
UNIT 27 COMMON PROBLEMS OF THE EARS

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27.1 INTRODUCTION

The ears are very sensitive organs of hearing. Communication is very difficult without the sense of hearing. The sense of hearing protects us by conveying sounds of danger, like falling stones or speeding traffic. The sense of hearing is established even before birth, and babies are able to hear sounds from the moment of birth. You have read about this aspect in Unit 6 of DECE-1.

Objectives

After studying this Unit, you should be able to

- recognize symptoms of common ear infections
- treat simple problems of the ear yourself
- recognize when the child has to be referred to the PHC/doctor
- plan some activities to convey to the children the importance of the sense of hearing
- explain to the parents how to prevent ear infections in children

27.2 STRUCTURE OF THE EAR

The ear has three parts — outer, middle and inner ear. The outer ear is the part of the ear that is on the outside of the head, with the earhole. This leads to a narrow passage or 'canal', at the end of which is a circular membrane called the 'drum'.

The middle ear extends from the drum or 'tympanum' to the inner ear, which is demarcated by three small bones. These bones vibrate with the movement of air caused by sound. The vibrations are conveyed from the brain by a nerve and we hear sound. The body produces wax in the middle ear which protects the drum from very loud sounds. Prolonged exposure to very loud sounds leads to deafness, due to the continuous vibrations of the bones in the middle ear.

The inner ear contains three 'semi-circular canals' which help in keeping our balance, and contains the 'nerve' which carries sound to the brain.

A tube called the 'Eustachian tube' connects the middle ear to the pharynx in the throat. It helps passage of air and fluids between the pharynx and middle ear. (This is why when we have colds the ear gets affected. Due to swelling of the tube, there may be earache and temporary deafness.)

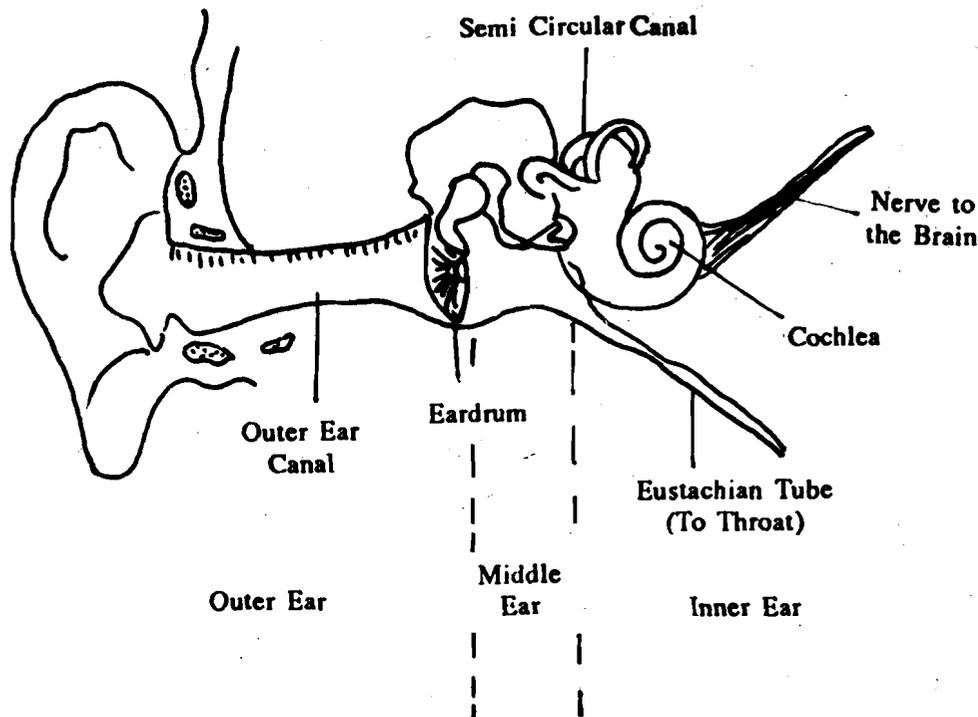


Fig. 27.1 Schematic diagram of the ear (not to scale)

27.3 EXAMINING THE EAR

As the canal from the outer ear to the drum is curved, it is difficult to see the drum without an instrument called the 'otoscope'. This is an electronic torch, with a small bulb, which shines light into the ear.

While children are still young, it is important to find out if they can hear. A deaf child is not mentally retarded. She is as intelligent as any other child and can learn to speak very well, if the right help to improve her hearing is given.

27.4 COMMON PROBLEMS OF THE EAR

The following are three common problems of the ear that children suffer from:

- a) Earache
- b) Ear discharge
- c) Deafness

27.4.1 Earache

This may be due to any of the following causes.

- Pain in the ear is usually due to septic infection in the middle ear, as a result of infection in the upper respiratory parts. The onset may be sudden and severe. This is called "acute" infection. The bacteria travel from the throat, through the Eustachian tube, to the middle ear. The inner lining becomes swollen and pus collects in the cavity. This causes severe pain and fever. This condition is called 'otitis media'.

Treatment: Never try to treat this condition at home. Refer to a doctor. If acute ear infection is not treated, it leads to complications.

REFER CASES OF OTITIS MEDIA TO THE HEALTH CENTRE IMMEDIATELY.

- Sometimes the wax produced in the ear becomes hard and impacted. This can cause pain and slight deafness.

Treatment: Use a soft swab for cleaning the ear. The swab can be made by rolling some cotton on one end of a match stick. However, if the wax has been accumulating for a long time, it would be very hard and difficult to remove it in this way. The child will need to go to a doctor.

- Flies, mosquitoes or other insects go into the middle ear and cause acute discomfort or pain, if they sting. If a foreign body enters the ear, it causes pain. Children often put small beads or stones in their ears, and these can get stuck inside the canal. They can even get infected and form pus, leading to middle ear infection.

Treatment: These conditions are painful and difficult to handle. If warm oil does not help, refer to a doctor.

As a general treatment at the Centre, if the child has pain in the ear, pain killers like paracetamol may be given. However, this is only a temporary measure. The real cause of the pain has to be established and that has to be treated. If there is no ear discharge, then ear drops will also help to relieve the pain.

- Babies who are teething — i.e., cutting their molars — may have earache. They will be seen to be rubbing their ears. This is due to referred pain from the jaw. When the teeth are erupting, they press on the nerves that go to the middle or inner ear. So the baby has pain in the ear and keeps rubbing it. This is called “referred pain”, as it is not an earache due to infection in the ear, but is referred from the jaw.

27.4.2 Ear Discharge

This may be due to any of the following causes.

- When there is infection in the middle ear (otitis media), pus collects in the canal. This causes acute pain. The drum swells up and finally bursts. This is called perforation. Through the hole in the drum, the pus comes out of the ear, there is “discharge” and the pain is relieved. But the hole in the drum affects hearing and results in deafness. Therefore, ear discharge with no pain is more serious than acute pain in the ear. The former means that the tympanum has burst.

When the drum in the ear is perforated, the pus runs out. Gradually, if the child is well-nourished, the drum heals. Thus the deafness due to the burst drum is temporary. But there may be repeated bouts of infection leading to “chronic otitis media”. In this case, the drum bursts repeatedly and gets scarred and hearing is significantly affected.

Treatment: Treat otitis media before the drum perforates. Refer the child to the doctor. In the case of both acute and chronic otitis media, the doctor will prescribe antibiotics to treat the infection. The doctor may also prescribe antibiotic ear drops.

- Foreign bodies in the ear, if not removed, result in infection and formation of pus. This leads to the same process as above leading to perforation.

Treatment: Refer the child to the doctor.

NEVER TRY TO CLEAN THE EAR WITH A PIN OR MATCHSTICK. USE ONLY A SOFT SWAB TO CLEAN, AS YOU MAY INJURE THE DRUM.

- Water entering the middle ear, commonly occurring while swimming or bathing, may become infected with fungus which grows and affects the middle ear.

Treatment: Refer the child to the doctor. To prevent this, clean the ear thoroughly after the bath using a soft swab.

- Insects in the ear may lay eggs which then grow and produce itching or other symptoms. The drum may perforate in the attempt to clean the ear.

Treatment: Refer the child to the doctor. You may try to relieve the pain by putting some clean warm oil in the ear.

As a general treatment, in the centre, you may put some antibiotic ear drops in the ear in the case of discharge, during the time it takes the child to reach the doctor.

27.4.3 Deafness

Deafness may be caused due to

- Birth defects.
- Some illnesses, like meningitis, can result in deafness.
- Temporary deafness can be the result of
 - impacted wax in the ear
 - foreign body
 - swelling of the eustachian tube in a common cold
 - perforation of the drum.

Treatment: Temporary deafness will go away once the underlying cause is treated.

A child who is born deaf or has become deaf due to some illness, should be referred to a doctor. The doctor will test the hearing and suggest what has to be done next. You will read about managing hearing impaired children in DECE-3.

27.5 PREVENTION OF EAR INFECTIONS

The following aspects, if kept in mind, can help to prevent many infections of the ear.

- a) Treat colds and sore throats immediately. Do not let the infection spread to the middle ear.
- b) If there is earache with fever, treat with antibiotics before the drum perforates. For this, refer the child to a doctor.
- c) Clean the baby's ears with a swab after every bath. Accumulated water may lead to ear infection.
- d) Mothers are advised to feed infants while sitting and not lying down, as eustachian tube in infants is shorter and straighter. Milk may then enter it and infection may result.
- e) Do not let older children with middle ear infection go swimming. Water gets in the middle ear and will result in spread of the infection or growth of fungus.
- f) Prevent insects from hovering around the baby's ears by keeping the outer ear clean.
- g) See that the space behind the outer ear is clean.

27.6 SUGGESTED ACTIVITIES TO HELP CHILDREN UNDERSTAND THE IMPORTANCE OF HEARING

The following are a couple of games you can organize with the children at your centre.

- 1) **Chinese Whispers:** Ask the children to stand in a circle. Whisper a sentence to the first child and ask her to whisper it to the ear of the next child, who in turn will repeat it to the next child and so on. The last child says aloud what she heard. Very often, this will be quite different from the original sentence. The children enjoy this game and also understand the meaning of talking clearly.
- 2) **Mime Games:** Give a complicated message and ask a child to act and, in this way, communicate the message to the rest. The children will soon realise the advantage and importance of communication through hearing.

Can you think of some more games and activities to help children understand the importance of hearing and preventing ear infections?

1) Fill in the blanks:

- a) When the child has a cold, there can be earache because of swelling in the
- b) We hear sound when the in the middle ear vibrate.
- c) Infection in the ear can cause rupture of the
- d) A common infection of the middle ear, accompanied with pain, fever and formation of pus, is
- e) Untreated otitis media will lead to
- f) help us in keeping our balance.

2) State whether the following statements are correct or incorrect.

- a) Ears should be cleaned inside every day. ()
- b) Ear infections in babies are due to the pregnant mother eating too much rice. ()
- c) Deafness is not serious. ()
- d) Ear discharge occurs in babies who are teething. ()
- e) New born babies cannot hear. ()
- f) It is important to treat otitis media before the drum perforates. ()

3) What can be the reasons of temporary deafness in children?

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4) What are the common problems of the ear children suffer from?

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27.7 SUMMING UP

In this Unit you have read about common ear infections, their treatment and prevention. Ear discharge, earache and deafness are common complaints of children.

When the upper respiratory parts are infected, as in colds or sore throats, the infection may travel to the middle ear causing septic. There is severe pain and fever and pus collects in the cavity. This condition is otitis media and should be referred to the doctor immediately. If not treated, the pus will keep collecting in the cavity, finally leading to bursting of the drum. When this happens, pain is relieved but the burst drum causes temporary deafness. If this happens repeatedly, deafness may become permanent.

Other causes of earache are entry of foreign body in the ear, collection of wax. Foreign bodies, if not removed, will cause formation of pus, leading to ear discharge and perforation of drum. The same thing will happen if water enters the ear and is not removed. In all these cases, refer the child to the doctor.

Deafness can be due to illnesses or birth defects. Temporary deafness is due to impacted wax, perforated drum, foreign body or swelling of eustachian tube in common cold.

Ear infections can be prevented by cleaning ears regularly, treating colds and sore throats promptly, treating earache promptly.

27.8 ANSWERS TO CHECK YOUR PROGRESS EXERCISE

Check Your Progress Exercise 1

- 1)
 - a) Eustachian tube
 - b) Small bones
 - c) Drum
 - d) Media
 - e) Deafness
 - f) Semi-circular canals
- 2)
 - a) Right
 - b) Wrong
 - c) Wrong
 - e) Wrong
 - f) Right
- 3)
 - Impacted wax
 - perforation of ear drum
 - foreign body
 - swelling of eustachian tube in common cold
- 4)
 - Earache
 - Ear discharge
 - Deafness