HEALTH BASICS

Bile

Bile is a digestive fluid made by the liver that helps absorb fats and carry away waste.

WHAT IT IS
A liver-made fluid that helps digest and absorb fats

WHERE IT COMES UP
Liver tests, gallstones, digestive problems, and gallbladder surgery

WHY IT MATTERS
Helps absorb fats and remove certain waste products

WHAT IT IS NOT
Not a disease or diagnosis

WHO TO ASK
A primary care clinician or gastroenterologist

HOW IT IS CHECKED
Blood tests and imaging assess bile flow

Overview

Bile is a yellow-green digestive fluid made by your liver. It is not a disease or diagnosis.

Your liver produces bile continuously. Small tubes called bile ducts carry it away from the liver. Between meals, much of it is stored and concentrated in the gallbladder, a small pouch beneath the liver. When food enters the first part of your small intestine, the gallbladder releases bile through the common bile duct.

Bile contains water, bile acids, cholesterol, phospholipids, salts, and waste products such as bilirubin. Bilirubin is a yellow pigment produced when old red blood cells are broken down.

You may hear about bile during discussions of gallstones, abnormal liver blood tests, gallbladder surgery, jaundice, digestive problems, or changes in stool colour. These issues involve bile production, storage, movement, or recycling rather than bile being an illness itself.

How it works

Bile's main digestive job is to help your body handle fat.

Fat does not mix easily with the watery contents of the intestine. Bile acids break large fat

droplets into smaller droplets. They then help form tiny structures called micelles, which carry the products of fat digestion to the intestinal lining for absorption.

This process also supports absorption of the fat-soluble vitamins A, D, E, and K.

Most bile acids are not discarded after one use. They are absorbed near the end of the small intestine and returned to the liver through the bloodstream. The liver uses them again. This recycling route is called the enterohepatic circulation.

Bile also carries substances that the body needs to remove. These include bilirubin and excess cholesterol. Gut bacteria change bilirubin into other pigments, including compounds that help give stool its usual brown colour.

The gallbladder is useful but not essential. After gallbladder removal, the liver still makes bile. Instead of being stored for release with a meal, bile flows more steadily into the small intestine. Most people can still digest food without a gallbladder.

Why it matters for your health

Normal bile flow supports fat digestion and nutrient absorption. It also gives the liver a route for removing bilirubin, cholesterol, and some medicines or their breakdown products.

A problem can develop if the liver cannot make or release bile normally, a duct becomes blocked, or the intestine does not recycle bile acids as expected.

Clinicians often assess bile flow indirectly. There is no single routine blood test that measures whether your bile is "good" or "bad." Instead, liver blood tests may include bilirubin, alkaline phosphatase, gamma-glutamyl transferase, alanine aminotransferase, and aspartate aminotransferase. These results must be interpreted together because they can change for several reasons.

Imaging can show the gallbladder and bile ducts. Ultrasound is commonly used when gallstones or a blocked duct are possible. Magnetic resonance cholangiopancreatography, or MRCP, uses MRI technology to produce detailed pictures of the bile ducts.

Endoscopic retrograde cholangiopancreatography, or ERCP, combines an internal camera with X-rays. Because ERCP can cause complications, it is generally used when a procedure may be needed, such as removing a duct stone or relieving a blockage, rather than as a simple screening test.

What can go wrong

Several named conditions can affect bile storage, flow, or recycling.

These conditions can cause overlapping problems, so pain, diarrhoea, itching, jaundice, or stool changes cannot show the cause by themselves.

Arrange routine medical follow-up for recurring upper abdominal discomfort, ongoing diarrhoea, persistent itching, unexplained weight loss, or repeated pale or greasy stools. A clinician can decide whether blood tests, stool tests, ultrasound, or another assessment is appropriate.

Seek urgent same-day care for new yellowing of the eyes or skin, dark urine with unusually pale stools, persistent upper abdominal pain, fever with abdominal pain, or repeated vomiting.

Seek emergency care for severe abdominal pain accompanied by fever or chills and jaundice, or for confusion, fainting, or difficulty staying awake. These combinations can occur with serious bile duct infection or another acute abdominal condition.

- Gallstones are hardened deposits, often involving cholesterol or bilirubin, that form in the gallbladder. A stone can remain unnoticed or block a bile duct.
- Biliary colic is pain caused when a gallstone temporarily blocks the gallbladder outlet.
- Cholecystitis is inflammation of the gallbladder, usually linked to persistent blockage by a stone.
- Choledocholithiasis means that a stone is present in the common bile duct.
- Cholangitis is an infection of the bile ducts, often associated with blockage. It requires urgent medical treatment.
- Gallstone pancreatitis occurs when a stone interferes with drainage near the pancreas, causing pancreatic inflammation.
- Cholestasis means that bile formation or flow has slowed or stopped. Possible causes include a blocked duct, liver disease, pregnancy-related conditions, and certain medicines.
- Bile acid diarrhoea can occur when too many bile acids reach the large intestine. It may be related to disease or surgery affecting the end of the small intestine, but it can also occur without an obvious structural cause.
- Bile reflux happens when bile moves backward into the stomach and sometimes the oesophagus. It is different from acid reflux, although both may occur together.

What you can do

If you feel well and bile was mentioned only as part of a general explanation, there is usually nothing you need to test, cleanse, or change.

"Gallbladder flushes" and "liver cleanses" do not provide a reliable way to remove stones or improve bile flow. Products sold for this purpose may also cause diarrhoea or interact with medicines.

If you have a concern, useful steps include:

Do not stop a prescribed medicine because you think it may affect bile. Ask the prescriber or a pharmacist to review it first unless you have been told to stop it urgently.

After gallbladder surgery, follow the instructions provided by your surgical team. Some people notice temporary loose stools or difficulty with large, fatty meals, but there is no single lifelong "gallbladder diet" that everyone must follow.

- Record when pain or digestive problems occur, how long they last, and whether they follow meals
- Note visible changes such as yellow eyes, dark urine, or pale stools
- Keep a current list of medicines, supplements, and herbal products
- Ask which specific blood result is abnormal and what other causes are possible
- Ask whether an ultrasound or another imaging test would change your care
- Ask about testing for bile acid diarrhoea if ongoing watery diarrhoea is unexplained

Common questions

Is bile the same as stomach acid?

No. Stomach acid is made in the stomach and helps break down food. Bile is made in the liver and mainly helps with fat digestion. Both enter the digestive tract, but they have different contents and functions.

Why is bile green or yellow?

Its colour comes mainly from pigments, including bilirubin and related compounds. Its exact appearance changes with concentration and chemical processing.

Does vomiting yellow or green fluid always mean something is blocked?

No. Bile may appear in vomit after the stomach has emptied, but colour alone cannot identify the cause. Repeated vomiting, severe pain, abdominal swelling, or inability to keep fluids down needs prompt medical assessment.

Can you live without a gallbladder?

Yes. The gallbladder stores bile but does not make it. After removal, bile continues to travel from the liver into the intestine.

Can a blood test directly measure bile flow?

Not directly. Bilirubin and certain liver enzymes can suggest impaired bile flow, but the pattern, symptoms, medical history, and imaging are needed to understand the result.

What gives stool its brown colour?

Gut bacteria change bilirubin from bile into pigments that contribute to brown stool. A single lighter stool is often not meaningful. Persistently pale or clay-coloured stools, especially with dark urine or jaundice, need prompt assessment.

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