



## Otolaryngology (ENT) Research

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### Commentary

The Division of Pediatric Otolaryngology at UPMC Children's Hospital of Pittsburgh has an in depth research program that began in 1975 and has since become "the place" for the treatment of otitis, which incorporates ear infections and fluid build-up within the tympanic cavity. No institution has done more to shed light on the pathogenesis of otitis and point the way toward improved therapies than Children's. Our clinical Ear, Nose and Throat (ENT) research facility, tympanic cavity Physiology Laboratory, and Basic lab are engaged in numerous clinical and laboratory studies investigating the causes, development, and management of tympanic cavity disease, also as other pediatric ear, nose, and throat disorders.

One of the facets that creates Children's ENT research program unique is that the tympanic cavity Physiology Laboratory in Oakland, which features a special pressure chamber that permits researchers to review the center ear system without having a perforation within the eardrum, like earlier methods. The chamber, which simulates pressures almost like those experienced underwater also as on an airplane, was added as a part of a \$5-million study funded by the National Institutes of Health (NIH) to research the cause and treatment of otitis. Children's researchers have used this facility to realize better understanding of pediatric and adult tympanic cavity conditions.

In one ongoing study, children enrolled at the age of three undergo annual Eustachian tube function testing until they're

7, enabling researchers to live Eustachian tube development and compare among children with histories of recurrent ear infections or persistent tympanic cavity fluid or no history of serious tympanic cavity disease. Another NIH-funded study investigates whether a little change within the surgical repair of a birth defect makes a big difference in decreasing tympanic cavity disease.

Children who are having their eardrums patched are being studied to ascertain whether researchers can predict outcomes through Eustachian tube function testing before surgery. Patients being seen by Children's Aerodigestive Center, who are diagnosed with laryngomalacia (a floppiness of the voice-box) can participate during a quality-of-life study, which can cause better therapies and ways to enhance their treatment experience.

Our researchers also are participating during a multi-center study of the genes and virus involved in an uncommon childhood disease, recurrent respiratory papillomatosis. Several adult ear studies also are underway. One involves testing Eustachian tube function during a "cold". Another investigates risk factors, like allergy and acid reflux, in adults with ear tubes. Adults with ragweed allergies are being enrolled in another study investigating whether nasal challenge with ragweed provokes changes in middle-ear pressure.

The Division of Pediatric Otolaryngology has received continuous research funding from the NIH for nearly 40 years, and may be a recognized Center of Research Excellence with a world reputation for its contributions.