

# Biliary tube (drain)

Your child's tube is an:  External biliary tube     Internal/external biliary tube

Date tube was put in or changed: \_\_\_\_\_

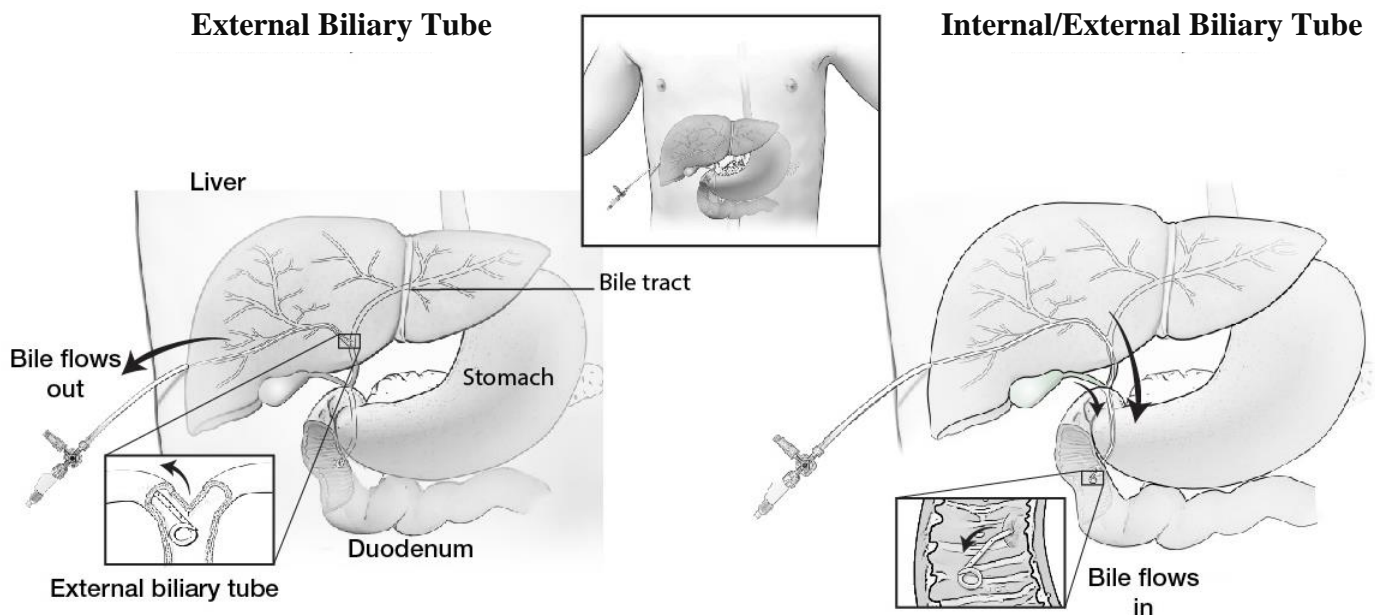
## Follow up visit:

- Your child's follow up visit is on \_\_\_\_\_ at \_\_\_\_\_ with Dr. \_\_\_\_\_.
- Please call your child's care team if you need to schedule or change the visit date or time.

## What is a biliary tube?

A biliary tube (drain) is a catheter that helps bile flow out of the liver when there is a blockage that prevents normal flow. The biliary tube is most often about the size of an I.V. tube. The doctor may:

- Attach the tube to a drainage bag, so bile can flow out of your child's body. This is called an external biliary tube.
- Choose for the tube to drain inside the body. This is called an internal/external biliary tube. It will only be used for flushing and as needed for drainage.



## What is bile?

Bile is a liquid made by the liver. The body uses bile to break down fats and helps with digesting certain foods. Bile is carried from the liver to the small intestines through tubes called bile ducts.

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# Biliary tube (drain), continued

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## Why does my child need a biliary tube?

Your child's bile duct may be blocked or narrowed. When this happens:

- Bile can no longer flow into the small intestine.
- The build-up of bile can cause:
  - Infection
  - Nausea
  - Vomiting (throwing up)
  - Fever (temperature of 100.4°F or higher)
  - Itching
  - Pain
  - Jaundice (yellow skin or eyes)

The doctor can place a tube to help avoid build-up. The tube:

- Will stay in your child's liver to help the bile flow into the small intestine or out of the body.
- May need to stay in place for several months.
- May need to be replaced at the hospital every few weeks. This is to help prevent infection and build-up in the tube.

## What happens before the tube is placed?

Your child:

- Will not be able to eat or drink for a certain amount of time.
- May need to stay in the hospital.

Talk with the care team about when your child should stop eating and drinking. **It is very important for your child's safety that you follow the care team's instructions.**

## What happens when the tube is placed?

The doctor will place or change the tube in Interventional Radiology (IR). They will:

- Place it through your child's skin, across the blockage, and into the bile ducts.
  - One end will stay in the intestines.
  - The other end will stay outside the body.
- Will put a cap on the tube or attach it to a drainage bag.

Your child will get:

- Anesthesia to help them sleep while the doctor places the tube.
- Antibiotics to help prevent infection.

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## **Biliary tube (drain), continued**

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### **What happens after the tube is placed?**

#### **Eating and drinking**

- Your child may eat like normal when they are fully awake.
- Avoid giving anything with pomegranate or grapefruit juice if your child is taking immunosuppressant medicines.

#### **Activity**

- Your child may not have energy like normal due to the anesthesia. Their energy should improve within 24 to 48 hours.
- It is safe for your child to do activities like walking, running, biking or playing outside. Teach them to be careful not to dislodge the tube (move it out of place).

### **When does my child need a tube change?**

Your child's care team will tell you how often they will need to change or check the tube. Please call them with any questions.

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# Biliary tube (drain), continued

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## Caring for the tube

### Bathing

- Your child may take a shower.
- The tube should not go under water. Have your child avoid taking a bath, swimming or playing water sports.

### Changing the dressing

- Check your child's skin, and change the dressing **at least 1 time each week**.
  - Make sure the skin around the tube:
    - Is clean and dry.
    - Is not red and does not have bad smelling drainage (pus). Call the doctor **right away** if you see any signs of infection.
  - Make sure the suture or stitch:
    - Is not broken.
    - Is attached to the tube and your child.
  - Clean the skin around the tube with soap and water. Let it dry.
  - Cover the site where the tube enters the skin with clean gauze and tape as advised by the care team.
- Keep the dressing clean and dry. Call the doctor **right away** if the dressing has a large amount of bile (yellow drainage) or blood on it.

### Flushing the tube

- Flush the tube **3 times each day**. This helps prevent infection and build-up in the tube. (The doctor will let you know if you need to flush the tube more or less often.)
- Use 10 mL (milliliters) of normal saline to flush the tube. Most often, you will use a pre-filled syringe (a syringe that already has normal saline in it). Talk with the care team about getting the supplies you need.
- It is very important to flush the tube as advised by your child's care team. Be sure to do it the same way every time.

## How do I flush the tube?

### Getting ready

1. Gather your supplies. This includes:
  - Gloves
  - Alcohol wipe
  - 10 mL normal saline flush

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## Biliary tube (drain), continued

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2. Have your child sit or lie down. Stand where you can easily reach the tube.
3. Wash your hands well with soap and water for at least 20 seconds. You may also use an alcohol-based gel or foam.
4. Put on gloves.
5. Open the alcohol wipe.

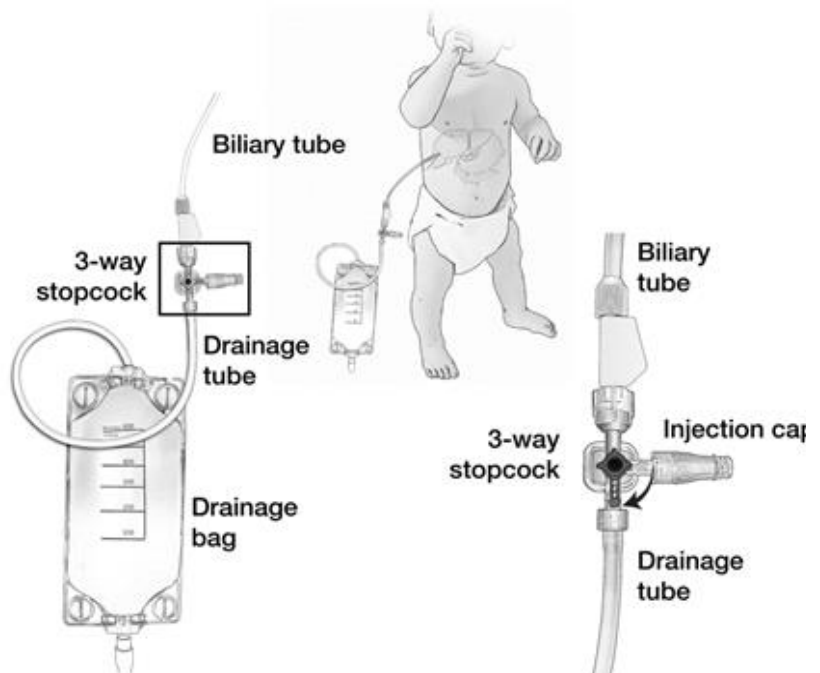
### Flushing the tube

1. If your child's tube:
  - Only has an injection cap (see Figure A), please go to the next step.
  - Has a 3-way stopcock with injection cap **and** the tube is attached to a drainage bag (see Figure B), make sure the stopcock is turned so the long end points towards the bag. This will push the normal saline towards your child when you flush the tube.

Figure A



Figure B



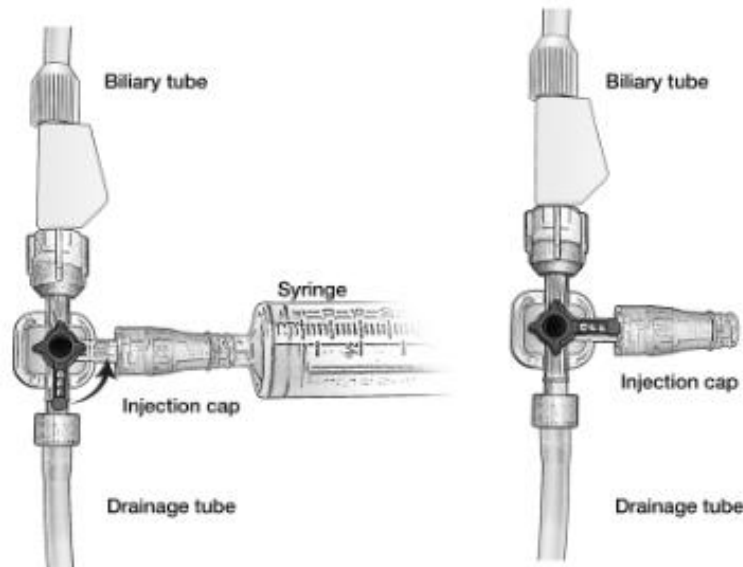
2. Use the alcohol wipe to scrub the cap for 10 seconds. Then, let it dry for 10 seconds. Do not let it touch anything.
3. Take the cap off the normal saline syringe. Screw it onto the tip of the injection cap.
4. Slowly push 10 mL of normal saline into the tube. This may take 2 to 5 seconds.
  - **Always flush towards your child. Never pull back on the syringe.**
  - Pulling back (aspirating) on the syringe can allow bacteria (germs) from the small intestine to flow into the biliary system. This puts your child at risk for a serious infection.
5. Unscrew the empty syringe, and throw it away.

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## Biliary tube (drain), continued

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6. If your child has a 3-way stopcock and the tube is attached to a drainage bag, turn the stopcock so the tube drains into the bag.



### What should I do if I have problems with the tube?

Call your child's care team **right away** if you have problems with the tube.

- To reach the Liver Transplant team, call 404-785-1807.
- To reach the Hepatology team, call 404-785-1832.
- After hours, on holidays and on weekends, call 404-785-KIDS (5437). Ask the operator to page the on call provider for your child (Liver Transplant or Hepatology).

While you wait to talk with the care team, use the chart on page 9 for what to do for certain problems (troubleshooting).

### Using the emergency drainage bag

Your child can get an infection quickly if the tube gets clogged and cannot be flushed. The bile needs to drain into a bag since it cannot flow into the intestines.

### When should I attach the drainage bag?

Attach the drainage bag **right away** if your child has:

- Fever (temperature of 100.4°F or higher)
- Abdominal (belly) pain (especially the right, upper side of the belly)

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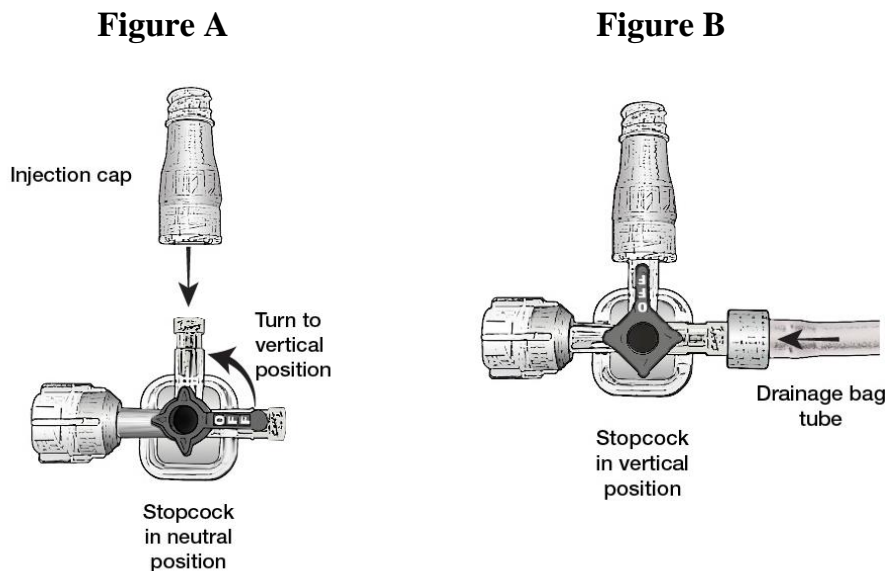
- Bile (yellow fluid) on the dressing or skin around the tube
- Itching
- Jaundice (yellow skin or eyes)

Call your child's care team right after you attach the drainage bag to the tube.

## How do I attach the drainage bag?

### Getting ready

1. Gather your supplies. This includes:
  - Gloves
  - Alcohol wipe
  - 3-way stopcock
  - Injection cap
  - Drainage bag
2. Wash your hands well with soap and water for at least 20 seconds. You may also use an alcohol-based gel or foam.
3. Put on gloves.
4. Open the alcohol wipe.
5. Make sure the cap on the bottom of the drainage bag is tight. If not, bile will leak out of the bag.
6. Screw the new injection cap onto the 3-way stopcock. Turn the stopcock to the vertical (up and down) position (see Figure A).
7. Attach the stopcock to the new drainage bag tubing (see Figure B).
8. Have your child sit or lie down. Stand where you can easily reach the tube.

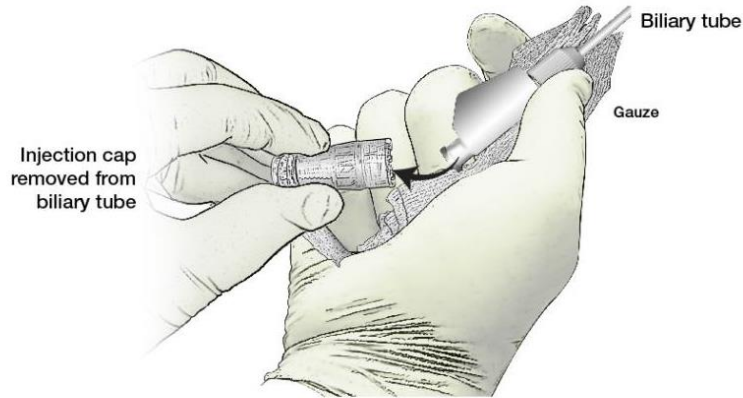


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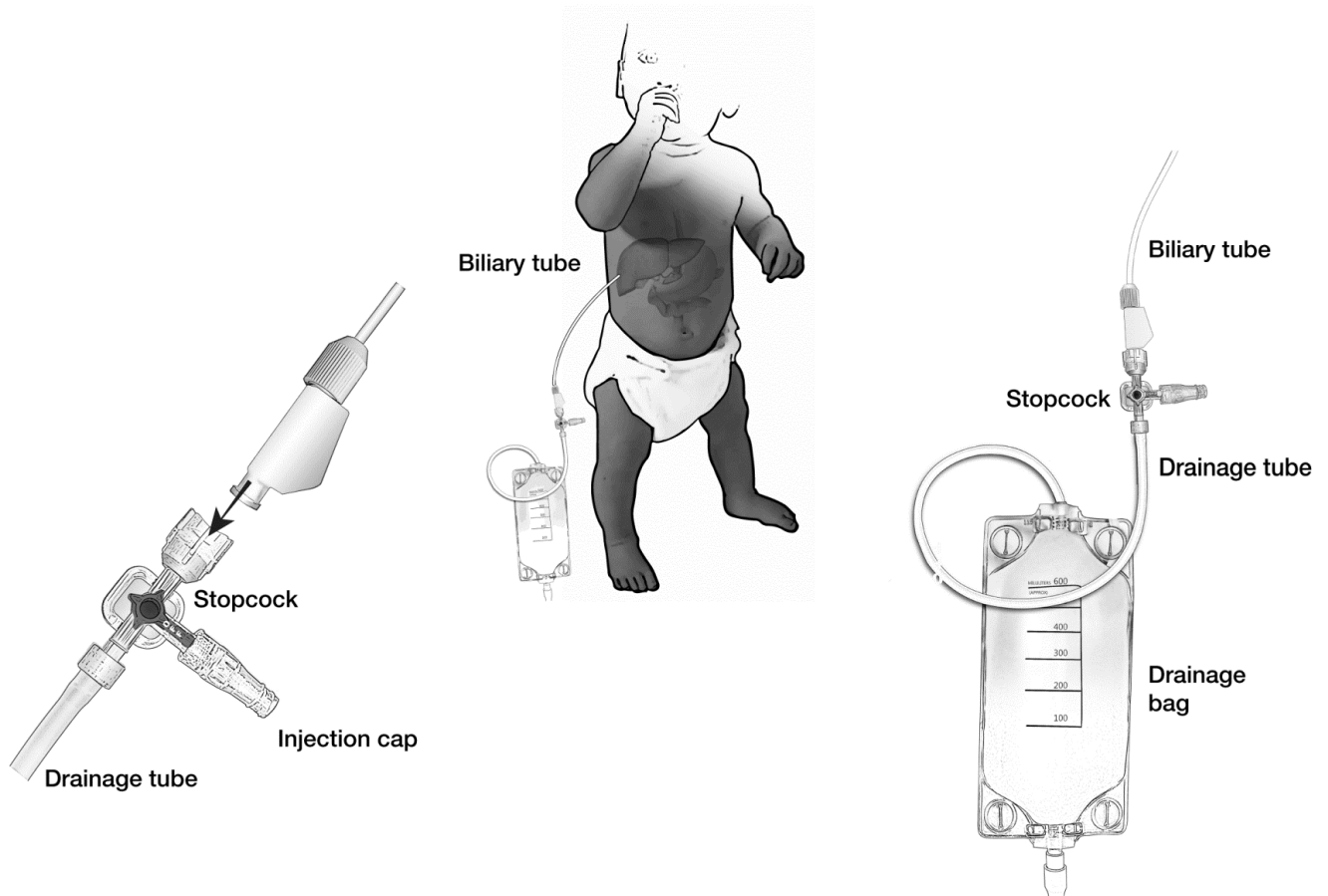
# Biliary tube (drain), continued

## Attaching the bag

1. Remove the injection cap from the tube.



2. Use the alcohol wipe to scrub the end of the tube for 10 seconds. This can be messy because bile will flow out of the tube.
3. Attach the 3-way stopcock to the end of the tube. The bile should now drain into the bag.



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# Biliary tube (drain), continued

## Troubleshooting problems

Problem	What to know	What to do
The tube will not flush.	The tube may be dislodged or clogged. NEVER pull back with the syringe on the tube in an effort to get it to flush.	<ul style="list-style-type: none"> <li>• Attach a drainage bag.</li> <li>• Call the Liver Transplant team, Hepatology team or after hours number.</li> </ul>
My child has a fever (temperature of 100.4°F or higher).	The tube may be clogged, or your child may have an infection in the liver.	<ul style="list-style-type: none"> <li>• Attach a drainage bag.</li> <li>• Call your child's care team <b><u>right away</u></b>.</li> </ul>
My child has nausea, vomiting (throwing up) or diarrhea (loose stools).	The tube may be dislodged or clogged.	<ul style="list-style-type: none"> <li>• Attach a drainage bag.</li> <li>• Call your child's care team right after you attach the bag.</li> </ul>
The dressing is wet with water, rain or sweat.	Wet dressings cause bacteria (germs) to grow and could cause infection.	<ul style="list-style-type: none"> <li>• Remove the wet dressing.</li> <li>• Clean the skin around the tube with soap and water.</li> <li>• Put on a clean dressing.</li> </ul>
The dressing is wet with drainage, and there is leaking around the tube.	The tube may be dislodged or clogged.	<ul style="list-style-type: none"> <li>• Attach a drainage bag.</li> <li>• Call the Liver Transplant team, Hepatology team or after hours number.</li> </ul>
My child is itchy all over their body, or their skin or eyes look yellow.	The tube may be dislodged or clogged.	<ul style="list-style-type: none"> <li>• Attach a drainage bag.</li> <li>• Call your child's care team or after hours number <b><u>right away</u></b>.</li> </ul>
I forgot to flush the tube.	Flushing helps prevent the tube from getting clogged. It also helps prevent infection.	<ul style="list-style-type: none"> <li>• Flush the tube as soon as possible.</li> <li>• Restart your normal schedule of flushing.</li> </ul>

**This teaching sheet contains general information only. Talk with your child's doctor or a member of your child's healthcare team about specific care of your child.**

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