

## Hearing

### Types of hearing loss

Disorders of hearing are categorised by their location within the ear.

#### Conductive Hearing Loss

- Interference in sound waves reaching the inner ear
  - Obstruction in the canal
  - Infection (otitis media)
  - Damage to the tympanic membrane
- Generally children respond well to treatment and recover from this type of hearing loss e.g. hearing aids, medication, removal of obstruction

#### Sensorineural Hearing loss

- The inner ear or nerve is affected
- Sound transmission to the cerebral cortex is affected

##### Causes

- Congenital
  - Infection during pregnancy
  - Inherited
  - Prematurity
  - Drug therapy
  - Birth trauma
  - Acquired (noise, injury, tumors)
- Limited response to treatment e.g cochlear implants

### Common ear conditions in Children

#### Impacted Cerumen (Wax)

- Wax cleanses the external ear
- Discourage parents from removing wax with cotton tips
- Avoid cleanses or do so only under health professionals supervision
- Can create a constant moist environment and may lead to external otitis

#### Otitis Media

- Often occurs after child has had a cold
- Child has an elevated temp painful ear
- Eustachian tube becomes inflamed, air is not able to reach inner ear and fluid cannot drain
- Antibiotics may be required

### **Otitis Media with Effusion (Glue Ear)**

- In middle ear infections the lining of the middle ear secretes fluid
- It becomes thick, obstructing air
- This can reduce hearing for the child
- Antibiotics may be prescribed
- It can be recurrent
- If it persists a myringotomy (grommets) may be needed to prevent hearing loss and speech delay
- Grommets are tiny tubes (2mm) inserted into the tympanic membrane to allow fluid to drain

### **Assessing Hearing for the HKC**

- Check family history of hearing loss
- Complete questions in the Personal Health Record
- Ascertain child's speech development. If below expected level, be suspicious
- Is child's voice loud?
- Can conduct a visual inspection of the ear
  - Appearance
  - Discharge
  - Touch pinna for signs of pain

### **Examination of the Ear**

Explain to child what you are going to do

- Pull ear up and back
- Ensure you have correct size tip
- Insert into ear canal
- Inspect the ear canal and visualise the tympanic membrane
- The membrane should be greyish pink in colour
- Light reflex should be present with other landmarks visible
- If there is an infection present the membrane will appear red and bulging

### **When to refer.....**

- Parents are concerned
- Identified risk factors at SWISH newborn screen
- Family History of hearing loss
- Speech delays
- Behavioural problems
- Learning difficulties
- Child speaking loudly
- Child not responding to normal speech
- Repeat ear infections

**Sourced from Sharlene Vlahos, Healthy Kids Check Project Worker, Karitane**