

# **Early-Stage Cancer of the Esophagus and Gastroesophageal Junction**

## **Anatomy**

Food moves from the throat

→ esophagus

→ stomach

→ small bowel (jejunum)



## Types of Esophageal Cancer

There are two common types of esophageal cancer

- Adenocarcinoma

- Squamous Cell Carcinoma

## Cancer Staging

Staging refers to the tests to determine

- How large is the tumor?
- Has there been spread to lymph nodes?
- Has it spread to other parts of the body?

Treatment options depend upon the cancer stage

## Esophageal Cancer Staging

- **T** = Tumor - How deep has cancer grown into the wall of the esophagus?
- **N** = Nodes - Has cancer spread to the lymph nodes?
- **M** = Metastasis - Has the cancer spread to other parts of the body? lungs or liver?

## Layers of the Wall of the Esophagus

- Mucosa - Inner layer
- Muscle Wall (muscularis)
- Lymph nodes located in fat outside the muscle



### Early Stage Cancers

Cancers start on the very inside of the layer called the mucosa



## Locally-advanced Cancers

Over time, cancers can grow into the muscular wall



## Lymph Nodes

In some cases, cancer cells can break off from the main tumor and spread to lymph nodes



## T Stage

Cancers are categorized based upon the thickness of the tumor, known as the T stage



## **N Stage**

Cancers are categorized by whether there is spread to the lymph nodes.

- **N0** cancers have not spread to the lymph nodes
- **N1** cancers have spread to the lymph nodes.



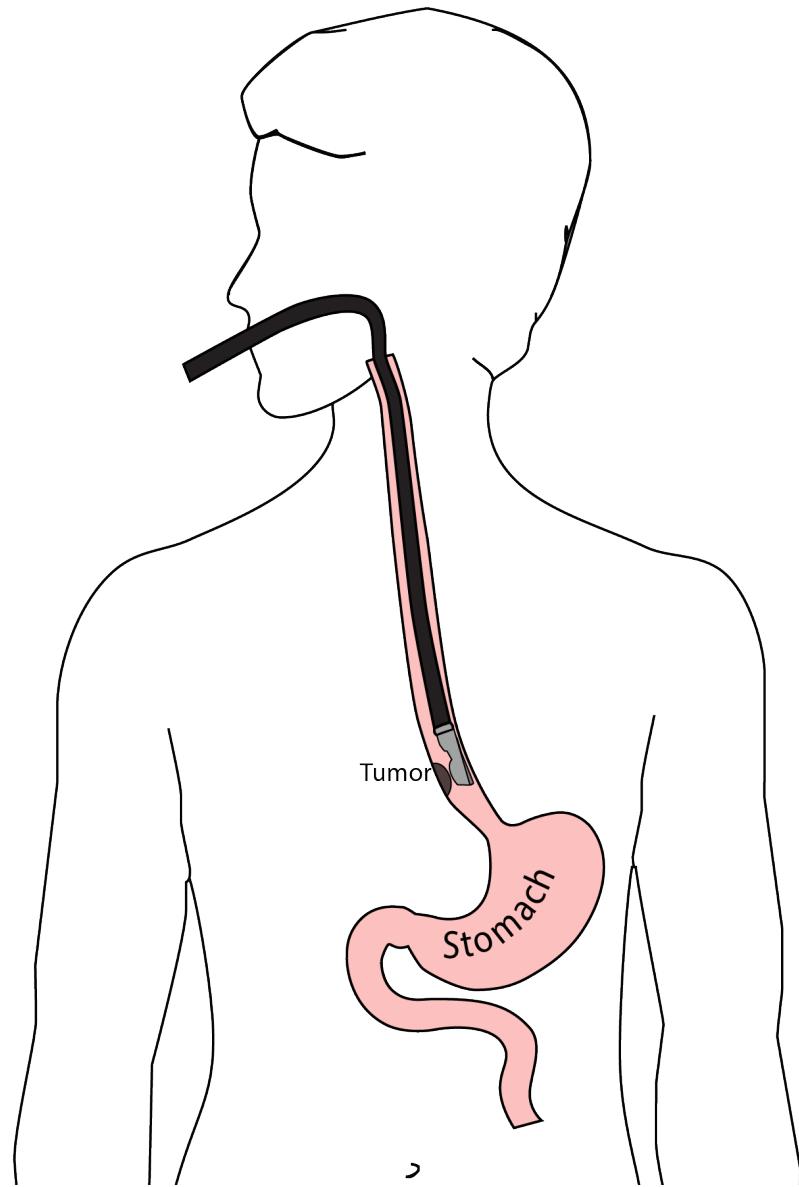
## **M Stage**

Some cancers can also spread from the esophagus to the lungs or liver



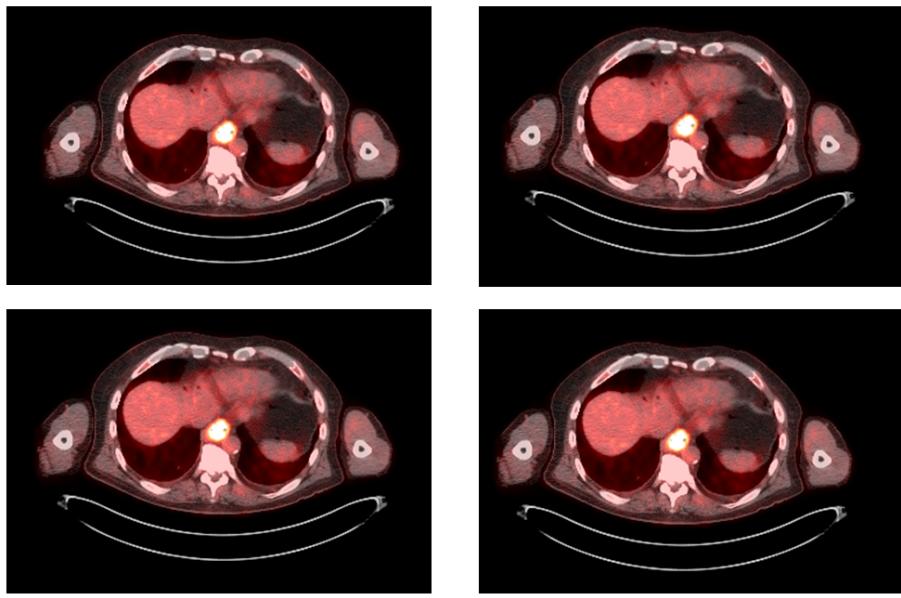
### **Endoscopic Ultrasound**

Endoscopic ultrasound (EUS) is a procedure similar to upper endoscopy (EGD) which has an ultrasound probe at the bottom of the scope. This allows measuring the thickness of the cancer. Endoscopic ultrasound can help determine the T stage of the cancer.



## PET scan

A PET scan is similar to a CT scan, and uses a small amount of tracer to light up areas of cancer.



## Laparoscopy

Some esophageal cancers can spread inside the abdominal cavity. These areas of spread can be very small, as small as a grain of rice.

In order to detect spread within the abdominal cavity, a procedure called a laparoscopy can be performed in some patients.

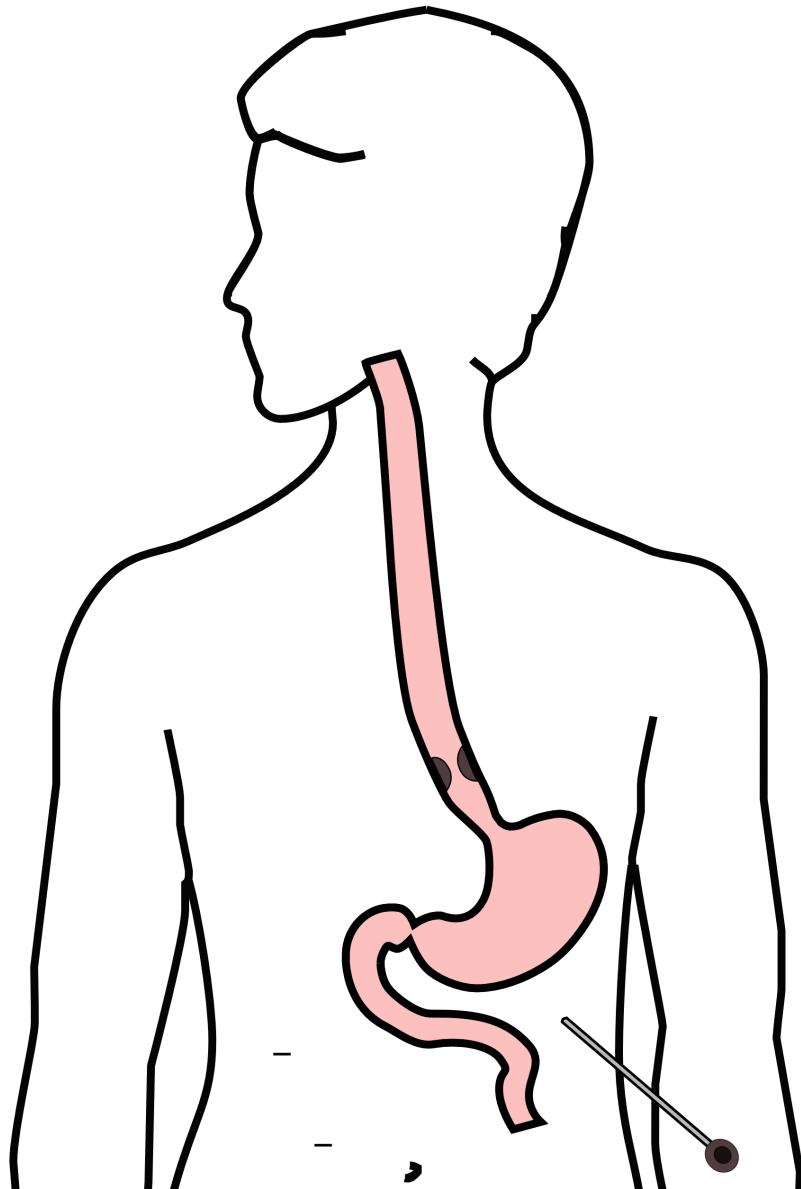


## Laparoscopy

A laparoscopy is performed under a general anesthetic.

- Several incisions  $1/4"$  long
- A telescope is inserted to look inside the abdominal cavity.

- Biopsies can be performed.



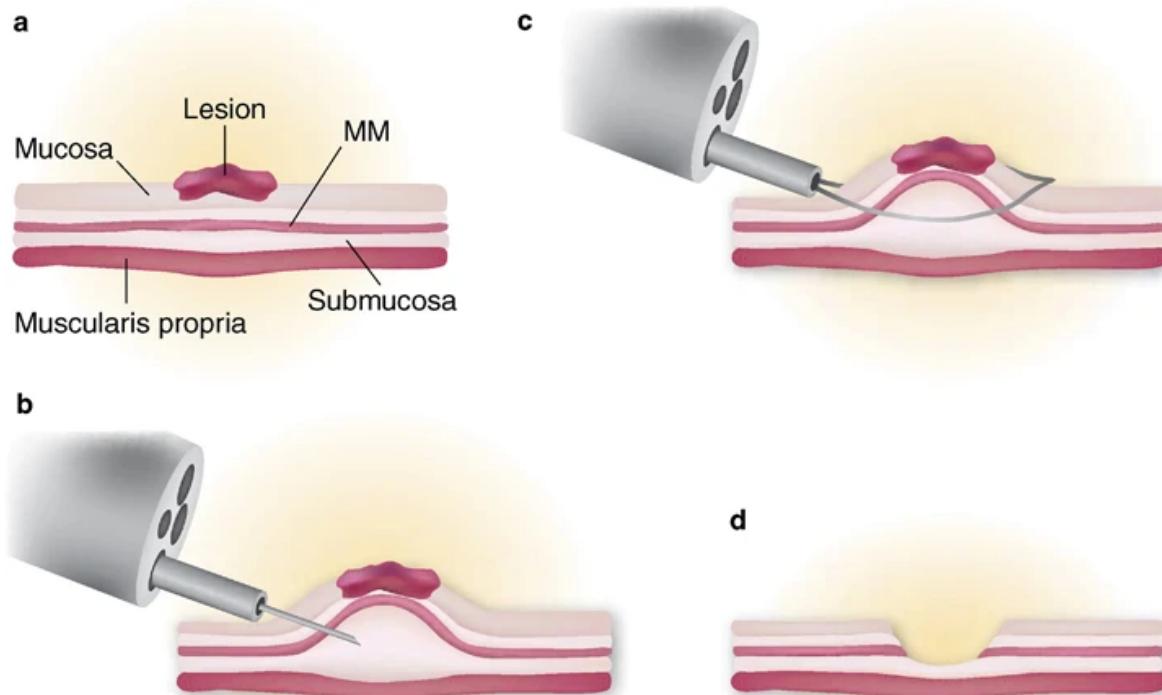
### Treatment Plan

Category	Staging	Treatment
Superficial	T1	Endoscopic Therapy
Localized	T1b or T2	Surgery

Locally-advanced Metastatic	T3 or N1 M1	Preoperative therapy Chemotherapy	Surgery
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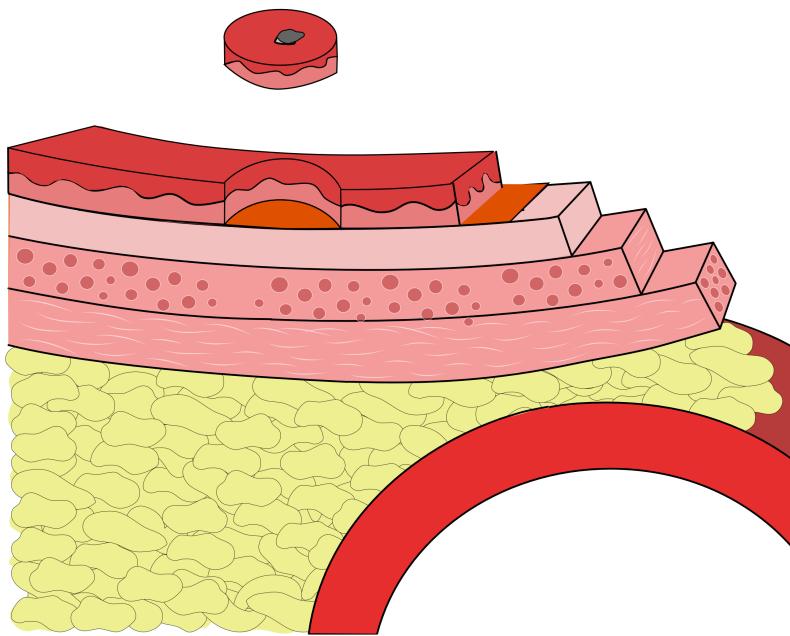
## Endoscopic Mucosal Resection (EMR)

Endoscopic procedure to remove a superficial tumor from the inner layer of the esophagus



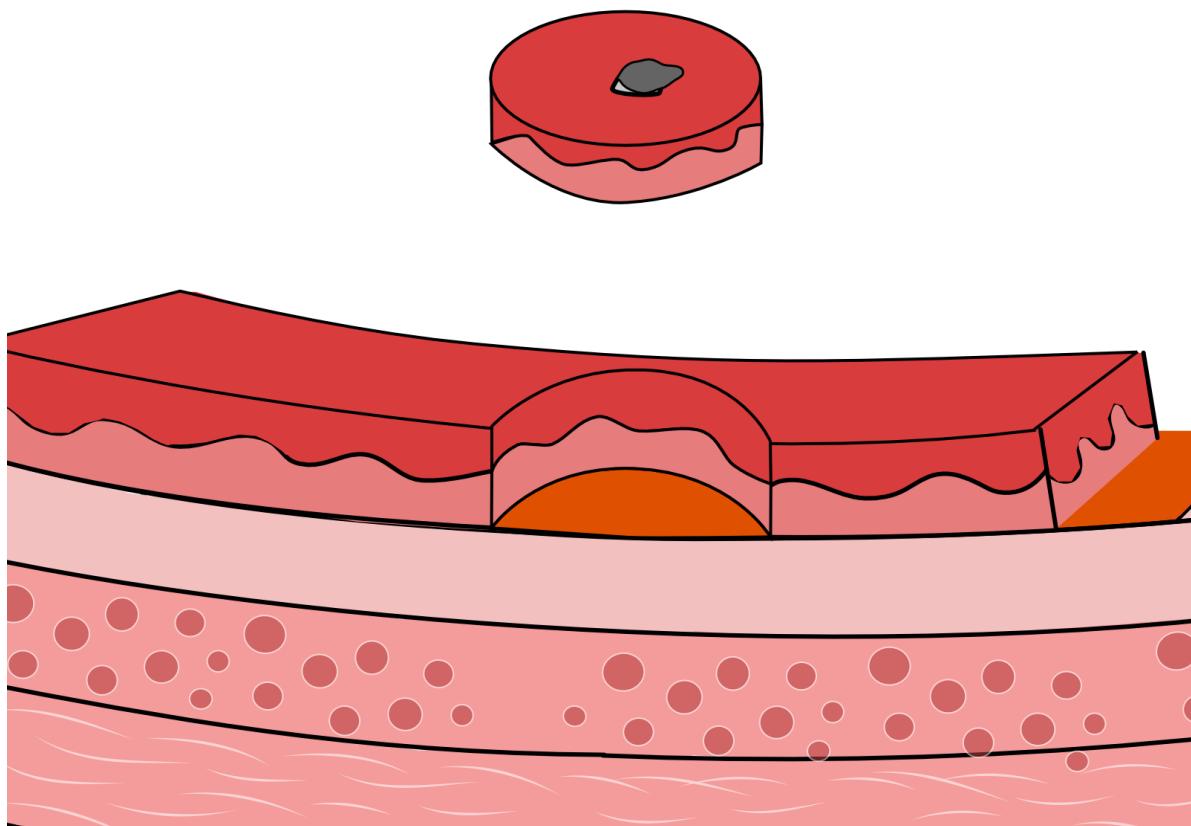
### Endoscopic Mucosal Resection - Favorable

- Clear margins at the edge *AND*
- Clear deep margin *AND*
- Tumor appears slow-growing under microscope



### Endoscopic Mucosal Resection - Favorable

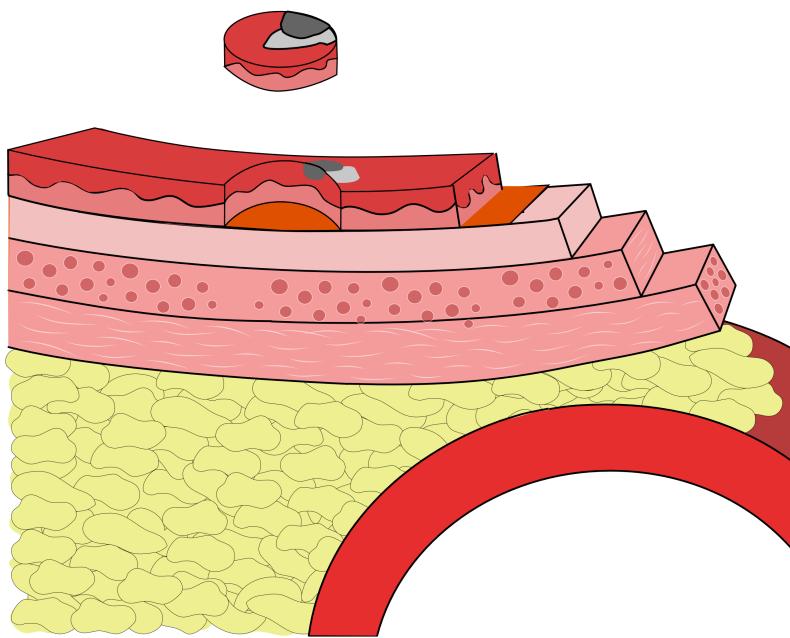
- Clear margins at the edge *AND*
- Clear deep margin *AND*
- Tumor appears slow-growing under microscope



EMR may be sufficient treatment (without surgery)

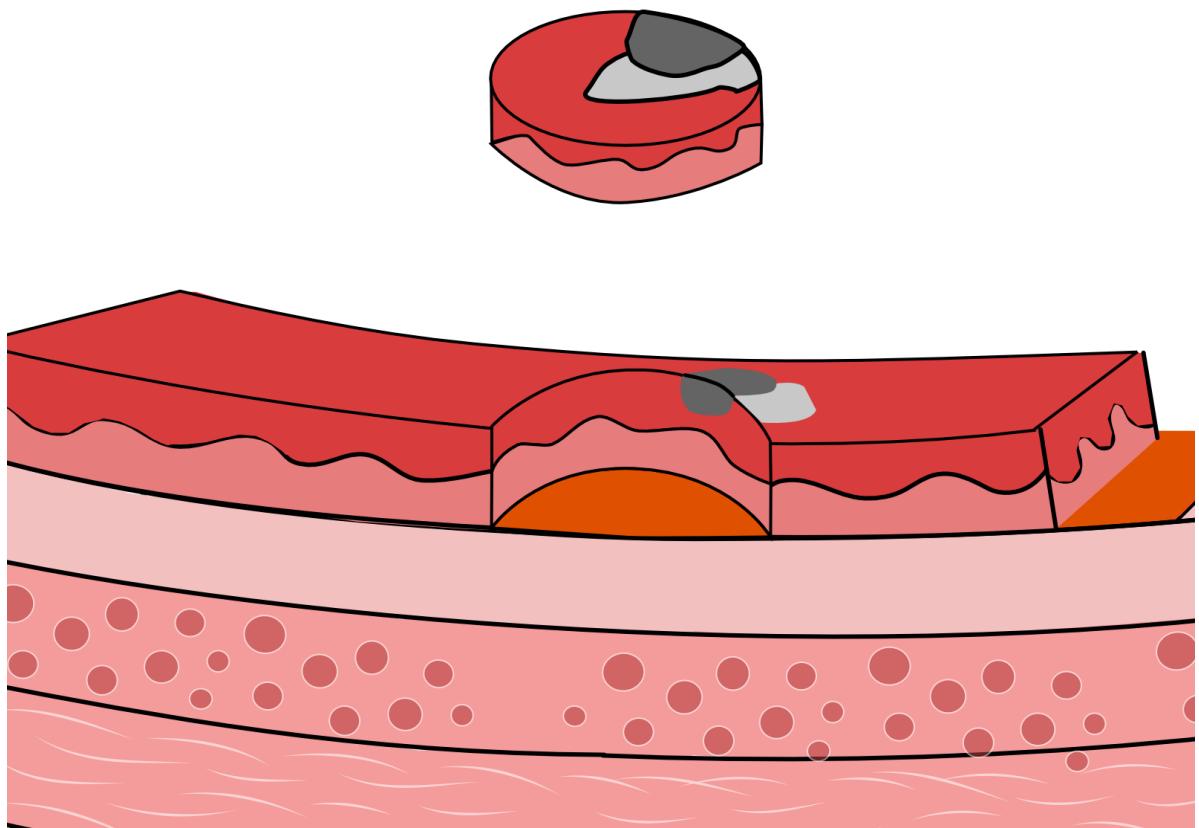
### **Endoscopic Mucosal Resection - Unfavorable**

- Tumor at edge margin *OR*
- Tumor at deep margin *OR*
- Tumor appears rapidly-growing under microscope



### Endoscopic Mucosal Resection - Unfavorable

- Tumor at edge margin *OR*
- Tumor at deep margin *OR*
- Tumor appears rapidly-growing under microscope



Esophagectomy (surgery) is standard recommendation