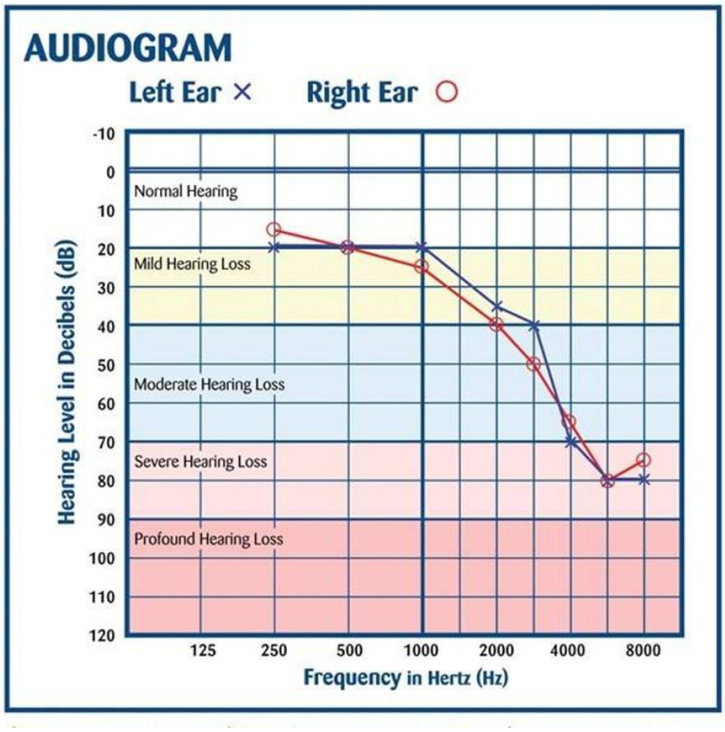
How to read an Audiogram

WHAT IS AN AUDIOGRAM?

An **audiogram** is a graph that shows the softest sounds a person can hear at different pitches or frequencies.

Frequency is the unit by which how high or low a sound is measured. Frequency is measured **horizontally** on the **top** of the audiogram. As the frequencies go from **left to right** they range from **lower to higher.**

Example: If you read the audiogram from left to right, the final X is all the way at 8,000 hertz – that means this person would have high frequency loss. They can only hear above 80 decibels at 8,000 hertz. High Frequency loss makes it difficult to hear higher pitched sounds such as women and children. If the X's and O's on your hearing test remain predominantly on the left side, you have low frequency loss making lower pitched sounds more difficult to hear and understand.



Decibels are the unit by which sound is measured. On your audiogram, the decibel loss is measured **vertically** on the left side. As the number gets bigger, so does your hearing loss. Example: Reading the above audiogram from left to right, the final O (right ear) hits about 70 db or so. This means that anything below 70 db. (Whispered conversations, leaves rustling, birds chirping) will not be heard. The last X (left ear) has slightly more severe hearing loss, hitting at 75 db. Again, this means that any sound below 75 db will be unable to be heard.

PURE TONE TESTING

INTERPRETATION		
	LEFT	RIGHT
Air Conduction (AC)	×	○
Air Conduction Masked	□	△
Bone Conduction (BC)	>	<
Bone Conduction Masked	]	[

RELATIONSHIP	TYPE OF LOSS
Hearing loss by AC and BC within 10dB	Sensorineural (SNHL)
Hearing loss by AC and BC > 10 dB better than AC	Mixed
Hearing loss by AC and Normal BC > 10 dB better than AC	Conductive (CHL)

RANGE	CLASSIFICATION
0 dB HL	Normal ears can hear all frequencies
0-20 dB HL	Normal range
21-40 dB HL	Mild loss
41-55 dB HL	Moderate loss
56-70 dB HL	Moderately severe loss
71-90 dB HL	Severe loss
91 dB HL +	Profound loss

MOST COMFORTABLE LOUDNESS (MCL) TESTING

PURPOSE OF TEST

1. To provide an indication as to where patient finds speech most comfortable in volume for listening
2. To provide an indication as to whether the patient has a problem with tolerance to loud sounds
3. Assists in determining how much gain is needed for an appropriate hearing aid selection

UNCOMFORTABLE LOUDNESS LEVEL (UCL) TESTING

PURPOSE OF TEST

1. To determine the loudest level at which patient can tolerate sound
2. To assist in determining the maximum output (MPO) of the hearing aid selection

SPEECH TESTING

PURPOSE OF TEST

1. Determine ability to discriminate between speech sounds, when speech is made loud enough
2. Determine if the patient may have a retrocochlear pathology
3. Assess possible benefit from amplification

INTERPRETATION

- Scores for WRS are reported in a percentage. Each response is valued at 4%
(Start at 100, subtract 4 for each incorrect response to derive percentage)
- Scores can vary widely regardless of pure tone thresholds
- If there is a difference in percentage between the ears, evaluate to determine if an asymmetry is present (≥16% difference between the ears designates an asymmetry)

90-100%	Excellent or Normal
75-89%	Good
60-74%	Fair
50-59%	Poor
Below 50%	Very Poor