PROCEDURE

Diagnostic laparoscopy

Diagnostic laparoscopy is minimally invasive surgery used to examine the abdomen or pelvis and take tissue samples if needed.

PURPOSE
Examining abdominal or pelvic organs and taking biopsies

PROCEDURE TYPE
Diagnostic, sometimes therapeutic; minimally invasive surgery

WHERE IT IS DONE
Operating theatre

ANAESTHESIA
General

HOW LONG IT TAKES
Usually 30-90 minutes

PREPARATION
Fasting and medication adjustments; facility instructions take priority

RECOVERY
Same day or overnight; no driving for at least 24 hours

MAIN RISKS
Bleeding, infection, organ injury, blood clots

RESULTS
Visual findings immediately; biopsy results usually within several days

Overview

Diagnostic laparoscopy is an operation that allows a surgeon to look inside your abdomen or pelvis. It is sometimes called keyhole surgery because it uses small cuts rather than one large incision.

A thin instrument called a laparoscope is inserted through a cut, usually near the belly button. Its camera sends images to a screen so the surgeon can examine organs and nearby tissues.

The surgeon may take a biopsy for laboratory testing. If agreed during consent, they may also treat certain problems, such as scar tissue or visible endometriosis.

Why the procedure is performed

Diagnostic laparoscopy may be considered when examinations, blood tests or imaging have not fully explained a problem. Reasons include:

Finding no visible abnormality can also be useful, although laparoscopy cannot rule out every cause of symptoms.

- Investigating ongoing abdominal or pelvic pain
- Looking for endometriosis or scar tissue, called adhesions
- Investigating some causes of infertility
- Assessing an unexplained mass or abnormal scan
- Taking a biopsy from an organ, lining or suspicious area
- Checking the extent of some cancers
- Examining internal injuries in selected situations

Who should and should not have it

You may be offered laparoscopy when the result could change your care and less invasive tests have not provided a clear answer. Your team should explain what they are looking for, whether treatment may be performed and how the findings could affect your options.

The procedure may be avoided or delayed because of:

Previous abdominal surgery, obesity or pregnancy does not always prevent laparoscopy, but these factors may increase difficulty or change the plan. Extensive scar tissue may require a different entry point or conversion to open surgery.

- An active infection or significant illness
- An uncorrected bleeding problem
- A blood thinner like warfarin or apixaban that cannot be safely interrupted or managed
- Severe heart or lung disease that makes general anaesthesia or abdominal gas unsafe
- A condition requiring immediate open surgery

How to prepare

Follow your treating facility's instructions, which take priority. They will tell you when to stop

eating and drinking. Fasting reduces the risk of stomach contents entering your lungs during anaesthesia.

Tell the surgical and anaesthesia teams about all medicines, supplements and allergies. Blood thinners, diabetes medicines and medicines that affect stomach emptying are especially important. Do not stop prescribed medicine unless your healthcare team tells you to.

You may need blood tests, a pregnancy test or other checks. Arrange for a responsible adult to take you home and, if advised, stay with you for the first night. Bring loose clothing that will not press on the incisions.

During consent, discuss whether biopsies or treatment may be performed and when open surgery might be necessary.

What happens during the procedure

You will usually receive general anaesthesia and be unconscious. Equipment will monitor your breathing, heart rate and blood pressure.

The surgeon makes a small cut near the belly button and fills the abdomen with carbon dioxide to create working space. The laparoscope is inserted, and one or more additional small cuts may be made for instruments.

The surgeon examines the relevant areas and may take photographs or biopsies. Agreed treatment, such as treating endometriosis, removing scar tissue or draining certain cysts, may be performed.

The instruments are removed, most of the gas is released and the cuts are closed with stitches, glue or dressings. If keyhole surgery cannot be completed safely, the surgeon may make a larger incision.

Recovery and what to expect afterward

Pain around the cuts is common. Carbon dioxide may cause temporary bloating or shoulder-tip pain. Take pain relief according to your discharge instructions.

You can usually have fluids and light food once you are awake and not feeling sick, then return to your usual diet as tolerated. Gentle walking supports circulation and may ease gas discomfort.

Follow instructions for bathing, dressings and wound care. Avoid strenuous exercise, heavy lifting and swimming until your team says they are safe.

Do not drive home. Avoid driving for at least 24 hours and longer if you take medicines that cause drowsiness, cannot brake comfortably or receive stricter instructions.

Many people return to desk-based work within several days. Recovery may take longer after biopsies, treatment or a more extensive operation, and physical jobs often require more time off.

Risks and possible complications

Temporary soreness, bruising, bloating, nausea and shoulder pain are expected after-effects. Possible complications include:

Some injuries are treated during surgery; others become apparent during recovery. Laparoscopy may also miss small, hidden or microscopic abnormalities. Personal risk depends on your health, previous surgery and whether treatment is performed.

- Bleeding or infection
- Injury to the bowel, bladder, blood vessels or another organ
- A reaction to general anaesthesia
- Blood clots in the legs or lungs
- A hernia or poor wound healing
- Needing open surgery to complete the procedure or repair an injury

Results and follow up

The surgeon can often explain the main visual findings once you are awake enough to understand and remember. You may receive photographs or an operation summary.

Biopsy results usually take several days and may take longer if special tests are needed. Ask how and when you will receive them; do not assume no news means a normal result.

Keep your follow-up appointment even if recovery is going well. It may include checking your wounds, reviewing biopsy findings and planning treatment or further tests.

Alternatives

Alternatives depend on what your team is investigating.

Ultrasound, CT or MRI avoids surgery and anaesthesia but may miss small areas of endometriosis, surface changes or thin scar tissue. Imaging also cannot usually provide a biopsy without another procedure.

Observation with follow-up may be appropriate when symptoms and test results are stable, but it may delay diagnosis or treatment. Treatment for a likely condition may sometimes be tried without surgery, although this does not visually confirm the diagnosis.

Image-guided needle biopsy may sample an accessible mass but cannot always reach small or difficult areas. Open surgery offers wider access and may be safer for complex conditions, but involves a larger incision, more pain and longer recovery.

When to call your healthcare team

Contact your surgical team promptly for worsening pain, increasing redness or swelling, pus from an incision, persistent vomiting, difficulty passing urine, fever, increasing abdominal swelling or inability to keep fluids down.

Seek urgent medical assessment for severe or rapidly worsening abdominal pain, heavy bleeding, fainting or a wound that opens.

Call emergency services for trouble breathing, chest pain, coughing up blood, collapse, or sudden swelling and pain in one leg. These may indicate a serious complication and must not wait for routine follow-up.

For mild soreness, bruising or dressing questions, use the routine contact details provided at discharge.

Common questions

Will I be asleep?

Yes. Diagnostic laparoscopy is usually performed under general anaesthesia.

Can I drive home?

No. Arrange for someone to collect you. Do not drive for at least 24 hours, and follow any longer restriction from your facility or insurer.

How painful is it?

Pain is usually around the small incisions. Gas used during surgery can cause temporary bloating and shoulder-tip pain. Your team will provide a pain-relief plan.

When will I know the results?

The surgeon may discuss visual findings the same day. Biopsy results usually take several days and sometimes longer.

Will anything be treated during the procedure?

Possibly, but planned treatment should be covered by your consent. Ask what may be treated and what would require another operation.

Will I need to stay overnight?

Many people go home the same day. You may stay overnight after additional treatment, if recovery is slower than expected or if monitoring is needed.

Sources

- National Health Service. Laparoscopy (keyhole surgery)
- American College of Obstetricians and Gynecologists. Laparoscopy
- Society of American Gastrointestinal and Endoscopic Surgeons. Guidelines for Diagnostic Laparoscopy
- Royal College of Obstetricians and Gynaecologists. Diagnostic Laparoscopy: Consent Advice No. 2