

## PROBE AND IRRIGATION OF NASOLACRIMAL DUCT

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

### Fast Facts About Probe And Irrigation of Nasolacrimal Duct

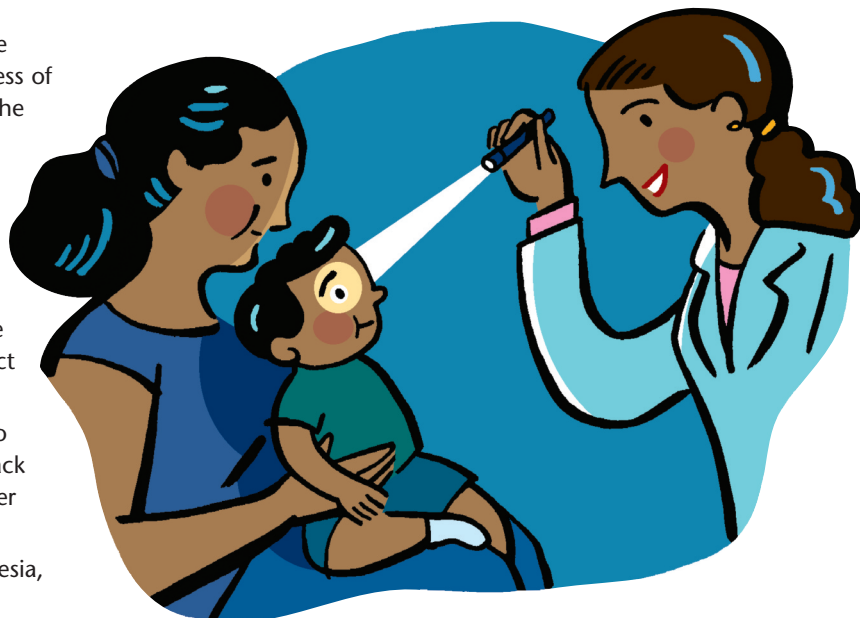
- A probe and irrigation of the nasolacrimal duct is done to open the valves between the nasolacrimal (tear) duct and the nose.
- The probe and irrigation is an outpatient procedure, so your child may go home afterward, but must come back in for a follow-up visit with the doctor a few weeks after the procedure.
- The probe and irrigation is done under general anesthesia, which means that your child will be sound asleep.
- A pediatric anesthesiologist—a doctor who specializes in anesthesia for children—will give the medications that will make your child sleep during the surgery.
- A pediatric ophthalmologist—a doctor who specializes in eye surgery for children—will do your child's probe and irrigation.
- When general anesthesia is needed, there are special rules for eating and drinking before the procedure.
- This procedure takes about 30 minutes, but recovery from the anesthesia might take several hours.

### What Is the Nasolacrimal Duct?

The nasolacrimal (*nay-zo-LACK-cra-mul*) duct is part of a system of channels that move your tears through your eye to the back of the nose and throat.

As tears are made, old tears drain from the eye through the upper punctum (*PUNK-tum*) and lower punctum, the two tiny holes you can see at the corner of the upper and lower eyelids near the nose. The tears then move through channels called the canaliculi (*cane-uh-LICK-yoo-lie*) and into the lacrimal sac, just inside the bridge of the nose. From the sac, the tears drop down the nasolacrimal (tear) duct, which drains into the back of your nose and throat. This is why your nose runs when you cry. When this system is working right, new tears keep your eyes moist and old tears drain down your throat and are cleared when you swallow.

Sometimes a valve or thin membrane of skin-like tissue inside the nose fails to open before birth and blocks part of the tear drainage system. When babies have a blocked valve, the tears cannot drain properly and start to back up inside the system spilling over the eyelid and onto the cheek. The eyelids can



become infected, leading to conjunctivitis (*con-JUNK-tiv-eye-tis*), commonly called "pink eye," and sometimes more serious eye conditions.

When a baby has overflowing tears and eye infections, the doctor's first step is to prescribe antibiotic eye drops or ointment to fight the infection. Parents also can clean the eyelids with a warm washcloth and massage the corner of the eye by the nose. Many times, the combination of antibiotics, warm washcloths and massage will be enough to open a clogged valve. If these treatments do not work, then a probe and irrigation procedure of the nasolacrimal duct may be needed.

### What Is A Probe And Irrigation of the Nasolacrimal Duct?

Probing of the nasolacrimal duct is done to open the valve between the nasolacrimal duct and the nose. The doctor first dilates (widens the opening) in the puncta (the two little holes in the eyelid) with a tiny metal dilating tool. Then a thin, flexible probe is gently moved through the duct until it reaches the inner nose. Irrigation, or flushing sterile liquid through the duct, is done to make sure the duct is open and the blockage has been removed.

Occasionally, the probing and irrigation procedure will not completely open a valve, or may not keep it open permanently. If that happens, another procedure may be needed to open the nasolacrimal duct.

## PROBE AND IRRIGATION OF NASOLACRIMAL DUCT cont'd

### Home Preparation

In the 2 weeks before the procedure, do not give your child any aspirin or ibuprofen. That includes Motrin®, Advil®, Bayer®, Pediaprofen®, Aspergum®, Pepto Bismol® and Alka Seltzer®. Your child may take Tylenol®.

The day before the surgery, do not allow your child to get any kind of vaccination.

When general anesthesia is needed, there are important rules for eating and drinking that must be followed in the hours before the surgery. One business day before your child's surgery, 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.

- 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 surgery, do not give any solid food or non-clear liquids. That includes milk, formula, juices with pulp, coffee and 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, Pedialyte®, Kool-Aid® and juices you can see through, such as apple or white grape juice.
- In the 2 hours before the **scheduled arrival time**, give nothing to eat or drink.

### A Parent's/Guardian's Role

The most important role of a parent or guardian is to help your child stay calm and relaxed before the procedure. The best way to help your child stay calm is for you to stay calm.

- You may bring along a "comfort" item—such as a favorite stuffed animal or "blankie"—for your child to hold before and after the procedure.
- If you are a guardian of the child having procedure, please bring the necessary paperwork with you to prove your guardianship.

- During the procedure, at least one parent or guardian should remain in the surgical family waiting area at all times, in case the family needs to be reached.

### Going to Sleep

A pediatric anesthesiologist—a doctor who specializes in anesthesia for children—will give the medications that will make your child sleep during the test.

Before the procedure, 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 to help him or her relax. This medication is flavored and takes effect in 10 to 15 minutes.
- Younger children will get their sleep medication through a "space 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.
- When your child has fallen asleep, you will be taken to the waiting room. 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 procedure.

### The Probe And Irrigation of the Nasolacrimal Duct

This procedure is done through the Same Day Surgery Center at Children's Hospital of Pittsburgh in Oakland and at Children's North in Wexford.

When you check in at the registration desk, you will be asked for the clearance form from your child's primary care physician (PCP). This PCP form was given to you at the appointment with the ophthalmologist when you scheduled your child's procedure.

Once your child is registered, you and your child will be called to the examining room.

- A nurse will take your child's weight, vital signs and medical history. The nurse will ask you to name any medications your child might be taking, as well as the dosages and the time last taken.
- A member of the anesthesia team will meet with you to discuss your child's medical history and answer any questions you might have about the anesthesia. As the parent or

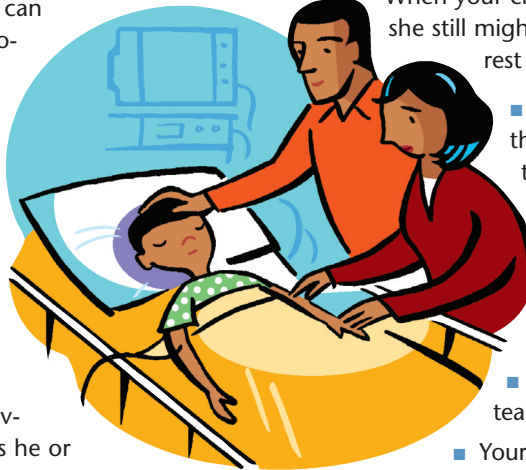
## PROBE AND IRRIGATION OF NASOLACRIMAL DUCT cont'd

guardian, you will be asked to sign a consent form for the anesthesia.

- Your child's doctor will meet with you and your child to discuss the procedure and answer any questions you might have. As the parent or guardian, you will be asked to sign a consent form for the procedure.

You and your child will be moved to a holding area near the operating room (OR). When the operating room is ready your child will go to the OR and you will be directed to the OR waiting room. We ask that at least one parent stay in the OR waiting room at all times.

- Your child will be given the anesthesia medication that was selected based on his or her age, weight and medical history.
- When your child is fully asleep, the procedure will begin.
- The doctor will begin by using a thin, metal tool to dilate or widen the puncta, the two little holes in the eyelids.
- Then a thin flexible probe is gently pushed through the duct to open the valve, until it reaches the inner nose
- A small amount of sterile saline, a liquid similar to tears, is flushed through the duct to ensure the system is open.
- When the doctor sees that the saline can flow freely through the ducts, the procedure is over.
- The doctor will decide whether or not to patch the eye. If the procedure was done on both eyes, your doctor might patch one eye and leave the other uncovered, or might leave both uncovered.
- The anesthesia medications will be stopped and your child will begin to wake up.
- Your child will be moved to the recovery room so that you can be there as he or she wakes up.



### While Asleep

While your child is asleep, his or her heart rate, blood pressure, temperature and blood oxygen level will be checked continuously.

- During the surgery, your child will have a breathing tube placed in the airway while he or she is asleep. Your child might have a sore throat after the surgery.
- To keep your child asleep during the surgery, he or she might be given anesthetic medication through the breathing tube, through the IV tube or both. When the surgery is over, the medications will be stopped and your child will begin to wake up.

### Waking Up

When your child is moved to the recovery room, you will be called so that you can be there as he or she wakes up. While your child is in recovery, your surgeon will talk to you about the surgery. This is a good time to ask questions about pain medications, diet and activity.

- Your child will need to stay in the recovery room to be watched until he or she is alert and his or her vital signs are stable. The length of time your child will spend in the recovery room will vary because some children take longer than others to wake up after anesthesia.
- Children coming out of anesthesia react in different ways. Your child may cry, be fussy or confused, be sick to his or her stomach, or vomit. These reactions are normal and will go away as the anesthesia wears off.
- When your child is fully awake, he or she may be given a Popsicle® or slushy to drink. If he or she can keep the liquid down, your child will be discharged and may go home.

### After the Probe And Irrigation

When your child is discharged from the hospital, he or she still might be groggy and should take it easy for the rest of the day.

- Your child might have a patch on the eye that will need to be removed by the doctor the next day.
- Your child's eye might be sore or feel like there is something in the eye. This feeling is normal and may last for a day or so. You may give your child Tylenol® to relieve the discomfort.
- Your child might have pink or blood-tinged tears for a day or so. These pink tears are normal.
- Your child might have a bit of blood when he or she blows his nose for a day or so. A little bit of blood in the mucous is normal.

### At-Home Care and Follow-Up Visits

You will need to bring your child to see the doctor 1-2 weeks after the surgery.

- You will be given antibiotic eye drops or ointment to put in your child's eye (or eyes) at the first follow-up visit. Your doctor will tell you how often and for how many days you should give your child the drops or ointment.
- Your child may return to school or daycare when he or she feels well enough.
- Your child may return to normal daily activities.

## PROBE AND IRRIGATION OF NASOLACRIMAL DUCT cont'd

### When To Call the Surgeon

The following symptoms may be cause for concern:

- Signs of infection, such as eye drainage that has gotten worse or has changed to green or yellow
- Vision loss
- Pain that has gotten worse
- Swelling that has gotten worse
- Fever higher than 100 degrees F.
- Nausea and vomiting that won't go away

**If your child has any of these symptoms, you should call the surgeon's office at 412-692-8940 immediately. If you are calling during the evening or on a weekend, please call the hospital at 412-692-5325 and ask to page the ophthalmology resident on call.**



### Special Needs

If your child has any special needs or health issues you feel the doctor needs to know about, please call the Division of Ophthalmology at Children's Hospital **before** the surgery and ask to speak with a nurse. It is important to notify us **in advance** about any special needs your child might have.

Division of Ophthalmology  
**Children's Hospital of Pittsburgh of UPMC**  
One Children's Hospital Drive  
4401 Penn Ave.  
Pittsburgh, PA 15224  
412-692-8940  
412-692-5325 evenings and weekends

**Children's North**  
2599 Wexford Bayne Road  
Sewickley, PA 15143  
724-933-3600 Medical Appointments  
724-933-3700 Surgical Appointments

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To see the list of all available patient procedures descriptions, please visit [www.chp.edu/procedures](http://www.chp.edu/procedures).