



## Caring for hearing- and vision-impaired residents

As people age, it is common for them to develop hearing or vision impairments. CNAs need to be aware of how these conditions affect a resident because the quality of care provided should never suffer as a result of residents' sensory impairments.

There are **three main types of hearing loss**, which this issue will identify. In addition, CNAs will learn about specific measures that can be taken to help **prevent hearing loss** when possible. CNAs must also familiarize themselves with the various types of **hearing aids** used by residents and how to care for these devices. Also, CNAs should use certain **communication techniques** when caring for hearing-impaired residents.

**Optical diseases** are often responsible for vision loss, especially in elderly residents. These diseases, along with other vision ailments, will be explained in this issue, as will the **anatomy of the eye** and the prevalence of **age-related macular degeneration**.

Have a good day of training, and stay tuned for next month's issue of **CNA Training Advisor**, which will cover resident rights.

### A hypothetical question

Many of us have been asked the following hypothetical question: Would you rather be blind or deaf? Regardless of your answer, take this time to put yourself in the shoes of a resident whose vision or hearing is impaired. What kind of struggles would you encounter on a daily basis? What kind of help and care would you need from frontline staff?

### PROGRAM PREP

#### Program time

Approximately 30 minutes

#### Learning objectives

Participants in this activity will learn how to:

- Classify types of hearing loss
- Prevent and treat hearing loss using various methods
- Communicate with hearing-impaired residents
- Describe the anatomy of the human eye
- Differentiate between cataracts and glaucoma

#### Preparation

- Review the material on pp. 2–4
- Duplicate the **CNA Professor** insert for participants
- Gather equipment for participants (e.g., an attendance sheet, pencils, etc.)

#### Method

1. Place a copy of **CNA Professor** and a pencil at each participant's seat
2. Conduct the questionnaire as a pretest or, if participants' reading skills are limited, as an oral posttest
3. Present the program material
4. Review the questionnaire
5. Discuss the answers

### Tips and tools for CNA training

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## CARING FOR HEARING- AND VISION-IMPAIRED RESIDENTS

### Types of hearing loss

The three general categories of hearing loss are conductive, sensorineural, and central. Each type is related to the part of the ear where the problem occurs:

- **Conductive** hearing loss is due to the blockage of sound waves through the external ear canal to the bones of the middle ear, a problem with the bones of the middle ear, or a perforated eardrum. Earwax or a foreign object may cause a blockage of the external canal.
- **Sensorineural** hearing loss occurs when there is damage to the inner ear, the auditory nerve, or the nerve pathway that leads to the brain. Everybody loses some of the hair cells within the inner ear as part of the aging process, and as a result, hearing may become less acute. The term for this type of hearing loss is presbycusis. However, for most people, the loss is not significant enough to disrupt or interfere with quality of life.
- **Central** hearing loss occurs when there is damage to the area of the brain involved in hearing. Brain tumors, strokes, or diseases that affect the blood supply to the inner ear can all cause this type of hearing loss.

### Prevention

Not all hearing loss can be prevented. However, some measures can be taken to reduce the risk. For example, one of the most common causes of hearing loss is exposure to excessive noise. When the inner ear and the nerve cells are repeatedly bombarded by loud noises, the blood supply to these sensitive structures is reduced. The damaged cells are replaced by scar tissue that does not conduct sound waves and nerve impulses. Reducing the noise level in the environment or wearing protective ear devices can help prevent this type of damage.

Checking and cleaning the ears to remove any earwax buildup keeps the ear canal open for the sound waves to pass through. It hardly needs to be said that foreign objects should never be placed in the ear. Remember that inserting an object into the ear to clean wax from the ear canal can result in a perforated eardrum. Earwax should only be removed by a professionally trained individual.

The buildup of fatty deposits in blood vessels from high cholesterol levels reduces blood flow. This not only can result in heart attack and stroke but can also cause damage to the structures of the ear and lead to hearing loss. Some drugs, such as aspirin, antibiotics, and some chemotherapy agents, can cause a ringing in the ears and temporary hearing problems. Any change in a resident's hearing ability should be reported and investigated.

Another hearing-loss prevention measure is the prompt treatment of ear infections. Ear infections are particularly common in children because the Eustachian tube that passes from the throat to the ear is quite short, so infectious material can move easily from the throat to the ear.

### Treatment of hearing loss

The cause of a resident's hearing loss may affect the type of treatment. For example, removing a blockage from the ear canal, treating ear infections, or even microsurgery on the inner ear may be helpful. Most often, however, a hearing aid is prescribed.

The effectiveness of a hearing aid depends, to some degree, on the type of hearing loss. A hearing aid is much more effective in treating conductive hearing loss than sensorineural hearing loss.

There are two basic types of hearing aids:

- **Air conduction** hearing aids fit into or behind the ear with a tube connected to an earpiece. Body hearing aids are used by people who have severe hearing loss. They are usually placed in a pocket on the chest and are connected to the earpiece by a wire.
- **Bone conduction** hearing aids may be prescribed because of a damaged ear canal or a discharge from the ear. They are placed against the skull behind the ear and conduct sounds through the bone of the skull to the inner ear. This type of hearing aid requires more power, causes more distortion, and is not as comfortable as an air conduction model.

There are other specially designed hearing aids for people who have varying types of problems.

Adjusting to a hearing aid can take time. Often, residents who have gradually lost their hearing will have also lost the ability to ignore background noises. New hearing aid users will have to relearn how to ignore these background noises. They may feel frustrated during this learning process and want to give up trying to adjust. People who do not consistently wear their hearing aid will have more difficulty adjusting than those who do. Keep in mind the following:

- Some people will need a hearing aid in only one ear. However, studies show that two hearing aids are more effective for most people.
- Some hearing aids still have manual control knobs to adjust the volume; however, many do not.
- Some hearing aids analyze and adjust sounds automatically. Others can switch between listening environments (e.g., from a telephone call to a personal conversation) by use of a remote control.
- Certain hearing aids can be programmed to alert the wearer to doorbell or telephone sounds. However, the electronic impulses of hearing aids and cellular phones may interfere with each other, making cellular phone use difficult.

### Care of hearing aids

You should familiarize yourself with the manufacturer's care instructions for the large variety of hearing aids on the market today. Some general rules for hearing aid care are as follows:

- Change the batteries on a regular schedule or as needed. When changing batteries, hold the hearing aid over a table or bed to

**CARING FOR HEARING- AND VISION-IMPAIRED RESIDENTS**

prevent breakage if dropped. There are also disposable hearing aids that last 30–40 days and have totally enclosed batteries.

- Turn the hearing aid to the “off” position when it is not in use.
- Place the hearing aid in a container when it is removed. Keep all parts of the hearing aid together.
- Avoid placing the hearing aid in the sun. The heat can cause damage.
- Check the hearing aid for earwax when you remove it. Clean the outside with a soft cloth if necessary.
- Remove the hearing aid during showers and baths because moisture can cause damage. Do not use hair spray while the hearing aid is in place.
- Check the ears daily for any sign of irritation, inflammation, or drainage. Moisture enclosed in the ear by a tight-fitting hearing aid may cause an infection.
- Keep the outer part of the ear clean to prevent dead cells or other debris from entering the ear canal.

**Communication**

Communicating with residents who wear hearing aids does not differ greatly from communicating with those with normal hearing. This is assuming the hearing aid is working.

However, communicating with hearing-impaired residents who do not wear a hearing aid or do not have their hearing aid in place can be more difficult. In these cases, the following guidelines may help the communication process:

- Get the person’s attention before speaking
- Turn off the radio or television
- Stand 3–6 feet away
- Face the person
- Make sure there is enough light for your face to be seen clearly
- Do not cover your mouth or eat while you talk
- Position yourself at the resident’s eye level

- Speak slightly louder than normal, but do not shout (shouting distorts speech sounds and makes it difficult to be understood)
- Use short, simple sentences
- Speak slowly and distinctly
- If necessary, repeat your message
- Use nonverbal communication methods, such as facial expressions and gestures, to help get your message across
- Ask the resident to repeat what you said
- Write down your message if it’s important

**Vision impairment**

Vision impairment is classified as having 20/40 vision or worse in the stronger eye, even when using eyeglasses.

Blindness is often thought of as complete loss of eyesight. However, it is more commonly a permanent loss of some eyesight, rather than all of it. For example, people with a visual range of 20/200 or worse in their stronger eyes are considered legally blind—even though they still have some vision.

Age plays a large role in a person’s ability to see well; in fact, it is the most common cause of vision impairment. The likelihood of a person being diagnosed as blind or visually impaired increases with age, particularly in people ages 75 or older.

Race is another contributing factor to blindness and vision impairment. For instance, blindness seems to affect blacks more frequently than whites or Hispanics. However, Hispanics are affected by vision impairment more than any other race.

**Anatomy of the eye**

The eye is surrounded by six muscles that move and direct it toward an object. The eyelids protect eyes from dust, perspiration, injury, and intense light.

The whites of the eyes, called the **sclera**, consist of a strong fibrous tissue that helps support the eyes’ shape.

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The **cornea** is an extension of the sclera and wraps around to the front of the eyes.

The **iris**, the colored area, is located behind the aqueous humor, which is the thick watery substance between the lens and the cornea, and in front of the lens. The circular opening in the center of the iris, known as the **pupil**, adjusts to regulate the amount of light that passes into the eye. The **lens** lies directly behind the iris. Small ligaments adjust the thickness of the lens in order to properly focus the image on the retina.

The **retina** lies along the back wall of the eye. It changes light waves into messages that are sent along the **optic nerve** to the brain. Once in the brain, the messages are translated into images. If for some reason the retina becomes detached and the problem is not corrected quickly, vision will be permanently lost. Specialized cells, called **photoreceptors**, can be found in the retina. The two types of photoreceptors in the retina are called **rods** and **cones**. These cells help distinguish color and allow a person to see in various levels of light.

### Age-related macular degeneration

Age-related macular degeneration (AMD) is a visual impairment that affects the section of the retina controlling central vision (i.e., the sight range in front of you). Typically, AMD affects people over 55 years old. There are two forms of the disease:

- ▶ **Dry AMD** is the most common form of the disease, accounting for approximately 90% of all AMD cases. With dry AMD, yellow-white deposits (drusen) build up in the tissue beneath the macula, which is the section of the retina that provides the clearest vision. These deposits interfere with the function of photoreceptors in the macula, causing continual breakdown of these cells. However, drusen deposits can be present in the retina without leading to vision loss.
- ▶ **Wet AMD** is when blood vessels grow abnormally beneath the macula and leak blood and fluid into the macula. This damages the photoreceptors, which allow the eyes to adjust from brightly to dimly lit rooms or vice versa. Wet AMD progresses quickly and can ruin central vision.

The causes of dry and wet AMD are unknown. However, physicians suspect age, diet, and smoking are possible risk factors. Cardiovascular

disease and hypertension, as well as overexposure to light, are also risk factors for dry and wet AMD.

### Cataracts

Cataracts describe a condition that occurs when the eye's lens becomes clouded, preventing light from properly passing through to the retina. Typically, cataracts affect the elderly—approximately half of all Americans develop cataracts by the age of 80. However, younger people can also develop cataracts if exposed to radiation or certain toxins. Possible causes of cataracts include age, smoking, diet, alcohol consumption, overexposure to ultraviolet radiation (such as that found in the sun's rays), eye injury, and diabetes-related problems.

To treat a cataract, a surgeon removes the clouded lens. Many times, it is replaced with an artificial lens in a procedure known as **intraocular lens implant**.

### Glaucoma

Glaucoma is a disease that breaks down the cells that form the optic nerve. The optic nerve is responsible for carrying visual messages from the eye to the brain to be translated into images. As the cells die, vision deteriorates, usually starting with peripheral vision. Because the nerve damage occurs so slowly, glaucoma can go undetected for a long time, until a large amount of vision is lost.

Common risk factors for glaucoma include the following:

- ▶ **Age:** People over age 45 are at risk for the disease
- ▶ **Race:** Blacks suffer from the disease at a higher rate
- ▶ **Diabetes:** Complications from diabetes can result in glaucoma
- ▶ **Eye trauma:** Previous injury to the eye may increase the likelihood of glaucoma
- ▶ **Steroids:** Long-term steroid use will heighten the chance of contracting glaucoma
- ▶ **Intraocular pressure:** Elevated fluid pressure (intraocular pressure) is a risk factor for glaucoma

Most treatments for glaucoma, such as medications and laser surgery, aim to reduce fluid pressure within the eye. Although these treatments may slow or stop vision loss, vision that is already lost cannot be repaired. ■

### Editorial Board

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## CARING FOR HEARING- AND VISION-IMPAIRED RESIDENTS

Mark the correct response.

Name: \_\_\_\_\_

Date: \_\_\_\_\_

1. \_\_\_\_\_ hearing loss occurs when there is damage in the area of the brain involved in hearing.
  - a. Conductive
  - b. Sensorineural
  - c. Central
  - d. Peripheral
2. When the inner ear and the nerve cells are repeatedly bombarded by loud noises, the blood supply to these sensitive structures is reduced.
  - a. True
  - b. False
3. \_\_\_\_\_ hearing aids may be prescribed because of a damaged ear canal or a discharge from the ear.
  - a. Air conduction
  - b. Body
  - c. Bone conduction
  - d. None of the above
4. Which of the following is not required regarding the care of residents' hearing aids?
  - a. Change the batteries on a regular schedule or as needed
  - b. Turn the device to the "off" position when it is not in use
  - c. Check the device for earwax when it is removed
  - d. Wash with a damp cloth twice weekly
5. When communicating with a hearing-impaired resident, CNAs may need to \_\_\_\_\_.
  - a. shout as loud as possible, especially if a television or radio is on in the room
  - b. write the message down if it's important
  - c. stand about 10 feet away from the resident
  - d. speak quickly
6. Migraines are a common cause of vision impairment.
  - a. True
  - b. False
7. The \_\_\_\_\_ lies along the back wall of the eye and changes light waves into messages that are sent along the optic nerve to the brain.
  - a. iris
  - b. pupil
  - c. lens
  - d. retina
8. Wet age-related macular degeneration is when \_\_\_\_\_ grow abnormally beneath the macula and leak blood and fluid into the macula.
  - a. yellow-white deposits
  - b. blood vessels
  - c. drusen
  - d. calcium deposits
9. Cataracts break down cells that form the optic nerve.
  - a. True
  - b. False
10. Common risk factors for glaucoma include all of the following except \_\_\_\_\_.
  - a. age
  - b. race
  - c. gender
  - d. steroids