube placement improve recovery times, lower mortality, and reduce complications like infection or GI perforation.