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Types of Endoscopy [1]

This section has been reviewed and approved by the [Cancer.Net Editorial Board](#) [2], 02/2014

Key Messages:

- Endoscopy is a procedure in which a thin tube with a camera (endoscope) is inserted into the body to diagnose or, in some cases, treat a health condition.
- Several different types of endoscopes and endoscopic procedures have been developed to view various parts of the body.
- Your doctor or nurse will tell you what to do before the procedure, what will happen during the procedure, and what to expect afterward.

Endoscopy is a procedure that allows a doctor to view the inside of a person's body by inserting a tool called an endoscope. Most endoscopes are thin tubes with a powerful light source and a tiny camera at the end that sends images to a screen. The images help doctors see parts of the body that they would not otherwise be able to view.

Endoscopy and diagnosis

Doctors use endoscopy to see a specific part of the body to diagnose a disease or find the cause of a person's symptoms, such as a tumor. The length and flexibility of the endoscope a doctor uses depends on which part of the body needs to be viewed. For example, an endoscope that helps a doctor examine the joints is usually rigid, while one used to view the inside of the colon is flexible.

Originally, endoscopy was only used in the upper gastrointestinal tract (esophagus and stomach) and lower gastrointestinal tract (colon and bottom of the colon). Now, diseases of the ear, nose, and throat, as well as the heart, urinary tract, joints, and abdomen can be diagnosed with these tools.

Endoscopy and treatment

In addition to diagnosing cancer and other health problems, endoscopes can be used to treat, or even prevent, some of them. For example, doctors can use an endoscope to remove colon polyps (growths in the colon and rectum that could develop into cancer) during a [colonoscopy](#) [3] or perform surgeries through small incisions in the skin, which is known as [laparoscopic surgery](#) [4]

These types of procedures are done by inserting another tube with a tool at the end through a channel in the endoscope. Some of the tools a doctor may use during an endoscopy to collect tissue or cells for further examination or to treat a condition include:

- Flexible forceps, a tool that looks like tongs, for taking a tissue sample
- Biopsy forceps for removing a tissue sample or a suspicious growth, such as a polyp in the colon
- Cytology brush for taking cell samples
- Suture removal forceps for removing stitches inside the body

Doctors may also use an endoscope to deliver laser therapy (using a powerful beam of light to destroy cancer cells), photodynamic therapy (injecting a light-sensitive substance into a tumor then destroying the tumor with a laser), or drugs.

Specific endoscopy procedures

The following are some of the most common types of endoscopy. Doctors performing endoscopy go through extensive training to learn these procedures, and they participate in continuing education to learn about new developments in technology.

Name of procedure	Name of tool	Area or organ viewed	How endoscope reaches target area
Arthroscopy	Arthroscope	Joints	Inserted through a small incision over the area to be viewed
Bronchoscopy	Bronchoscope	Trachea and bronchi of the lungs	Inserted through the mouth
Colonoscopy	Colonoscope	Entire length of the colon and large intestine	Inserted through the anus
Colposcopy	Colposcope	Vagina and cervix	A speculum is inserted into the vagina. The colposcope is placed at the opening of the vagina but does not enter.
Cystoscopy	Cystoscope	Inside of the bladder	Inserted through the urethra

Esophagoscopy	Esophagoscope	Esophagus	Inserted through the mouth
Gastroscopy	Gastroscope	Stomach and duodenum (beginning of the small intestine)	Inserted through the mouth
Laparoscopy	Laparoscope	Stomach, liver, or other abdominal organ, including female reproductive organs (uterus, ovaries, fallopian tubes)	Inserted through a small, surgical opening in the abdomen
Laryngoscopy	Laryngoscope	Larynx (voice box)	Inserted through the mouth
Neuroendoscopy	Neuroendoscope	Areas of the brain	Inserted through a small incision in the skull near the area to be viewed
Proctoscopy	Proctoscope	Rectum and sigmoid colon	Inserted through the anus
Sigmoidoscopy	Sigmoidoscope	Sigmoid colon (bottom part of the colon)	Inserted through the anus
Thoracoscopy	Thoracoscope	Pleura covering the lungs and structures covering the heart	Inserted through a small surgical opening in chest

Preparing for the procedure

Before your endoscopy, you will get detailed instructions on how to prepare. In many cases, you will be asked not to eat or drink anything for several hours before the procedure. You may also be asked to stop taking blood-thinning medications several days before the procedure to reduce the risk of bleeding.

If your doctor is looking at a part of your gastrointestinal tract (includes the esophagus, stomach, gallbladder, liver, small intestine, colon, rectum, and lining of the gut), you may be asked to take a laxative or use an enema to clean out stool from your bowels.

Before your appointment, you may want to check with your insurance provider to find out whether the endoscopy will be covered and how much you may need to pay yourself. Once you arrive for your procedure, you will be asked to sign a consent form that states you understand the benefits and risks of the endoscopy and agree to have the test done. Talk with your doctor about any concerns you may have.

During the procedure

Most endoscopic procedures are done on an outpatient basis, meaning there is no need for an overnight hospital stay. You may receive anesthesia [5] (medication that blocks the awareness of pain) and/or a sedative (medication that relaxes you) depending on the type of endoscopy. The medication used will determine if you are alert, drowsy, or asleep during the procedure.

Throughout the endoscopy, a health care team will monitor your vital signs, including your temperature, blood pressure, and heart rate. Your doctor will review and, in some cases, record the images from the endoscope as well as perform any necessary procedures, such as collecting tissue for additional testing.

After the procedure

After the endoscopy is finished, you will be taken to a recovery area to rest. Depending on the type of endoscopy, mild side effects, such as a sore, dry throat or bloating and gas, can occur. If you were given certain types of anesthesia during the procedure, you will need to have someone drive you home.

Complications from endoscopy are uncommon, but they can happen. They can include a hole (puncture) or tear in the area being examined, bleeding, and infection from bacteria that get into the body. If you have fever, vomiting, chest pain, abnormal stool, shortness of breath, severe abdominal pain or other unusual symptoms after your endoscopy, talk with your doctor immediately.

Endoscopy advances

Advances in technology continue to make endoscopic procedures more comfortable for patients and make it easier for doctors to diagnose a number of different diseases.

Virtual colonoscopy. Virtual colonoscopy is a relatively new tool that is not a true endoscopic technique. Virtual colonoscopy uses computed tomography (CT) scans [6] of thin segments of the colon. These images are joined together by a computer to create a view of the inside of the colon. No endoscope is inserted into the colon, hence the name "virtual." However, patients having this test still need to follow the same bowel-cleansing procedures as a regular colonoscopy, and they will need a traditional colonoscopy if polyps are found. Virtual endoscopy can also be used to look at the inside of the lungs (virtual bronchoscopy), and research continues

on other virtual endoscopic procedures.

Capsule endoscopy. Capsule endoscopy is a procedure that requires the patient to swallow a small capsule the size of a vitamin that contains a camera. The camera captures images of the inside of the esophagus, stomach, and small intestine, which doctors have trouble seeing with endoscopic tubes. The images are sent to a recording device that you wear for approximately eight hours. The doctor then reviews them. Although capsule endoscopy has been around for a while, technological advances continue to be made this area.

More Information

[Colonoscopy](#) [3]

[Sigmoidoscopy](#) [7]

[Upper Endoscopy](#) [8]

Additional Resource

[MedlinePlus: Endoscopy](#) [9]

Links:

[1] <http://www.cancer.net/navigating-cancer-care/diagnosing-cancer/tests-and-procedures/types-endoscopy>

[2] <http://www.cancer.net/about-us>

[3] <http://www.cancer.net/node/24481>

[4] <http://www.cancer.net/node/24720>

[5] <http://www.cancer.net/node/24375>

[6] <http://www.cancer.net/node/24486>

[7] <http://www.cancer.net/node/24678>

[8] <http://www.cancer.net/node/24731>

[9] <http://www.nlm.nih.gov/medlineplus/endoscopy.html>