
Your Esophagus Pathology Report: Carcinoma (Cancer)

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Biopsy samples collected from your esophagus (typically during an [endoscopy](#)¹) are studied by a doctor with special training, called a **pathologist**. After testing the samples, the pathologist creates a report on what was found. Your doctor can use this report to help manage your care.

The information here is meant to help you understand medical terms you might find in your pathology report after an esophageal biopsy.

About the esophagus

The esophagus is a tubular organ that connects the mouth to the stomach.

The esophagus meets the stomach at a place called the **gastro-esophageal junction**, or **GEJ**. When you're eating or drinking, a special ring of muscle near the GEJ, called the **lower esophageal sphincter (LES)**, opens to allow food and liquids in the esophagus to enter the stomach. At other times, the LES normally stays closed to keep the stomach's acid and digestive juices from going up into the esophagus.

Normally, the inner lining of the esophagus (mucosa) is made up mainly of **squamous cells**. Squamous cells are flat cells that look like fish scales when seen with a

microscope.

Other parts of the digestive tract, such as the intestines, are lined with column-shaped gland cells known as **goblet cells**. These cells secrete mucus to help protect the inner lining from digestive acids and other substances.

Reflux, intestinal metaplasia, and Barrett's esophagus

In some people, acid from the stomach can back up into the lower part of the esophagus. The medical term for this is **gastroesophageal reflux disease (GERD)**, or just **reflux**. Reflux can damage the normal inner lining of the esophagus.

Over time (typically many years), the squamous cells can be replaced by goblet cells, which are more resistant to stomach acid. This condition is called **intestinal metaplasia**. When intestinal metaplasia replaces the squamous mucosa of the esophagus, it is called **Barrett's esophagus**. Having Barrett's esophagus is a risk factor for [esophagus cancer](#)².

Types of esophagus cancer

Carcinoma

Carcinoma is the general medical term for a cancer that starts in the cells that line organs. Nearly all cancers that start in the esophagus are carcinomas.

If the cancer cells have grown deeper than the top layers of cells in the esophagus, the cancer is called an **invasive** or **infiltrating carcinoma**. At this point the cancer cells can grow through the wall of the esophagus and into nearby structures, or they may spread outside the esophagus to nearby lymph nodes or to other parts of the body. Invasive carcinomas are considered true cancers (and not pre-cancers).

The pathologist can usually tell if a carcinoma is invasive based on the biopsy, but because only a small sample of tissue is removed, they usually can't tell how deeply the tumor is growing into the wall of the esophagus.

Some early, small cancers can be treated with a procedure called an [endoscopic mucosal resection \(EMR\)](#)³, which removes only part of the inner lining of the esophagus. In other situations, an [esophagectomy](#)⁴ (removal of part or all of the esophagus) might be needed, and the depth of growth into the wall of the esophagus is measured when the entire tumor is removed at surgery.

There are 2 main types of esophageal carcinomas. They are named based on how the cells look under the microscope.

Adenocarcinoma

Adenocarcinoma is a type of cancer that starts in gland cells. In the esophagus, adenocarcinoma can start from the goblet cells of [Barrett's esophagus](#)⁵ (see above). This is the most common type of esophageal cancer.

Squamous carcinoma (squamous cell carcinoma)

Squamous carcinoma of the esophagus is a type of cancer that starts from the squamous cells that normally line the inside of the esophagus.

Other information if esophagus cancer is found

If any type of esophageal carcinoma (cancer) is found, the pathologist might provide other information about the cancer in the pathology report.

If Barrett's esophagus is mentioned (along with carcinoma)...

Barrett's esophagus is only important because it raises your risk of esophagus cancer. If cancer has also been found, having Barrett's is not important.

Cancer grade (differentiation)

If carcinoma is found, the pathologist will likely give it a **grade**, based on how abnormal the cells and tissue look under a microscope. This is helpful in predicting how fast the cancer is likely to grow and spread. Esophageal cancer can have 3 grades:

- **Well differentiated (low grade)**
- **Moderately differentiated (intermediate grade)**
- **Poorly differentiated (high grade)**

Sometimes though, it is just graded as either well/moderately differentiated or poorly differentiated.

Poorly differentiated (high-grade) cancers tend to grow and spread more quickly, while well differentiated (low-grade) cancers tend to grow more slowly. Your doctor can tell

you more about the grade of your cancer and what it might mean for you.

If the report mentions vascular, lymphatic, or lymphovascular (angiolymphatic) invasion...

These terms mean that the cancer has grown into the small blood vessels and/or lymph vessels (lymphatics) of the esophagus. If the cancer has grown into these vessels, there is a higher chance that it has spread outside the esophagus. However, this doesn't mean that your cancer **has** spread. Discuss this finding with your doctor.

Biomarker tests on biopsy samples if cancer is found

If esophageal carcinoma (cancer) is found in the biopsy samples, the pathologist might test the cancer cells (or send them to another lab for testing) to see if they have changes in certain genes or proteins. These are sometimes called [biomarker tests](#)⁶.

Biomarker testing is more likely to be done for more advanced esophagus cancers. The results can often help tell if certain cancer medicines – especially [targeted drugs](#)⁷ and [immunotherapy](#)⁸ – are (or are not) likely to be helpful.

For example, tests might be done to look for:

- Levels of the **HER2** gene or protein
- Changes in **mismatch repair (MMR) genes**, such as *MLH1*, *MSH2*, *MSH6*, and *PMS2*
- The level of **microsatellite instability (MSI)** in the cancer cells
- The level of **tumor mutational burden (TMB)**
- Levels of the **PD-L1** protein
- Changes in the **NTRK** genes

For more on these tests, see [Tests for Esophageal Cancer](#)⁹.

Hyperlinks

1. www.cancer.org/cancer/types/esophagus-cancer/detection-diagnosis-staging/how-diagnosed.html
2. www.cancer.org/cancer/types/esophagus-cancer.html
3. www.cancer.org/cancer/types/esophagus-cancer/treating/endoscopic-

[treatments.html](#)

4. www.cancer.org/cancer/types/esophagus-cancer/treating/surgery.html
5. www.cancer.org/cancer/types/esophagus-cancer/causes-risks-prevention/risk-factors.html
6. www.cancer.org/cancer/diagnosis-staging/tests/biomarker-tests.html
7. www.cancer.org/cancer/types/esophagus-cancer/treating/targeted-therapy.html
8. www.cancer.org/cancer/types/esophagus-cancer/treating/immunotherapy.html
9. www.cancer.org/cancer/types/esophagus-cancer/detection-diagnosis-staging/how-diagnosed.html

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