LESSON ASSIGNMENT

LESSON 6
Irrigate an Obstructed Ear.

TEXT ASSIGNMENT
Paragraphs 6-1 through 6-9.

TASK TAUGHT
081-833-0059, Irrigate an Obstructed Ear.

LESSON OBJECTIVES
After completing this lesson, you should be able to:

6-1. Identify the structures of the ear.

6-2. Identify the equipment and solutions used for an ear irrigation.

6-3. Identify the procedures to irrigate an ear.

SUGGESTION
After completing the assignment, complete the exercises at the end of this lesson. These exercises will help you to achieve the lesson objectives.
LESSON 6
IRRIGATE AN OBSTRUCTED EAR

6-1. GENERAL

The ear is often regarded as two important organs housed in one anatomical structure. Hearing is one of the organs in which sound waves are converted into nerve impulses. Sense of balance is the other organ that maintains the proper relationship between head positioning and motion. This lesson provides procedures used to irrigate an obstructed ear. We will first review the structure of the ear. The ear is divided into three parts: the external ear, the middle ear, and the inner ear. (See figure 6-1 and paragraph 6-2.)

![Diagram of the ear](image)

Figure 6-1. Structure of the ear.

6-2. STRUCTURE OF THE EAR

a. **External Ear.** The external ear includes the outer ear (pinna), the auditory canal, and the eardrum. The pinna is the most prominent structure of the external ear. Its shape is maintained by cartilage. The auditory canal is the opening and the canal that runs from the pinna into the skull. This canal ends at the eardrum. The eardrum separates the inner end of the canal from the middle ear. The principal function of the external ear is the collection and conduction of sound waves to the middle and inner ear.

b. **Middle Ear.** The middle ear (tympanic cavity) is an irregular space in the temporal bone filled with air and containing the three ossicles of the ear: malleus...
(hammer), incus (anvil), and stapes (stirrup). These bones conduct vibrations from the eardrum to the internal ear. The eustachian tube connects the middle ear with the nasopharynx. Its principal function is to keep the air pressure equal on either side of the eardrum. It is also the avenue of infection by which disease spreads from the throat to the middle ear.

c. **Inner Ear.** The inner ear contains receptors for hearing and equilibrium. The receptor for hearing lies within the cochlea. The cochlea is coiled and resembles a snail shell. Sound waves, which pass through the external auditory canal, vibrate the eardrum and ossicles, and are transmitted through the fluid of the inner ear. The inner ear also contains three circular canals that control equilibrium.

### 6-3. **EAR IRRIGATION**

There will be times when you should know when and when not to irrigate a patient's ear. The information listed below will help you in making your decision.

a. Irrigation is done to cleanse the external auditory canal, to soften and remove impacted ear wax (cerumen), to dislodge foreign bodies, to apply heat to the tissues of the ear, and to administer antiseptics or medication.

**NOTE:** If the foreign body in the ear is an insect that did not respond to shining light into the ear, then you must irrigate.

b. Avoid irrigation when:

   (1) Foreign matter that swells is present in the ear. The foreign matter may be peas, corn, beans, etc. These foreign matters will increase in size as they come in contact with water.

   (2) The eardrum is punctured. Irrigation will cause additional middle ear infection and can carry debris or discharge to the middle ear from the external auditory canal.

### 6-4. **EQUIPMENT/SOLUTIONS USED FOR EAR IRRIGATION**

a. **Equipment.** See figure 6-2.

   (1) Rubber bulb.

   (2) Asepto syringe (glass).

   (3) Pomeroy syringe.
Figure 6-2. Ear irrigation equipment. (A - rubber bulb, B - glass Asepto syringe, C - Pomeroy syringe).

b. Solutions.

(1) Common solutions (water or water mix).
(2) Tap water.
(3) Normal saline.
(4) Hydrogen peroxide and water.
(5) Bicarbonate of soda and water.
(6) Prescribed medication--mix solution, if required.
(7) Alcohol when used for vegetable matter, shrinks matter, and the matter is easily expelled.
(8) Oil is used to make the foreign matter slippery and easy to expel.

c. Otoscope.

(1) The otoscope is an instrument used to view the external auditory canal.
(2) The speculum is an attachment to the otoscope that permits one to see inside the external ear canal.
6-5. IDENTIFY PATIENT

Ask the patient his name or check his identa-band, bed card, or medical record.

6-6. EXPLAIN PROCEDURE

Explain the irrigation procedure to the patient before you begin the procedure.

6-7. PROCEDURES TO IRRIGATE THE EAR

a. Perform a patient care handwash and gather the equipment and solutions required for the ear irrigation.

b. Warm and test the solution.

   (1) Place the container of warm solution in a pan of warm water until solution is between 95º to 105ºF (a little warmer than the normal body temperature).

   (2) Test the temperature of the solution by allowing a small amount of the fluid to run on the inner aspect of the wrist.

   NOTE: Cold solutions are uncomfortable and may cause dizziness or nausea as a result of stimulation of the equilibrium sensors in the semicircular canals.

   c. Insert the otoscope speculum into the external ear canal.

      (1) Assist the patient to assume the position, which allows a good view.

      (2) Tip the patient's head toward the opposite shoulder or ear to be irrigated.

      (3) Straighten the external ear canal by gently pulling the auricle upward and backward for adults, and downward and backward for a child.

      (4) Turn on the otoscope light and insert the speculum just inside the opening of the ear (see figure 6-4).

   d. Observe the external ear canal and the tympanic membrane for abnormalities.

      (1) Check the external ear canal for redness, swelling, drainage, or foreign bodies.
(2) Check the tympanic membrane for bulging, perforation, and color change.

(a) Normally, a blue, yellow, amber, red, or pink eardrum indicates disease of infection.

NOTE: The eardrum is normally shiny and pearly gray.

(b) A continued bulge in the eardrum indicates possible pus or fluid in the middle ear. Do not irrigate the ear.
If a hole or tear is noted when viewing the eardrum, do not irrigate the ear. It would cause pain and possibly transmit serious infection to the middle ear.

NOTE: A hole or tear in the ear should be reported to the supervisor.

e. Position the patient for irrigation. The patient should be positioned with his head tilted slightly towards the affected side. This position is used for a patient sitting or lying.

f. Drape the patient. Drape his shoulder with absorbent pads under the affected ear; cover the shoulder and the upper arm area.

g. Cleanse the external ear and meatus at the entrance of the ear canal. Place one 4 X 4-inch sponge in irrigation solution, wring out excess solution, and clean any debris from the external ear and the meatus of the auditory canal.

NOTE: When using a cotton-tipped applicator, be careful not to stick it too far into the ear as the tympanic membrane could be ruptured.

h. Fill the irrigating syringe.

   (1) Grasp the syringe bulb and/or plunger.

   (2) Depress the bulb of the irrigating syringe.

   (3) Place the tip of the irrigating syringe in the solution.

   (4) Release the bulb and allow syringe to fill, or pull back on the syringe plunger.

i. Test the flow of solution from the syringe. Expel a small quantity of solution back into the container.

j. Position the emesis basin.

   (1) Place the basin just below the ear on the affected side (see figure 6-5).

   (2) Press firmly against the patient's neck (have the patient hold the basin if he is capable).

k. Straighten the ear canal.

   (1) Gently grasp the auricle of the patient's affected ear.

   (2) Pull the auricle up and backward for an adult.

   (3) Pull the auricle down and backward for a child.
I. Irrigate the patient's ear.

(1) Place the tip of the irrigating syringe just inside the meatus of the ear, with the tip directed toward the roof of the ear canal (see figure 6-6).

(2) Depress the bulb or plunger on the irrigating syringe.

NOTE: Never completely block the ear canal with the syringe. If space is not left around the syringe tip, the solution will not be able to return, and undue pressure in the canal will result.

   (a) Direct a slow, steady stream of irrigating solution against the roof of the ear canal (see figure 6-7).

   (b) Use no more than 500cc of irrigating solution unless ordered.

m. Repeat steps h through l until the irrigating solution returns free of wax or debris, and until the prescribed amount of solution has been used.

n. Remove the emesis basin and dry the external ear.

o. Tell the Patient to tilt his head. The patient should lean toward the affected side for a few minutes to allow any remaining solution to drain out of the ear and to dry the external ear.
Figure 6-6. Irrigating syringe placed inside the ear.

Figure 6-7. Irrigate ear.

p. Remove the drape from the patient.

q. Dispose of or clean and store equipment.

6-8. HANDWASH

Perform a patient care handwash.
6-9. REPORT AND RECORD PROCEDURE

a. Date of irrigation.

b. Time irrigation was done.

c. Kind and amount of solution used.


Continue with Exercises

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EXERCISES, LESSON 6

INSTRUCTIONS: The following exercises are to be answered by marking the lettered response(s) that best answer(s) the question or best completes the incomplete statement or by writing the answer in the space provided.

After you have completed all the exercises, turn to "Solutions to Exercises" at the end of the lesson and check your answers.

1. The external ear includes:

   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________

2. What is another name for the middle ear?
   a. Pinna.
   b. Eardrum.
   c. Malleus.
   d. Tympanic cavity.

3. List the equipment used for an ear irrigation other than emesis basin.

   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________

4. Why is oil used to irrigate an ear?

   ____________________________________________________________

Check Your Answers on Next Page
1. Outer ear (pinna).
   Auditory canal.
   Eardrum  (para 6-2a).

2. d.  (para 6-2b).

3. Rubber bulb.
   Asepto syringe (glass).
   Pomeroy syringe (para 6-4a).

4. To make the foreign matter slippery and easy to expel.  (para 6-4b(8)).