

What is the tear duct?

The tear duct (nasolacrimal duct) is a tiny passage running from the inner corner of the eyelids to the inside of the nose. It drains away the tears and mucus that the eye constantly produces.

What is a blocked tear duct?

One in five babies is born with a tear duct that is not yet open in one or both eyes. This can cause watery or sticky eyes.

Normal Tear Ducts

Tears are made in the tear gland which is under the upper eyelid near its outer corner. Tears come from this gland all the time, and keep the eye moist. At the same time, tears are draining away from the eye through 2 holes, one on the upper and one on the lower eyelid. These holes are called the puncta and are openings to the tear drainage system. If you look closely at your own eyelids in a mirror, or those of your child, you should be able to see these pinpoint sized openings on the edge of the eyelids near the nose. After passing through the puncta, tears flow through a canal in the upper and lower eyelid called the canaliculi. These canaliculi then merge and empty into a larger sac that is called the lacrimal (or tear) sac. Tears then exit through the bottom of the tear sac to drain through another duct the nasolacrimal (or tear) duct that goes through the bone into the nose. That is why your nose runs when you cry. These structures, the canaliculi, tear sac, and tear duct, are all under the skin and cannot be seen. Blocked Tear Ducts Before a baby is born, there is a membrane that blocks the opening between the tear duct and the nose. Around the time a child is born, the membrane should open up. If this does not happen, it can result in a blocked tear duct. This may happen in one or both eyes.

There can also be other reasons that the tear duct is blocked. If the tear duct is blocked, tears may still enter the upper part of the tear drainage system (puncta, canaliculi, tear sac), but they cannot drain all the way into the nose because of the blockage. Think of this like a sink in which the water is running, but the drain is plugged. In the case of a sink, the water will overflow. In the case of a blocked tear duct, the eye waters all the time and the tears drain down the child's cheek. Mattering (pus-like drainage or crusting of the eyes) is common in children with blocked tear ducts. The tears that are trapped in the tear sac can become infected. This causes pus-like drainage from the eyes.

Often the eyelids are matted and stuck shut in the morning. Parents may be surprised to hear their child's tear ducts are blocked, when the child's eyes are always watery. When you realize that it is not the gland that makes the tears that is blocked, but the duct that drains the tears away from the eye, this makes more sense. Even though the blockage of the tear ducts is present at birth, there often are no signs until a child is several months old. This is because a newborn's tear glands do not produce as much liquid as they do when the child is a bit older. The symptoms of blockage of the tear duct do not appear until your child makes more tears.

Treatment of Blocked Tear Ducts

We have found that about 85% of children with blocked tear ducts get better on their own. At first, treatment is aimed at keeping the mattering (infections) from getting out of hand, and helping the blockage open on its own. In very mild cases, nothing may need to be done while you are waiting for healing.

If there is a lot of mattering in the eyes, antibiotics in the form of eye drops or ophthalmic ointment may be used. This often causes the mattering to resolve very quickly.

Antibiotics will not do anything to open up the tear ducts. They simply buy your child time while the tear ducts mature enough to open. Because of this, parents of babies with blocked tear ducts often tell us that their baby seems cured while on the eye drops. In this case, though, the problem will come back when the eye drops are stopped. Sometimes massaging the tear duct may help open it.

You should place your thumb or forefinger on the skin just above the tear sac. Then, with a rather firm movement, you should stroke downward. The idea is to get some of the pus or fluid that is in the tear sac trapped between your finger and the membrane that is blocking the tear duct. With firm downward pressure, the pus or fluid may be squeezed downward and rupture the membrane. If that occurs, the symptoms of a blocked tear duct improve quickly. It may help to think of this as “milking” the tear duct. Parents should do this for about 5-10 strokes, 3 or 4 times a day for several weeks.

Probing of a Tear Duct

If a blocked tear duct does not improve, the next step is to probe the tear duct. This involves passing a thin wire probe into the puncta and down the tear duct to open the membrane. If the tear duct is blocked because of the membrane at the bottom of the tear duct, this is almost always successful.

A small number of children may need a more involved treatment. Sometimes the tear duct system has more a complicated type of blockage. There may be strictures in the canaliculi, or the tear duct system may have not developed properly. Your eye doctor can tell if this is the case at the time of probing. If a more complex type of blockage is found, simple probing may not help.

When a Tear Duct Should Be Probed

Most children with blocked tear ducts will get better in the first few months of life. By the time a child is 6 months old, there is still a good chance he will get better but the odds are less than they were at birth. Most (but not all) children who are going to improve do so by their first birthday. There is no “perfect” time to probe a child’s tear ducts. Many pediatric eye doctors feel comfortable probing a 6-month old child in the office, without the need of anesthesia. By the time a child is a year old, they are often too big and active to safely treat in this manner. If your child is going to need to have his tear ducts probed, it may be better to do it at about six months of age in the doctor’s office. By doing so, your child may be able to avoid having general anesthesia and the procedure done in the operating room. There is always the chance that your

child's tear ducts may open on their own, if you wait until your child is about a year old. However, if you choose to wait, it may require an operating room visit to do the procedure.

You should talk to your child's doctor about your options and what is best for your child.

What to Expect if your Child Has a Tear Duct Probing

After a tear duct probing, there may be mild bloody drainage from the nose and/or the eye for several hours. This is normal. You may be given any eye drops or ointment to put in the eye(s) several times a day for a week or so after the probing. You do not need to limit your child's activity.

If Tear Duct Probing is Not Successful

Most of the time, a simple tear duct probing will cure a blocked duct. For those children where probing is not successful, there are other options. One is to repeat the probing and insert a silicone tube in the tear duct. Leaving the tube in place for a few months may prevent the tear duct from scarring closed. This can be helpful when the blockage is in the upper part of the tear duct system.

The probing can also be repeated with a special probe that has a balloon at the end