CLINICAL PRACTICE GUIDELINES

PATIENT INFORMATION

What should I do if my child has frequent ear infections but no persistent fluid (effusion) behind the eardrum in the middle ear?

Why am I receiving this information sheet?

You are receiving this information sheet because your doctor has not recommended ear tubes for your child, even though they have had frequent ear infections in the past and may have been referred to the specialist specifically for ear tube surgery. The information that follows will clarify why it is in your child's best interest to hold off on ear tubes for now, recognizing that this decision could change if your child continues to suffer from frequent ear infections.

What is middle ear fluid, also called effusion?

When a child has acute otitis media or an ear infection, they have fluid and germs in their middle ear, behind the eardrum. Middle ear fluid is also called an effusion, which is typically cloudy and full of bacteria and white blood cells in the worst part of the ear infection. We call this a purulent effusion, commonly known as pus. As the ear infection goes away the effusion is absorbed by the body or drains through the eustachian tube, a connection in the skull between the ear and back of the nose. This process can take several weeks, but within 3 months about 90% of children no longer have middle ear fluid. So, it would be perfectly normal for a child to have an effusion when an ear infection is first diagnosed but they may not have a persistent effusion when they are examined days or weeks later.

What does it mean if my child has repeated ear infections, but doesn't have middle ear fluid (effusion) when they are seen by an otolaryngologist (ear, nose, and throat doctor)?

For most children, if their effusions completely clear up between their last infection and the time they are seen in a surgeon's office, it means that their eustachian tubes work well. Even if these children meet the definition of having had frequent ear infections (3 or more in the past 6 months, or 4 in the past 12 months), we know from research studies that nearly half will not have more ear infections and only about 1 in 3 will continue to have frequent infections. Other research shows that 2 out of every 3 children who see an otolaryngologist for repeated ear infections, but who have a normal examination (no middle ear fluid) in the office, do not require ear tubes in the future. If your child, however, continues to have frequent ear infections, they should be reevaluated by the otolaryngologist and may qualify for ear tubes in the future.

Are there any children who should still get ear tubes for recurrent infections even without an effusion on the day of their examination by the otolaryngologist?

Yes, there are some exceptions. If any of the following apply to your child, you should discuss with your doctor whether ear tubes may still be of benefit:

- Weak immune system or other problems putting them at higher risk for infections
- Prior complications of ear infections including seizures (from high fever) or infections spreading to the neck, bone behind the ear, or the brain
- Adverse antibiotic reactions, allergies, or inability to take oral antibiotics that make it difficult to treat ear infections when antibiotics are needed
- High risk of developmental problems including permanent hearing loss, delays in speech or language, delays in learning, autism-spectrum disorder, syndromes (e.g., Down) or structural problems with the face and head (e.g., cleft palate), or severe vision loss

What if my family doctor specifically sent me to the otolaryngologist for the purpose of getting ear tubes, but there is no middle ear fluid and the doctor wishes to wait before surgery?

Although your child may have had a tough time with frequent ear infections in the past, the real question is whether inserting ear tubes will help them by reducing future ear infections. The best research evidence we have suggests that inserting tubes will not reduce future ear infections when there is no persistent effusion, but the procedure does involve some minor risks related to the ear tube and general anesthesia. Waiting a bit more to see how your child does on their own does not carry any risk or harm, since many children will not have any further ear infections at all and most will never need tubes. As noted previously, if your child continues to have ear infections they can be reevaluated and tubes can be arranged at that time if middle ear fluid is present.

SOURCE: Rosenfeld RM, Tunkel DE, Schwartz SR, et al. Clinical Practice Guideline: Tympanostomy Tubes in Children (Update). *Otolaryngol Head Neck Surg*.2022;166(1_suppl):S1-S55.

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