Royal Australasian
College of Surgeons

ENDOSCOPY OF THE COLON OR UPPER GASTROINTESTINAL TRACT

Patient information to assist informed consent

Endoscopy is a procedure that allows your surgeon to examine the inside lining of the oesophagus, stomach, duodenum, small intestine or large intestine (colon).

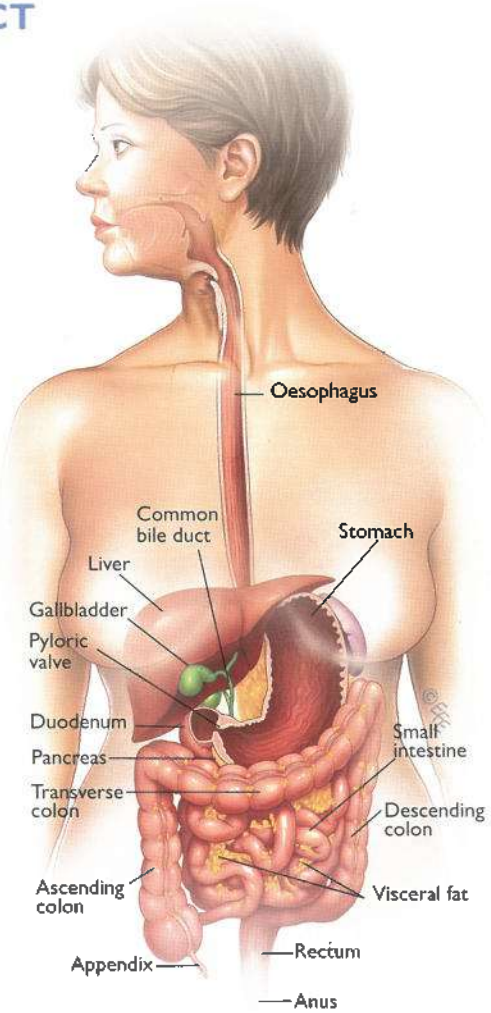
It can assist with the diagnosis of many problems that affect the gastrointestinal (GI) tract.

In many cases, a disorder can be treated during the endoscopic procedure.

This pamphlet discusses three different types of endoscopy:

- gastroscopy for the upper GI tract
- colonoscopy for the colon, and
- endoscopic retrograde cholangiopancreatography (ERCP) for the bile duct and pancreas.

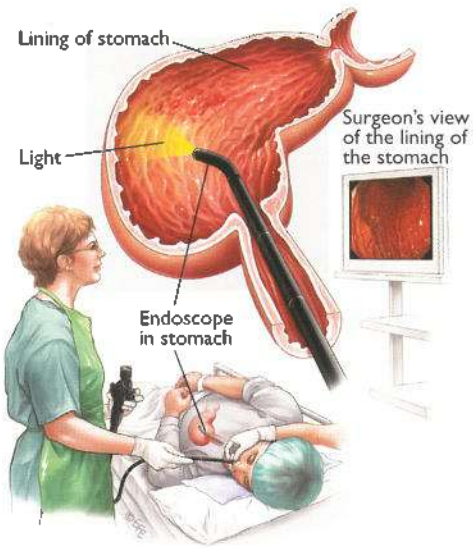
Depending on the examination and whether you need treatment during the procedure, an endoscopic procedure may take between five and 60 minutes.



NORMAL ANATOMY OF THE GASTROINTESTINAL TRACT

The gastrointestinal (GI) tract extends from the mouth to the anus. Gastroscopy and colonoscopy are effective methods of diagnosing and treating disorders of the GI tract.

Endoscopes in gastroscopy and colonoscopy



Endoscopes are thin tubes that vary in thickness from two to 15 millimetres, and may be up to 1.6 metres long. They are very flexible so they can move through the tight turns of the digestive system.

There are two types of endoscopes. The first type has a small video camera on the end that projects the image through a computer and onto a television screen.

The second type has a fibreoptic head that sends images to an eyepiece viewed by the surgeon. As an endoscope is hollow, another instrument can be passed through it, if necessary, during the procedure. The procedure may be videotaped or photographed so the surgeon can review the findings. During the procedure, the endoscope will not interfere with your breathing.

Sedation and local anaesthesia

Most patients are given a sedative to help relieve discomfort during the procedure. Usually, the endoscopy is well tolerated. Many patients fall asleep due to the sedative and have little or no memory of the procedure. If you are having a gastroscopy or an ERCP, you may also have a local anaesthetic sprayed onto the back of your throat to help stop the gag reflex. Discuss the risks of sedation and anaesthesia with your surgeon or anaesthetist.

Consent form

If you decide to have endoscopy, your surgeon will ask you to sign a consent form. Before signing, read it carefully. If you have any questions about it, ask your surgeon.

Talk to your Surgeon

The aim of this pamphlet is to provide you with general information. It is not a substitute for advice from your surgeon and does not contain all known facts about endoscopy. This information will change with time, due to clinical research and new therapies. If you are not sure about the benefits, risks and limitations of endoscopy and treatment during endoscopy, ask your surgeon.

Read this pamphlet carefully, and save it for reference. Technical terms are used that may require explanation by your surgeon. Write down questions you want to ask. Your surgeon will be pleased to answer them.

Seek the opinion of another surgeon if you are uncertain about advice you are given. Use this pamphlet only in consultation with your surgeon.

Your Surgeon

IMPORTANT: FILL IN ALL DETAILS ON THE STICKER BELOW

DEAR SURGEON: When you discuss this pamphlet with your patient, remove this sticker, and put it on the patient's medical history or card. This will remind you and the patient that this pamphlet has been provided. Some surgeons ask the patient to sign the sticker to confirm receipt of the pamphlet.

TREATMENT INFORMATION PAMPHLET

PEEL HERE

PROCEDURE: _____

PATIENT'S NAME: _____

DOCTOR'S NAME: _____

EDITION NUMBER: ____ DATE: D D / M M / Y Y Y Y

Edition number: 8

Consumer and Carer Feedback: To provide feedback about this pamphlet, send comments to: feedback@mitec.com.au or by post to Mi-tec, PO Box 24, Camberwell, VIC, 3124, Australia.

The decision to have endoscopy

A decision whether to have endoscopy should be made only after discussion with your surgeon. Make a decision only when you are satisfied with the information you have received and believe that you have been well informed.

Alternatives to endoscopy do exist but are diagnostic only. They do not allow your surgeon to provide treatment at the same time and may not be as accurate.

Some of these alternatives are: barium meal, barium enema, study of stool samples, study of blood samples, CT scans, and MRI cholangiography (for the bile duct and pancreas).

Your complete medical history

Your surgeon needs to know your medical history. Fully disclose any health problems you may have had because some problems may interfere with endoscopy, anaesthesia or recovery. This information is confidential. Tell your surgeon if you have or have had:

- an allergy or bad reaction to antibiotics, anaesthetic drugs, or any other medicines
- diabetes
- prolonged bleeding or excessive bruising when injured
- recent or long-term illness
- endocarditis (infection inside the heart)
- a significant heart problem
- an artificial heart valve
- recent artificial-joint surgery.

Give your surgeon a list of ALL medicines you are taking or have recently taken. Include medicines prescribed by your family doctor and those bought "over the counter" without prescription. In particular, mention long-term treatments including blood thinners (such as warfarin), aspirin (including aspirin-containing cough syrups), arthritis medication or insulin. Your surgeon may ask you to stop taking these medications for the week before your procedure, or you may be given an alternative dose. Discuss this carefully with your surgeon.

Stop smoking in the weeks before and after the procedure. It is best to quit.

Costs of treatment

Ask your surgeon for an estimate that lists the likely costs. As the actual procedure may differ from the proposed procedure, the final account may vary from the estimate. It is best to discuss costs with your surgeon before treatment rather than afterwards.

THE PRINCIPLES OF TREATMENT

Colonoscopy

The colon removes water from digested food and recycles it, before the expulsion of formed stool. About 1.5 metres long, the colon starts at the end of the small intestine and ends at the anus. Colonoscopy is used to diagnose the cause of signs or symptoms such as:

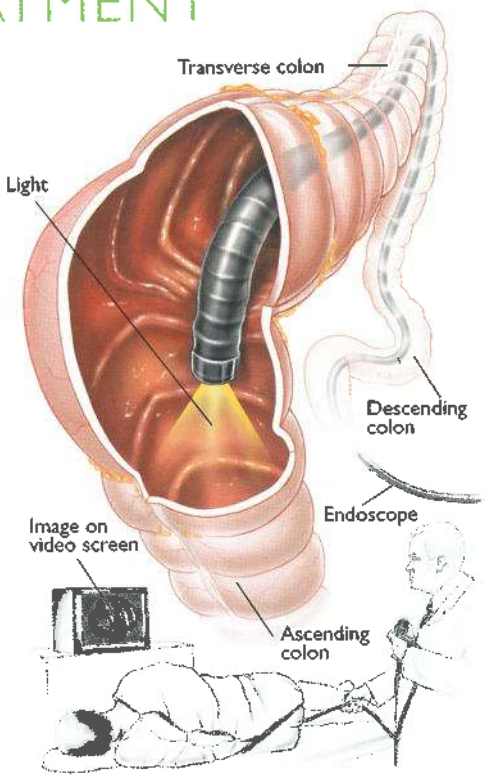
- diarrhoea
- constipation
- lower abdominal pain
- occult (unseen) blood in the stool
- rectal bleeding
- anaemia.

These complaints can be caused by a wide variety of disorders, including:

- colitis (inflamed colon)
- Crohn's disease (inflamed immune tissue in the gut wall, leading to ulcerated intestines)
- polyps
- inflammatory bowel disease
- gastrointestinal haemorrhage
- colorectal (bowel) cancer.

After the sedative has been given and you start to relax, your surgeon will ask you to lie on your left side and draw your knees up. Your anus will then be lubricated with a gloved finger before the lubricated colonoscope is inserted into your anus. You may feel like you need to use your bowels as the colonoscope is moved through your colon. You may also have some cramping and a full feeling as your surgeon dispenses air to provide a better view of the lining of the colon. However, this procedure does not generally cause discomfort, and most people sleep through it.

In some patients, the surgeon cannot navigate the colonoscope through the full length of the colon to its junction with the small intestine. In such a case, the surgeon will decide if a limited examination is acceptable or if further tests are needed.



During colonoscopy, your surgeon uses an endoscope to examine the colon.

Gastroscopy

Gastroscopy is used to diagnose the cause of signs or symptoms such as:

- bleeding
- heartburn
- reflux of stomach acid into the oesophagus
- nausea
- abdominal pain
- swallowing difficulties.

These complaints may be caused by a wide range of disorders, including:

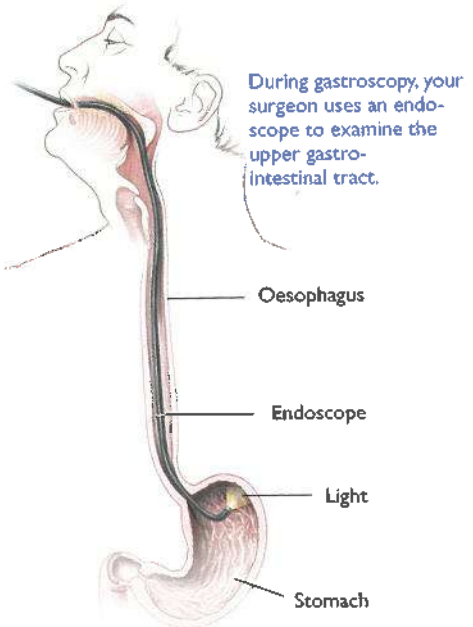
- gastric and duodenal ulcers
- dilated veins in the oesophagus
- stomach polyps
- intestinal bleeding
- inflammation of the stomach (gastritis)
- narrowing (stricture) of the oesophagus
- hiatal hernia of the diaphragm
- cancer of the stomach or oesophagus.

Gastroscopy is usually better than other tests for diagnosing ulcers, inflamed tissue or tumours (cancerous and non-cancerous).

After you are sedated, your surgeon will insert the gastroscope into your mouth.

The surgeon slowly guides the gastroscope down the oesophagus and into the stomach.

During this procedure, the surgeon examines the lining of the oesophagus, duodenum and small intestine for abnormalities.



During gastroscopy, your surgeon uses an endoscope to examine the upper gastrointestinal tract.

Endoscopic retrograde cholangiopancreatography (ERCP)

ERCP is a procedure to diagnose possible disorders of the pancreas and bile duct system. Bile is made in the liver and stored in the gallbladder until food is eaten. Bile is discharged into the cystic bile duct and travels to the common bile duct, as shown in the illustration.

The pancreas produces digestive enzymes that flow through the pancreatic duct and into the common bile duct at the ampulla (the point at which the common bile duct meets the pancreatic duct). Together, bile and the pancreatic digestive enzymes travel through the ampulla and into the duodenum to help digestion. Conditions that affect this system include:

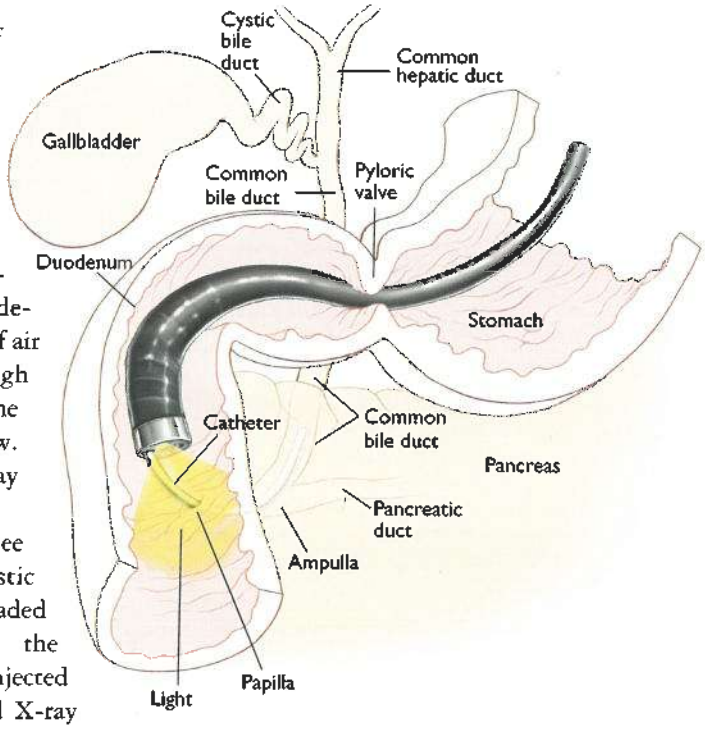
- obstruction of the bile duct and pancreatic duct by gallstones, pancreatic stones, tumours or scar tissue
- primary sclerosing cholangitis
- narrowing (stricture) of the ducts
- chronic pancreatitis (inflamed pancreas) or
- cancer of the pancreas, ampulla or bile duct
- pancreas divisum.

Common symptoms of these conditions are jaundice or pain in the abdomen.

The surgeon inserts the endoscope into the patient's mouth and guides it down the oesophagus and through the duodenum to the papilla. Puffs of air may be introduced through the endoscope to provide the surgeon with a better view. Due to this, the patient may have a full feeling.

Once the surgeon can see the ampulla, a small plastic tube (catheter) is threaded through the inside of the endoscope. A dye is then injected into the duct system, and X-ray films are taken.

If any abnormal tissue is found, the surgeon may administer various treatments through the endoscope.



The endoscope is positioned at the papilla in the duodenum. A catheter is inserted into the endoscope, and a dye is injected into the bile duct system. An X-ray film is then taken.

Procedures during gastroscopy or colonoscopy

Biopsy of abnormal tissue

If your surgeon sees abnormal or suspicious tissue, a biopsy (a small piece of tissue) may be taken by forceps passed through the endoscope. This biopsy is painless.

The tissue is sent to a pathologist for examination under a microscope. You will receive the results of this examination in about one to two weeks.

If your surgeon takes a biopsy, it does not mean that cancer is necessarily suspected because biopsies may be taken for many reasons.

Electrocautery

Applying electrocautery (electric heat) at the site of bleeding can treat bleeding from the lining of the GI tract. Bleeding is usually a sign of another condition.

Polypectomy (removal of polyps)

Polyps are usually non-cancerous growths on the lining of the GI tract. They vary in size from one millimetre to five centimetres and sometimes develop into cancer if left untreated.

If your surgeon finds a polyp, it may be removed by a special wire loop (called a snare) that is inserted through the endoscope. The snare is placed around the polyp which is then severed from the colon lining by electrical current passed through the wire snare. Electrocautery is applied to stop any bleeding.

As a surgeon cannot always tell a non-cancerous polyp from a cancerous polyp, polyps are usually sent to a pathologist for diagnosis.

Sometimes a polyp may not be removed endoscopically because it is too large or too difficult to reach. In such a case, the surgeon may recommend that the patient have surgery for removal of the polyp.

Some polyps can be dealt with by using argon beam coagulation, another technique that allows controlled burning of the polyp.

Strictures

Strictures are a narrowing of the ducts or other passages of the GI tract. They are due mainly to the growth of scar tissue or cancer.

A stricture may be treated by stretching the tissue from the inside using an inflatable balloon, a "bougie" (tapered plastic tube) or other device. In some cases, a stent (an expandable tube made of metal or plastic) can be passed through the endoscope and inserted to widen a stricture.

A biopsy may be needed to diagnose the cause of the stricture.

Removal of stones

If a gallstone or pancreatic stone is found during ERCP, it often can be removed through the endoscope. Forceps are passed through the endoscope, and a small cut is made to open the papilla. A second device is passed through the endoscope to remove the stone. Electrocautery is applied to the papilla to stop any bleeding.

To prepare for an endoscopy

Note: If you have diabetes, discuss your condition with your surgeon before you undertake any period of fasting.

Gastroscopy and ERCP: Do not eat or drink anything for six hours before your appointment. Your surgeon may give you additional instructions and may recommend a longer period of fasting.

Colonoscopy: Your colon must be free of faeces. Your surgeon will provide you with instructions on how to clear your colon prior to the examination. This will involve modifications to your diet, and you will also need to take some "bowel prep" (laxative). Please ask your surgeon for these instructions. If preparation of the colon is incomplete, your surgeon may have to repeat the procedure at another time.

Recovery after gastroscopy or colonoscopy

After the procedure, you are escorted to a recovery area. You will not be able to eat or drink for about an hour and may need to stay in recovery for up to three hours. Depending on the extent of treatment you have had during the endoscopic procedure, your surgeon may want you to stay overnight for observation. Arrange to have a friend or relative take you home. Do not drive, operate heavy machinery, drink alcohol or make important decisions until the next day (sometimes longer if your recovery is slow).

If you have a gastroscopy or an ERCP, it is common to have a sore throat for a day or two. Patients often have a full feeling and pass gas for a while after the procedure. Soft stools and changes in bowel movements are common for the first day or so. Stools should not be black or contain blood clots.

Colonoscopy patients report feeling bloated and often pass a lot of gas. Walking may relieve this. You may also pass small quantities of blood in the first stool. If clots or larger amounts of blood are passed, contact your surgeon at once.

Possible complications of gastroscopy, colonoscopy and ERCP

Gastroscopy, colonoscopy and ERCP are generally safe procedures but do have risks. Despite the highest standards of practice, complications can occur. Complications are more likely if a therapeutic procedure (such as dilating an oesophageal stricture, removing a colonic polyp or removing a stone during ERCP) is performed. Risks may also increase with age and the number of colonoscopies the patient has undergone.

It is not usual for a surgeon to outline every possible side effect or rare complication of a procedure. However, it is important that you have enough information about possible complications to fully weigh up the benefits, risks and limitations of treatment.

Any discussion of frequency of risks or benefits (for example, one patient in 100, or "rare" and so on) can only be estimates as the outcomes of clinical research can vary widely. Such outcomes can depend on many factors, such as the surgical methods, equipment, surgeons' experience and data collection, among others.

Discuss any concerns with your surgeon. The following possible complications are listed to inform, not to alarm. There may be others that are not listed.

Specific complications of gastroscopy

- Aspiration pneumonia (very uncommon): A patient may inhale some contents of the stomach during the procedure. This may cause a lung infection that may require hospitalisation and, rarely, surgery.
- Perforation or tear of the oesophagus, stomach, or duodenum caused by the endoscope; this requires hospitalisation, antibiotics and, sometimes, surgery.
- Rarely, excessive bleeding caused by the gastroscope. Severe bleeding requires immediate hospitalisation, antibiotics and, rarely, surgery. It is unusual to have bleeding so serious that a blood transfusion is necessary. A little bleeding usually occurs after a large polyp has been removed or if the oesophagus has been dilated.

Specific complications of colonoscopy

- Recent clinical data indicates of every 10,000 patients, about four may have a perforation of the colon wall with the endoscope. However, other sources have indicated the risk may be about one patient in 1,000 procedures. This requires hospitalisation, antibiotics and often surgery. Rarely, colon damage may be severe enough to require a colostomy and a colostomy bag. Although this is likely to be temporary, the colostomy has been permanent in unusual cases.
- Excessive bleeding is rare and may require hospitalisation, antibiotics or surgery. A little bleeding usually occurs after a large polyp has been removed. Although uncommon, it is possible that the remaining stalk of the polyp may become infected and bleed excessively one to two weeks after the procedure. This can usually be treated successfully, but admission to hospital and a blood transfusion may be necessary.

Specific complications of ERCP

- Complications are more common after ERCP (than after gastroscopy) and occur in about one patient in 10. The most likely complication of ERCP is pancreatitis (inflammation of the pancreas), which occurs in about one patient in 20. The pancreatitis is usually mild to moderate and requires a few days in hospital to resolve. In one patient in 200, the pancreatitis may be severe.
- Bleeding and perforation of tissue after a sphincterotomy are the next most common complications. Bleeding after a sphincterotomy can usually be treated endoscopically; surgery is rarely needed.
- Aspiration pneumonia is uncommon. A patient may inhale some stomach contents during the procedure. This may cause a lung infection that may require hospitalisation and, rarely, surgery.
- Bile duct infection requires medical treatment and hospitalisation.
- Perforation of the oesophagus, stomach, duodenum, bowel, or bile ducts requires hospitalisation, antibiotics and, sometimes, surgery.
- Rarely, excessive bleeding. Severe bleeding may require hospitalisation, antibiotics and, rarely, surgery. This may cause a lung infection that may require hospitalisation and, rarely, surgery. A little bleeding usually occurs after removal of a large polyp, dilation of the oesophagus, or a sphincterotomy (surgery to open a constricted sphincter).

Life-threatening complications

Serious illness and death have been linked to endoscopic procedures and, in particular, perforation of an organ with an endoscope. However, this is rare.

Infection control

Gastroscopes and colonoscopes are reusable and delicate instruments. They cannot withstand the heat and pressure of sterilisers (autoclaves) that kill all bacteria and viruses. After use, endoscopes must be cleaned and disinfected with special chemicals in modern automated disinfection machines. If endoscopes are thoroughly cleaned and disinfected, the risk of cross infection from a previous patient is very small, but it cannot be ruled out entirely. People who have had a biopsy or treatment of polyps during endoscopy may have to wait for four to six months before donating blood.

REPORT TO YOUR SURGEON

Tell your surgeon at once if you develop any of the following:

- severe chest or abdominal pain
- breathing difficulties
- spitting up blood
- black bowel motions
- clots or blood more than about half a cup coming from the rectum
- vomiting
- weakness, dizziness or shortness of breath
- fever over 38°C or chills.

If your surgeon cannot be contacted, attend the accident and emergency department at the nearest hospital.

Edition number: 8 05November2020 Mi-rec Medical Publishing® Telephone +61 3 9888 6262 Facsimile +61 3 9888 6465 e-mail: orders@mitec.com.au online orders: www.mitec.com.au