

General Nursing Methods in Otic Diseases

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THE ear has no particular interest from the standpoint of community health, but the individual may be greatly concerned on account of deafness and discharge from the ear.

The ear consists of three parts, the external, the middle and the internal.

The common affections of the ear are :

(a) *External ear* : Burn, Frost Bite of the Auricle, Erysipelas, Otitis Externa, Otitis externa diffusa, Eczema of the external ear, "Cerumen impaction in the ear", Foreign bodies in the ear, etc.

(b) *Middle ear* : Acute Catarrh of the Eustachian tube, acute otitis media, mastoiditis, chronic suppurative otitis media, etc.

(c) *Internal ear* : Labyrinthitis, sclerosis, deafness, neuritis and injuries are the common diseases of the internal ear.

Examination of the ear

Examination of the ear is often very difficult. In order to facilitate examination of the young children, it is well to wrap them securely in a sheet, which will restrict movements of hands, feet and body. This will make it easy for the nurse to control the head movements, so that the Surgeon can devote his full attention toward the treatment of the ear or examination of it. The examination of the adult patient is performed in sitting position. To straighten out the auditory canal of an adult patient, to a greater extent, the pinna is pulled by the left hand backwards and upwards.

Articles required :

1. Head Mirror
2. Ear Speculum
3. Ear Forceps
4. Cotton Swabs

5. Probe
6. Applicators
7. Alcohol
8. Hydrogen peroxide
9. Kidney basin
10. Tuning Forks
11. Acoumeter
12. Noise Box
13. Towel

Cleansing of the ear

The cleansing of the external auditory meatus is a part of nursing procedure and can be performed by the following methods :

(a) *Syringing the ear* : When pus exudation is so abundant and its removal by drying with cotton wool has not been done satisfactorily by the patient, the ear may be washed with an ear syringe or an ordinary rubber bulb, which is less dangerous, particularly when the syringing is carried out by junior nurses. There are two types of rubber bulbs : one with a broad tip, difficult to insert into the auditory canal and the other with a bone tip. A thin 3.4 cm. long rubber tube cut off obliquely at the end should be put on the bone tip, to avoid accidental injuries to the wall of the external auditory meatus. The ear is cleansed with warm antiseptic lotions, mostly 3% boric acid solution. The patient holds a kidney tray tightly pressed to the appropriate side of his neck. Pinna is pulled by the left hand, backwards and upwards, while the rubber tip of the bulb is inserted slowly into the ear by the right hand, not more than 1 cm. Then warm liquids at 37°C. are directed under low pressure along the posterior wall of the auditory canal. When filling the rubber bulb, it should be pressed to make sure that it contains no air, otherwise this

air will cause different types of noise in the patient's ear. After syringing the ear, patient's head is inclined to the side, to let the liquid pour out of the ear. The residual liquid is removed from the far end of the auditory meatus with cotton wool wrapped round the probe. This is also known as 'wet method'.

(b) *The Dry Method*. The Auditory canal is dried or mopped with a cotton wool to remove pus in cases where pus discharge is small or syringing is contraindicated. Some surgeons order it, because the syringing is liable to spread secondary infection, e.g. eczema and boils. To prevent recurrence of the disease, the ear is mopped dry with cotton wool soaked in 70% alcohol. Slender probes with threaded tips are used to wipe and dry inside of the ear.

It is most important to note that the hands should be thoroughly washed with soap and water and cotton wool should be sterilised. The probe with cotton wrapping should be sterilised in the flame of an alcohol lamp. Rubber articles should be boiled for 15 minutes, or may be wiped with alcohol.

How to wipe the ear

Use the left hand to hold the ear speculum and pull the pinna backwards and upwards or backwards and downwards. When dealing with small children, the probe tip wrapped in cotton wool is carefully introduced by the right hand into the auditory canal which is then cleansed upto the drum with light probe rotation. The rotatory movements of the probe helps the cotton to absorb the secretions. This procedure is repeated until the last cotton wool taken from the ear is dry.

Ear Tampons

Ear tampons are used in the treatment of suppurative otitis media. These are narrow gauze pieces of not more than 5 to 7 cm. in length. The ear tamponade is performed by drawing the pinna backwards and upwards with the left hand to straighten and dilate the auditory canal and then the ear tapon is gripped with an angular forcep and carefully pushed forward along the auditory meatus with great caution. Where there is large pus discharge, ear tampons should be changed five to six times in a day. Strict compliance of antiseptic technique is advisable.

Cold Applications

Cold application to the ear is accomplished with the ice bag.

Hot Compress

Hot compress used for ear consists of three layers ;

- (a) A wet layer of Hygroscopic fabric soaked in water or solution.
- (b) A layer of water proof material i.e. Oil skin or water proof paper.
- (c) A layer of fabric with poor heat conductivity such as cotton wool or flannel.

The first layer is applied to the skin and is super-imposed by the second and third layers, which should both be larger than the first and should cover all over. A head bandage protecting the ear is then applied. Application of hot compress depends on the particular case.

Dressing of the ear

In dressing an ear after surgical operation one must of course use sterile dressing and take absolute care in washing of hands. There should be a second nurse to help with the dressing. Two pairs of sterile dressing forceps, probes, scissors and ear specula should be kept ready. Pads of ordinary sizes are used as well as strips of adhesive about half inch wide, plain gauze and a two inch bandage.

The nurse must make sure that the bandage is exactly 2 inch wide. In bandaging an ear pressure on the skin should be avoided.

Removal of wax from the ear

In certain cases wax accumulation in the ear may obstruct the auditory canal. Normally cerumen secreted by numerous ceruminous glands dries into crumbs and falls out. Ear wax impaction may be extensive and at the same time may give some trouble. It can be easily detected by Otoscopy.

The wax is removed from the ear by syringing it with warm water at 37°C. temperature to avoid stimulating the vestibular apparatus. If warm water irrigation fails to remove the wax, then the ear can be filled with peroxide and left for a few minutes, and irrigation tried again. After a few unsuccessful attempts have been made, Soda Glycerine drops, should be dropped in the ear and allowed to remain until the next day, when the wax will be found to have softened and be easily washed out.

Medication

Medications commonly used are in three forms : 1. Drops, 2 Ointment and 3. Powder.

Instillation of drops :

It is always necessary to clean the auditory canal thoroughly before any medication is applied. Prior to administration of drops, the drops should be heated upto body temperature. The pinna is pulled by the left hand backwards and upwards and 5-10 drops of medicine are instilled with a dropper into the auditory canal. It is not necessary to keep the medicine in the ear for more than 10-15 minutes. The ear is then held down to let the drops out. This is repeated 3-4 times in 24 hours.

Application of Ointment

Ointment is applied only in diseases of the external auditory canal and to auricle, due to Eczema or Dermatitis. Those most common are white and yellow mer-

cury ointments as well as zinc and streptocide ointments, which are spread with the help of a cotton wool wrapped on a probe. A tampon with ointments is sometimes left 15 to 30 minutes, in the auditory canal. Care should be taken not to pack the canal tightly, otherwise it will interfere with ear secretions, drainage and normal hearing.

Insufflation of Power medicine

After cleansing the ear as stated previously, insufflation is performed by means of different types of insufflators or if they are not available, by means of make shift paper funnel or ear speculum, whose end is plunged into the powder to take it up in small quantity. The end of insufflator or speculum is introduced into the ear and the powder is blown inside with a rubber bulb.

Sterilisation

Metal tips of insufflators should be sterilised in boiling water and rubber tips should be wiped with cloth soaked in alcohol or 4% carbolic acid solution.

Otoscopy

Examination of the external auditory meatus and tympanic membrane and cavity requires artificial lighting and a head mirror to reflect the light into the ear and the ear speculum. This procedure helps to a greater extent in examining the ear and locating the situation of a lesion.

Ear diseases though not a problem for community health, still they are in need of nurses' skilled hands.

References

1. A text book for nurses in India by Miss Sigrig C. Johnson, page 576.
2. Eye, Ear, Nose and Throat Manual for Nurses by Roy H. Parkinson, Page 137-139.
3. Diseases of the Ear, Nose and Throat, by A. Likhachov. page 38-40.