



Reasons for a Remote Mic

Helping a Child Listen in Noise and Distance



Speech is developed best through listening. A child using hearing aids or implants relies on those devices to hear spoken language. Listening with a device can be difficult in noise, at a distance, and with reverberation (echoes). To improve listening in varied situations a remote microphone (mic) system is recommended for a child with hearing aids or implants. A remote mic helps with sound localization and listening to provide clearer access to speech.

Remote mics, also called wireless systems, deliver speech at a consistent level directly to hearing aids and implants. By reducing background noise they make the voice of a person using the mic seem closer and louder. A child then hears speech as if the person talking is just a few inches away. This improved clarity promotes a child's ability to disregard noise, feel less stress when listening, pay more attention and increase his spoken interactions.

Early use of wireless systems is encouraged. Parents can ask their audiology team at any time about helping their child's listening by using a remote mic. Sometimes a remote mic is included with a child's first implant. Audiologists order, set up and demonstrate wireless systems. Families learn how to check and trouble-shoot the systems.

Remote mics can be used to assist children at any age including:

Infants/ toddlers: listening to caregivers talk from varied distances

Preschoolers: hearing spoken language in noisy daily routines

School students: responding to teachers' directions and instruction

Remote microphone systems include FMs (frequency modulation), DMs (digital modulation) and sound fields or audio distribution. They vary in size, style, accessories, price and name. Combinations of equipment might be suggested to meet the listening needs of a child at different ages and in diverse settings. Personal wireless systems have a mic for the individual talking, typically a parent or teacher. The mic is worn or positioned close to the speaker's mouth. To get a mic's signal a child has a small receiver usually attached to hearing aids or implants.

Sound field systems include a mic and speakers placed around a classroom for listeners to better hear the teacher or multi-media. Pass-around mics are used by group participants when they take turns talking so listeners can hear each person. The mic signal can go directly to the receivers on the hearing aids or implants of one or a few listeners. Another arrangement would be for the mic signal to be connected to a loudspeaker in the room for all to hear.

Remote mics can be used in multiple situations including:

With family: at home, typical tasks (dishes, laundry) playing outside, parks, restaurants (e.g. caregiver wears a mic to talk from the front to back of a car, or pushing a child in a stroller)

At school: teacher-led activities, lectures, small group discussion, sports, social events (e.g. staff use a mic to guide a child 's group work when multiple activities are occurring nearby)

For media: phones, movies, computers, music, players, school assemblies (e.g. mics can be set to stream media sound directly to a child's hearing aids or implants)

There are often noise and distance challenges to listening in classrooms. Families can emphasize why a child needs a remote mic at school. Parents can explain that speech (called "signal") should be 20dB louder than the background (called "noise") for a child with hearing loss to listen well. A remote mic increases the signal to noise ratio (SNR) for a child to better hear and understand what a teacher says. The mic improves access for spoken language learning.

Families can partner with early childhood services, schools (from early to high grades) and other programs to create a remote mic plan for their child. Parents can check often with staff and the child to ensure a mic is used consistently and correctly. A young child can be encouraged to let others know when it is difficult to hear. Gradually he can recognize reasons for using a remote mic. As a child's listening gets stronger so will his advocacy for communication.