



MYRINGOTOMIES with VENTILATION TUBE INSERTION

You or your child has been considered for placement of ventilation tubes. We will review the reasons the tubes are needed, how the procedure is done, and how to care for the ears after this surgery.

At this point in time, you or your child has probably had many ear infections or fluid which will not resolve. Antibiotics have failed. You may have also noticed that you or your child turns the TV up very loudly and cannot seem to hear when being spoken to. This is the time in your child's life when being able to hear is very important. Speech and language skills are developed during these early years, and a hearing loss can impair the development of these skills.

Why do you or your child get so many infections? Probably the primary reason is poor Eustachian tube function. The Eustachian tube is a small tube that runs between the nose and the middle ear. Its purpose is to ventilate the middle ear and to equalize the pressure between the outside environment and the middle ear. Normally, adults equalize the pressure in their ears by swallowing. The Eustachian tube opens when we swallow. Your child's Eustachian tube does not operate as efficiently because it is shorter, more horizontal and less rigid. As your child grows, his facial structures grow and change, and his Eustachian tube begins to function much more like an adult's tube.

Another reason for Eustachian tube dysfunction is enlarged and/or infected adenoids. Children tend to have large adenoids and, because they are in close proximity to the Eustachian tube, they may interfere with the Eustachian tube function or serve as a reservoir for infection. A middle ear that is not well ventilated, either due to Eustachian tube dysfunction or to enlarged, infected adenoids, will result in fluid in the middle ear. This nice, moist, and warm environment invites bacteria, and infection often follows.

Day care is also another major risk factor for children's ear infections. This is felt to occur because of the number of viral infections that are passed from child to child. These viral infections damage the surface tissues in the nasal passage and throat and result in a much higher incidence of infectious problems, especially with the sinuses, adenoids, and ears. Unfortunately, there is little that most of us can do about having our children in day care when both parents work. Certainly, if your child can be in a small day care situation or if a private home-type situation can be worked out, this can be very, very helpful.

Why is there a hearing loss? In most cases, antibiotics do take care of the infection in the middle ear, but the fluid may not resolve, even after excellent treatment. The fluid behind the eardrum does not allow the eardrum to move very well so there is decreased conduction of sound waves to the inner ear and brain.

If your child snores and/or often has thick, colored drainage from his nose, his adenoids may be enlarged and infected. In these circumstances, most ENT specialists feel that removal of the adenoids will not only improve the snoring but decrease the number of ear infections and decrease the chance your child will need a second set of tubes. There are other instances when adenoidectomy may be routinely advised.

How will ventilation tubes help? They function, as their name implies, to ventilate the middle ear. They will serve as a substitute eustachian tube in that they will equalize pressure in the ear and keep it well ventilated. The tube usually remains in place 6 to 18 months and is gradually pushed out of the eardrum. The eardrum heals as the tube is pushed out. Fluid will thus not collect. Where there is no fluid in the middle ear, your child will hear better and be less prone to infections. However, some infections may still occur.

The following are the advantages to having tube placement:

- 1) Decrease incidence of infections
- 2) Improve hearing
- 3) Prevent long-term and often irreversible damage from middle ear fluid and negative pressure

Alternatively, the following are the disadvantages to have tube placement:

- 1) There is a 20% chance of some types of problems, mostly minor ones:
 - a) Continued infections (10%)
 - b) Plugging of the tubes (3%)
 - c) Early extraction of the tubes (2%)
 - d) A persistent hole in the eardrum that remains after the tube comes out (3%)
 - e) Bad infections from the external canal going through the tube to the middle ear (3%)
- 2) There is about a 10-35% incidence of need for repeat tube insertion.

Again, day care is a major risk factor for the need for a second set of tubes. Studies done in our practice have revealed that children in day care have as high as a 37% incidence. Also, tubes have made things much more tolerable for children in day care, and almost all parents agree that tubes have had a major beneficial impact on their children's overall health. Younger children also need a second tube set more frequently. In some circumstances, an adenoidectomy can decrease the chance a second tube is necessary.

You may now know a lot about tubes. Despite some problems, their use has been a major step forward over the past 20 years. Better antibiotics and ventilation tubes have resulted in less permanent ear problems. Research continues to improve the way we treat ear infections in children.

The surgery is fairly simple. If you or your child is only to have ventilation tubes inserted, a mask and gas anesthesia are all that are used. An adenoidectomy, in addition to tubes, is a little more extensive. On the day of your child's surgery, you will arrive at the hospital or outpatient surgery center one to two hours in advance. This allows the nurses and physicians to prepare the patient for surgery. When he/she is taken from you to the operating room, either the staff or your doctor will keep you informed about the surgery.

From the operating room, your child will go to the recovery room to awaken from any anesthesia. When he/she is awake enough to be asking for you, the nurses will bring him/her to you. You will be asked to stay for a short while longer to make sure your child has recovered from the surgery. Discharge instructions will be given to you before you leave the facility. Our doctors or one of the nurses from our office will call the day after surgery to make sure everything is going well.