

Tympanostomy Tube Insertion Delivery System for Children With Chronic Ear Infections

Who Might Benefit?

Middle ear infections are one of the most common childhood illnesses, with 75% of children having at least one episode by one year of age. Though ear infections are usually not serious, many children suffer from frequent infections, especially between six months and five years of age. Ear infections result in pain, anxiety, loss of sleep, and numerous doctors' visits for the children and their caregivers.



> Current Practice

Generally, a child with frequent and persistent middle ear infections is referred to an ear, nose, and throat surgeon. The surgeon inserts a tympanostomy tube into the eardrum to equalize the air pressure in the middle ear and help drain any fluid. The procedure usually requires general anesthesia. Although there is some controversy surrounding whether inserting a tympanostomy tube improves a child's long-term development, it remains one of the most common same-day surgeries performed on children in Canada and has a significant cost impact on the health care system.

A new integrated in-office tube delivery system to treat children with chronic ear infections

> What's New?

A new, integrated in-office tube-delivery system may provide an alternative to conventional surgery. The device combines the administration of a local anesthetic with tube delivery. Ten minutes after administering the anesthetic, the tube-delivery system makes a rapid incision in the eardrum and deploys a tube into the ear in a single, automated motion.

> Potential Advantages

Successful insertion rates for the new system are comparable to conventional surgery, though long-term follow-up information is not available. The new in-office tube-delivery system may offer fewer risks compared with conventional surgery because it eliminates the need for general anesthesia. It may also remove the costs and wait times associated with the use of general anesthetic in conventional surgery. The new procedure should be tolerated by most pediatric patients, as published evidence suggests the average level of pain felt during the in-office procedure was minimal.

The impact of this technology on the volume of surgeries currently being performed in Canada and the associated wait times is unknown; however, since the wait time between referral and treatment with conventional surgery is approximately five months, the impact of the tube-delivery system should be favourable.