Pediatric Otolaryngology

The pediatric otolaryngology team at the University of Chicago Children's Hospital (UCCH) is made up of otolaryngologists, nurses, audiologists, speech and swallowing pathologists, and other healthcare professionals who provide a multidisciplinary approach to the care of children with ear, nose and throat problems. These disorders range from the most common problems affecting children, such as ear, tonsil and sinus infections, and snoring and obstructive sleep apnea, to more complex problems, ranging from congenital hearing loss and neck masses to complicated airway problems. Professionals here understand the physical and emotional needs of children and encourage the informed participation of parents in all aspects of patient care.

Some of the conditions in which our team specializes are:

Snoring and Obstructive Sleep Apnea (OSA)

The typical manifestations of OSA are snoring, mouth breathing and breathing pauses with fragmentation of sleep with frequent awakenings. Other symptoms include enuresis, fatigue during the day, hyperactivity and poor school performance.

The diagnosis is based on parental history of nighttime symptoms and physical examination in the office showing tonsillar hypertrophy. A lateral neck x-ray or an endoscopic exam through the nose can achieve visualization of the adenoids. The gold standard for the diagnosis is a polysomnogram, which quantifies the degree of obstruction and its sequelae. The treatment of choice in most children is adenotonsillectomy, which leads to resolution of the problem in a large proportion of children.

Young children, those with neurological abnormalities, and those with severe OSA are prone to postoperative complications and are usually observed in the step-down unit postoperatively where appropriate monitoring allows the detection of respiratory compromise and intervention to resolve it. Our specialists work in conjunction with sleep specialists from the Departments of Pediatric Neurology and Pulmonology to offer the best care for even the most complicated cases of OSA.

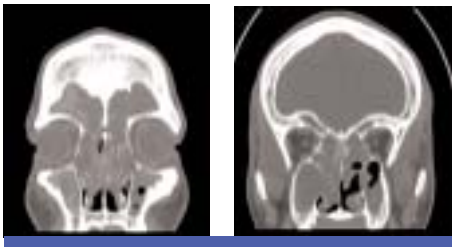
Sinusitis

Sinusitis is a common diagnosis in children, presents as recurrent episodes of nasal congestion, nasal drainage, cough, postnasal drip and facial pain/headaches, and can be acute or chronic. There is a strong association between allergies, asthma and sinusitis, which often exacerbates asthma in children.

The diagnosis involves appropriate history and physical examination, which might include a nasal endoscopy to visualize possible polyps or obstruction and, in some cases, will allow obtaining a culture to help guide the choice of therapy.

The standard radiological test to evaluate the sinuses is a CT scan without contrast. Tests are performed to rule out potential associated conditions, such as allergies, immotile cilia syndrome, immune deficiencies and cystic fibrosis.

The mainstay of treatment of sinusitis is antibiotics with occasional use of intranasal and systemic steroids to decrease the inflammatory response within the nasal and sinus cavities. If maximal medical treatment fails, surgical treatment options include adenoidectomy or endoscopic sinus surgery. CT-guided surgery equipment, not available in most hospitals, allows visualization of the anatomy during surgery and facilitates a safer and more complete procedure.



Diffuse bilateral chronic sinusitis. Both panels show significant opacification of all paranasal sinuses in an adolescent with chronic nasal and sinus symptoms.

Airway problems

Airway problems range from uncomplicated stridor in patients with laryngomalacia to life-threatening airway compromise in patients with subglottic stenosis or foreign body aspiration.

Evaluation of the child with stridor includes careful history and physical exam. Flexible fiberoptic laryngoscopy under local anesthesia in the office allows the evaluation of the supraglottic structures and the vocal cords and their mobility. The findings are documented and recorded to show the parents and explain the nature of the abnormalities. The subglottis and distal trachea can be evaluated radiographically by neck x-rays and/or fluoroscopy. Sometimes, a barium swallow is helpful in identifying lesions that extrinsically compress the trachea and the esophagus. CT scan and MRI can also be helpful. The golden standard for evaluating a child with a suspected subglottic or tracheal lesion is a rigid/flexible bronchoscopy in the operating room under general anesthesia.

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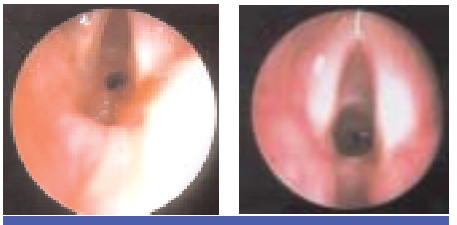

Subglottic stenosis. The panel on the left shows severe subglottic stenosis which was managed by a tracheotomy and then serial laser excisions and application of Mitomycin C. This resulted in an adequate lumen (right panel), which allowed removal of the tracheotomy.

Here, UCCH otolaryngologists work as a team with pediatric anesthesiologists to maintain a safe airway while establishing the diagnosis and treating the condition.

Once the cause of the stridor is identified, the team makes plans for treatment, which might include endoscopic relief of the stenosis using laser equipment with application of Mitomycin C to prevent scar recurrence, or open surgical procedures to expand the airway and eliminate obstructive lesions using rib grafting. Sometimes a tracheotomy is necessary to allow safe breathing while the original problem is rectified. The University of Chicago Areomedical network (UCAN) can help transport children with airway abnormalities for acute care in the intensive care unit where pediatric otolaryngologists work in close collaboration with the expert pediatric critical care team to identify the problems and help resolve them.

Sensorineural Hearing Loss (SNHL)

Significant hearing loss occurs in 1-2: 1000 newborns with moderate to profound bilateral hearing loss estimated at 1:900-2500 newborns. Most congenital hearing loss is sensorineural with approximately one-half having a genetic etiology. Approximately 30 percent of the genetic causes are syndromic in nature. Around one-half of nonsyndromic, autosomal recessive prelingual deafness is due to mutations in the gene encoding connexin 26. Bacterial meningitis is the most common cause of acquired SNHL in children. Early identification of SNHL is key to a child's communicative success. If hearing loss is not identified and addressed early, it may result in significant delays in speech and cognitive development. The federally mandated newborn hearing screen allows early identification of hearing loss. UCCH provides a comprehensive range of services to identify and rehabilitate children with congenital hearing loss. These range from newborn hearing screens, expanded testing with soundfield audiometry, otoacoustic emissions, and brainstem-evoked response audiometry, genetic testing and counseling, amplification options, and cochlear implantation, as well as the rehabilitation that is subsequently required. Children requiring sedation for testing are observed by qualified nurses with appropriate monitoring in the specialized pediatric procedure area.

Otolaryngologic Manifestations of Gastroesophageal Reflux (GER)

GER is increasingly recognized and defined in children. The exposure of the upper aerodigestive tract to gastric secretions results in numerous pathologic processes. Chronic rhinosinusitis, recurrent otitis media, chronic cough and airway pathologies, such as subglottic stenosis, recurrent croup, laryngomalacia and reflex apnea may all be due to, or be exacerbated by, GER. Children with pathologic GER and GER-induced otolaryngologic disease generally have an excellent response to medical therapy. Only small percentages require surgical intervention in the form of anti-reflux surgery. Awareness of the role of GER in otolaryngologic disease is the key to its successful treatment. At UCCH, pediatric otolaryngologists work in conjunction with pediatric gastroenterologists and pediatric surgeons to provide a comprehensive multidisciplinary approach to managing GER.

Members of the pediatric otolaryngology team are (left to right) Dana Suskind, MD; Mary Brady, RN; and Fuad Baroody, MD, Director.

Other pediatric otolaryngology team members are Robert Naclerio, MD, and Miriam Redleaf, MD.

Drs. Baroody and Suskind take care of all otolaryngologic problems in children. Dr. Naclerio has special expertise in pediatric sinusitis, and Dr. Redleaf is a trained neuro-otologist who provides expertise in the field of ear surgery, including cochlear implantation.

All of these physicians see patients at the University of Chicago Duchossois Center for Advanced Medicine where appointments can be made by calling **(773) 702-1865**. Dr. Baroody also sees patients in Merrillville, IN **(219) 756-1200** and Palos Heights, IL **(708) 448-8000**, Dr. Naclerio in Palos Heights, and Dr. Suskind in Matteson, IL **(708) 748-2310.** Ms. Brady can be reached at **(773) 702-4851.**

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