ERCP (Endoscopic retrograde cholangiopancretography)

ERCP is a procedure that uses an endoscope and X-rays to look at the bile duct and the pancreatic duct. ERCP can also be used to remove gallstones or take small samples of tissue for analysis

What is an ERCP?

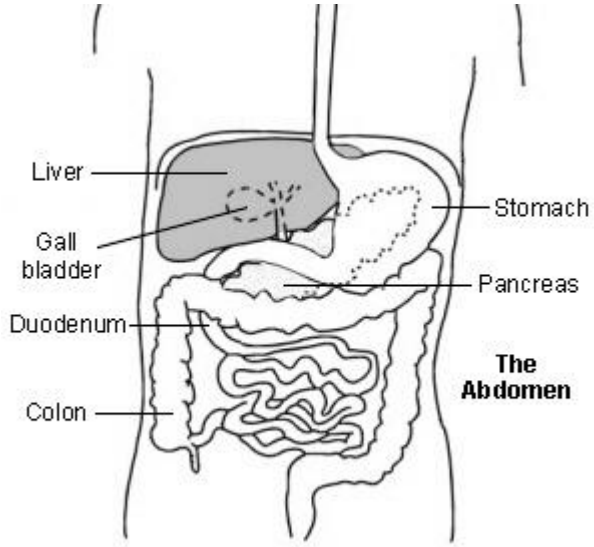
ERCP stands for 'endoscopic retrograde cholangiopancreatography'. ERCP is a very useful procedure as it can be used both to diagnose and treat various different conditions.

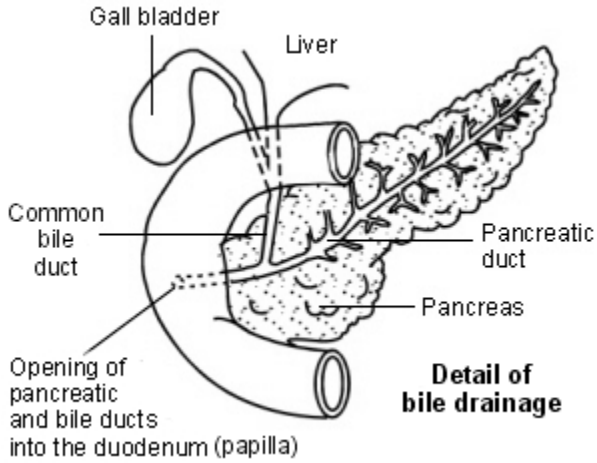
An endoscope is a thin, flexible, telescope. It is passed through the mouth, into the oesophagus and down towards the stomach and duodenum. The endoscope contains fibre-optic channels which allow light to shine down so the doctor can see inside.

Cholangiopancreatography means X-ray pictures of the bile duct and pancreatic duct. These ducts do not show up very well on ordinary X-ray pictures. However, if a dye that blocks X-rays is injected into these ducts then X-ray pictures will show up these ducts clearly. Some dye is injected through the papilla back up into the bile and pancreatic ducts (a 'retrograde' injection). This is done via a plastic tube in a side channel of the endoscope. X-ray pictures are then taken.

The bile ducts and nearby structures

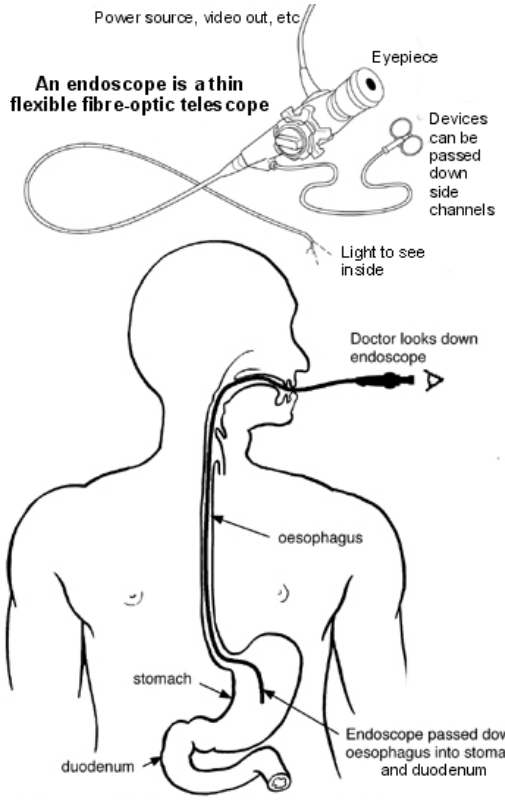
Bile is made in the liver. The liver is in the upper right part of the abdomen. Bile passes from liver cells into tiny tubes called bile ducts. These join together (like the branches of a tree) to form the common bile duct. Bile constantly drips down the common bile duct, and through an opening called the papilla into the duodenum (the first part of the gut after the stomach).





The **gallbladder** lies under the liver on the right side of the upper abdomen. It is like a pouch which comes off the common bile duct. It is a 'reservoir' which stores bile between meals. The gallbladder contracts (squeezes) when you eat. This empties the stored bile back into the common bile duct. The bile passes along the remainder of the common bile duct into the duodenum. Bile helps to digest food, particularly fatty foods.

The **pancreas** is a large gland that makes enzymes (chemicals). These flow down the pancreatic ducts, into the main pancreatic duct, and through the papilla into the duodenum. The pancreatic enzymes are vital in order to digest food. (The pancreas also makes some hormones such as insulin.)



What happens during an ERCP?

A General anaesthetic is usually given by an anaesthetist in our hospital. A drip will be put up either in the ward or by the anaesthetist. A sedative will be given and you will then fall asleep. The doctor then gently pushes the endoscope down your oesophagus into your stomach and duodenum.

The doctor looks down the endoscope via an eyepiece or on a TV monitor which is connected to the endoscope. Air is passed down a channel in the endoscope into the stomach and duodenum to make the lining easier to see.

The endoscope also has a 'side channel' down which various tubes or instruments can pass. These can be manipulated by the doctor who can do various things. For example:

- Inject a dye into the bile and pancreatic ducts. X-ray pictures taken immediately after the injection of dye show up the detail of the ducts. This may show narrowing (structure), stuck gallstones, tumours pressing on the ducts, etc.
- Take a small sample (biopsy) from the lining of the duodenum, stomach, pancreatic or bile duct near to the papilla. The biopsy sample can be looked at under the microscope to check for abnormal tissue and cells.
- If the X-rays show a gallstone stuck in the duct, the doctor can widen the opening of the papilla (sphincterotomy) and pull the stone into the duodenum with a balloon or wire basket. A stone can be grabbed by a 'basket' or left to be passed out with the faeces (motions).
- If the X-rays show a narrowing or blockage in the bile duct, the doctor can put a stent inside to open it wide. A stent is a small wire-mesh or plastic tube. This then allows bile to drain into the duodenum in the normal way. You will not be aware of a stent which can remain permanently in place or be removed or replaced at a later stage.

The endoscope is gently pulled out when the procedure is finished. An ERCP can take anything from 30 minutes to over an hour, depending on what is done.

What preparation do I need to do?

- You should not eat for approximately 6 to 10 hours before the procedure. (Small sips of water may be allowed up to two hours before the procedure.)
- Notify your doctor if you take any blood thinning medication ie Warfarin, Clopidogrel etc
- Most medications can be continued as usual.
- Medication use such as blood thinners (Warfarin, Clopidogrel) and insulin should be discussed with your surgeon prior to the examination as well as any other medication you might be taking.
- It is best to inform your surgeon of any allergies to medications, iodine, or shellfish.
- It is essential that you alert your surgeon if you require antibiotics prior to undergoing dental procedures, since you may also require antibiotics prior to ERCP.
- If you have any major diseases, such as heart or lung disease that may require special attention during the procedure, discuss this with your surgeon.

What can I expect after an ERCP?

Most people will be kept for observation overnight. You should not drive, operate machinery or drink alcohol for 24 hours after having the anaesthetic. Because of the effect of the sedative/anaesthetic, most people remember very little about the procedure.

You should not eat or drink for at least 6 hours after the procedure. Normal eating and drinking can then be resumed provided you are not experiencing any abdominal pain.

You may require a short hospital stay if you had a procedure such as removing a gallstone or inserting a stent.

Are there any side-effects or complications from having an ERCP?

Most ERCP's are done without any problems. Some people have a mild sore throat for a day or so afterwards. You may feel tired or sleepy for several hours, caused by the sedatives. Uncommon complications include the following:

- There is a slightly increased risk of developing a chest infection following an ERCP.
- Occasionally, the endoscope causes some damage to the gut, bile duct or pancreatic duct. This may cause bleeding, infection and, rarely, perforation. If any of the following occur within 48 hours after an ERCP, consult a doctor immediately:
    - Abdominal pain - in particular, if it becomes gradually worse, and is different or more intense to any 'usual' indigestion pains or heartburn that you may have.
    - Fever (raised temperature).
    - Difficulty breathing.
    - Vomiting blood.
- Pancreatitis (inflammation of the pancreas) sometimes occurs after ERCP. This can be serious in some cases.

The risk of complications is higher if you are already in poor general health. The benefit from this procedure i.e. often avoiding surgery needs to be weighed up against the small risk of complications.

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