



New Research in Otolaryngology

Diseases of the ear, nose, throat, head and neck have a profound effect on the health and quality of life of millions of patients around the globe. Chances are everybody will at some time need the medical care provided by an otolaryngologist—head and neck surgeon. Otolaryngology (pronounced oh/toe/lair/in/goll/oh/jee) is the oldest medical specialty in the United States. You might know this surgeon as an ENT doctor. Many of the illnesses that ENTs treat can have a substantial impact on day-to-day activities of people of all ages. They can cause tremendous financial burden on a family through lost days of work and productivity. These illnesses and conditions, if left untreated, can have a severe or potentially life-threatening impacts.

Recent developments indicate overwhelming evidence that illnesses affecting the ear, nose, and throat can be impacted by research discoveries that are applied to patient care. Such advances in treatment are made possible through research by otolaryngologists.

Major Research Directions

Over the last 20 years, medical associations like the American Academy of Otolaryngology – Head and Neck Surgery (AAO-HNS) and government institutions like the National Institutes of Health (NIH) have invested billions of dollars to research some of the most widespread and life-altering health conditions in the field of otolaryngology. The aim of these investments is to find new therapies and cures to restore patient quality of life and prevent the diseases before they affect someone else. Below are just a few areas that have been studied in great detail by otolaryngology researchers and collaborations:

Head and Neck Cancers

head and neck squamous cell carcinoma
thyroid carcinoma
oral cancer
laryngeal cancer

Rhinology

Sinusitis
rhinosinusitis (hay fever)
sinus surgery
scent/smell dysfunctions

Laryngology

voice disorders
adult and pediatric reflux diseases
upper airway inflammation

Otology

hearing loss
tinnitus (chronic ringing in the ears)
vertigo (dizziness)
otitis media (ear infections)

Facial Plastics

wound healing
facial paralysis
bone and nerve regeneration
cleft lip and palate procedures

Sleep Disorders

sleep apnea surgery
tonsillectomy for sleep disorders

Spotlight on New Research and Technologies

The field of otolaryngology is so diverse that the possibilities for new research initiatives and technological developments are endless. Ear, nose, and throat health affect almost everyone at some point in their lives, often in ways most people never expect. The research areas below are just a small sampling of some of the latest and most diverse issues that otolaryngologist – head and neck researchers are exploring at major academic centers, and through NIH and related funding agencies :

Is there a link between acid reflux (GERD) and upper airway cancer?

A study, “Reevaluation of GERD as a Risk Factor for Laryngeal Cancer,” is being conducted to ascertain GERD as a risk factor. Investigators believe that a current case-control study may be resulting in overdiagnosis. They think that once the bias is clarified, the relationship between GERD and upper airway cancer will be reduced or eliminated.

Could hearing tests help indicate increased risks for heart disease?

The project, “Clinical Correlation between Strial Presbycusis and Cardiovascular Disease,” seeks to explore the association between cardiovascular disease and hearing loss. Investigators believe there is a correlation between the presence of cardiovascular disease events and the presence and pattern of hearing loss. They seek to identify if the presence of certain markers in hearing tests would indicate an increased risk for cardiovascular disease events and/or risk factors in patients.

Could robots have the magic touch for surgical procedures?

Over the past several years, major innovations have been made in the area of robotic surgical procedures. Used in a variety of different surgical settings, robotic applications have significantly simplified many complex procedures. For patients, the benefits include less blood loss, pain, and quicker recovery times. In otolaryngology, robotic surgical techniques can be used in head and neck cancer cases, facial plastic surgery, and airway procedures.

Will doctors be able to regenerate organs and bones?

Tissue engineering (regeneration) is a multidisciplinary area of research aimed at regeneration of tissues and restoration of organ function. Therapies in various stages of development that will likely have a significant impact on the care of otolaryngology patients include regeneration of bone, cartilage, mucosa, nerve, skeletal muscle, salivary tissue, hearing and balance organs, endocrine organs, and trachea. Current preclinical research into a tissue-engineered trachea and tissue-engineered cartilage for ear and nasal reconstruction has shown promising results.

The Future of Research in Otolaryngology

In the upcoming years, researchers will be looking at many new issues in the field of otolaryngology. Some key areas the AAO-HNSF’s Research Advisory Board have identified include: creating long-term, collaborative research alliances to enhance community-based research and translation; comparative effectiveness research; and developing new and innovative training programs and continuing education for the next generation of researchers and clinicians.

For more information on new research in the field of otolaryngology, please visit www.entnet.org.