

## Gall bladder removal

The gall bladder is a small sac, attached to the undersurface of the liver, that holds bile. Bile is a digestive juice, produced by the liver, which is used to break down dietary fats. The gall bladder extracts water from its store of bile until the liquid becomes highly concentrated. When you eat fatty foods, it triggers the gall bladder to squeeze its bile concentrate into the small intestine. Gallstones are a common disorder of the digestive system, which affect around 15 per cent of people aged 50 years and over. Some things that contribute to the formation of gallstones include the crystallisation of excess cholesterol in bile, and the failure of the gall bladder to completely empty. The gall bladder is not a vital organ, so the body copes quite well without it. Cholecystectomy, or surgical removal of the gall bladder, is therefore recommended if gallstones (or other types of gall bladder disease) are causing problems.

### Problems associated with gallstones

Bile is squeezed from the gall bladder into the small intestine by slender ducts. If gallstones block these ducts, pain and serious complications can occur. Some of these complications include:

- Nausea and vomiting.
- Infection of the gall bladder (cholecystitis).
- Jaundice, since bile enters the bloodstream instead of the digestive system.
- Inflammation of the pancreas (pancreatitis).
- Infections of the liver.
- Cancer of the gall bladder (occurs rarely).

### Medical issues to consider

Before the operation, you need to discuss a range of issues with your doctor or surgeon including:

- Medical history, since some pre-existing conditions may influence decisions on surgery and anaesthetic.
- Any medications you take on a regular basis, including over-the-counter preparations.
- Any bad reactions or side effects from any drugs.

### Surgical techniques

Techniques to remove the gall bladder include:

- **Laparoscopic cholecystectomy** - or 'keyhole' surgery. A number of small incisions are made through the skin, allowing access to a range of instruments. The gall bladder is removed through one of the incisions.
- **Open surgery (laparotomy)** - the gall bladder is accessed through a wider abdominal incision. Some of the factors that may predispose a patient to open surgery include scarring from prior operations and bleeding disorders.

### Laparoscopic cholecystectomy

The general procedure includes:

- A number of small abdominal incisions are made, allowing slender instruments access to the abdominal cavity.
- A tube blowing a gentle stream of carbon dioxide gas is inserted. This is to separate the abdominal wall from the underlying organs.
- The gall bladder is viewed on a TV monitor by the surgeon using a tiny TV camera attached to the laparoscope.
- Special x-rays (cholangiograms) during the operation can check for gallstones wedged within the bile ducts.
- The ducts and artery which service the gall bladder are clipped shut. These clips are permanent.

- The gall bladder is cut free using either laser or electrocautery.
- The gall bladder, along with its load of gallstones, is pulled out of the body through one of the abdominal incisions.
- The instruments and the carbon dioxide gas are removed from the abdominal cavity. The incisions are sutured and covered with dressings.

### **Open surgery**

The general procedure is the same as for laparoscopic surgery, except the gall bladder is accessed via a large, single incision in the abdominal wall. Sometimes, an operation that starts out as a laparoscopic cholecystectomy turns into open surgery if the surgeon encounters unexpected difficulties, such as not being able to properly see the gall bladder.

### **Immediately after the operation**

After the operation, you can expect:

- Mild pain in the shoulder from the carbon dioxide gas.
- Pain-killing drugs.
- You will be encouraged to cough regularly to clear your lungs from the general anaesthetic.
- You will be encouraged to walk around as soon as you feel able.
- An overnight stay in hospital, if you had laparoscopic cholecystectomy.
- A hospital stay of up to eight days, if you had open surgery.

### **Possible complications following surgery**

All surgery carries some degree of risk. Some of the possible complications of cholecystectomy may include:

- Internal bleeding
- Infection
- Injury to nearby digestive organs
- Injury to the bile duct
- Leakage of bile into the abdominal cavity
- Injury to blood vessels.

### **Taking care of yourself at home**

Be guided by your doctor, but general self-care suggestions include:

- Rest as much as you can for around three to five days.
- Avoid heavy lifting and physical exertion under advice from your doctor.
- Expect your digestive system to take a few days to settle down after surgery. Common short term problems include bloating, abdominal pains and changes to toileting habits.

Most people recover within one week of laparoscopic surgery.

### **Long term outlook**

You will need to see your doctor between seven and 10 days after surgery to make sure all is well. Some rare complications may have to be followed up with subsequent surgery.

### **Other forms of treatment**

Some other forms of treatment for gallstones include:

- The gallstones are broken down by sound waves (this method is very rarely used and may worsen symptoms).
- Medications are sometimes used, but the success rate is variable and side effects are common and treatment is expensive.

### **Where to get help**

- Your doctor
- Your surgeon
- Gastroenterologist.

### **Things to remember**

- The gall bladder is a small sac that holds bile, a digestive juice produced by the liver, which is used to break down dietary fats.
- Gallstones are a common disorder of the digestive system which affect around 15 per cent of people aged 50 years and over.
- Cholecystectomy, or surgical removal of the gall bladder, is recommended if gallstones (or other types of gall bladder disease) are causing problems.
- Surgical techniques include laparoscopic ('keyhole') cholecystectomy or open surgery.

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Southern Health

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