


OTC Hearing Aids / 1 / CE PRESENTATION

## Over-the-Counter Hearing Aids: Breaking Sound Barriers in Community Pharmacy

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1

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## Disclosure

Dr. MacDonald has no financial  
relationships with ineligible companies

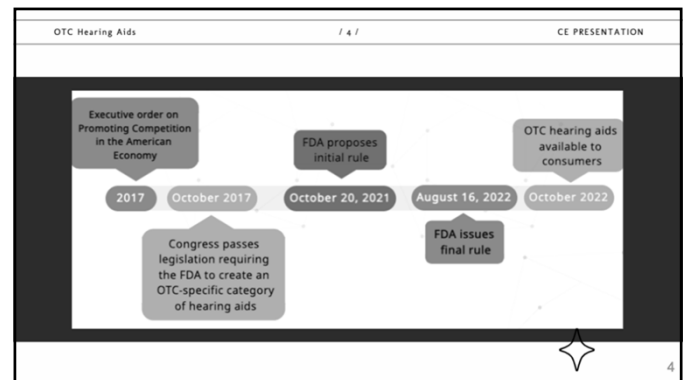
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## Objectives

1. Describe the signs and symptoms of mild to moderate hearing loss
2. Recognize how patient-specific barriers restrict access to hearing health care
3. Discuss strategies to assist patients with appropriate OTC hearing aid selection

3



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## The FDA Final Rule

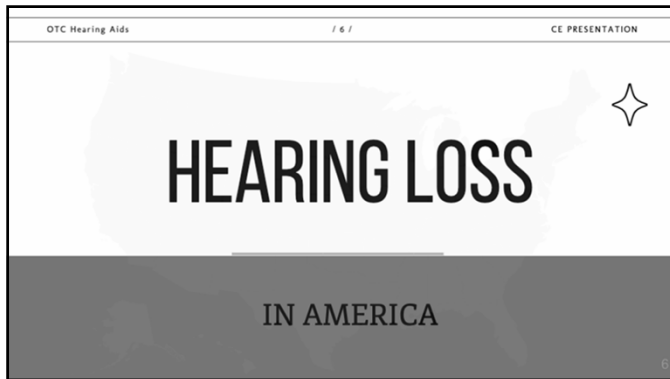
Establishes a novel category of hearing aids indicated for adults 18 years and older with perceived mild to moderate hearing loss

5

Which of the following symptoms is indicative of mild to moderate hearing loss?

- Recent treatment for an ear infection
- Difficulty maintaining conversation in quiet environments
- Watching TV with subtitles on
- When people speak, it sounds like they're mumbling

6



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9

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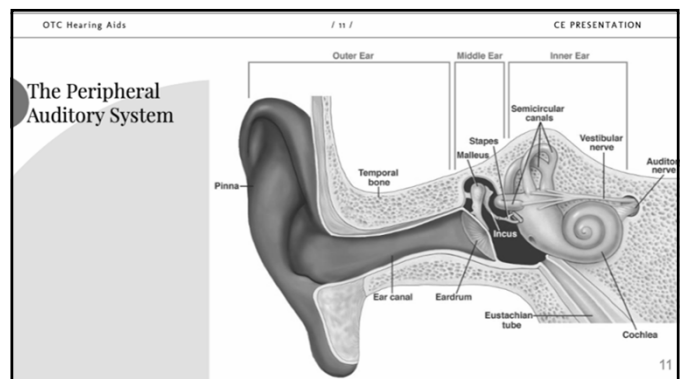
### Defining Hearing Loss: Threshold Values

Normal hearing	0-25 dB
Mild loss	25-40 dB
Moderate loss	41-70 dB
Severe loss	71-90 dB
Profound loss	≥90 dB

10



11



12


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## Conductive Hearing Loss

Impairment of the outer or middle ear

→ Sound can't reach the inner ear due to obstruction or disease

Causes: cerumen impaction, otitis media, fixation of middle ear bones



12

13

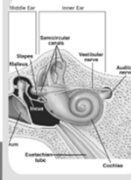
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## Sensorineural Hearing Loss

Impairment of the cochlea or spiral ganglion

Causes: age-related degenerative processes, genetic mutation, noise exposure, exposure to therapies with ototoxic potential

**1** The most common type of hearing loss



Sensory Hearing Loss	Neural Hearing Loss
Dysfunctional organ of Corti or stria vascularis	Inappropriate connections or activity within the spiral ganglion neurons or proximal auditory components

13

14

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## Therapy-Induced Hearing Loss

The Primary Instigators:

- cisplatin
- aminoglycoside antibiotics
- loop diuretics
- NSAIDs

**Lend an ear!**

Patients who use multiple drugs with ototoxic properties, the risk of hearing loss incidence and severity increases



14

15

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# TREATING HEARING LOSS

15

16

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## OTC Hearing Aids


### HOW DO THEY WORK?

**Air conduction**

Hearing aids amplify sound vibrations, which are then converted to neural signals by viable cochlear hair cells, then delivered to the brain, by the auditory nerve, for processing

**Goals of Treatment**

To augment hearing and improve speech comprehension for individuals with hearing loss while maintaining an overall comfortable volume



16

17

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# HEARING AID STYLES

17

18

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## COMPLETELY-IN-CANAL (CIC) & IN-THE-CANAL (ITC)



**Intended Use**  
Appropriate for mild to moderate hearing loss

**Device Design**  
The electronic components are contained within a shell that sits in the ear canal

**Smallest style of device**  
Some individuals might find this style more difficult to handle  
Small design makes it less noticeable than others  
Ear wax and drainage can interfere with function and damage device


**Special Features**  
Directional microphone system

18

19

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## IN-THE-EAR (ITE)



**Intended Use**  
Appropriate for mild to moderate hearing loss

**Device Design**  
The device's electronics are housed within a shell that sits in the "bowl" of the outer ear

**Special Features**  
Directional microphone system, telecoil


This style's larger size makes it easier to handle

19

20

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## BEHIND-THE-EAR (BTE)



**Intended Use**  
Appropriate for all degrees of hearing loss and all ages

**Device Design**  
This device's electronics are housed in a plastic case that sits behind the ear. A clear tube extends from here, runs up and over the top of the ear, and connects to an ear mold that sits in the ear canal

**Largest style of device**


**Special Features**  
Directional microphone system, telecoil

20

21

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## RECEIVER-IN-THE-EAR (RITE) AKA MINI BTE, MINI RECEIVER-IN-CANAL (RIC)



**Intended Use**  
Appropriate for all degrees of hearing loss

**Device Design**  
The device's electronics are housed within a plastic case (relatively smaller than that of the BTE style). A receiving wire runs from runs up and over the top of the ear, and connects to a flexible dome-shaped earpiece that sits in the ear canal

**Less noticeable than BTE styles**

The earpiece doesn't fit snugly within the ear canal  
This "open-fit" earpiece minimizes plugged or full feeling

21





22

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## Outcomes depend on

- The device's design
- Ease of use
- Training and education

## Patient-specific characteristics that can impact outcomes

-  Cognitive ability
-  Tactile sensitivity
-  Problem-solving skills
-  Self-efficacy

22

23

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## Personal Sound Amplification Products (PSAPs)

HEARING/SOUND AMPLIFIERS, HEARABLES

### How do they work?

PSAPs amplify all sounds in the surrounding environment equally

Indicated for individuals with normal hearing

**Special Features**  
directional microphone system, wireless audio connection, bio-sensors, noise reduction

23

24

M.M., a 75-year-old female, arrives at the pharmacy to pick up her celecoxib prescription (which she takes for arthritis) and to return the ITC-style OTC hearing aids she purchased two weeks ago. When you ask why she's returning the hearing devices, she expresses that she "doesn't need them" as much as she thought, then adds "they feel ok when they're in, but I'm nervous that like they're going to just pop out of my head." Which alternative style of OTC hearing aid might better address M.M.'s needs and priorities?

- Completely-in-Canal
- Behind-the-Ear
- Personal Sound Amplification Product
- Receiver-in-Canal

25

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# HEARING AID

## EXCLUSION CRITERIA

24

26

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When is a referral for evaluation by a specialist the appropriate recommendation?

OTC Hearing Aid Exclusion Criteria

- 1 Injured or deformed ears
- 2 Drainage within the last 6 months
- 3 Ears feel full or plugged
- 4 Persistent pain or discomfort
- 5 Tinnitus
- 6 Dizziness, vertigo
- 7 Better hearing in one ear than the other
- 8 Sudden or fluctuating hearing loss
- 9 Hearing loss that has progressed, then improved within the last 6 months

25

27

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Only 1 in 4 adults with treatable hearing loss have ever used hearing aids

Hearing aid use is even less common in older populations with low socioeconomic status and minorities

Goman & Lin, 2016 26

28

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## Barriers to Care & Reasons for Non-Use

 Affordability
  Accessibility
  Perceived need
  Stigma
  Support

27

29

D.J. is a regular patient at your pharmacy; today he's joined by his niece. You know that he has difficulty hearing, especially in the busy pharmacy, and make a mental note to remove your mask and speak slowly while you're talking to him. As D.J. and his niece wait for his prescription to be filled, D.J.'s niece points out the OTC hearing aid display by the counter and suggests that "something like that would be perfect for you!" D.J. remarks that he "isn't some bionic action figure and can hear just fine." What is D.J.'s greatest barrier to accessing OTC hearing aids?

- Severe hearing loss
- No perceived need
- Accessibility
- Stigma

30

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## The Pharmacists' Role

Provide an opportunity for individuals to access hearing healthcare from a non-traditional point of entry by correctly identifying candidates who meet OTC hearing aid use criteria and through providing appropriate and timely referrals to those who should instead seek care from a specialist

28

31

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## The Pharmacists' Patient Care Process AND OTC HEARING AIDS

29

32

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### 1 COLLECT

- Recognize signs and symptoms of hearing loss
- Recognize how health, wellness, and quality of life are impacted by hearing loss
- Identify factors that may induce or exacerbate hearing loss
- Identify medications associated with ototoxicity

### 2 ASSESS

- Assess an individual's need for referral
- Compare and contrast various hearing devices
- Consider the results of an audiometric report to facilitate in developing a hearing healthcare plan

30

33

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### 3 PLAN & IMPLEMENT

- Abide by laws and regulations associated with OTC hearing aids
- Address a patient's priorities and preferences when assisting with device selection
- Provide relevant resources and educational materials concerning a device's features and functions

### 4 FOLLOW-UP: MONITOR & EVALUATE

- Assess available resources to provide patients with appropriate education on the device's use and care
- Recommend care and maintenance for hearing devices

31

34

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### 5 COLLABORATE

- Establish interprofessional contacts and develop relationships with near-by hearing health professionals to better advise patients and direct referrals
- Explain the effects of untreated hearing loss
- Implement and maintain effective communication strategies

32

35

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# THANK YOU!

# QUESTIONS?

33

36

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37

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38

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40

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41