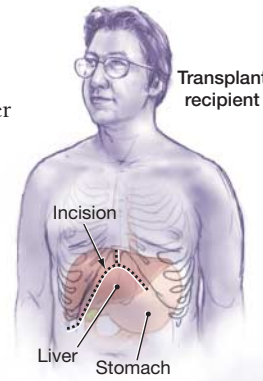
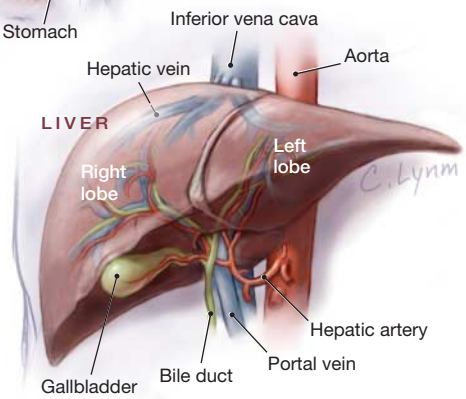
# Liver Transplantation

The liver has many functions, including building proteins and other substances for the body to use, drug metabolism, and energy storage. The liver also removes waste products and toxins from the blood. Liver disease causes these crucial functions to fail. When liver failure is too severe to respond to medications, liver transplantation may be an option. Because transplantation is a major surgical procedure and there is a shortage of available donor organs, not every person with liver failure can receive a transplant. At each transplant center, a multidisciplinary team reviews and selects patients who are then placed on a waiting list for a suitable donor organ. These donor organs are allocated based on need (the most severely ill persons are considered first) and compatibility of donor and recipient. The January 18, 2012, issue of *JAMA* includes an article about liver transplantation in children. This Patient Page is based on one previously published in the May 10, 2006, issue of *JAMA*.




## REASONS FOR LIVER TRANSPLANTATION

- Hepatitis C and hepatitis B—forms of **hepatitis** (liver infections) that can cause serious, permanent liver damage
- **Cirrhosis** (permanent liver damage from diseases such as fatty liver disease, primary biliary cirrhosis, alcoholic liver disease, and inherited liver diseases)
- In children, **biliary atresia** (failure of bile duct formation) is the most common reason for needing a liver transplant.
- Toxic hepatic failure (can occur from taking certain prescription drugs, eating poisonous mushrooms, or overdoses of drugs such as acetaminophen)
- **Hepatocellular carcinoma** (a primary cancer of the liver tissue), when found at an early, treatable stage

## AFTER A LIVER TRANSPLANT

Liver transplantation is a major operation that takes place only in specialized transplant centers. The patient's diseased liver is removed through an abdominal incision. The new liver is then placed into the patient, with connections of blood vessels (**portal vein**, **hepatic artery**, and **hepatic veins** or **inferior vena cava**) and the **biliary system**. Persons who have liver transplants require intensive care and close monitoring after their operation. In a few cases, only part of a healthy liver from a living (usually related) donor may be used. This requires the donor to have an operation to remove a part of his or her liver, which is then transplanted into the person with liver failure.

## POSSIBLE TREATMENTS

- Immunosuppressive medications (drugs that prevent rejection of the transplanted organ) must be taken for the rest of the individual's life.
- The transplanted liver is monitored for function and for rejection and the medication regimen is often adjusted.
- Persons with transplanted organs should avoid close contact with ill individuals to prevent infection. Illnesses that healthy persons can tolerate have serious consequences for patients who are taking immunosuppressive medications.

*Sources: National Institute of Diabetes and Digestive and Kidney Diseases, American Liver Foundation, United Network for Organ Sharing, American Gastroenterological Association*

## FOR MORE INFORMATION

- National Institute of Diabetes and Digestive and Kidney Diseases www.niddk.nih.gov
- American Liver Foundation www.liverfoundation.org
- United Network for Organ Sharing www.unos.org

## INFORM YOURSELF

To find this and previous JAMA Patient Pages, go to the Patient Page link on *JAMA*'s Web site at www.jama.com. Many are available in English and Spanish. A Patient Page on hepatitis C was published in the February 1, 2007, issue; and one on hepatitis B was published in the April 13, 2011, issue.

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