

Preparing for Your Hearing Evaluation

What is it?
What should I expect?
What should I take away from it?

1

JeanneAnne (Jeannine) Ramacho-Talley (I'm an Audiologist!)

- Audiologist and owner of Harmony Audiology Services and Solutions, Inc in Capitola.
- Masters and Au.D. from Gallaudet University
- ABA Certified, CCC-A, and CH-TM (and F-AAA)

Seattle, WA New York City Washington, DC Durham, NC Dallas, TX Capitola, CA!
(Properly:
the Bronx and Queens)

2

I CAN'T HEAR YOU
IF YOU MIMBLE

actiondeafness

3

What is Audiology (or What is an Audiologist)

4

What is Audiology?



audio logy

"to hear" "the study of"

Audiologists are the primary healthcare professionals who evaluate, diagnose, treat, and manage hearing loss and balance disorders.

... balance?

Yes! The cochlea is technically a hearing and balance organ.

5

Audiologists

- Pediatrics and Adult diagnostics
- Hearing aids or devices
- Educational
- Vestibular
- Tinnitus
- (Central) Auditory Processing Disorders
- Inter-operative monitoring
- Industrial (hearing conservation)
- Industry (hearing aid/technology companies)
- Hospitals
- Clinics
- Private practices
- Schools/classrooms
- Military/VA
- Research facilities (medical, technology)
- Academic/teaching institutions

6

All the Letters ... What Do They Mean?

- Doctor of Audiology (Au.D.) – also, Doctor of Philosophy (Ph.D.) or Masters in Audiology
- American Board of Audiology Certified (ABA Certified or ABAC)
- Pediatric Audiology Specialty Certification (PASC)
- Cochlear Implant Specialty Certification (CISC)
- Certificate Holder – Tinnitus Management (CH-TM)
- Certificate Holder – Audiology Preceptor (CH-AP)
- Certificate of Clinical Competence in Audiology (CCC-A)
- Fellow of the American Academy of Audiology (F-AAA)
- ... and state licensure!

7



8

What is Hearing (Loss)?

9

What is Sound?

Sound is a pressure wave (energy) that is detected by the ear.

Examples:

- Music or Instruments
- Speech sounds
- Environmental sounds



10

Quick Anatomy and Physiology Lesson



- Outer Ear**
 - The pinna, ear canal (and depending on your textbook, the distal side of eardrum)
- Middle Ear**
 - The eardrum, ossicles, and space behind the eardrum
- Inner Ear**
 - The hearing and balance organ: the cochlea

11

Hearing vs. Listening

To Hear

- “Perceive with the ear the sound made by (someone or something)”

To Listen

- “An act of listening to a sound”
- “Give one’s attention to a sound”



12



13

The Hearing Test

14

Who Can “Test” Your Hearing?

- Audiologist: A professional with a graduate degree, typically a doctorate degree, license to provide diagnostic hearing evaluations and can be licensed to dispense hearing aids. An audiologist can also provide rehabilitation of hearing loss and evaluate balance disorders.
 - CA: An audiologist who dispenses hearing aids must obtain an audiology license *and* dispensing license.
- Hearing Aid Dispenser (or Hearing Instrument Specialist): An individual licensed to fit and sell hearing aids.

15

Audiology Focus: Communication

How well do you communicate?

Giving information:

- Speech-Language Pathology
- Modes giving information: speaking, writing or drawing, manual (sign language)

Receiving information

- Audiology
- Modes of receiving information: hearing (ears), seeing (eyes), tactile/feeling (touch)

... oh, and we need our brains for processing information!

16

Testing: Screening vs. Evaluation



Screening

- A quick test to see how well you hear different sounds. You either pass or fail.
- For older children and adults: *Pure Tone test*
- "Can you hear sounds at this soft volume"

Comprehensive Evaluation

- Identify and diagnose hearing loss
- Determines the type and severity of a hearing loss
- "Volume" and "Clarity"

17

Things to Do to Prepare for Your Hearing Evaluation

- Reflect on your difficult situations
- Ask family and friends what they notice
- Make a list!
- Bring a family member or friend
- Medical history to know about?

(Bring your hearing aids if you have them)



18

What is the Audiologist Looking For?

- Do you think you have difficulty hearing?
- How do you function with your current hearing levels?
- Why you have a hearing loss?
- How much hearing loss do you actually have (in each ear)?
- Where is the hearing loss happening in the ear(s)?
- Do more testing? Or see a physician to look into the problem further?
 - Pain, drainage, usual dizziness/unsteadiness, or unusual ringing/buzzing reported

What the best treatment and management options are for you?

19

How Do We Test Your Hearing?

- Hearing Evaluation (Comprehensive Hearing Evaluation)
 - Pure tone testing (air and bone conduction) – "the beeps"
 - Speech testing (speech reception, speech discrimination, speech in noise) – "the words"
- Tests of the middle ear
 - tympanometry, acoustic reflexes, acoustic reflex decay
- Tests of the outer hair cells in the cochlea (otoacoustic emissions)
- Auditory processing

20

Severity and Type of Hearing Loss

Do you have difficulty hearing?

How much hearing loss do you have (in each ear)?

Where is the hearing loss happening in the ear(s)?

Pure tone air conduction testing determine the severity of hearing loss – think *volume*

Adding pure tone bone conduction testing determines the type of hearing loss – think *where* the hearing loss is happening? Or (anatomically) *why*?

21

Pure Tone Testing (the Beeps)



- Pure tone testing is also referred to as air conduction testing because sound travels through the air and goes through the outer and middle ear.
- Where is the hearing loss happening?
- Bone conduction testing is the same sounds travel directly to the inner ear (cochlea) bypassing the outer and middle ear.

22

Severity and Type of Hearing Loss

Severity

- Slight
- Mild
- Moderate
- Moderately Severe
- Severe
- Profound

Basic Types

- Conductive
- Sensorineural
- Mixed

23

Severity of Hearing Loss

Degree of hearing loss	Hearing loss range (dB HL)
Normal	-10 to 15
Slight	16 to 25
Mild	26 to 40
Moderate	41 to 55
Moderately severe	56 to 70
Severe	71 to 90
Profound	91+

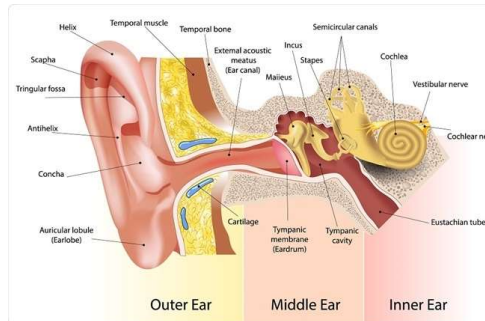
Source: Clark, J. G. (1981). Uses and abuses of hearing loss classification. *Asha*, 23, 493-500.

Examples:

- "Mild to moderate conductive hearing loss in the left ear"
- "Mild from 250-1000 Hz sloping to a moderate sensorineural hearing loss from 2000-8000 Hz in both ears."

24

Types of Hearing Loss



Conductive:

a problem with the outer or middle ear (ear canal, ear drum, ossicles)

Sensorineural:

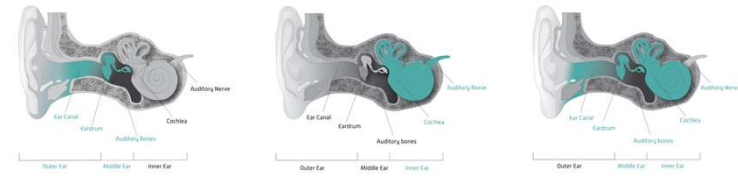
a problem with the inner ear (the sensory organ, cochlea) and beyond

Mixed:

both conducting and sensorineural

25

Types of Hearing Loss



Conductive

Sensorineural

Mixed

26

I CAN'T
HEAR YOU
IF YOU DON'T
FACE ME.

acti-on deafness

27

Speech Testing: What About the Words?

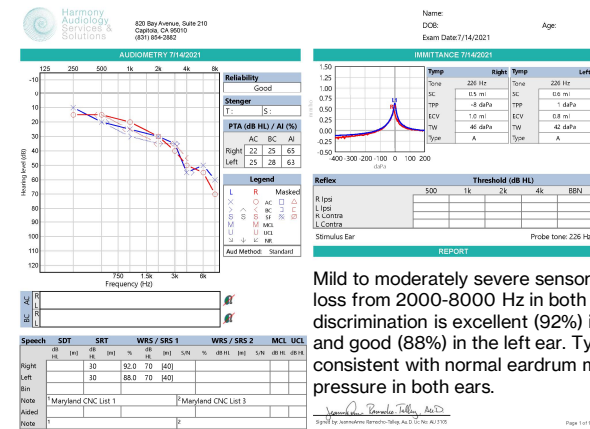
- Speech Reception Threshold
 - What is the softest level of speech you can hear and repeat back correctly?
- Speech Discrimination (or Word Recognition Testing)
 - With the volume loud enough, how many words can you repeat back correctly?
- Speech in noise testing
 - With background noise present, how many words can you repeat back correctly?

28

The Audiogram

- What do the results look like?
- What do they mean?

29



Mild to moderately severe sensorineural hearing loss from 2000-8000 Hz in both ears. Speech discrimination is excellent (92%) in the right ear and good (88%) in the left ear. Tympanometry is consistent with normal eardrum mobility and pressure in both ears.

30



31

The Caveats ...

- Testing in booth vs. the real world
 - A hearing evaluation tests how well your ears hear in the best listening conditions.
 - Quiet environment
 - Focus or concentration is at the fullest
 - Given directions (anticipation)
 - No visual or contextual cues to lean on
- Hearing loss is typically VERY slow
 - Our brains are really, really smart, we adjust and make accommodations for it.

32

What's Next?

- Hearing loss – depends on your results!
 - Significant hearing loss indicates amplification or devices
 - Communication strategies
 - Further testing (auditory processing tests?)
- Hearing Aid Evaluation or Consultation
 - Amplifiers, hearing aids, assistive listening devices or hearing assistive technology
 - Hearing aids – Class I medical devices

33

Additional Resources

Department of Consumer Affairs: Speech-Language Pathology & Audiology & Hearing Aid Dispensers Board

www.speechandhearing.ca.gov

American Academy of Audiology

www.audiology.org

American Speech-Language-Hearing Association

www.asha.org

National Institute on Deafness and Other Communication Disorders

www.nidcd.nih.gov

Hearing Loss Association of America

www.hearingloss.org

34

Contact Information



820 Bay Avenue
Suite 210
Capitola, CA 95010

Office: (831) 854-2882
Email: admin@harmonyaudiology.com
www.harmonyaudiology.com

35