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## Drug-induced liver injury

Drug-induced liver injury (DILI) is an injury of the liver that may occur when you take certain medicines.

Other types of liver injury include:

- Viral hepatitis
- Alcoholic hepatitis
- Autoimmune hepatitis
- Iron overload
- Fatty liver, also called metabolic dysfunction-associated steatohepatitis (MASH)

## Causes

The liver helps the body break down certain medicines. These include some medicines that you buy over-the-counter or your health care provider prescribes for you. When increased numbers of toxic breakdown products occur, this can make you more likely to get liver damage. Some medicines are directly toxic to the liver, or may cause an allergic response.

Some medicines can cause hepatitis with small doses, even if the liver breakdown system is normal. Large doses of many medicines can damage a normal liver.

Many different medicines can cause drug-induced hepatitis.

Painkillers and fever reducers that contain acetaminophen are a common cause of liver injury, particularly when taken in doses greater than those recommended. People who drink alcohol to excess are more likely to have this problem.

Nonsteroidal anti-inflammatory drugs (NSAIDs), such as ibuprofen, diclofenac, and naproxen, may also cause drug-induced hepatitis.

Other medicines that can lead to liver injury include:

- Amiodarone
- Anabolic steroids
- Birth control pills

- Chlorpromazine
- Erythromycin
- Halothane (a type of anesthesia)
- Methyldopa
- Isoniazid
- Methotrexate
- Statins
- Sulfa drugs
- Tetracyclines
- Amoxicillin-clavulanate
- Some anti-seizure medicines
- Disulfiram
- Niacin
- Azathioprine
- Ketoconazole

## Symptoms

Symptoms may include:

- Abdominal pain
- Dark urine
- Diarrhea
- Fatigue
- Fever
- Headache
- Jaundice
- Loss of appetite
- Nausea and vomiting
- Rash
- White or clay-colored stools
- Itching

## Exams and Tests

You will have blood tests to check liver function. Liver enzyme levels will be high if you have the condition. Other blood tests may be helpful.

Your provider will do a physical exam to check for an enlarged liver and abdominal tenderness in the right upper part of the belly area. A rash or fever may be part of some medicine reactions that affect the liver.

You will have imaging tests of the liver, such as an ultrasound, CT scan, or MRI.

## Treatment

The only specific treatment for most cases of liver damage caused by taking a medicine is to stop taking the medicine that caused the problem.

However, if you took high doses of acetaminophen, you should get treated for liver injury in the emergency department or other acute treatment setting as soon as possible as there is a specific antidote for acetaminophen poisoning.

If symptoms are severe, you should rest and avoid heavy exercise, alcohol, acetaminophen, and any other substances that might harm the liver. You may need to get fluids through a vein if nausea and vomiting are severe.

## Outlook (Prognosis)

Drug-induced liver injury most often goes away within days or weeks after you stop taking the drug that caused it.

## Possible Complications

Rarely, drug-induced liver injury can lead to liver failure.

## When to Contact a Medical Professional

Contact your provider if:

- You develop symptoms of liver injury after you start taking a new medicine.
- You have been diagnosed with drug-induced liver injury and your symptoms do not get better after you stop taking the medicine.
- You develop any new symptoms.

## Prevention

Never use more than the recommended dose of over-the-counter medicines containing acetaminophen (Tylenol).

Do not take these medicines if you drink heavily or regularly. Talk to your provider about safe doses.

Always tell your provider about all the medicines you take, including over-the-counter medicines and herbal or supplemental preparations. This is very important if you have liver disease.

Talk to your provider about other medicines you may need to avoid. Your provider can tell you which medicines are safe for you.

## Alternative Names

Toxic hepatitis; Drug-induced hepatitis; DILI; Medicine-induced hepatitis

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