

# Ear tubes vs. watchful waiting: Tubes do not improve long-term development

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Watchful waiting or ear tube surgery? It is a decision faced by millions of families of children with recurrent or chronic otitis media with effusion (non-infected fluid in the middle ear) each year. Out of concern regarding long-term effects like hearing loss and potential developmental delays, about a million such families choose ear tubes annually, opting for surgery that carries risks of its own.

New research by the RTI-University of North Carolina Evidence-based Practice Center, though, may have practitioners reconsidering their clinical recommendations to families. The systematic review of more than 40 studies found that implanting tubes in the [ears](#) of [children](#) who have persistent or recurrent episodes of otitis media with effusion (OME) improves hearing over a short period but is less likely to improve long-term cognitive and functional development.

"Surgery can certainly help ease pain associated with ear pressure changes in the middle ear, and even improve hearing in the short term, but we found no evidence that surgical intervention improves longer term hearing, speech, language, or other functional outcomes in normally developing children," said Michael Steiner, MD, chief of general pediatrics and adolescent medicine at the University of North Carolina School of Medicine, who served as the review's lead medical advisor and senior author.

OME is a collection of fluid in the middle ear without signs or symptoms of acute [ear infection](#). The fluid decreases middle ear function, leading

to [hearing loss](#) and occasional pain from the pressure changes. As many as 90 percent of children have at least one episode of OME by age 10, and OME is a primary reason for children to undergo surgery.

Myringotomy and tube placement is a procedure in which a tiny incision is created in the eardrum, and then a small tube is placed to relieve pressure and fluid build-up. This can be done alone or sometimes is also done with adenoidectomy, where tissue is removed from the back of the throat. In the United States these are two common surgical treatments for OME.

The [systematic review](#), published online in *Pediatrics*, examined 41 studies and found that, compared with watchful waiting or myringotomy alone, implanting tubes decreased [middle ear](#) effusion and improved hearing up to nine months post surgery. Limited evidence suggested that tube placement increased the rate of prolonged discharge from the ear or calcification of tissues in the ear compared with no ear surgery or just myringotomy.

Adenoidectomy also reduced time with ear infections and improved hearing up to two years compared with no treatment or as an adjunct to myringotomy; rarely, it increased the risk of postsurgical hemorrhage.

"With the large number of tube insertions and adenoidectomies done on children each year, more research needs to be done to assist clinicians and parents in understanding the level of improvement in quality of life and other patient-centered outcomes that these common procedures offer, especially for periods longer than 24 months." said Ina Wallace, PhD, senior research psychologist at RTI International and the study's lead author. "Our research showed that tubes and adenoidectomy seem to be effective in the short term, although they carry some risks. We found evidence that tubes may not make a difference in [hearing](#) and functional outcomes over one or two years or longer, but less is known

about the long-term outcomes for adenoidectomy."

The full report sought to clarify the benefits or harms of interventions for OME among adults but found no suitable evidence.

Provided by University of North Carolina Health Care

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