

## LIGHT EXAMINATION OF THE LIVER AND BILE TRACT

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**Abstract:** This article provides information about radiographic methods of liver and bile ducts. In particular: in the examination of the liver and bile ducts, ultrasound examination, computer tomography examination, and magnetic resonance imaging examination methods, the stages of examination, their benefits, and the harm they can cause and what effect they have in detail. data are cited.

**Key words:** Ultrasound examination, Computed tomography, Magnetic resonance tomography, liver, grass, ultrasonography, X-ray.

There are a number of clinical studies and special tests to examine the liver and biliary tract. These tests help evaluate the function, structure, and health of the liver. Here are some basic methods:

1. Blood tests:

- Liver enzymes (ALT, AST): Indicates damage or inflammation of liver cells.
- Bilirubin level: It is a substance processed by the liver, and its level indicates the state of liver function.
- Alkaline phosphatase: May be useful in diagnosing biliary tract problems.

2. Ultrasonography:

- Used to visualize the structure of the liver and bile ducts. Through this method, tissue changes, tumors or obstructions can be detected.

3. Computed Tomography (CT) and Targeted Magnetic Resonance Imaging (MRT):

- In complex cases, it is used for further study of changes in the liver and biliary tract.

4. Endoscopic retrograde cholangiopancreatography (ERCP):

- It is an invasive method used to identify and eliminate obstructions in the bile ducts.

Ultrasound examination of the liver and biliary tract (ultrasound diagnosis) is a sensitive, safe and non-invasive method widely used in medicine. Using this method, it is possible to assess the state of the liver, bile ducts, gall bladder and other internal organs.

Purposes of ultrasound examination:

1. Detection of pathologies: detection of diseases such as liver cirrhosis, hepatitis, tumors or other changes.
2. Bile Obstructions: Detection of obstructions or tumors in the bile ducts.
3. Gallbladder: Assess for gallstones or other problems.
4. Size and structure of the liver: Assessment of the size and structure of the liver.

Process:

1. Preparation: Sometimes the patient does not eat before the ultrasound, which may be necessary for a clear view of the gallbladder.
2. Ultrasound machine: The doctor uses an ultrasound machine and places a gel-coated sensor on the patient's abdomen.
3. Receiving information: The sensor receives the sound waves returned from the organs in the human body and converts them into an image.

Benefits:

- Non-invasive method
- Fast results
- Easy to follow procedure
- The possibility of complications is very low

Controlling:

Based on the results of the ultrasound examination, the doctor may prescribe additional studies or treatment measures.

It is important to undergo this procedure if you have problems with the liver or biliary tract, or if you need an examination according to the doctor's recommendation.

A computed tomography (CT) scan of the liver and bile ducts is a modern imaging technique used to evaluate the liver, bile ducts, gallbladder, and surrounding structures. With the help of CT, it is possible to get accurate information about the structure, size, injuries or diseases of these organs.

CT scan process:

1. Preparation:
  - Before the examination, patients are often required to follow a special diet or to keep the stomach empty.

- In some cases, it may be necessary to use a contrast agent (for example, iodine-based).

## 2. Duplicate location:

- Patients lie on the CT machine and must remain rigid during the scanning process.

- You may need to take several breaths during the scan.

## 3. Taking pictures:

- The CT machine creates cross-sections of the liver and bile ducts, which allows to determine the internal structure of the organs.

## CT results:

- Normal results: Normal anatomy of the liver and biliary tract.

## - Pathological conditions:

- Liver cirrhosis

- Grass stones

- Inflammation of the gallbladder (cholecystitis)

- Tumors (benign or malignant)

- Infections

- Injuries

## Advantages:

- High resolution images.

- Speed - usually done in a few minutes.

- Ability to see fine details.

## Summary:

Computed tomography examination of the liver and biliary tract plays an important role in the field of health care. It helps to identify diseases at an early stage and provides important information in developing a treatment plan for patients. If you have any questions about your health, it is recommended that you consult your doctor.

I am pleased to provide information about the MRT (Magnetic Resonance Imaging) examination of the liver and biliary tract. MRI can be very useful in detecting diseases of the liver and biliary tract. The following information covers the main aspects of this investigation:

What is an MRI scan?

MRI is an imaging technique that uses magnetic fields and radio waves to produce high-resolution images. This method shows the internal structure of the organs in detail, including the liver, bile ducts, gallbladder and surrounding structures.

### Inspection process

1. Preparation: Patients should not normally eat or drink before the examination. This helps to see the liver better.

2. Procedure: The patient lies in the MRI machine and must not move during the imaging process. During the procedure, different images are taken for several minutes.

3. Contrast material: Sometimes the use of contrast material may be required, which further improves the visibility of the liver and bile ducts.

Why is MRT prescribed?

- Liver diseases (for example, hepatitis, liver cirrhosis).
- Gallbladder or gallbladder problems.
- Tumors of the biliary tract or other anomalies.
- Evaluation of the structure and functionality of the liver.

What results can be expected?

MRI results are analyzed by a doctor and can provide important information about the health of the liver and bile ducts. Additional tests or treatment may be planned based on the results.

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