



Pediatric Otolaryngology

At **Osborne Head and Neck Institute**, we know children are special, and that they are not just small adults. We understand that while some children can what is hurting or bothering them, many often cannot explain clearly or otherwise. Therefore someone skilled and experienced in the care of pediatric patients is helpful to decipher the complaints, behavior and findings. We also understand that children may not be patient or cooperative during a physical examination. Our doctors and staff know how to examine and provide for your child so as to keep them as relaxed and cooperative as possible. We aim to provide a safe and nonthreatening environment so that each child may enjoy visiting us as well as returning to our office. Our goal is to provide comprehensive and compassionate care to your little ones, while providing you, their parents and families, with the knowledge and confidence to entrust them to our care.

Dr. Eugene Flaum and **Dr. Lorraine Smith** specialize in the medical and surgical treatment of ear, nose and throat related disorders in patients from birth to 18 years of age. Both physicians are board-certified otolaryngologists who have devoted their careers to the care of pediatric patients. Dr. Eugene Flaum has established himself in the community as a leader in the field of Pediatric Otolaryngology. Dr. Flaum is an expert in the care of pediatric patients with craniofacial syndromes that affect speech, hearing, and normal breathing. His associate, Dr. Lorraine Smith adds years of experience to the division and has a special interest in abnormal upper airway breathing usually secondary to sleep disturbances, nasal and sinus disorders such as cystic fibrosis, tumors as well as anatomic problems such as choanal atresia.

Our office provides the following services:

1. Diagnosis and treatment of all ear, nose and throat (ENT) disorders as well as head and neck diseases;
2. Diagnosis, treatment and referral when necessary of children with hearing, speech and other communication or neurological disorders.
3. Second opinions and consultations to other sub-specialists as needed for complex ear, nose and throat diseases that may affect other parts of the body;
4. Surgery of the head and neck, as well as the before and after care in coordination with your pediatrician.

Some of the common ENT problems that we evaluate and/or treat include:

- a. **Ankyloglossia** or **tie-tongue** is present from birth. It refers to a short frenulum in which the tip of the tongue is attached to the inner border of the jaw. Dimpling of the tongue tip may occur. This often presents in one of two forms: i) difficulty breastfeeding, either latching on or painful nipples secondary to a poor or an ineffective suck or; ii) difficulty speaking or articulating certain words because the tongue cannot touch the roof of the mouth (palate).
Treatment - simple clipping, referred to as a frenulectomy/frenulotomy. Local anesthesia may be used in neonates, almost no bleeding occurs and breastfeeding is often resumed immediately with decreased discomfort. At the toddler stage, a general anesthetic is usually required and oftentimes a frenuloplasty is done to prevent the edges from returning to the same site for recurrence. Left untreated it may occasionally cause some difficulty with eating, for example - licking ice-cream or kissing.
- b. **Birthmarks** generally represent a blemish or hyperpigmented area on the skin present at birth. They are not in general hereditary and the cause is not known. They may be flat or raised, have smooth or irregular borders and vary in color. Vascular birthmarks are quite common and represent
 - o **Strawberry marks or capillary hemangiomas** are the most common birthmark lesion. They occur most often in the head and neck areas. They present as raised, irregular red lesions and represent a proliferation of vessels. Many resolve on their own by age 2 years and by 10 years of age more than 90% have spontaneously resolved without any treatment. The first year may be associated with growth (proliferative phase) and may require treatment. **Treatment if indicated** may involve steroid injections, laser therapy and/or surgical excisions based on location and threat of function for example on the eyelids, the ear, the voicebox (larynx) or the nostrils.
 - o **Port wine stains or nevus flammeus** represent vascular malformations in which the small venules in the deeper layer of the skin known as the dermis grow by distention. **Treatment** - laser therapy.
 - o **Stork bites or "angel kisses" or telangiectic nevus** also represent vascular malformations. **Treatment** - if indicated - laser therapy.
- c. **Cleft lip and/or palate** represent abnormal facial development that occurs in utero. **Cleft lip** may occur alone or with a cleft palate. Both are quite common occurring in 1 of 500-800 infants. A cleft of the lip usually involves the upper lip and may occur on one side (unilateral) or both sides (bilateral), and vary in severity from a small notch of the upper lip to a large gap that may or may not extend to the palate. **Cleft palate** alone also varies in severity from a bifid uvula to a cleft of the soft palate, to cleft of the hard palate only or as with complete cleft lip and palate - complete failure of fusion of the palatal shelves.
Diagnosis - ultrasonography may be useful in diagnosing cleft lip in utero.
Treatment - usually involves surgical repair - the initial one being around 10 weeks of age for a cleft lip, with the cleft palate repaired later, around 1 year of age. Specialized feeding techniques and nipples are available to allow for normal feeding and growth.

- d. **Cysts or masses in the neck** are common, and benign in nature. The masses often represent lymph nodes which are large (lymphadenopathy) and become infected (lymphadenitis) as a result of draining an infection in the head and neck. Lymphadenitis may occur after a cold (upper respiratory infection-URI), episode of tonsillitis or sinusitis. These may lead to difficulty with moving the head or neck, difficulty swallowing or less commonly difficulty breathing (respiratory distress).

Two of the more common cysts occurring in infants and children are branchial cleft cysts and thyroglossal duct cysts:

Branchial cleft cysts tend to occur on the side of the neck, with its exact location determined by the branchial arch from which it originated in utero. Most commonly they occur at the angle of the mandible, and enlarge after an URI. **Treatment** - An infected cyst usually responds to antibiotics with needle aspirations required occasionally for drainage. Definitive treatment requires surgical excision in a non-infected cyst.

ii) **Thyroglossal duct cysts** occur in the midline and develop from residual thyroid tissue that was left as the thyroid gland migrated from the base of the tongue to its final location - low in the neck. It too usually enlarges after an URI or an infection of the head and neck. **Treatment** - An infected cyst usually responds to antibiotics with needle aspirations required occasionally for drainage. Definitive treatment requires surgical excision of the non-infected cyst along with the tract, the central portion of the hyoid, to the base of the tongue - Sistrunk procedure. This complete excision is needed to decrease recurrence.

Ear infections - Ear infections may be classified as an otitis externa (external ear infection) often referred to as swimmers' ear, or as an otitis media (middle ear infection).

1. **Otitis externa (OE)** - represents an inflammation and subsequent infection of the external ear canal that may present with pain, muffled hearing and ear drainage. The acute infection is usually caused by the bacteria *Pseudomonas* which likes dark, warm environs and often enters the skin through a break that may occur as a result from trauma with the use of foreign objects, most commonly cotton swabs. **Treatment** therefore involves keeping the ear dry along with the use of acidifying drops. Antibiotic ear drops may also be used. The purulent material may need to be suctioned from your child's ears so that the ear drops may be effective. While this is painless, most children do not like to sit still for the procedure. Oral antibiotics are occasionally used if there is significant swelling/edema or there is an associated otitis media.
2. **Otitis media (OM)** - represents an inflammation of the middle ear with subsequent fluid - purulent or serous which cannot drain because of some blockage of the Eustachian tube (ET), usually secondary to an upper respiratory infection, allergy or sinus infection. The fluid is usually infected with the bacteria *Hemophilus influenzae*, *Streptococcus pneumoniae* or *Moraxella catarrhalis* in OM. Normally ear enters the middle ear space through the Eustachian tube that connects the nose to the middle ear. Occasionally, the

Eustachian tube also becomes blocked during airplane travel resulting in the above. Crackling or popping sounds represent air being allowed back into to the middle ear from the nose and herald relief. OM may present with pain/crying/irritability, pulling on the ears, a fever, difficulty hearing, or occasionally drainage from the ear if a tympanic membrane rupture occurs. Nausea, vomiting, an imbalance or frequent falls may also occur.

Treatment does require the use of antibiotic therapy for **acute OM (AOM)**. The purulent middle ear effusion often gives way to a more inflammatory infiltrate which is honey colored and is known as a serous effusion or **Otitis Media with Effusion (OME)** this may last days, weeks to months and no therapy is indicated unless the patient is symptomatic, because in most cases the fluid is sterile. Recurrent episodes of AOM or OME may occur because of the orientation of the Eustachian tubes in infants. This may necessitate the placement of ventilation tubes or pressure equalization tubes (**PET**) to bypass the ET until the child gets older. Adenoidal hypertrophy may also obstruct the opening of the Eustachian tube orifice, in which case your surgeon may also recommend an adenoidectomy.

Complications may occasionally arise from AOM, most commonly an **acute mastoiditis** which may present as a swelling behind the ear with protrusion of the ear forward, and occasionally with asymmetry of the face representing a facial nerve paralysis.

Treatment - intravenous antibiotics and a PET after a CT scan is done to elucidate the cause of the problem. Less commonly **meningitis** and **intracranial abscesses** may also occur though the incidence of these has decreased because antibiotics are usually prescribed for AOM.

1. **Hemangiomas** are most commonly located in the head and neck and may present as a lesion with no surface skin changes (present in up to 50% of infants). These often present in the tongue or in the salivary glands - parotid or submandibular. They may be associated with other findings and so babies are usually evaluated by multiple physicians and tests to rule out the presence of the 2 most common syndromes - Klippel-Trenaunay-Weber (represents a triad of vascular tumors of the extremities, bony and/or soft tissue hypertrophy of the extremities with varicose veins present in the child) and Sturge Weber Syndromes (facial port wine stains, seizures, hemiplegia, visual field defects and glaucoma). Diagnosis- ultrasound, CT scan or MRI scans.

Treatment - watchful waiting or if there is a compromise of function, steroid injections, laser therapy or surgical excision.

2. **Hoarseness or dysphonia** occurs in children primarily because of the presence of a benign mass lesion on the vocal folds (larynx). These may represent vocal fold polyps or nodules common in prepubescent boys. Also laryngeal papillomas may also cause changes in the voice. Diagnosis - flexible laryngeal endoscopic exam done in the office and confirmed in the operating room under direct visualization where a biopsy may be done and sent to pathology for confirmation of the diagnosis.

Treatment may involve speech therapy +/- surgical excision of persistent lesions.

3. **Lymphangiomas** represent dilated lymph vessels that normally drain infections. These lesions are present at birth but may not always be visible. They may enlarge after an upper respiratory infection or a history of trauma and then persist as these lesions do not usually spontaneously go away or involute. Most common sites include the mouth, the face and the posterior neck. Diagnosis- ultrasound, CT scan or MRI scans.
Treatment - complete surgical excision for localized lesions. Partial excisions are considered if complete excision may compromise a vital structure. Recurrences may occur based on the completeness of the excision.
4. **Protruding ears** or prominent ears are seen in many children. This may occur in one or both ears.
Treatment - a surgical setback surgery referred to as an otoplasty is usually done between 4-6 years old to decrease many of the social commentary that often occurs from other kids in the school years.
5. **Sinusitis** - The paranasal sinuses do not develop fully until the age of 20 years. Children are born with maxillary and ethmoid sinuses only and the others (sphenoid and frontal) develop as they age. While sinus infections may be difficult to diagnose in children, they usually develop after a cold and/or a severe allergy reaction. They often present with a cough that is worse at night, yellow/green drainage from the nose, irritability and occasionally headache, postnasal drip and sore throat in those children beyond six years who are able to describe these symptoms. Symptoms that persist beyond two weeks may be suspicious for a sinus infection.

Treatment: Acute sinusitis - responds well to antibiotic therapy. As with acute OM, the causative agents are usually the bacteria *Hemophilus influenzae*, *Streptococcus pneumoniae* or *Moraxella catarrhalis*. Also nasal saline drops are used to thin the secretions along with short term use of nasal decongestants to improve nasal breathing and allow drainage of the purulence.

Chronic sinusitis usually represents mucoperiosteal thickening that occurs because of anatomical blockage or an acute infection that has been present for more than 12 weeks. Diagnostic X-rays or a CT scan may be required to help with the diagnosis. Surgery may be required for adenoidectomy, lavage of the maxillary antrum or removal of nasal polyps commonly noted in patients with cystic fibrosis.

Complications may occur from acute ethmoid sinusitis. This may present as periorbital swelling - **periorbital cellulitis, orbital cellulitis or abscess** formation. These are treated with intravenous antibiotics and may require surgery of the sinus or drainage of the abscess. Serial CT scans may also be required while hospitalized and as an outpatient.

- **Snoring, obstructive apnea and/or sleep disturbances** occur commonly in children and are not necessarily related to size or obesity. Sleep disturbances represent a spectrum of sleep disorders, which may include snoring and obstructive sleep apnea, but may also include other disorders such as narcolepsy and night terrors which are also common in children. Children with sleep apnea all snore and additionally have respiratory

pauses. They also may wake up several times during the night, irregular breathing, wet the bed, may be hyperactive during the day or have difficulty focusing. The need to take multiple naps or daytime hypersomnolence is less common in children as compared to adults.

Treatment - Tonsillectomy and/or adenoidectomy is often the treatment of choice in otherwise healthy children, however a complete head and neck examination is usually done by your otolaryngologist to elucidate whether there are other levels of obstruction that may need to be treated.

- **Tonsillitis** - is a generic term that represents an infection of the palatine tonsils that occur on either side, at the back of the throat (pharynx). Both palatine tonsils and adenoid tissues represent lymphoid tissue that is designed to drain infections of the head and neck. They may become infected either as a result of viral or bacterial infection. *Streptococcus pyogenes* is the most common bacteria cultured, although many patients may have tonsillitis and be Strep. negative. Epstein Barr virus (EBV), the same virus that causes "Mono" is the most common viral cause of tonsillitis. Acute tonsillitis - may present with fever, difficulty swallowing because of a painful, sore throat as a result of tonsil enlargement that appear red or with white patches of purulence. They also may present with enlarged lymph nodes. Patients may also have chronic recurrent episodes of acute tonsillitis or have resultant enlarged tonsils that may lead to a sleep disturbance. **Treatment** - oral antibiotics along with soft bland foods are usually needed for acute episodes. Surgical excision referred to as a tonsillectomy may be required for chronic recurrent tonsillitis or for tonsillar hypertrophy associated with sleep disturbances.

If you are interested in learning more about the services offered at the Pediatrics Otolaryngology Center at OHNI, [please call us today to schedule an appointment.](#)