

# All About Hearing

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# I. How do we hear?

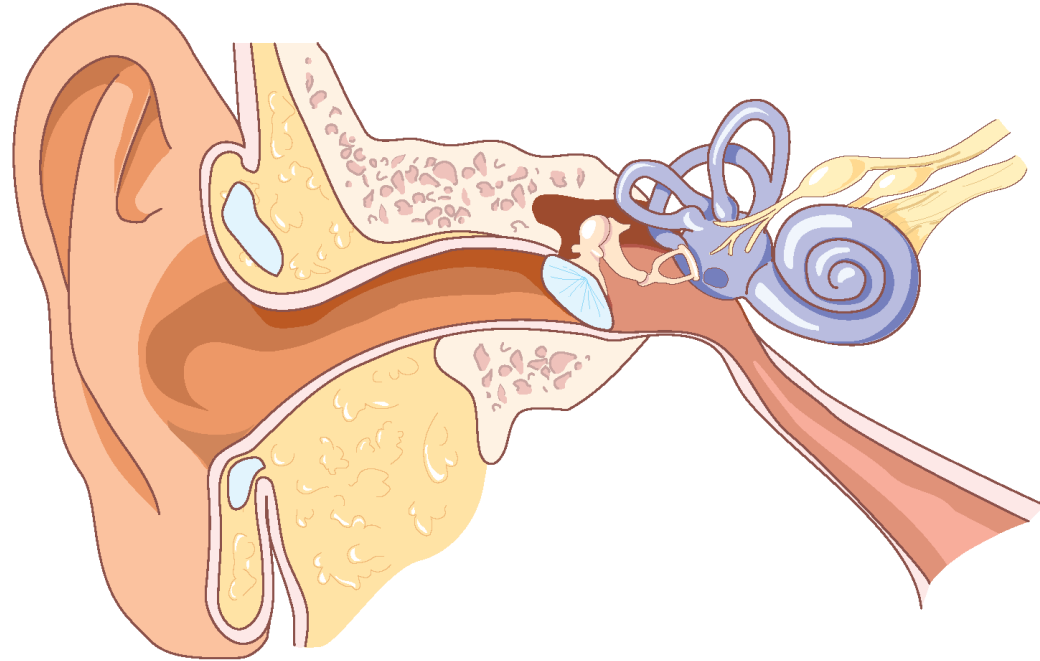


# 1) The Ear

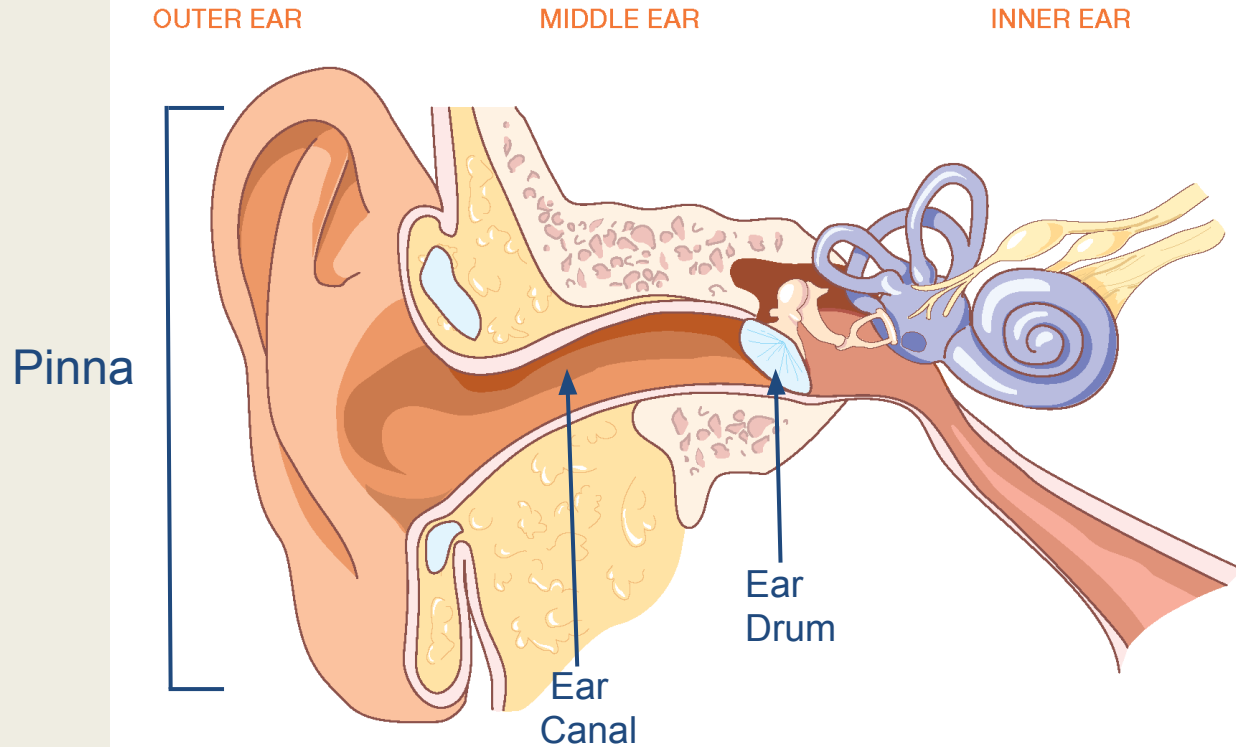
OUTER EAR

MIDDLE EAR

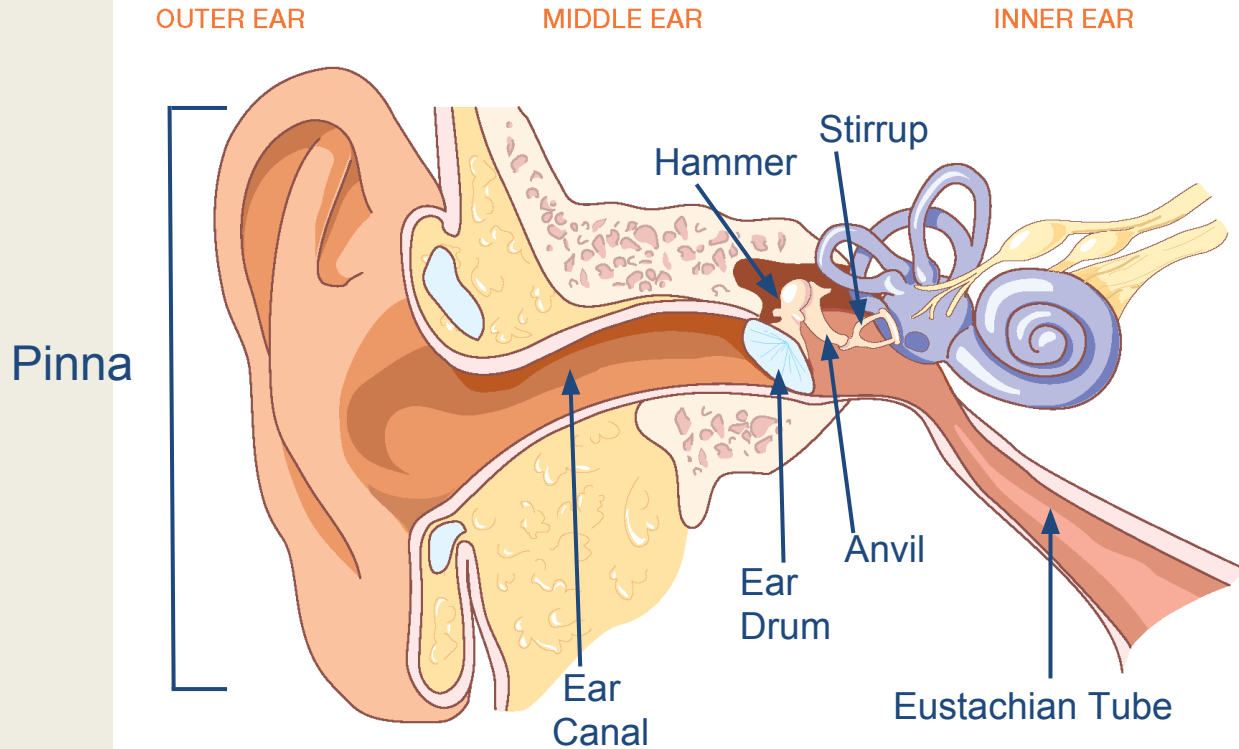
INNER EAR



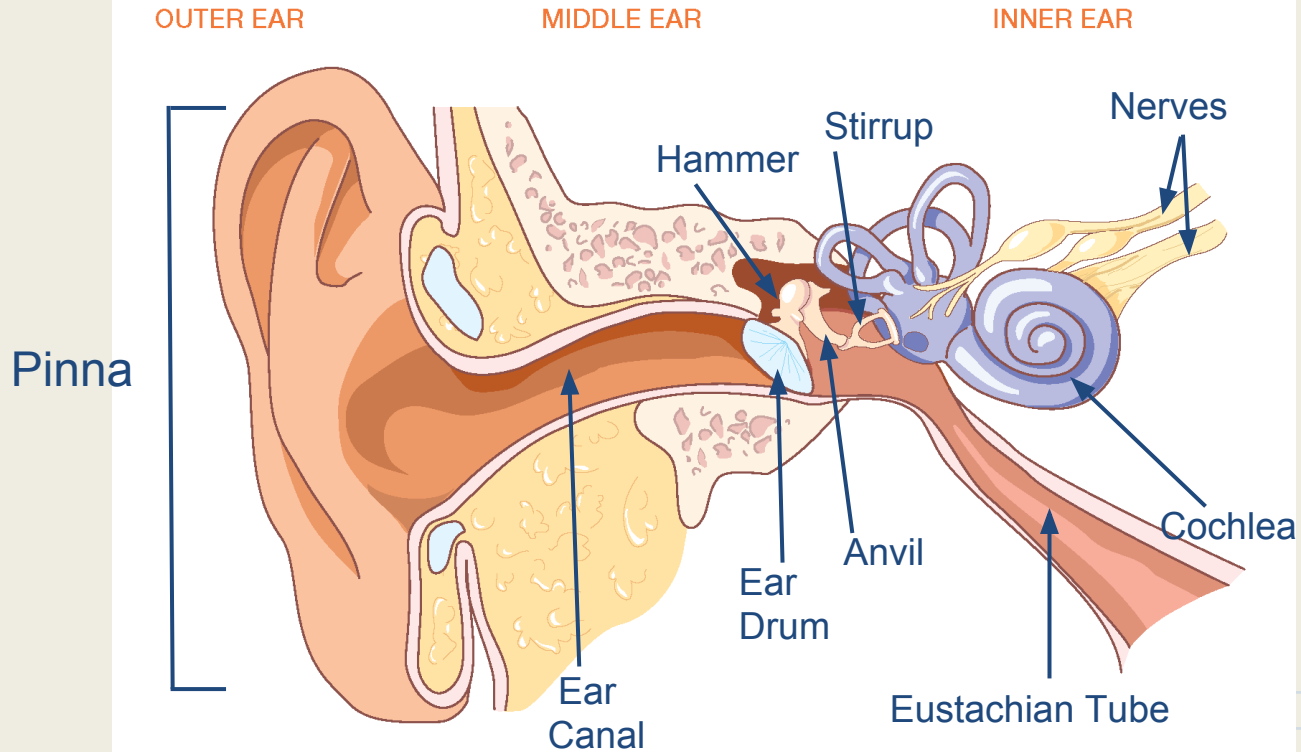
# 1) The Ear



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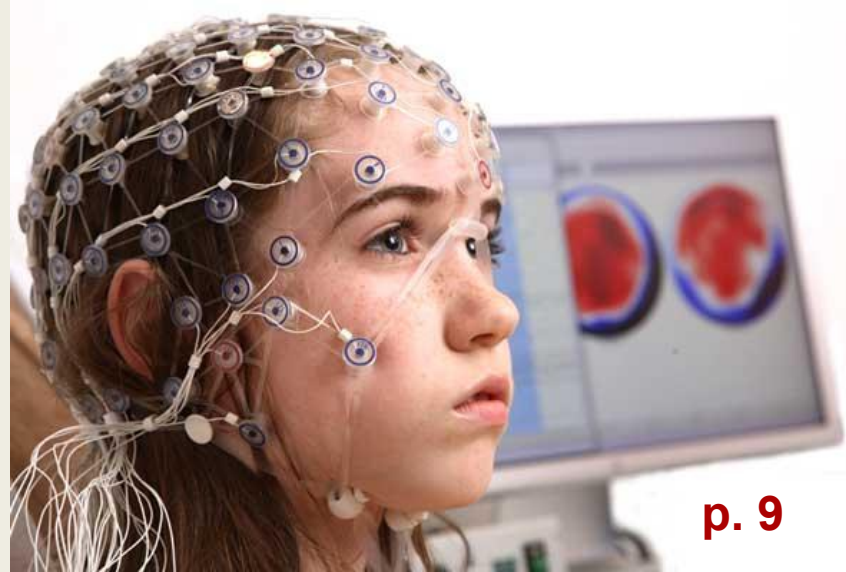
## II. How Does Sound affect the Brain?

- 1) Four Categories of Wave Patterns
- 2) Benefits of listening to Music



# 1) Four Categories of Wave Patterns

An **Electroencephalography (EEG)** detects the **electrical activity** along the scalp.



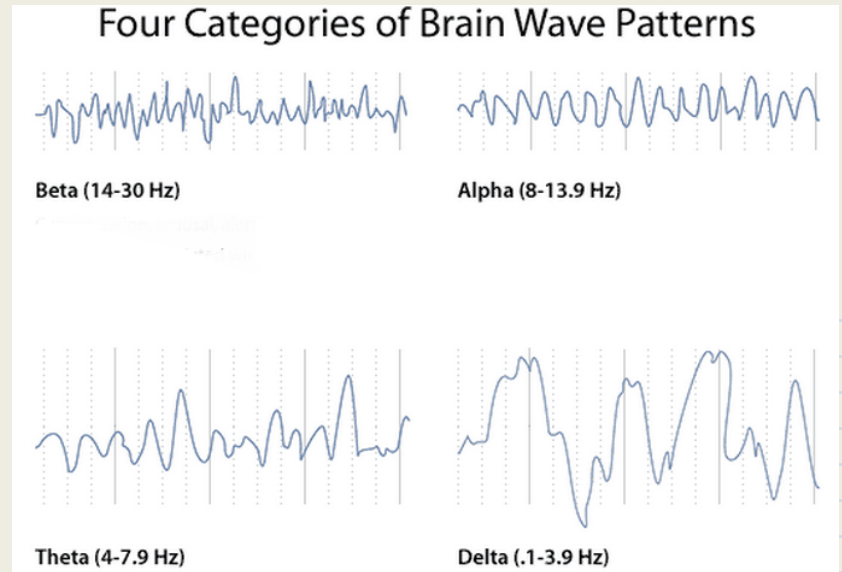
# 1) Four Categories of Wave Patterns

**Beta** (14-30 Hz) → Concentration, alertness

**Alpha** (8-13.9 Hz) → “In the zone”, relaxed focus

**Theta** (4-7.9 Hz) → Dreaming sleep

**Delta** (0.1-3.9 Hz) → Dreamless sleep

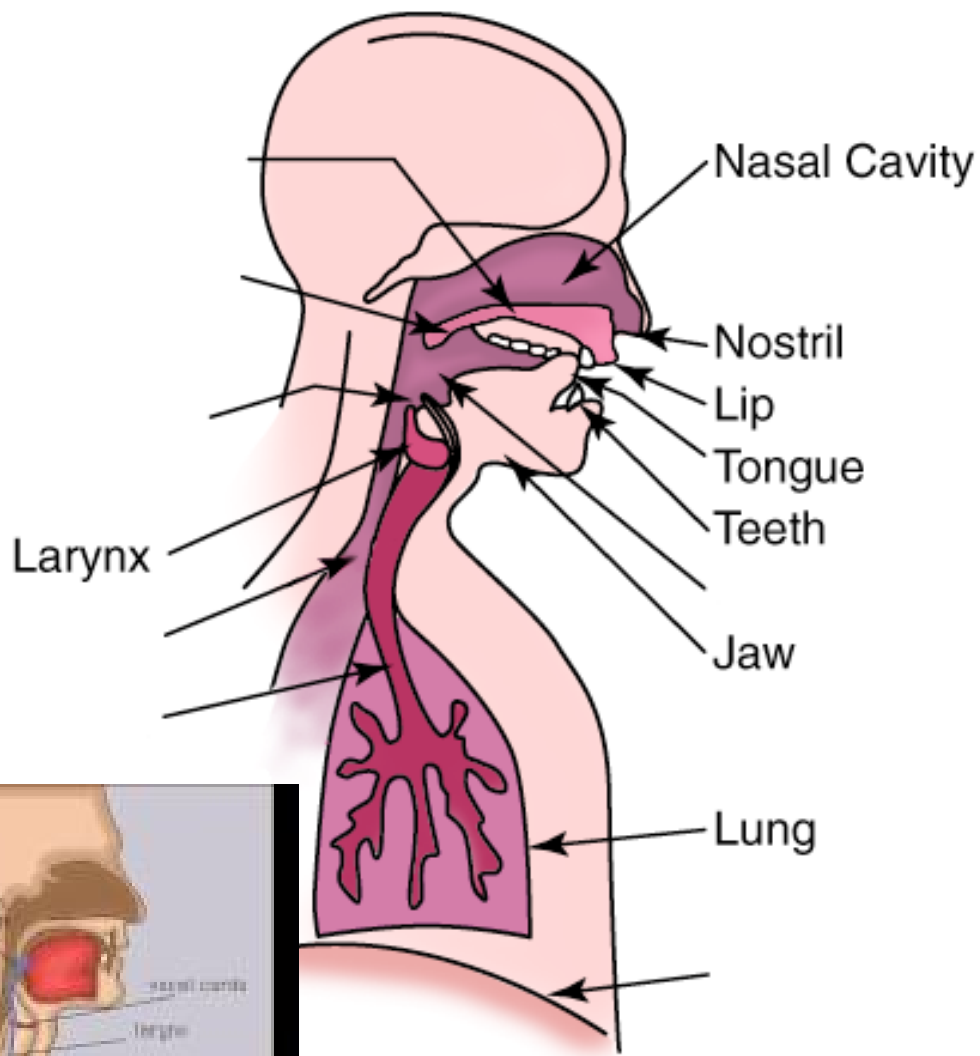


## 2) Benefits of listening to music:

- 1) Motivation during Workouts
- 2) Aid with Pain Management
- 3) Enhancement of Brain Function
- 4) “The Mozart Effect”
- 5) Inducement of Sleep

# III. The Human Voice

- 1) The Mechanism
- 2) The Uniqueness of Your Voice



## 1) The Mechanism

1. The Lungs → produce airflow

2. The Vocal Folds within the Larynx



chop up the airflow

3. The Articulators (Tongue, Palate, Cheeks, Lips)



articulate and filter the sound

1) Mechanism

## 2) The Uniqueness Of Your Voice

The sound of your voice depends on:

- 1) Your Vocal Cords
- 2) Size and Shape of Your Vocal Tract
- 3) The Way You articulate Your Sounds

