

LIVER BIOPSY

At CHILDREN'S HOSPITAL OF PITTSBURGH OF UPMC, we believe parents and guardians can contribute to the success of this test, and we invite you to participate. Please read the following information to learn about the test and how you can help.

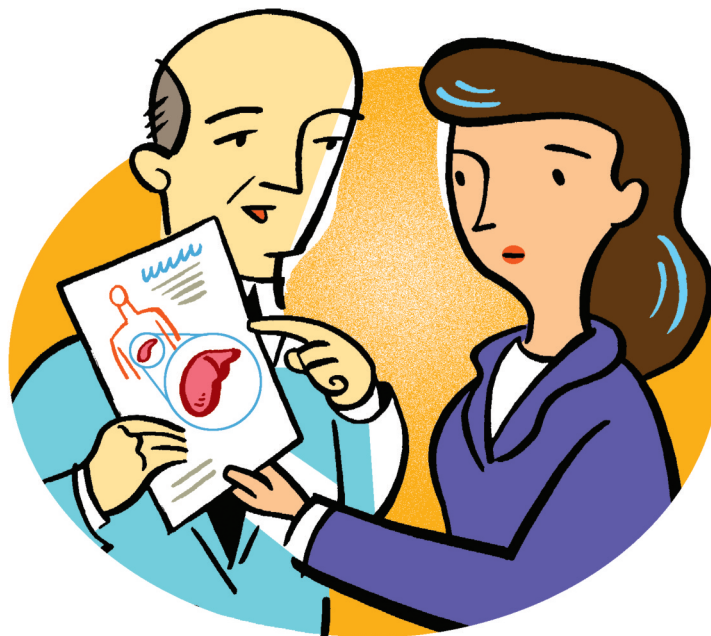
Fast Facts about Liver Biopsy

- A liver biopsy is done when a patient has an abnormal liver test to help the doctor figure out the cause of liver problems and the extent of the liver injury.
- A liver biopsy uses a needle that is passed quickly through the skin and into the liver to take out a very small sample of liver tissue so that it can be looked at under a microscope.
- Your child will be asleep for the test.
- There are special rules for eating and drinking in the hours before the test.
- The test itself takes only 20 to 45 minutes, but the entire appointment will take several hours.
- If your child is young, he or she may need to stay in the hospital overnight after the test.

What Is A Liver Biopsy?

A liver biopsy allows the doctor to look at the liver tissue under the microscope. Not every child with an abnormal liver test will need a liver biopsy, but it is very useful when there are questions about the diagnosis or if the doctor needs to check for cirrhosis (*seer-OH-siss*) or scarring. The liver biopsy also allows the doctor to see the degree of inflammation (*in-flah-MAY-shun*) or swelling in the liver and which liver cells are most affected. The most common reasons for a liver biopsy are to look for causes of jaundice (*JON-duss*), which makes the skin and eyes look yellow; hepatitis (*hep-uh-TITE-us*) or liver cell inflammation; an enlarged liver; or abnormal liver function tests.

- Before the liver biopsy can be done, your child will have an ultrasound of the upper right side of his or her belly where the liver is located to determine the best place to do the liver biopsy. A soft-tipped marker will be used to place an "X" on your child's skin at the spot right over the liver where the liver biopsy will be done.
- The pediatric GI doctor doing the biopsy will also look at and examine your child's belly to confirm that the mark is in the right spot over the liver.
- The doctor will speak to you before the biopsy is performed to answer any questions and your child will then be taken to the room where the biopsy will be performed.
- After your child is asleep, the doctor will give an injection (shot) of pain-killing medication called an anesthetic (*ann-ess-THET-ick*) into the skin to numb the area.



- When the anesthetic has taken effect, a needle will be inserted quickly through the skin and into the liver.
- The doctor will draw out a small piece of your child's liver tissue through the needle.
- This procedure may be repeated once or twice in order to get enough liver tissue for testing and examination.
- The liver tissue will be placed in a special preservative and taken to the pathologist (a specialist in the study of tissues).
- The final result of the liver biopsy will not be available for several days, depending upon the number and types of tests that need to be performed on the liver tissue.

Fast Facts About General Anesthesia

To keep your child comfortable, the liver biopsy will be done while your child is under general anesthesia (*an-ess-THEEZ-ya*), meaning that he or she will be sound asleep during the test.

- A pediatric anesthesiologist—a doctor who specializes in anesthesia for children—will give the medications that will make your child sleep during the test.
- Under general anesthesia, your child will not feel any pain or have any memory of the test.

Home Preparation

When general anesthesia is needed, there are important rules for eating and drinking that must be followed in the hours before the test. One business day before your child's test, you will receive a phone call from a nurse between the hours of 1 and 9 p.m. (Nurses do not make these calls on weekends or holidays.) Please have paper and a pen ready to write down these important instructions.

LIVER BIOPSY cont'd

- The nurse will give you specific eating and drinking instructions for your child based on your child's age. Following are the *usual* instructions given for eating and drinking. *No matter what age your child is, you should follow the specific instructions given to you on the phone by the nurse.*

For children older than 12 months:

- After midnight the night before the test, do not give any solid food or non-clear liquids. That includes milk, formula, juices with pulp, chewing gum or candy.

For infants under 12 months:

- Up to 6 hours before the **scheduled arrival time**, formula-fed babies may be given formula.
- Up to 4 hours before the **scheduled arrival time**, breastfed babies may nurse.

For all children:

- Up to 2 hours before the **scheduled arrival time**, give only clear liquids. Clear liquids include water, Pedialite™, Kool-Aid® and juices you can see through, such as apple or white grape juice.
- In the 2 hours before **scheduled arrival time**, give nothing to eat or drink.

Your child's procedure will be cancelled if these instructions are not followed.

If Your Child Is Having General Anesthesia

Before your child's liver biopsy, a member of the anesthesia staff will meet with you to take your child's vital signs, weight and medical history. As the parent or legal guardian, you will be asked to sign a consent form before the anesthesia is given.

- The anesthesiologist will meet with you and your child to review your child's medical information and decide which kind of sleep medication your child should get.
- If your child is very scared or upset, the doctor may give a special medication by mouth to help him or her relax. This medication is flavored and takes effect in 10 to 15 minutes.
- Your child will be moved to the operating room to receive the sleep medication and you will be taken to the family waiting room.
- Younger children will get their sleep medication through a mask that will carry air mixed with medication. Your child may choose a favorite scent to flavor the air flowing through the mask. There are no shots or needles used while your child is still awake.
- Older children may choose between getting their medication through the mask or directly into a vein through an intravenous (IV) line.

- If it has not already been done, an IV will be started so that medication can be given to keep your child sleeping throughout the test. While your child is asleep, his or her heart rate, blood pressure, temperature and blood oxygen level will be checked continuously.
- Your child may have a breathing tube placed while he or she is asleep. If a breathing tube is used, your child may have a sore throat after the test.
- To keep your child asleep during the test, he or she may be given anesthetic medication by mask, through the IV tube or both. When the test is over, the medications will be stopped and your child will begin to wake up.

A Parent's/Guardian's Role During the Test

We welcome your help and support during this test. One of the most important roles of a parent or guardian is to help your child stay calm and relaxed before and after the test. The easiest way to help your child stay calm is for you to stay calm.

The Test

- Your child's liver biopsy will be scheduled through the Same Day Surgery Center at Children's Hospital of Pittsburgh. The Same Day Surgery Center will call you the day before your child's liver biopsy to give you your arrival time and go over the eating and drinking instructions.
- You and your child should come to the Same-Day Surgery Center to check in at your scheduled time. After checking in, your child will be sent to the Department of Pediatric Radiology at Children's Hospital to have an ultrasound.
- Your child will be awake for the ultrasound. An ultrasound is a safe test done on the outside of the body and does not hurt.
- The radiologist will use a gel and a wand on your child's belly to locate the position of your child's liver. Using the pictures from the ultrasound machine, the radiologist will make a mark on your child's skin to let the G.I. doctor know where the liver is located under the skin.
- After the ultrasound, your child will be taken to an exam room, where you will meet the anesthesiologist to discuss the sleep medication your child will receive.



LIVER BIOPSY cont'd

- When it is time for the test to begin, your child will be moved to the operating room.
- In the operating room, the anesthesiologist will give your child the anesthesia medicine to make him or her sleep throughout the entire liver biopsy.
- Once your child is asleep, the doctor will find the mark made by the radiologist, and also will examine your child's belly to be sure the liver is directly under the mark.
- The doctor will clean the skin on the belly and inject a "local anesthetic," which is a type of medication that numbs the area right around the injection site.
- When the local anesthetic has taken effect, the doctor will use a needle to take out a small piece of your child's liver tissue. This part of the test is over quickly.
- After the tissue sample has been taken, the anesthesia medication will be stopped and your child will be taken to the recovery room.
- A bandage will be placed over the site of the liver biopsy. When the bandage is removed the following day, you will see only a small "dot" where the needle entered the skin.
- The doctor will come to the surgical family waiting room to speak with you as soon as your child is moved to the recovery room.

Waking Up/ Going Home

- When the biopsy is done, you will be called to the room to be with your child as the sleep medications wear off. The length of time it will take the medications to wear off will vary, as some children take longer than others to become alert.
- Your child will have no memory of the biopsy.
- Your child will be resting on the side where the liver biopsy was performed. This position allows for a little extra pressure to be placed on the biopsy site.
- Children coming out of anesthesia may react in different ways. Your child may cry, be fussy or confused, feel sick to his or her stomach, or vomit. These reactions are normal and will go away as the anesthesia wears off.
- It is more important to help your child relax and feel calm than to worry about him or her lying on the side where the liver biopsy was done.
- Every child who has a liver biopsy will have a blood count done about 4 hours after the liver biopsy. When the results of the blood count come back, we will determine whether your child can be discharged from the hospital.
- When your child is discharged, he or she may still be groggy and should take it easy for the day.



- Young children are often scheduled to remain in the hospital overnight for more extended monitoring after a liver biopsy. The decision for an overnight stay is made prior to the liver biopsy on a case-by-case basis.

After the Test

- Your child may resume normal eating and drinking at the rate he or she is comfortable with when you get home.
- After the biopsy, your child should take it easy for the rest of the day.
- The next day after the biopsy, your child may resume daily activities and return to school, but should not participate in any athletic or strenuous activity. Athletic activities can be resumed 5 days after the biopsy.
- The full results of the liver biopsy will be available in about a week but some special tests on the liver tissue can take longer than a week. Your GI doctor will call you with the results.
- If your child develops persistent pain in the belly or chest; vomiting; pale skin, weakness or dizziness; bleeding from the site of the biopsy; or passes any black, tar-like stools (bowel movement), please call 412-692-5180 for immediate attention.

Special Needs

If your child has any special needs or health issues you feel the doctor performing the test needs to know about please call the GI procedure nurse at Children's Hospital of Pittsburgh **before the test** at 412-692-5944. It is important to notify us **in advance** about any special needs.

To schedule the procedure and ask questions before the procedure: 412-692-5944.

For questions or problems after the procedure: 412-692-5180.
After hours: 412-692-5326.

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To see the list of all available patient procedures descriptions, please visit www.chp.edu/procedures.