Children's Ear Nose and Throat Center

Pediatric ENT Management and Referral Guidelines

dell children's
Ascension

Ear

Recurrent Acute Otitis Media

Management:
- If persisting through 3 courses of oral antibiotics, recommend consideration for 3 dose Rocephin injection series.

When to refer:
- Child has sustained 3-4 AOMs in a 6-12 month period.
- Concerns for persisting severe infection not responding to multiple courses of antibiotics.
- Concerns for limited oral antibiotic therapy due to allergies.
- Spontaneous tympanic membrane rupture.
- Concerns for persisting middle ear fluid for 3 months.
- Concurrent concerns for hearing loss/speech delay.

Ear Foreign Body

Recommendations:
- Limit attempts at removal to avoid excessive distress to the child.
- Do not use water irrigations as this may injure the eardrum.
- Start Ciprodex otic gtts if canal injury is sustained during removal attempt.

When to refer:
- Immediate referral if FB is not easily extracted with curette.
- Call for same or next day appointment availability.
- URGENT evaluation required if FB is suspected to be a button battery.

Otitis Externa

Management:
- Topical otic antibiotic/steroid gtts (eg. Ciprodex, Otovel, Cortisporin) BID x 7 days. The steroid component is key to treatment when there is swelling of the external auditory canal. If cost is an issue, consider prescribing Ofloxacin otic gtts and Prednisolone Acetate 1% ophthalmic gtts, 2 gtts of each medication BID x 7 days, or generic Ciprofloxacin 0.3%/dexamethasone 0.1%.
- Avoid water exposure during treatment.

When to refer:
- Concerns for significant canal swelling/pain, making topical therapy difficult to administer, or if there is any erythema/edema to mastoid process that needs immediate ENT evaluation **we recommend the provider to contact our office directly for urgent evaluation.**

Recommendations:
- If drainage persists after 1 week of topical treatment, obtain ear culture and refer to ENT. Consider the potential of fungal OE.

Otorrhea with Ear Tubes (BMT)

Ear drainage may be *white, yellow, and sometimes green or bloody*, all of which are common. Drainage can be thin or very thick. Whenever you see ear drainage, treat with the antibiotic drops. If ear tubes are functioning properly (resulting in otorrhea), oral antibiotics are not indicated for initial treatment.

Management:
- Topical otic antibiotic +/- steroid gtts (eg. Ciprodex, Otovel, Cortisporin, Ofloxacin) BID x 7 day.
  - Recommend a steroid component if any concerns for canal swelling or if bloody drainage is present, as this can be caused by granulation tissue.
  - Make sure parents are using tragal pumping to help drops extend into the ear canal.
- For thick drainage, consider using hydrogen peroxide gtts prior to antibiotics gtts to help clear away drainage and allow antibiotics to better penetrate the ear canal.
- There are no water restrictions with ear tubes, however it is recommended to avoid water exposure during treatment for acute otorrhea episodes.
- Start routine nasal care with nasal saline BID to QID with nasal suctioning (Nose Frida or other atraumatic nasal suction) to clear rhinorrhea contributing to 'back-flow' otorrhea.

Recommendations:
- If drainage is persisting after 1 week of topical treatment, obtain ear culture and refer to ENT for manual debridement. Consider the potential of fungal OE.

Ear

Cerumen Impactions

Management:

- Avoid ear flushes. They are very uncomfortable and can damage the eardrum.
- DO NOT use Q-tips or any other objects to remove cerumen at home. This can contribute to cerumen impaction or potentially injury the ear canal or ear drum.
- Hydrogen Peroxide is a solution that can help clean and bubble cerumen out of the ear canal. Use full strength or ½ strength, mixing equal amounts of H2O2 and water to allow drops to penetrate deeper into the ear canal.
  - Place 2-3 drops into the affected ear canal and let sit for a few minutes after tragal pumping. The solution will bubble and fizz. Wick away any peroxide or drainage/wax from the outer ear and canal with a cloth. Repeat 2-3 x per week as needed.
  - Please note that the bubbling may be loud to a child and can appear uncomfortable, but the peroxide does not burn the ear canal as it does when you are treating a wound. Telling the child ahead about the bubbling sound can improve tolerance.
- Mineral Oil can help soften dry or harder wax for easier removal.
  - Place 2-3 drops into the affected ear canal before bedtime 2-3 x per week. This will soften the wax overnight.
  - Wipe away excess wax from the outer ear with cloth.
- Debrox Earwax Removal Kit is another option that is available over the counter.
  - It is a gentle, non-irritating cleaning solution to help soften and remove the ear wax.
  - Instill 5 drops twice a day for 3-4 days.
  - Wipe away excess wax from the outer ear with cloth.

When to Refer:

- Concerns for ear pain, decreased hearing or excessive wax unable to be removed with conservative measures or safely in the pediatrician's office.

Other Ear Conditions

We welcome referrals for other ear conditions not mentioned above, including chronic TM perforations, cholesteatoma and other middle ear lesions or masses, atresia of the external auditory canal (multidisciplinary care combined with Plastic Surgery and Audiology is available), and for more unusual problems like ear/temporal bone tumors, atypical infections, or sudden-onset facial paralysis/Bell's palsy.

Nose

Chronic Nasal Congestion/Rhinitis/ Nasal Obstruction

Management:
- Routine nose care with saline. Consider addition of topical nasal steroid.
- Optimize allergy management. Consider oral antihistamines.

When to refer:
- Persistence despite medical management.
- Concurrent snoring, difficulty breathing or symptoms consistent with apnea or poor sleep.

Chronic Sinusitis

Recommendations:
- Oral antibiotic therapy between 14-21 days.
- Routine nasal rinses at least 2x per day.
- May consider topical antibiotic rinses.

When to refer:
- Concerns for frequent, recurrent, or persistent symptoms after treatment.
- Sign of nasal polyposis.
- Sinusitis in setting of concerns for cystic fibrosis, chronic fungal sinusitis or other complicating features.

Epistaxis

Management:
- Consistent routine nasal saline, Vaseline and humidified air to moisten nasal mucosa for better nasal mucosal vessel protection.

When to refer:
- Concerns for increasing frequency/severity of episodes disrupting activities of daily living.
- Known bleeding disorder, features concerning for juvenile nasopharyngeal angiofibroma (adolescent male, unilateral severe bleeding, unilateral nasal obstruction, headaches, or vision changes), or hereditary hemorrhagic telangiectasia/Osler-Weber-Rendu syndrome.

Recommendations:
- Consider bleeding work up if family history of bleeding disorders or concerns for excessive/prolonged bleeding.

Nasal Foreign Body

Signs of nasal FB include unilateral drainage, discomfort, and foul smelling odor.

Management:
- Apply Neosynephrine to help decongest the nose prior to having the child attempt to blow their nose.
- To avoid trauma or pushing foreign body posteriorly, would limit attempts at removal in-office unless foreign body appears easy to remove.

When to refer:
- If removal attempts are unsuccessful, please call our office for a same day appointment. Preferential to come into our office for removal over Urgent care or ER.
- For nasal endoscopy if there are concerns for persisting or posterior nasal FB that is not easily visualized.
- **URGENT** evaluation required if FB is suspected to be a button battery.

Throat

Adenotonsillar Hypertrophy

Recommendations:
- If significant acute tonsil enlargement secondary to viral/bacterial process that is persisting after initial treatment, consider observation and short course of oral steroids.
- Consider evaluation for mononucleosis.

When to refer:
- If concerns for snoring, apnea or disrupted sleep causing daytime symptoms.
- Unilateral/asymmetric tonsillar hypertrophy.
- New onset dysphagia.

Snoring/Obstructive Sleep Apnea

Recommendations:
- Consider parental sleep observation to monitor for signs of obstructive sleep apnea (snoring, gasping, mouth breathing, pauses in breathing, restless sleep, nighttime awakenings, daytime sleepiness).

When to refer:
- If concerns for loud snoring, restlessness, witnessed gasping, choking, or pausing or disrupted sleep causing daytime symptoms such as fatigue, poor focus or behavioral issues (eg. hyperactivity).

Recurrent Strep Tonsillitis

Management:
- Amoxicillin 25 mg/kg BID x 7-10 days, consider Augmentin or Cefdinir for recurrent tonsillitis.

When to refer:
- Criteria for surgical intervention:
  - 7 documented infections in 1 year
  - 5 documented infections per year for 2 years
  - 3 infections per year for 3 years

Tonsilliths

Management:
- Warm salt water gargles, particularly after meals to clear food debris.
- Good oral hygiene.

When to refer:
- Consider referral for tonsillectomy if concerns for bad breath, sore throat, difficulty swallowing, ear pain, persistent cough or swollen tonsils.

Stridor

Management:
- Implementing conservative reflux precautions.
- Caregiver education on signs of respiratory distress and when to seek emergency care.

When to refer:
- Any patient with stridor warrants ENT evaluation with flexible laryngoscopy to determine if laryngomalacia or any other airway anomalies are present.
- Urgent referral recommended for any infant with a history of concerning respiratory events, ALTE/cyanotic episodes or difficulty with gaining weight.

Aspiration/Dysphagia

When to refer:
- Concerns for frequent choking with liquids or solids.
- History of recurrent pneumonia or frequent respiratory issues.
- Abnormal swallow study.

Voice Concerns

When to refer:
- Prolonged hoarseness (>1 month) or hoarse voice with associated breathing problems.
- Symptoms of Vocal Cord Dysfunction (VCD).
- Weak voice/cry.

Throat

Ankyloglossia

When to refer:

- Concerns for tethered tongue and associated difficulty with breastfeeding.
- Inefficient breastfeeding and poor weight gain.
- Speech articulation issues with suspicion for tongue mobility being primary cause.
- Refer as soon as identified for early evaluation and intervention. Tongue tie procedures are performed in the office in infants younger than 3 months.

Neck

Lymphadenitis

Reactive Lymphadenopathy

is the response to an infection (eg. viral process, otitis media, pharyngitis, etc.) and is the most common cause of localized enlarged lymph nodes in children and is typically a benign process that requires no intervention.

Management:

- Initial broad spectrum oral antibiotics (e.g. Augmentin) if erythema, significant swelling or underlying infection. If MRSA is suspected, recommend Bactrim or Clindamycin.

When to refer:

- Concerns for persisting enlarged lymph node (~1 cm or greater), hard, fixed, erythema or fluctuance.

Recommendations:

- Obtain neck ultrasound at time of referral to better aid the ENT team in diagnosis.
- Patients with suspected lymphadenitis with abscess or deep neck space infection significant enough to warrant admission are best referred directly to the DCMC Emergency Department.

Thyroglossal Duct Cyst (TGDC), Branchial Cleft Cyst, Thyroid nodules, Parotid masses

Management:

- Initial broad spectrum oral antibiotics (eg Augmentin) if erythema, significant swelling or signs of underlying infection.

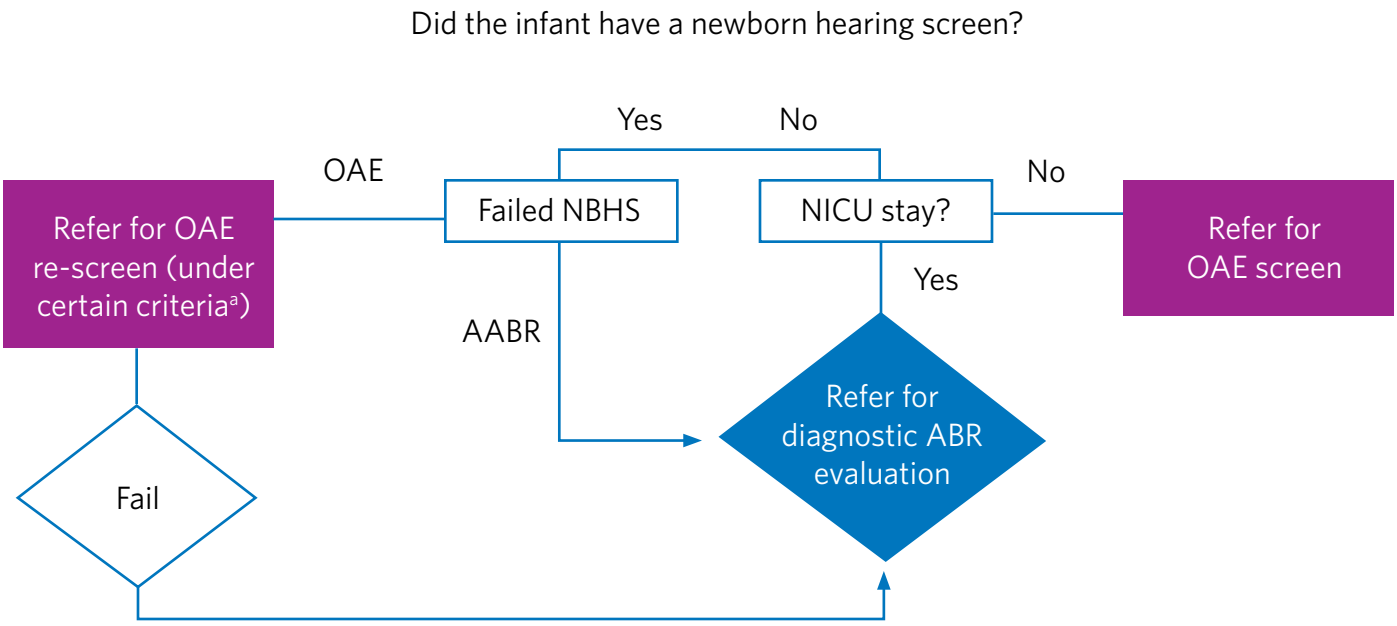
Recommendations:

- Obtain neck US at time of referral to aid in diagnosis. For suspected or known thyroid nodules, please obtain an ultrasound of the thyroid and bilateral neck (can be ordered as one study).
- We have surgeons that participate in the Dell Children's Thyroid Team and welcome referrals for thyroid nodules/ masses, suspected thyroid cancer or patients with multiple endocrine neoplasia 2A (MEN2A).

Hearing

Audiology Clinic at Dell Children's Specialty Center

Dell Children's Audiology Guidelines Newborn Hearing Screen Referral Flow



- [a]Infants who have failed two newborn hearing screens should be referred to a pediatric audiologist for diagnostic ABR, regardless of screen type.
- Diagnostic ABR evaluations should occur no later than 3 months of age.
- NICU admission should lead to an immediate referral for ABR testing, as outpatient screening is not considered appropriate for this population.

Hearing loss

When to refer:

- Infant with failed Newborn Hearing Screening (NBHS) x 2.
  - Please refer to DCMC Audiology for non-sedated ABR.
  - Please obtain urine CMV PCR immediately, if possible before 21 days of life, to evaluate for congenital CMV.
- Infant who has not had a NBHS (may be seen in clinic).
- Failed Hearing Screening any age.
- Caregiver or patient concern for hearing loss.
- Significant family history of hearing loss in immediate family.
- Child with congenital ear abnormality (canal atresia, microtia, anotia).

Speech delay

When to refer:

- Caregiver or Provider concerns for failed language milestones.
- Please initiate referral to speech therapy as well.

Audiology Services

Diagnostic Hearing Services

Behavioral hearing evaluations:
We measure a behavioral response to auditory stimuli using a developmentally appropriate task in order to determine the softest sounds an individual can hear.

- Visual reinforcement audiometry (VRA)
- Conditioned play audiometry (CPA)
- Traditional audiometry

Immittance testing:
This provides us with information regarding the function of the middle ear.

- Tympanometry
- Acoustic reflex testing

Otoacoustic Emissions:
This is an objective measure that evaluates the outer hair cells located in the inner ear. This is one of the tests used to screen hearing in newborns.

Amplification Services

Device evaluations and fittings
- Traditional hearing aids
- Bone conduction hearing devices
- CROS devices
- FM systems/Hearing assistive technology

Device checks
- Programming
- Verification
- Counseling

Specialty Programs

The Hearing Center

Cochlear Implant Team

Multidisciplinary team composed of ENT, Audiology, and Speech Therapy, Neuropsychology, Psychology that provide an evidence-based comprehensive approach to pediatric cochlear implantation, and focus on supporting each family's goals to improve communication with hearing and speech habilitation.

Microtia Program

Pediatric otolaryngology (ENT) and the craniofacial team work in collaboration to provide hearing habilitation and offer surgical interventions to repair outer ear and ear canal malformations, in conjunction with audiology to manage associated hearing loss.

Aerodigestive Team

The Aerodigestive Program provides a multidisciplinary approach to the evaluation and management of children with breathing and feeding issues. These include dysphagia, aspiration, tracheoesophageal fistula, complex airway disorders, gastric motility disorders, etc. Patients are evaluated/managed by a team composed of pediatric otolaryngologist (ENT), pediatric pulmonologist and pediatric gastroenterologist (GI) in conjunction with a dietitian, speech therapist, respiratory therapist, social worker and nurse.

Tracheostomy/Ventilator Program

The Tracheostomy/Ventilator Program cares for children with tracheostomies and children that are dependent on mechanical ventilation. The goal of our program is to manage the complex medical needs of these children, utilizing numerous specialties in the same outpatient visit including pediatric otolaryngologist (ENT), pediatric pulmonologist, respiratory therapist, speech therapist, nurse coordinator, dietician, social services and audiology.

Thyroid Program

The Thyroid Program involves coordinated care between pediatric otolaryngology (ENT) and pediatric endocrinology, pathology, oncology and interventional radiology for the screening and surgical management of thyroid conditions, including thyroid nodules, differentiated thyroid cancer, and hyperthyroidism.

Voice Program

Children's Ear Nose and Throat Center has developed a pediatric Voice Program for evaluation and management of pediatric voice disorders, including structural and functional voice conditions. These include conditions causing a hoarse, rough, raspy, breathy, or weak voice. We offer close coordination of care between the pediatric otolaryngologist and speech pathologist, allowing for comprehensive evaluation and treatment during the same office visit.

Complex Sleep Apnea Clinic

Our specialized care team is dedicated to the diagnosis and treatment of sleep disorders in children, including consultation with a Board-certified sleep medicine physician, pediatric otolaryngologist (ENT), sleep psychologist, sleep technicians, respiratory therapist, child life Specialists, nurse coordinator and social services.