and respond to bed rest, pain relief and fasting to rest the gut with the patient needing to stay in hospital for only a few days. Some patients develop severe pancreatitis and may require intensive care, prolonged hospitalisation or even surgery.

Bleeding may occur when the lower bile duct has been opened (by sphincterotomy) to remove stones or put in a stent. This bleeding usually stops on its own, but occasionally, transfusion may be required or the bleeding may be directly controlled with endoscopic therapy. Bleeding may show as vomiting of blood, passage of red, plum coloured or black bowel motions, or feeling faint when you stand up.

Perforation of the duodenum occasionally occurs after a sphincterotomy has been performed or large stones have been pulled from the bile duct. It may also follow attempts to deal with strictures of the duodenum or bile ducts or when there has been prior surgery to the upper gastro-intestinal tract. Perforation usually causes immediate, severe pain in the upper abdomen or back and requires urgent hospital treatment which may include surgery.

Infection can also result from an ERCP, especially if the bile duct is blocked and bile cannot drain. Infection may be considered if the patient develops pain, fever, shivering, sweating or feeling faint when they stand up. Treatment for infection requires antibiotics and restoring the drainage of bile.

Everything will be done to minimise the risk of these complications. There are ways of detecting these complications early and specific treatments are available if they do arise. Occasionally there may be a need for hospitalisation, major surgery, intravenous feeding, or blood transfusion. Although death can result from complications of ERCP, this is rare. Some of the above complications can occur several days later, so please report any unexpected symptoms to the doctor who performed your ERCP.

Be sure to discuss any specific concerns you may have about the procedure with your doctor.

What can you expect after your ERCP?

When your ERCP is completed on an outpatient basis, you will need to remain under observation in the

recovery room until your doctor and the ERCP team has decided you can return home. Sometimes, admission to the hospital is necessary for observation or recovery from the effects of sedation. Your doctor will tell you when you can take fluids and meals. Usually, it is within a few hours after the procedure.

Occasionally, minor problems may persist, such as bloating, gas, or mild cramping. These symptoms should disappear in 24 hours or less. By the time you are ready to go home, you will feel stronger and more alert but you will need a family member or friend to take you home. You must not drive home. We recommend that you rest for the remainder of the day. A day or so after you're home; you may be contacted by a member of the ERCP team. Please contact us if you have any questions.

Remember, you should report vomiting, possible bleeding, severe abdominal pain, weakness or dizziness, and fever over 38 degrees. Fortunately, these problems are not common.

Other information you need to have

- You will receive a Procedure Preparation Sheet which details your appointment time, the procedure you must follow prior to the test, and other information specifically required for your ERCP.
- Privately treated patients will also require information on hospital charges and doctors fees. We encourage you to register as a private patient at The Canberra Hospital if you have private health insurance.
- This information is also available on our website www.gastrotract.com.au

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Gastroenterological Services

ERCP Explained

Your doctor has recommended that you have a medical procedure called an ERCP. **ERCP** stands for **Endoscopic Retrograde Cholangio-Pancreatography**. This brochure will help you understand why ERCP is performed and what you can expect from the procedure.

'Endoscopic' refers to the use of an instrument called an endoscope - a thin, flexible tube with a tiny video camera and a light on the end. The endoscope is used by a specially trained endoscopist (either a gastroenterologist or a gastrointestinal surgeon), to diagnose and treat various problems of the gastrointestinal or GI tract. The GI tract includes the stomach, intestine and other parts of the body that are connected to the intestine, such as the liver, pancreas and gallbladder. While performing an ERCP the endoscopist uses two images – the full colour endoscopy image and the black and white X-ray image to assess the ducts of the pancreas and the biliary system.

ERCP may be useful in diagnosing and treating problems causing jaundice (which is recognised by the whites of the eyes turning yellow) or pain in the abdomen. For example, ERCP can be helpful when there is a blockage of the bile ducts by gallstones, tumours, scarring or other conditions that cause obstruction or narrowing (stricture) of

the bile ducts. Similarly, pancreatitis (inflammation of the pancreas), blockage of the pancreatic ducts from stones, cancers, or stricture can also be evaluated or treated by ERCP. Other special investigations that take pictures using X-rays or ultrasound waves may provide important information for use along with that obtained from ERCP. A potentially serious abnormality may rarely go undetected and untreated by ERCP and cause health problems in the future – regrettably all investigations have a small failure rate. Also treatment attempted at the time of ERCP may not be successful.

How to prepare for the ERCP

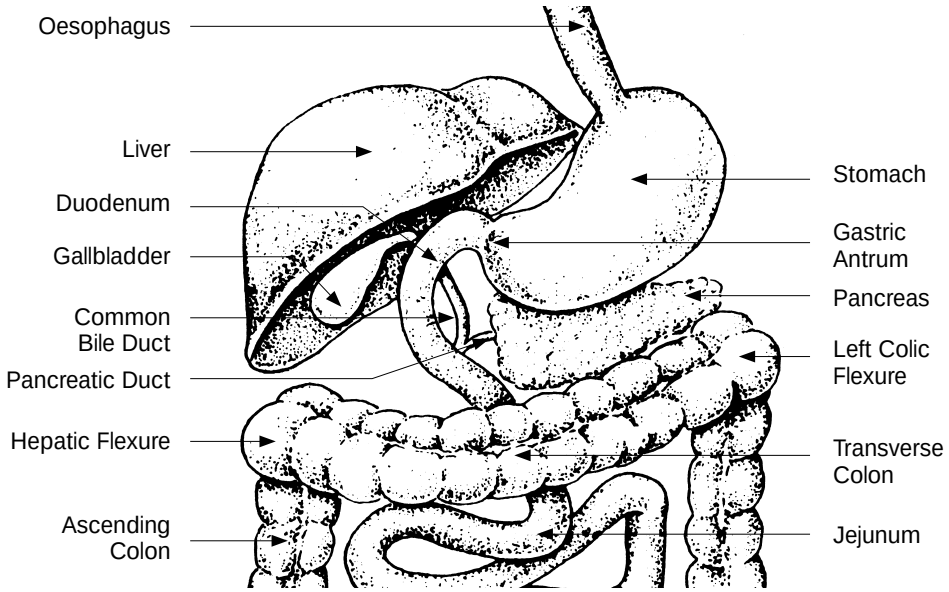
Prior to having ERCP, there are a number of things you will need to remember.

First, **don't eat or drink anything for at least six hours before the appointment.**

Special precautions may need to be taken for the following conditions. Please advise your doctor **in advance** if you suspect or know any of these apply to you:

- have severe heart, lung, or kidney disease
- have lymphoma, leukaemia, or you are receiving chemotherapy
- if you have had heart valve disease, a pacemaker, aortic graft or other blood vessel graft, or a joint replacement
- if you bleed very easily or if you take blood thinning tablets (warfarin) or injections (heparin)
- if you do not tolerate or are allergic to any medication
- if you suspect or know you are pregnant or if you are breastfeeding
- if you are diabetic you may need to adjust your insulin or tablets
- if you find the prospect of having an intimate procedure threatening

ERCP can be done either as an outpatient day-procedure or may require hospitalisation overnight, depending on the individual case. If you live more than an hour's drive from the hospital, we recommend that you arrange to spend the night after the procedure in Canberra in case any complications are encountered. Your doctor will explain the procedure and its benefits and risks, and you will be asked to sign an informed consent form. This form verifies that you agree to have the procedure and that you understand what is involved.



What can you expect during an ERCP?

Everything will be done to ensure your comfort. Your blood pressure, pulse, and the oxygen level in your blood will be carefully monitored. A combination of sedating drugs will be given through a vein in your arm by an anaesthetist. You will feel drowsy, but will remain slightly awake and be able to cooperate during the procedure. You may have the back of your throat sprayed with a local anaesthetic to minimize discomfort as the endoscope is passed down your throat into your oesophagus and through the stomach into your duodenum.

The doctor will use the endoscope to inspect the lining of your stomach and duodenum. You should not feel any pain, but you may have a sense of fullness, since air may be introduced to help advance the scope.

In the duodenum, the instrument is positioned near the opening of the bile and pancreatic ducts and a tiny tube known as a cannula is threaded down through the endoscope and into either the pancreatic or common bile duct. The cannula allows a special liquid known as contrast or dye to be injected into the ducts.

X-ray equipment is then used to take pictures of the dye outlining the ducts. In this way, widening, narrowing, or blockage of the ducts can be pinpointed and stones seen.

Some of the problems that may be identified during ERCP can also be treated through the endoscope. For example, if a stone is blocking the pancreatic or common bile duct, it is usually possible to remove it. First, the opening in the lower bile duct is carefully cut open and enlarged (a procedure called a "sphincterotomy"). A special device can then be inserted to remove the stone. Narrowing or obstruction due to other causes, such as scarring or tumours may be treated by inserting a plastic or metal mesh tube (called a stent) allowing the flow of bile to the duodenum. If necessary, a tissue sample or biopsy may be obtained, or a narrow area dilated. ERCP often makes it possible to avoid major surgery.

What are the possible complications from an ERCP?

Depending on the individual and the types of procedures performed, ERCP has a 5-10% risk of complications.

Patients undergoing ERCP are at risk of the relatively uncommon complications that may occur with any endoscopic procedure such as a gastroscopy or colonoscopy. These include:

- Reaction or sensitivity to medication used for sedation (this may affect your breathing briefly)
- Very uncommonly patients may suffer a heart attack, cardiac arrest, breathing problems, or a stroke immediately before, during or after the recovery period of an ERCP
- There are other very rare complications - please advise if you wish to be given more details

There are other complications which are only encountered after ERCP procedures.

The most common complication is inflammation of the pancreas - *pancreatitis*. This condition occurs in 4-6% of patients undergoing ERCP and usually starts 4 to 12 hours after the procedure, causing severe pain in the stomach area. Should you experience such pain contact your doctor or return to the Emergency Department of the hospital immediately. Most attacks of pancreatitis are relatively mild