

## FM systems...a little tech that's a big help

### Using an FM for your preschooler with hearing loss

Families with children using hearing aids and cochlear implants are continually looking for ways to help them hear as effortlessly as possible. An FM (frequency modulation) system is a wireless portable system that offers the extra advantage of hearing speech slightly louder than other sounds. In noisy situations or when there is distance between the child and the speaker, an FM makes listening easier. FMs are used by many preschoolers with hearing loss at home and school. Both children and parents find it helpful!

An FM system consists of a small removable attachment on a hearing aid or cochlear implant processor and a lightweight microphone held or worn by one adult speaker, usually a teacher or parent. The FM makes the speaker's voice seem as if it were directly at the child's ear. Parents can ask their audiologist or therapist about an FM for their preschooler, when it would be most helpful and what settings to use.

FMs are often introduced when a child has adjusted to wearing his personal listening device (hearing aid or cochlear implant) and can report what he hears. When considering an FM, parents should ask: Can and will my preschooler tell if his FM is not working? Does he have the language to explain when he is not hearing well? Is it possible to do the Ling Six Sound Test to check that my child understands speech through the FM?

Using FMs are not usually suggested for babies. Children under two years with hearing aids or implants are beginning to learn how to listen. In those early years parents can enhance communication with their babies by holding them, sitting close to them, getting on their level and reducing background noise such as TVs. FMs can be introduced after a child has experience using a listening device, responding to adults and conversing together.

Hearing aids can be monitored with the FM system by listening through the earmolds. Some cochlear implants have monitor earphones to check sounds coming through the FM, but not what a child hears after the sound is transmitted through his implant. Children need to be able to let adults know if the FM system is providing distorted sounds or no sound. Although the parent, therapist or teacher will check the FM



before putting it on the preschooler, cords can become twisted resulting in static, or an article of clothing or jewelry might rub against the microphone providing unwanted noise.

There are many opportunities to use an FM system at home. The FM can be worn regularly throughout the day when conversations are occurring between the parent and child. Playing, reading, eating, doing household tasks and any shared activity can include using the FM. Preschoolers can wear FMs during any typical routine except bathing. When watching TV or videos, the FM mic could be placed near the equipment speaker. Even if the house is quiet, an FM may provide maximum hearing ability.

The FM should be turned off if a child leaves the room or the topic being discussed is not appropriate for him. Whenever the adult begins a private conversation, the mic can be muted. FM use should be limited during group play, social gatherings and other times when the child is primarily interacting with many others.

Being outdoors with an adult is another listening opportunity when an FM can be used. While going to the store, taking a walk or visiting a special place, an FM system can keep a preschooler aware of a parent's or teacher's voice as they explore together. The FM system may add to the child's ability to listen to new sounds or the adult conversing with him.

Many families find that an FM system is helpful in the car. Auto sounds can be loud and there can be multiple conversations or audio players within the vehicle. The child and the adult are usually in different seats which can make hearing more difficult. By using an FM the parent and preschooler can sing songs together, play word games, or chat.

Often families want an FM system in school so their child to hear the teacher better. It requires no installation, can be used in different rooms and worn by varied staff throughout the day. Training done by a parent or service provider can help staff learn how to use the system and check it daily. Teachers should turn off the FM microphone during play time, nap time or when they are not directly with the preschooler. Sometimes FMs used in the educational setting are provided by the school. Families can ask in their child's educational planning meetings about technology support including FM systems and explore with staff the options for funding.

Together the parent, child and teacher can decide when the FM system assists most with listening. A child's learning needs and preferences change from year to year. A preschooler who wears an FM may later

prefer to reduce when he wears it or stop using it. How well a child understands speech in noise and the importance of other voices and sounds in the classroom would be major considerations. Hearing is easiest when a child is closest to the speaker with no background noise and an FM makes that possible.

Preschoolers with hearing loss need many listening experiences. Giving a child full access to communication can be done in many ways. An FM is just one consideration to provide a child with enhanced listening opportunities particularly in noisy settings. An FM is a little technology that can be a big help. The preschooler's development of auditory skills and enjoyment of communication are the goals!

To learn more about FM technology see links:

<http://www.babyhearing.org/HearingAmplification/AidChoices/FMSystem.asp>

<http://www.raisingdeafkids.org/help/tech/ald/>