

Bridge

This Newsletter aims to promote communication between students and the Student Health Service of the Department of Health

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Editor's Note

Having good hearing is very important for language development, learning and social activities. In this issue, we have invited our audiologist to provide some relevant information. It is hoped that our readers will have better understanding on hearing loss, its common causes, signs and symptoms, treatment, supportive management and prevention.

About Hearing Loss



The period between birth and aged seven is critical for language development. Being able to hear clearly during this period is crucial for future social and cognitive development. Taking reference from different regions, there are one to two per 1 000 newborns having permanent hearing loss. The number reaches to about three per 1 000 children by the school age. Different degrees of hearing loss may have different impact on childhood development. However, children with hearing loss can still have good listening experience and the opportunities to interact with others through early detection and appropriate intervention. This can minimize the impact on delaying language, social and cognitive development.

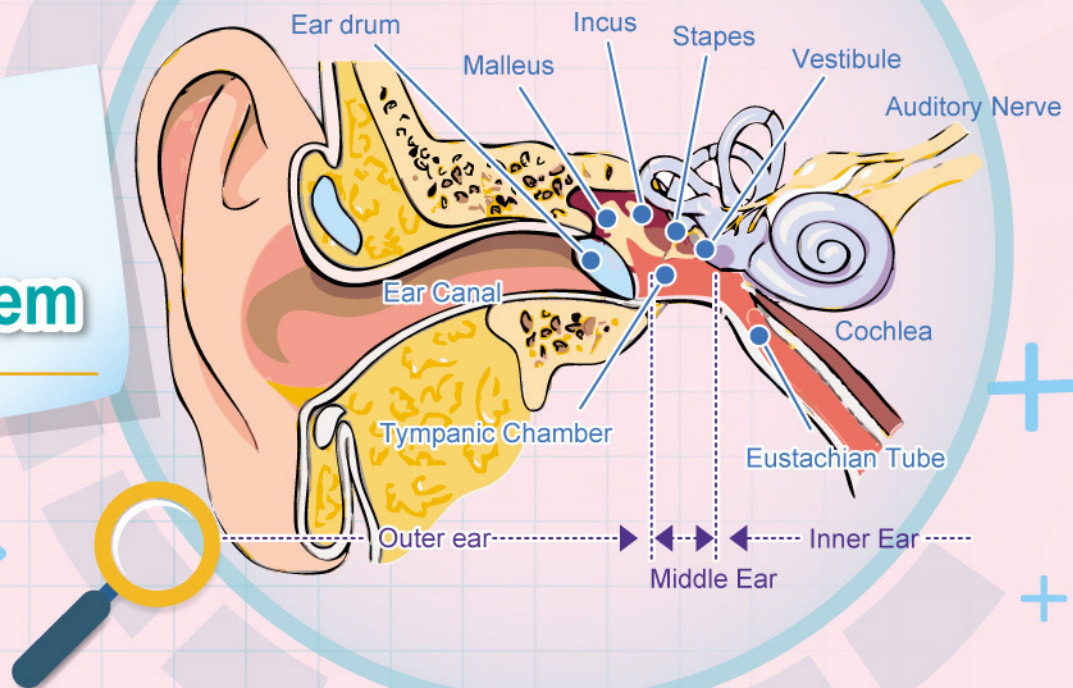
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Structure of Auditory System



Common Causes of Hearing Loss

Common site of lesion	Common Examples		Reminder
	Congenital (including delayed onset)	Acquired	
Outer or middle ear (Conductive hearing loss)	<u>Genetic</u> congenital atresia, congenital ossicular chain deformity, otosclerosis	- Impacted ear wax, otitis externa - Rupture of ear drum, otitis media - Ossicular chain lesion related to head injury or otitis media	Although it is common in childhood, most of the cases acquired conductive hearing loss are temporary and treatable with prompt and appropriate intervention
Inner ear or auditory nerve (Sensorineural hearing loss)	<u>Genetic</u> Gene mutation <u>Non-genetic</u> - Prematurity / birth trauma/ hypoxia - In-utero infection (cytomegalovirus CMV, Rubella Syphilis) - Use of Ototoxic drugs - Hyperbilirubinaemia (severe Jaundice)	- Acquired bacterial or viral infection Meningitis Chronic middle ear infection / mumps / measles / chicken pox / flu and other virus - Noise trauma - Chemotherapy and ototoxic drugs - Auto-immune disease of inner ear - Head injury	Lesions of cochlear and auditory nerve are mostly irreversible. Therefore, sensorineural hearing loss is the majority among permanent childhood hearing loss.
Mixed Hearing loss (coexistence of conductive and sensorineural hearing loss)	<u>Genetic</u> Any genetic syndrome that cause craniofacial deformity	Children with sensorineural hearing loss suffered from impacted ear wax or middle ear infection	With early intervention, the conductive part of hearing loss can be treated

★ Most of the cases of progressive hearing loss occur before 6 years old. Parents should take note of the recommendations of their ENT doctors/audiologists and bring their young children with hearing impairment to attend regular hearing reassessment.

Signs of Hearing Impairment



By observing your children's behaviors in daily life, you can spot if they have hearing impairment. The following are some signs of childhood hearing loss:

1. Discomfort of ear

- ▶ Feeling of earache and ear blockage
- ▶ Frequently trying to ease ear discomfort by pulled ear or massaging entrance of ear canal
- ▶ Ear discharge, odor from the ears
- ▶ Tinnitus for long period of time

2. Showing difficulties in hearing and understanding other's under the following situation

- ▶ Speaking in soft voice, speaking from a distance or not facing the listener

3. Performance in daily conversations

- ▶ Confuses words that sound similar
- ▶ Speaks with unclear speech
- ▶ Has delayed development in verbal comprehension and expression
- ▶ Prefers staying alone and not willing to take part in group activities

4. Showing these behaviors in classroom

- ▶ Leans forward while listening and pay attention to others' facial expression and mouth shape
- ▶ Has difficulties in localizing sound sources
- ▶ Shows poorer listening performance while seated at the back of classroom, and failed to pay attention
- ▶ Often requests for repetition during conversation
- ▶ Has delayed responses to verbal instructions during group activities, or responds only after watching peers' responses
- ▶ Relies on peers' explanations and written notes to understand teachers' instructions
- ▶ Misses 's' in words final position during dictation
- ▶ Performs poorly in subjects that depends on listening skills



Significance of Appropriate Intervention



With normal hearing or hearing loss with appropriate and prompt intervention, children can enjoy the experience of hearing, this would in turn allow them to :

- develop good reading and writing skills
- communicate with others using language
- develop normal articulation and speaking skill
- learn to appreciate music
- respond to the environment



Hearing loss without appropriate and prompt intervention may lead to deprivation of listening experience and may cause:

- poor pronunciation
- delayed language development
- poor social skill
- slow learning progress



Audiological support for delay onset/ progressive permanent hearing loss

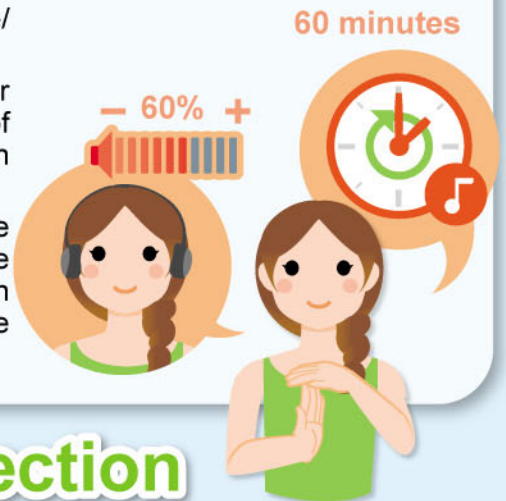


Health Advice



We can protect our hearing by taking the following precautionary measures:

1. Be aware of personal hygiene to prevent infectious diseases that may cause damage to hearing such as upper respiratory tract infection, meningitis, middle ear infection and measles. Get measles vaccination or seek medical advice if you suspect any problem with your child's hearing (especially sudden loss of hearing with earache, dizziness, ringing in ear). Early detection and treatment can prevent the problem from worsening.
2. Avoid head injury especially area close to the ear as temporal bone/skull base fracture may cause cochlear lesion and affect hearing.
3. Avoid prolonged exposure to loud sound as this may cause ear discomfort, ringing in ear and hearing loss. Set the volume setting of ear phones less than 60% of maximum volume and listen less than cumulative 60 minutes a day.
4. Take medicines under the advice of doctors or pharmacists. Overdose of certain medicine can cause tinnitus and hearing loss. Some of the drugs used in cancer therapy and some class of antibiotics for injection may affect hearing. Children using such medication should receive regular hearing test as arranged by doctor.



Prevention, early detection and early intervention



Parents should arrange a hearing test for their children if they spot the child responding poorly to speech or the environment, or shows delayed in language and learning. Children with confirmed hearing loss should be regularly re-assessed by audiologist / medical staff for early detection of changes in hearing and prompt intervention.

Doing a hearing test is the most effective way to check if your child is hearing normally. Student Health Service of the Department of Health offers annual health assessment service including hearing screening for students of primary and secondary schools in Hong Kong. If indicated, follow-up assessment and referral for intervention will be arranged.



Conclusion

Adequate hearing is essential for speech-language development, interpersonal communication and learning. Therefore, we should be mindful about protecting our hearing in daily life. Please seek medical advice if your child has symptoms of hearing problems in order to prevent further deterioration and unfavorable impacts. With early detection and appropriate adjustment on intervention and support, the impact of hearing deterioration can be minimized.



Sources of information

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