Specialist Certification in Lip-reading and Communication Studies

Technology and Assistive Devices for Hearing Impairment

Technology and Assistive Devices for Hearing Impairment Glossary

Audiogram: A graph that shows the results of a hearing test by plotting the softest sounds a person can hear at different frequencies. It helps audiologists determine the type and degree of hearing loss.

Audiologist: A healthcare professional trained to diagnose, treat, and manage hearing and balance disorders. They can recommend and fit hearing aids and assistive listening devices.

Auditory Neuropathy Spectrum Disorder (ANSD): A hearing disorder where sound enters the ear normally but the transmission of signals from the inner ear to the brain is impaired. It can affect speech perception and understanding.

Auditory Processing Disorder (APD): A condition where the brain has difficulty processing sounds, especially speech. It can affect a person's ability to understand speech in noisy environments.

Assistive Listening Devices (ALDs): Devices that help people with hearing loss communicate more effectively in various listening situations. ALDs can include FM systems, personal amplifiers, and captioned telephones.

Bluetooth Hearing Aids: Hearing aids that use Bluetooth technology to connect wirelessly to devices such as smartphones, TVs, and computers. This allows for direct streaming of audio to the hearing aids.

Cochlear Implant: A surgically implanted device that bypasses damaged parts of the inner ear and directly stimulates the auditory nerve. It can provide a sense of sound to individuals with severe to profound hearing loss.

Decibel (dB): A unit of measurement used to quantify the intensity or loudness of sound. It is a logarithmic scale where an increase of 10 dB represents a tenfold increase in sound intensity.

Digital Hearing Aids: Hearing aids that convert sound waves into digital signals for processing. They offer advanced features such as noise reduction, feedback cancellation, and multiple program settings.

Frequency: The number of sound waves per second, measured in Hertz (Hz). Higher frequencies correspond to higher-pitched sounds, while lower frequencies correspond to lower-pitched sounds.

Hearing Aid: A small electronic device worn in or behind the ear that amplifies sound for individuals with hearing loss. Hearing aids can be customized to fit the wearer's hearing needs.

Hearing Loss: A partial or total inability to hear sounds. It can be categorized as conductive, sensorineural, or mixed, depending on the affected part of the auditory system.

Hearing Loop System: An assistive listening system that uses electromagnetic signals to transmit audio directly to hearing aids with telecoil (T-coil) technology. It improves speech clarity in public venues.

Hertz (Hz): The unit of measurement for frequency, representing the number of cycles or vibrations per second. Human hearing typically ranges from 20 Hz to 20,000 Hz.

Induction Loop: A type of hearing loop system that uses a wire loop to generate a magnetic field. It is commonly installed in public spaces like theaters and churches for individuals with hearing aids.

Lip-reading: A technique of understanding speech by watching the movements of the lips, face, and tongue. It can supplement auditory information for individuals with hearing loss.

Microphone: A device that converts sound waves into electrical signals. It is used in hearing aids, assistive listening devices, and communication systems to pick up and amplify sound.

Noise Reduction: A feature in hearing aids that reduces background noise to improve speech clarity. It helps individuals focus on the sounds they want to hear while minimizing distractions.

Otologist: A medical doctor specializing in the diagnosis and treatment of ear diseases. They can perform surgeries such as cochlear implantation and bone conduction implants.

Ototoxicity: The potential of certain medications or chemicals to damage the inner ear and cause hearing loss or balance problems. Examples include some antibiotics and chemotherapy drugs.

Personal Sound Amplification Product (PSAP): An over-the-counter device that amplifies environmental sounds for individuals with mild hearing loss. PSAPs are not customized like hearing aids and may lack advanced features.

Real Ear Measurement: A procedure used to verify the accuracy of hearing aid settings by measuring the sound output in the ear canal. It ensures that the hearing aids are programmed correctly for the individual.

Sign Language: A visual-gestural language used by Deaf individuals for communication. American Sign Language (ASL) and British Sign Language (BSL) are examples of distinct sign languages.

Telecoil (T-coil): A small coil of wire in hearing aids that can pick up electromagnetic signals from hearing loop systems. It allows wearers to directly receive audio signals without background noise.

Tinnitus: A condition characterized by ringing, buzzing, or other sounds in the ears without an external source. It can be a symptom of hearing loss, exposure to loud noise, or underlying health issues.

Universal Design: Design principles that aim to create products and environments accessible to people of all ages and abilities, including those with disabilities. It promotes inclusivity and equal access.

Video Relay Service (VRS): A communication service that allows Deaf and hard-of-hearing individuals to make phone calls through sign language interpreters. It uses video calls for real-time interpretation.

Voice-to-Text Apps: Applications that convert spoken language into written text in real time. They can help

individuals with hearing loss follow conversations, lectures, or phone calls more easily.

Wireless Streaming: The technology that enables audio to be transmitted wirelessly from one device to another. It is used in hearing aids to connect to smartphones, TVs, and other audio sources.