Robert G Berkowitz
MDBS, FRACS, is an otolaryngologist, Royal Children's Hospital, Melbourne, Associate Professor, Department of Paediatrics, University of Melbourne, and Visiting Professor, Australian School of Advanced Medicine, Macquarie University. robert.berkowitz@rch.org.au

When to refer a child to an otolaryngologist

Background
While children commonly present with acute or chronic upper respiratory tract disorders in general practice, in the majority of cases these problems are seasonal, self limiting and/or unlikely to cause long term disability. However, assessment may be difficult, and on occasions, surgical referral and treatment should be considered.

Objective
This article provides a general approach in determining when to refer a child to an otolaryngologist.

Discussion
Chronic conditions should be considered for surgical management when the pattern of illness in the child is such that significant morbidity is being experienced and this is thought likely to continue for an unacceptable period of time. The need to refer for assessment or treatment of an acute condition is often self evident. In particular, a suppurative complication of a common infection should be considered in an unwell child with upper respiratory tract symptoms.

As with most subspecialties, paediatric otolaryngology is largely confined to the management of a relatively small number of conditions with clearly defined, but not necessarily well validated, diagnostic and treatment protocols. This is a secure and comfortable clinical position from which it is easy to be critical of colleagues when experiencing a sense of frustration at seeing large numbers of children who do not require specialist consultation, and occasionally, seeing ones in whom referral has been unreasonably delayed. A general approach to the selection and management of children with common conditions who require referral to an otolaryngologist is suggested.

Chronic conditions

The assumptions that can usually be made regarding most of the common chronic otolaryngologic conditions in children are:

- the problem is seasonal
- the problem will improve/resolve with age
- the problem, while causing short term symptoms, is unlikely to cause any long term disability.

Consequently, the key to management is general knowledge of the natural history of these conditions and the pattern of illness in the specific child. Therefore, referral for possible surgical intervention should be considered in a child where conservative treatment has failed, and the course of their illness is assessed as:

- causing significant short term morbidity or may cause long term impairment, where these outweigh the risks and morbidity associated with surgery, and
- the condition and associated morbidity is expected to persist for a clinically significant period of time.

This principle can be applied to the management of common middle ear and adenotonsillar disease in children. Factors to consider include:

Otitis media

- Recurrent ear infections are common in the first 3 years of life and occur predominantly over winter and spring[1]
- Middle ear effusions last an average of 4 weeks following an upper respiratory tract infection (UTI) or acute otitis media and will persist for 3 months in 10% of cases[1]
- Regular tympanostomy tubes, used in the management of otitis media, last 6–9 months. They only provide symptomatic relief for the period of time they are in situ. Larger tubes that protect the ears for longer are associated with a higher risk of tympanic membrane perforation
- The long term benefit of tubes on speech and language development is unclear[2]
- Overall, in considering insertion of tubes, the most important question is the degree of problems the child is likely to have in the future, rather than problems they have had in the past.

Adenotonsillar disease

- There may be a seasonal variation in the severity of obstructive symptoms related to adenotonsillar hypertrophy, being worse in winter with UTIs or in spring with allergies
- A child with a clear history of snoring associated with significant sleep disturbance and apnoeic periods needs early consideration of adenotonsillectomy
- In evaluating the morbidity associated with recurrent tonsillitis, the total number of sick days per year, rather than the number of episodes of tonsillitis, should be calculated. This figure needs to be projected for the future based on the pattern of infection in the child.

What not to miss

Could the common or relatively minor symptoms and clinical findings be due to a serious underlying condition? The diagnosis of cholesteatoma or malignancy may need particular consideration.

Cholesteatoma

Cholesteatoma is usually acquired as a localised tympanic membrane retraction pocket that develops due to eustachian tube dysfunction. This pocket enlarges, fills with debris, and progressively erodes the middle ear and mastoid. Diagnosis is often delayed, but should be considered where there is chronic or recurring painless discharge, especially in older children, and where a tympanic membrane retraction pocket or granulation tissue is visualised on otoscopy.[3]

Malignancy

Paediatric malignancies, particularly rhabdomyosarcoma, may occur in the head and neck region and can present with common symptoms such as nasal obstruction and ear discharge. A malignancy should be suspected when symptoms develop suddenly or when a fleshy mass is seen.

Acute conditions

Acute conditions can be classified as:

- suppurative complications of a common infection
- traumatic.

Suppurative complications

Suppurative complications of common infections may occur because of delay in diagnosis or instigation of treatment, or failed antibiotic treatment due to inappropriate choice or dose of antibiotic or failure to take antibiotic due to noncompliance or vomiting.[1] Alternatively, suppurative complications may occur in the setting of appropriate management. Complications of common infections that may require acute surgical management include:

Acute otitis media

Mastoiditis involves the spread of infection from the middle ear to the mastoid and presents with features of acute otitis media accompanied by postauricular inflammation. Prominence of the pinna is associated with a varying degree of postauricular cellulitis with or without a subperiosteal abscess.[4]

Acute tonsillitis

Infection may spread beyond the tonsil into the peritonsillar region, initially as cellulitis and then an abscess (quinsy). In addition to the features of severe tonsillitis, quinsy presents with a 'hot potato' voice, drooling and trismus. The palate on the affected side is oedematous and an area of softening can be palpated lateral to the tonsil, indicative of the presence of an abscess with central necrosis.

Acute sinusitis

Eyelid inflammation, due to periorbital cellulitis, may be the initial presenting feature of acute sinusitis.[5] This can spread to orbital cellulitis which is usually associated with the presence of a subperiosteal abscess. In addition to eyelid inflammation and systemic symptoms, there may be chemosis, proptosis, ophthalmoplegia and visual impairment.

Lymphadenitis

Lymph node infection can spread beyond the node as cellulitis or abscess. This can involve the palpable lymph nodes of the neck or the submucosal Waldeyer's ring lymph nodes. In the case of the latter, retropharyngeal or parapharyngeal cellulitis/abscess presents in young children with fever, reluctance to swallow and limitation of neck movement. A prominence immediately posterior to the tonsil or in the posterior pharyngeal wall may be visible.

Trauma

Ear trauma

Injury to the ear, often with a cotton bud, is usually accompanied by bleeding. Otoscopy may confirm that trauma has been confined

to the external auditory canal and the tympanic membrane is intact. Where this is not possible, significant middle ear trauma should be considered in the presence of hearing loss, tinnitus, vertigo or facial weakness.

Nasal fracture

Cosmetic deformity may not become apparent until oedema has settled after 5 days. Simple reduction should be performed within 10–14 days postinjury. Septal haematoma can occur in children in the absence of a nasal fracture, and this may form an abscess, usually 3–4 days after the initial injury. Depending on the time elapsed since the injury, septal haematoma/abscess may present with nasal obstruction, pain and fever. A septal collection can be seen on anterior nasal examination and confirmed by palpation.[6]

Oropharyngeal trauma

Falling with a stick in the mouth is a common cause of oropharyngeal trauma. This may result in palatal injury requiring repair, retropharyngeal injury with subsequent retropharyngeal infection, and cervical spine injury. A more lateral injury, particularly immediately posterior to the tonsil, may involve injury to the internal carotid artery. In particular, a blunt injury to this region may result in little observable trauma, but cause intimal damage leading to internal carotid artery thrombosis.[1]

External neck trauma

While laryngeal fracture is very uncommon due to the cartilaginous nature of the paediatric larynx, external trauma may cause considerable soft tissue laryngotracheal damage. Features of serious injury include hoarseness, stridor, dysphagia and the presence of surgical emphysema.

Conclusion

While the approach to management of these common childhood disorders is generally straightforward, the reality is such that accurate assessment of the upper respiratory tract in children may be difficult without specialised equipment and experience with their use. Moreover, surgical treatment may be required. The otolaryngologist will therefore continue to play an important role in the health care of children.

Conflict of interest: none declared.

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AFP CORRESPONDENCE afp@racgp.org.au