Exploring the Possibilities

Decisions. Selections. Choices. Options…. When you discover that your child is deaf or hard of hearing, you are almost instantly faced with all of these. Decisions about evaluation procedures, selections of hearing instruments, choices about therapies or providers, communication options. All of this can feel utterly overwhelming.

In this section we have chosen to call them *possibilities*. That is what they are. Possibilities are achievable. The ***Exploring the Possibilities*** section, was created to help you better understand the possibilities that exist so that you can feel comfortable about the decisions ahead of you. You will find information about the many different parts of communication. After you have a better sense of the building blocks that make up communication it will be possible to combine them in just about any way to build a communication system that works for your child and family.

You will also find information about the possibilities that exist within amplification systems such as hearing instruments, cochlear implants, and assistive listening devices. Information is knowledge and knowledge is power. Once you learn what possibilities are out there you will have the ability to make decisions for your child and the power to alter those decisions if they are not resulting in positive outcomes.

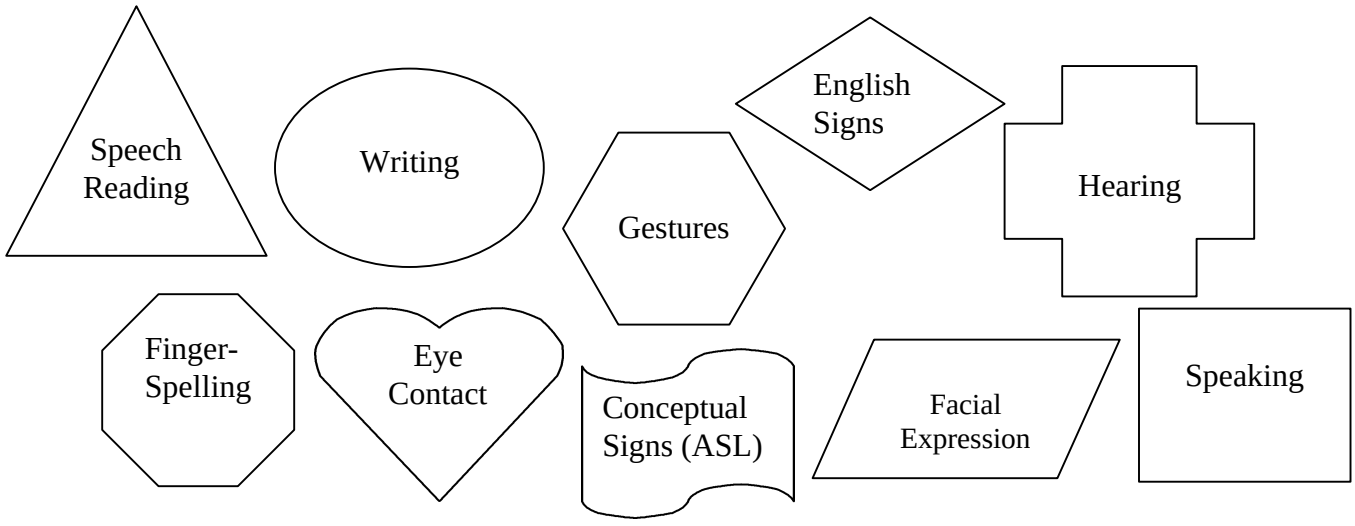
The Exploring the Possibilities section is a place to discover ways to foster a supportive, predictable and responsive world for your child who is deaf or hard of hearing. You will foster your baby's understanding of the world around him and be his guide in finding the best ways for him to tell others his needs and thoughts. Your child will develop new and creative ways to interact with others and the world around him. The information provided in this section will help you to gather information about and understand many of the ways you and your child can be successful.

Building Blocks for Communication

Most people think of communication as people talking to one another. However, communication is much more than just talking. It is made up of many different parts, working together. The "verbal part" of communication is talking, or speech, and language. Yet communication never occurs without the "non-verbal parts." Those non-verbal parts include eye contact, gestures, head and body movement and facial expression. The non-verbal part can also include language in the form of sign language. You simply cannot have one without the other. If you don't believe it, try to tell someone a story while sitting on your hands, and looking away from them, and using no facial expressions. I bet you will find it nearly impossible.

When you are the parent of a deaf or hard of hearing child, you are almost immediately asked to make decisions about communication. This usually means trying to learn about the variety of options that are available. There are many different communication possibilities. In this section of the notebook we will explore the six most common communication methods; American Sign Language, Auditory-Oral, Auditory-Verbal, Cued Speech and Manually Coded English Systems.

However, before the methods are defined, it is important for you to understand the different components, or building blocks, that make up communication. The building blocks are pictured below. As you look at the pictures, you may want to think about which building blocks are especially important to you and your family. This may help you think about the communication method that will best suite the needs of your family.



KEY

Hearing – Use of hearing aids or cochlear implants to maximize your child's ability to hear.

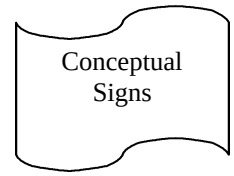
Speaking – Use of your child's voice to express thoughts, ideas, and opinions.

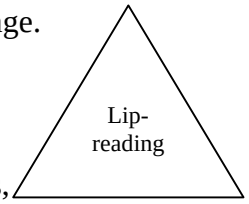
Lip-reading – Your child will watch the speaker's face and lips for cues about what is being said.

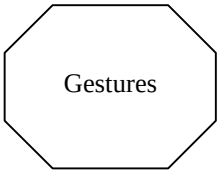
Gestures – Movements made by the speaker or listener such as pointing, nodding, etc.

The following boxes include a description of each communication method, the building blocks that are emphasized, the focus or goal of each method and a bit about parent involvement.

American Sign Language (ASL)







Description

ASL is the visual language of many deaf persons in the United States and Canada, those who are part of the Deaf community. It is a distinct language with its own grammar and word order. Fluency in ASL will allow your child full access to the Deaf community. English is often learned as a second language.

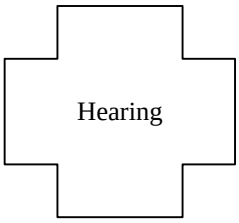
Goal

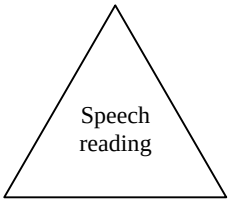
To teach your child to learn a language that utilizes their visual abilities. Your child will learn to communicate fully through the use of their eyes, hands, facial expressions and body movements.

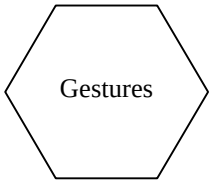
Parent Involvement

You will also need to learn ASL in order to fully communicate with your child. Opportunities to learn ASL are available through books, videos and interactive ASL classes, the statewide Deaf Mentor Program, and through meeting other deaf people. See the resources section in this notebook to locate learning opportunities in your area. Through these experiences, parents may learn more about deaf culture and deaf community resources.

Auditory – Oral







Description

Your child will be taught to make the most of what hearing they have through the use of amplification (hearing aids, cochlear implants, FM system). The child's listening skills are encouraged through auditory training with a therapist or early interventionist. Lip-reading is used to aid the child's communication, and while sign language is not encouraged, natural gestures such as facial expressions, hand gestures and body language may be used to support the child's communication.

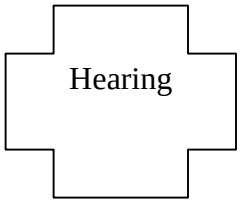
Goal

To teach your child to develop speech and oral communication, through early, consistent and successful use of an amplification system.

Parent Involvement

You will need to work closely with the child's therapist or early Interventionist to apply training activities in the home and to enhance your child's oral learning environment.

Auditory – Verbal



Description

Your child will be taught to make the most of their hearing through the use of amplification (hearing aids, cochlear implants, FM system). The child's listening skills are encouraged through intense, one-on-one auditory training, sometimes with a specially trained Auditory Verbal Integration (AVI) therapist. Sign language is not used and visual cues are strongly discouraged.

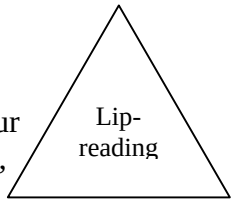
Goal

To teach your child to develop speech and oral communication, through early, consistent and successful use of an amplification system.

Parent Involvement

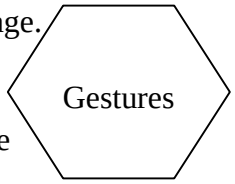
With the help of therapists, you will need to incorporate auditory-verbal training activities into your child's daily routine and play activities. It is important to provide a language rich environment and to make hearing a meaningful part of the child's experiences. You will also need to ensure full-time use of amplification.

Cued Speech



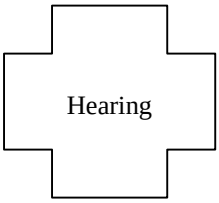
Description

This is a sound-based visual communication system that is made up of eight hand shapes in different positions, which represent groups of consonant sounds, and four positions about the face to represent vowel sounds. Combinations of hand shapes, positions, and locations give cues to the exact pronunciation of words that are mouthed. This system makes it possible for your child to "see" the spoken language.



Goal

Your child will learn to speak through the use of amplification, lip-reading and the cues from the hand shape system.



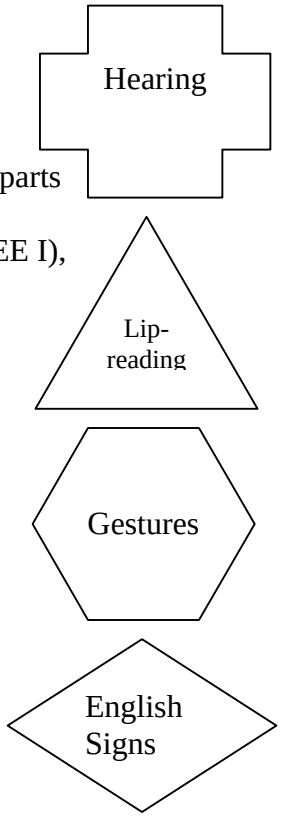
Parent Involvement

You will use hand shape cues when you communicate with your child. Cued speech can be learned through intensive classes taught by trained teachers or therapists. Just like any manual communication system, it takes time and dedication to learn the cues and become proficient in their use.

Manually Coded English Systems

Description

There are several signed systems, which modify the signs used in ASL with to represent English grammar and word order. These sign systems are not languages but are visual representations of English. The signs are used to support spoken English or to convey tenses, plurals, possessives, and other parts of the English language. Examples of manually coded sign systems are Signed English (a.k.a. Manually Coded English), Seeing Essential English (SEE I), and Signing Exact English (SEE II).



Goal

Your child will learn to use signs as words and learn to sign using the word order and grammar of English. Your child will learn to sign the little words used in English such as “a” and “the” and grammatical endings such as “-ing” and “-ed”.

Parent Involvement

You will also need to learn the signed system that you choose for your child and just like any manual communication system, it takes time and dedication to learn the system and become proficient at using it.

When you are “deciding on” a communication method, it is important to remember that no choice is permanent. If you choose an approach that focuses on one building block and it does not seem to be working for your child after several months of consistent effort, there is no reason that you cannot try a different approach. The important thing is to communicate in one way or another with your child.

About Fitting Hearing Aids for Infants and Young Children

Hearing loss can affect communication. Understanding hearing loss and the role hearing instruments play is helpful in making informed decisions. Fitting and selecting hearing instruments for your child can be an important, costly and confusing process. The following information may be helpful as you enter this phase with your child.

The Importance of Hearing Instruments

Children who have normal hearing begin using single words at about one year of age. In reality, a great deal of language is learned before children utter their first word. Hearing loss can disrupt language development because learning spoken language depends on the ability to hear speech.

The earlier that finding and addressing any hearing loss begins, the greater the possibility of developing listening abilities and using spoken language. The use of hearing instruments is an integral part of this process.

Audiologists usually recommend hearing instruments as soon as possible after a loss is identified. Ideally, an audiology facility that specializes in serving young children will have a cost-saving loaner hearing instrument program where a loaner hearing instrument can be selected immediately after a hearing loss is determined. As more complete information about a child's loss is obtained, a hearing instrument evaluation can be completed to recommend hearing instruments for purchase.

Tests necessary before Receiving Hearing Instruments

Before hearing instruments can be purchased, an audiologist must determine the degree of your child's hearing loss. This can be done using special test methods for infants, toddlers, and young children. These tests are described earlier in the ***Getting the Facts*** section of this notebook.

Selection and Evaluation of Hearing Instruments

After determining the degree of hearing loss and receiving medical clearance to use hearing instruments, the audiologist will begin the hearing instrument evaluation process. Audiologists may use one of several assessment methods when evaluating hearing instruments for children. Regardless of the technique used, the goal is to enable conversational speech to be heard at a comfortable level. These assessment methods may include:

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- **Probe-Tube Microphone Testing –** during probe-tube microphone testing, a tiny, soft microphone is placed in your baby's ear next to the earmold. The amplification provided by the hearing instrument is then measured while in the ear. The measured response is evaluated to estimate the instrumented benefit and adjustments are made to the hearing instrument as needed.
- **Real-Ear-to-Coupler-Difference (RECD) Measures** – in RECD testing a tiny, soft microphone is also placed in your baby's ear next to the earmold. The effect of your child's ear and earmold are measured without the hearing instrument. The hearing instrument is evaluated separately and its response added to the RECD measurement. This allows different hearing instruments and settings to be compared without having to test each one on the child.
- **Behavioral Testing** – When probe-tube measures cannot be completed, behavioral testing methods can be used to assess a child's performance with hearing instruments. The softest level at which a child responds to sound while wearing the hearing instrument is compared to the softest level of response without the hearing instrument to estimate instrumented benefit. This type of evaluation does not require the placement of measuring equipment on the child, but provides less comprehensive information.

Probe-tube microphone or RECD measurements are usually the methods of choice for fitting hearing instruments for children for several reasons. First they allow hearing instrument performance to be measured at typical speech levels so that performance in conversational situations can be predicted. Second, they allow direct measurement of the maximum level of sound provided by the hearing instrument to the child's ear. The hearing instrument can then be adjusted to a safe and comfortable level. Third, they provide more complete information and can be done quickly.

How are Hearing Aids Selected?

Just as hearing losses come in all shapes and sizes, there are many different types of hearing aids. Your audiologist will consider the following when selecting a hearing instrument for your child.

- **Gain-** The amount of amplification the hearing instrument provides. For example, a powerful hearing instrument would have high gain. Gain is usually expressed in decibels (dB).
- **Frequency Response-** The amount of gain a hearing instrument provides across a range of pitches. Gain is usually provided only pitches where hearing loss is present.
- **Saturation Sound Pressure Level (SSPL)-** The loudest sound the hearing instrument can produce, regardless of the volume of the incoming sound or the amount of gain. The hearing instrument should be set so that it never becomes uncomfortably loud or potentially damaging to the ear.

The audiologist will also discuss other important characteristics, including flexibility in adjusting frequency response, gain and saturation response. This flexibility is useful as additional information about the hearing loss is obtained or in cases where hearing changes.

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The compatibility of a hearing instrument with assistive devices is also considered, because many children with hearing loss use additional amplification devices, such as Frequency Modulated (FM) Systems (to learn more about FM Systems go to the ***Looking Ahead*** section of this notebook).

Characteristics You will Considered when Choosing Hearing Instruments

The audiologist will look at the specific characteristics of the hearing instruments to determine what specifications will work the best to help your child hear. However, there are many decisions that you will have to make as well. You will want to consider the following when selecting a hearing instrument for your child;

- **Style –** Hearing aids come in many different styles, which differ mostly in size. This is not a major consideration for very young children as they are almost always fit with the Behind-the-ear (BTE) style hearing aids.
- **Electronic Circuitry –** Circuitry refers to the technology of the electrical components inside the hearing instrument. Hearing instruments may contain one of three kinds of circuitry; nonprogrammable analog hearing aids, programmable analog hearing aids, or programmable digital hearing aids.
- **Additional Features –** Hearing instruments may or may not include features such as Telecoils, directional or multiple microphones, multi-memory ability.
- **Cost –** Hearing instruments vary greatly in price. The price of the instrument will be determined primarily by which of the above characteristics you decide on. Some insurance plans cover some types of hearing instruments or a portion of the cost. Check with your insurance provider before selecting a hearing instrument for your child. Financial assistance may also be available. See ***the Supporting your Family*** section for more details.

Why are BTE hearing instruments the primary choice for young children?

Safety is the overriding reason for fitting the BTE style-hearing instrument on young children. They are larger than many other styles and therefore do not pose as great of a choking risk. They also come equipped with many safety features that are often not readily available on other types of hearing instruments such as volume-control covers and tamper-resistant battery compartments. BTE's also tend to require fewer repairs, and are more compatible with assistive listening devices than other styles of hearing instruments.

What is the Difference Between the Types of Circuitry?

When choosing the hearing aid that you will purchase for your child, circuitry can become an important part of the decision. This consideration may have the greatest effect on the quality of sound, the flexibility of the instrument and the cost of the hearing instrument. It can also be the most difficult to understand. Be sure to talk with your child's audiologist if you need additional explanation.

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- Non-programmable analog hearing aids- are also known as conventional hearing aids. This circuitry is "hard-wired" which means that they are set up to amplify certain sounds a certain amount. If the user is unhappy with the amount or quality of the sound, there is very little that the audiologist can do to adjust it. They typically add the same amount of amplification to all levels of sound intensity. Therefore, low bass sounds will be amplified with the same amount of volume as high treble sounds. Some people find that conventional hearings aids provide either too little sound or too much sound to comfortably reach a listening level for the particular hearing loss, especially if they have a loss in the high pitches. Non-programmable analog hearing instruments represent the most basic type of amplification and are a good choice when finances are the major concern.
- Programmable analog hearing aids - contain a computer chip, which can be programmed by the hearing specialist using a computer. This offers a better way to accommodate a given patient's listening needs because it allows the greatest flexibility and most fine-tuning capability. Programmable hearing instruments often contain options that are not available in conventional hearing aids. The major advantage of this type of hearing aid is flexibility. The sounds that are amplified and the levels at which they are amplified can be easily adjusted. This can be very helpful for young children as more information is discovered about their hearing loss or if they have fluctuating hearing.
- Programmable digital hearing aids - These hearing aids convert the sound to a digital (numeric) signal. The numbers are then adjusted based on the individual needs of the user's hearing loss, listening needs and characteristics of the incoming sound. Advancements in hearing aids that process sound digitally offer the potential for dramatic improvements in sound quality and ease of use. Many individuals compare the difference in sound quality to that of audiotape vs. a Compact Disc (CD). Some users of digital hearing aids report a more natural and comfortable sound. They often offer automatic adjustment for loud or soft sounds without having to use a volume control. This is especially nice for young children, as they cannot adjust their own aids. As with programmable analog hearing aids, a range of features are available, such as directional or multiple microphones, and single or multiple programs.

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What is a Cochlear Implant?

A cochlear implant is an electronic device designed to provide enhanced sound detection and the potential for greater speech understanding to children with severe to profound hearing loss who obtain negligible benefit from hearing aids. Unlike hearing aids that deliver amplified sounds to the ear cochlear implants bypass the damaged parts of the ear and send electrical signals directly to the hearing nerve (auditory nerve), which relays this information to the part of the brain that is responsible for hearing. Cochlear implants have been approved for use in children since June 1990. Currently, approximately 7,000 children in the United States have been implanted.

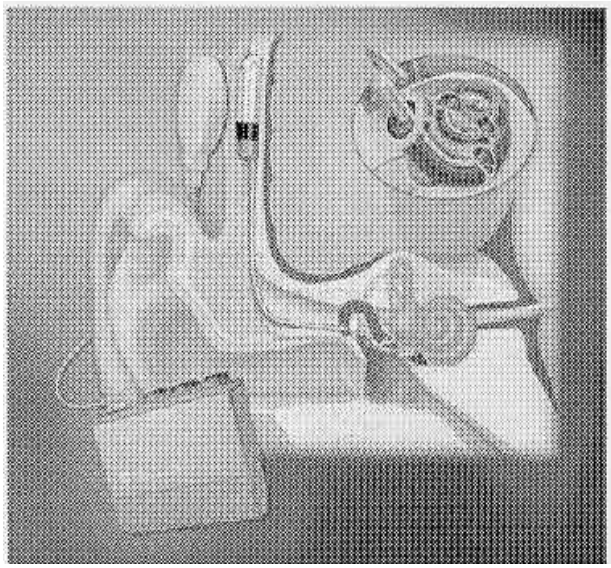
HOW DO COCHLEAR IMPLANTS WORK?

A cochlear implant converts speech, music, and environmental sounds into electrical signals and sends these signals to the hearing nerve, where the signals are interpreted as sound by the brain. A cochlear implant works in this way:

1. Sound (signals) are received by the microphone.
2. Electrical pulses that represent the energy contained in sound signals are sent from the microphone to the speech processor.
3. The speech processor selects and codes the most useful portions of the sound signals.
4. Code is sent to the transmitter.
5. Transmitter sends code across skin to receiver/stimulator
6. Receiver/stimulator converts code to electrical signals.
7. Electrical signals are sent to electrode array in the cochlea to stimulate hearing nerve fibers.
8. Signals are recognized as sounds by the brain.

Three cochlear implant systems are currently approved for sale by the Food and Drug Administration (FDA) in the United States. All cochlear Implant systems consist of internal and external components. The external components consist of:

- a microphone (to pick up the sound and transmit it to the speech processor),
- a speech processor (which selects and codes useful sound) and
- a transmitter with a magnet (which sends the code to the receiver).



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The transmitter is placed on top of the skin behind the ear. A cord connects the transmitter to the speech processor, which is worn in a pocket or clipped to a belt. Alternatively, users may select cochlear Implant systems in ear-level styles that look like behind-the-ear hearing aids.

The internal components consist of a receiver coil and electrode array. A small receiver coil with an enclosed magnet is surgically placed under the skin behind the ear and serves to convert the coded sound into electronic signals. Electrical contacts, in the form of an electrode array, are inserted into the Inner ear and stimulate the hearing nerve fibers to send these signals to the brain where they are recognized as sound.

Although implant systems differ in the number of channels, electrodes, and speech coding strategies, they have common features that allow electrical stimulation of the hearing nerve. Of these devices, research has consistently shown that multi-channel systems offer better speech recognition for the patient than do the earlier single-channel devices.

HOW DO I KNOW IF MY CHILD IS A CANDIDATE FOR A COCHLEAR IMPLANT?

Children who are candidates for a cochlear implant must:

- Have a profound sensorineural hearing loss in both ears.
- Receive little or no benefit from hearing aids (usually determined through a trial period of using two hearing aids) as indicated by whether age-appropriate communication skills are developing.

Be of an age that will allow the clinical team from an implant center to determine if preverbal behaviors or speech recognition abilities are developing through the use of using hearing aids.

- Have an intact auditory nerve as indicated by CT- or MRI-scans.
- Be healthy enough to tolerate surgery (typically an outpatient procedure).
- Have had active middle-ear disease (otitis) brought under control (if applicable).

Additionally, their families must possess a clear understanding of the benefits and limitations of a cochlear implant, and have the time to accommodate pre-implant evaluations and postoperative follow-up services. Children undergo audiological, medical, and psychological procedures to determine implant candidacy, and the time involved in completing these procedures varies with the age and abilities of the child.

Some centers require assurance from the family that the child's home and educational environment will rely on spoken language (an oral approach) to ensure the best possible outcomes from the implant.

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Most cochlear implant centers take a team approach to determining implant candidacy. In addition to the family, the following professionals are typically involved in the decision:

- Audiologist
- Surgeon
- Speech-language pathologist and/or therapist—to assess child's overall communication abilities
- Educator—to review child's abilities in the school setting
- Psychologist—to evaluate child's cognitive, social, and emotional development before, during, and after the procedure

A team approach enables the candidacy process to move forward more efficiently because it considers the whole child, and screens for any potential issues that might affect the child's ability to learn language with an implant.

HOW DO SELECT A COCHLEAR IMPLANT CENTER?

Cochlear implant manufacturers maintain a list of implant centers worldwide. To select the right center for you and your child, consider the following factors:

1. Is the center located close enough to your home so that you can accommodate frequent visits?
2. Who is on the implant team? Do they have experience with children?
3. How many cochlear implant surgeries has the center done? How many have been performed on children?
4. If you have used sign language with your child, is there someone at the implant center who can communicate with him or her?
5. What are the center's facilities for cochlear implant (re)habllitation? What is the team audiologist's experience with (re)habilitation?
6. Is the implant team sensitive and responsive to your questions? To your child's questions?

It is also recommended that parents talk with other parents of children who have been implanted at the center. Obtain parent referrals from the center so that you can hear others' experiences and ideas. Take advantage, also, of the center's in-house library. The team should be able to provide you with information, books, brochures, and videotapes about cochlear implants. Read, watch, and ask all you can.

WHAT DOES THE SURGERY INVOLVE?

Surgery

Cochlear implant surgery is typically performed under general anesthesia and lasts for approximately 2 1/2 hours. The procedure can be performed in either an inpatient or outpatient setting and carries the normal risks of major ear surgery requiring general

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anesthesia. The surgeon exposes the mastoid bone behind the ear canal and drills open a channel to the inner ear. The electrodes are threaded into the Inner ear and the receiver coil is placed in the bone behind the ear. The skin is closed over the receiver-stimulator. A pressure bandage is placed to reduce swelling around the incision. Most children go home the same day or spend no more than one night in the hospital.

Device Fitting

After four to six weeks to allow for healing around the surgical site, the process of "fitting" the external parts takes place. During the fitting session, the headpiece and microphone are placed over the implant. The speech processor is connected to the headpiece and the audiologists' computer. Measurements are used to program the speech processor for the individual child. The speech processor is disconnected from the audiologist's computer and rechargeable or disposable batteries are then inserted. The child can then take the implant system home. Device programming is performed more often during the first months of implant use with visits required on a less frequent basis thereafter.

Follow-Up Services

Once the speech processor is set, the child requires intensive auditory and speech training. Implanted children require this communication training to help them jumpstart their language and listening skills, which they were not able to fully develop prior to the implant. Long-term postoperative (re)habilitation should include training the focuses on communication behaviors, listening skills, speech production, and expanding a child's language repertoire. These services can be provided by staff at an implant center or at the child's school if that setting has qualified personnel. In addition, children should return to the implant center at least every six to twelve months for monitoring and program adjustments of the speech processor.

WHAT ARE THE POTENTIAL BENEFITS ASSOCIATED WITH COCHLEAR IMPLANTS?

Although there is a wide range of performance in children using cochlear implants, the benefits for most users include sound awareness, environmental sound recognition, enhanced lip-reading abilities, speech recognition (understanding the speech of others without lip-reading), and improved speech production. Today, advances in implant technology enable more children to maximize these benefits and develop spoken language skills.

Even though thousands of children have received cochlear implants, surgeons and audiologists are currently unable to predict before surgery the degree of benefit an individual child will receive from an implant. Factors affecting implant performance include:

- Age at implantation and whether the child has had some experience with effective hearing previously
- Postoperative (re)habilitation
- Primary mode of communication
- Educational setting

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- Length of implant use

Research suggests that implantation works best for children who are prelingually deaf and are implanted at the earliest possible age after performance limitations with hearing aids are determined. Of special importance when considering implantation is the critical period for speech and language development (0-6 years old). Before becoming a candidate for an implant, children must complete a six-month trial period with hearing aids to see whether or not this technology can provide them with satisfactory sound. Children may be considered candidates for an implant if the hearing aid trial period has failed to promote more age-appropriate listening and speaking.

Currently, the minimum age for implantation is eighteen months. However, the promising results demonstrated by children implanted at an early age has promoted the trend to lower the age of implantation, with some centers implanting under the age of twelve months. With a renewed focus on early identification of hearing loss, and the passing of early identification legislation at the federal level (the "Walsh Bill"), many more children will be identified with hearing loss soon after birth. It is likely, as a result, that as the age of identification decreases, so too will the age of implantation in an effort to tap natural language learning abilities that are maximal during a child's first six-year "critical period".

HOW MUCH DO COCHLEAR IMPLANTS COST?

Cochlear implants are covered benefits in most medical insurance policies and in most states' Medicaid plans. Currently, the cost for evaluation, implantation, and follow-up programs and (re)habilitation is approximately $40,000. Included in these costs are audiological testing, medical examinations, surgical fees, anesthesiologist, operating room and hospital charges, and follow-up programs. Auditory and speech training is sometimes not covered by medical insurance.

Follow-up care after the first year includes testing and monitoring and occasional reprogramming of the device. Like any child with a hearing loss, children with cochlear implants will need ongoing therapy to ensure maximum listening and speech skills.

WHAT TYPE OF SCHOOL IS BEST FOR MY CHILD WITH A COCHLEAR IMPLANT?

Making the decision regarding educational placement for a child with hearing loss is often confusing. For a child with a cochlear implant, the decision can impact his or her progress with the technology. Research has shown that for children to make significant progress learning to listen and speak with a cochlear implant, their homes and schools must be primarily auditory environments that provide lots of opportunities for children to listen and use their own voices.

In theory, children's special education services are supposed to be tailored to their needs. In practice, children are apt to receive a generic set of services based on their disability, rather

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For more information about Cochlear Implants go to www.agbell.org.

than on their individual strengths and weaknesses. As a result, parents must be aggressive in requesting accommodation for their child. However, unlike general education, special education allows parents to have some say in their child's educational programming and supplementary services. The foundation of your child's education is the Individualized Education Plan, known as the IEP An IEP is a legal, written plan that specifies special education and related services necessary to meet the individualized needs of a student with a disability.

After your child receives a cochlear implant, parents should revisit their children's IEP goals and determine whether these goals are still relevant, or should be modified to better address their children's needs. Questions to consider include:

- What are realistic language development goals for my child post-implant?
- What are realistic speech production and speech perception goals for my child post-implant?
- How does the school district plan to reach those goals? How will these goals be integrated with academic objectives?
- What responsibility does the school district take for cochlear implant (re)habilitation? What experience does the school have in this area?
- Will the school district provide auditory support or technology to assist my child in the classroom, such as personal FM system or FM sound-field system, if not already in use? If the school district pledges to provide support in this area, be sure to get its commitment in writing.

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Supporting Environmental Awareness in a Deaf or Hard of Hearing Child

For a young child who is deaf or hard of hearing it is very important to make sure that the environment in which they spend their time is friendly, accessible and predictable. Fostering a supportive and accessible environment will help even young babies become aware of their environment, connect visual or auditory signals with routines or important events and feel safe and secure in the place they live. Once a baby begins to understand their environment, they begin to understand how to interact with it. The following items will help your baby better understand the world around him. Many of the items are inexpensive. The state waiver that is included in this section can help with the expense of establishing a visually friendly home. See the Catalog section of the ***Supporting your Family*** section for places to purchase the equipment discussed below.

Doorbell Flashers and Telephone Visual Alert System

Picture this scenario: A young hard of hearing toddler is playing on the floor with his mother. They are playing with his cars and running them up and down a ramp and the child is very engaged. The doorbell rings and his mother gets up and goes into the other room to answer the door. The child looks up to find his mother gone. He is scared because he has no idea of where she went or why she left so suddenly. The young child with hearing loss does not have access to all of the clues in the environment around him that signal a hearing child that his mother just went to answer the door. He did not hear the doorbell or knock, the sound of his mother getting up off of the floor, of her footsteps, of the door unlocking, or of his mother talking to the neighbor.

A doorbell flasher can be a great way to help even a very young deaf or hard of hearing child gain the assurance that comes with knowing what will happen next. They may connect the flashing light to their mother going to answer the door or to the exciting anticipation of a new visitor.

Similar to the visual signal for the doorbell, the visual alert system for the telephone will help a child come to associate the visual stimulus with an action or response from the family. Families can also use the visual cues to call attention to sounds that the child may be able to hear with or without the use of other technology. This will help the child develop some awareness of the auditory signals as well.

Lighting

A child who is deaf or hard of hearing tends to be more visually aware of the surroundings and tends to depend much on visual information even if they have access to sound through the use of hearing aids or a cochlear implant. Therefore, it is important to be aware of the lighting in your baby's environment. A few examples of things to consider follow:

- Make sure that the child can see you when you are talking.
- Make sure that there is enough light on your face but not so much that there is a glare or that it is uncomfortable for you or the child.

- It is also good to be aware of backlighting which may cause a shadow on your face.
- You can also use lights to get you child's attention by flicking them on and off.

Alarm Systems

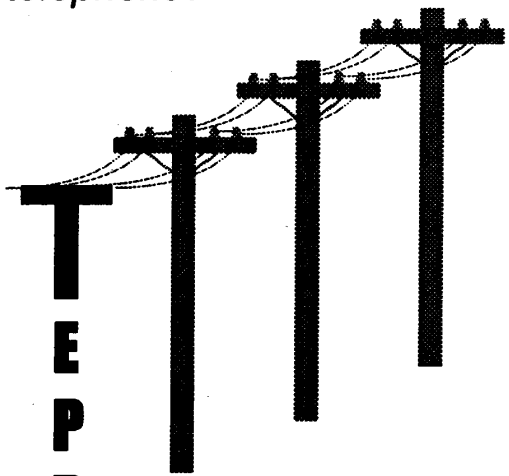
Visual Signals that accompany smoke and fire alarms are very important. Even with hearing aids, some children may not be able to hear these important sounds. In addition it may be important to alert children to certain events when they are not typically wearing their hearing aids (e.g., while asleep). You may purchase a smoke alarm that has a strobe light that flashes throughout your home and all hotels will have them for your room upon request. Older children need an awareness of these events as they start to stay home on their own and increase their independence. Devices are available to provide either visual or vibratory signals to the child who is deaf or hard of hearing.

Other examples of assistive technology and devices that many deaf and hard of hearing people use in their homes are listed below. You may want to include some of these in your home now or as your child grows.

- **Assistive Listening Devices (ALDs):** Enhanced audio quality and volume for listening to the TV, radio or at equipped movie theaters. These devices allow the volume to remain low for other family members.
- **Close Captioning:** Most TVs now have built-in captioning chips that display visual text known as captioning to show up on the TV screen. You may want to make this available to your child as early as possible.
- **Personal FM Systems:** Traditionally, FM systems have been used in educational settings to overcome the difficulties of listening in a noisy classroom setting. The teacher wears a small microphone and transmitter and the child wears a hearing aid and receiver. Sound is sent directly to the child via wireless FM transmission. These systems have been shown to improve communication in difficult listening environments.
- **Telephone Flasher**: A visual flashing system that signals that the phone is ringing throughout the home.
- **Telephone Ringers and/or Amplifiers:** Telephone amplifier devices may work with a person's hearing aid or independently from it. The amplifier may increases the volume of the person's voice on the other end by 20 to 50dB. Some telephones have adjustable controls that increase the volume of the ring or adjust the tone of a ringing telephone so that it can be heard more easily.
- **TTY:** A telecommunications device with a keyboard and display screen (also called a TDD).
- **Wake Up Alarm:** A clock that flashes a light, has an adjustable loud buzzer with tone control, or vibrates.

Two Wisconsin programs provide funding for the purchase of telecommunications devices. The **Telecommunications Equipment Purchase Program,** known as TEPP, gets its funding from all Wisconsin telephone service providers. There is a required $100 co-payment. Families and individuals that meet certain financial eligibility requirements can apply for a waiver of the $100 co-payment through the **Telecommunications Assistance Program**, or TAP, a state-funded program. Information about the TEPP Program and an application are included on the following pages.

Would some special equipment help you make better personal use of the telephone?



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The

Telecommunications Equipment Purchase Program

is the way to get what you need for a reasonable price!

PSC of W 07/1998

What is the Telecommunications Equipment Purchase Program (TEPP)?

The TEPP is to help people with disabilities buy equipment they need in order to use basic telephone services. The TEPP is one of several different programs paid for by the Wisconsin Universal Service Fund (USF) established by the Public Service Commission. Money collected from Wisconsin telephone service providers goes into the USF.

This sounds too good to be true! What's the catch?

There is NO CATCH, all you do is request the simple application form, fill it out and mail it in.

The few rules are that an applicant:

- Be a Wisconsin resident.
- Be a person who is deaf, hard of hearing, speech impaired, or mobility or motion impaired.
- Need special equipment to use the telephone in your home or when traveling (like a TTY, volume control, visual alert system, etc.).

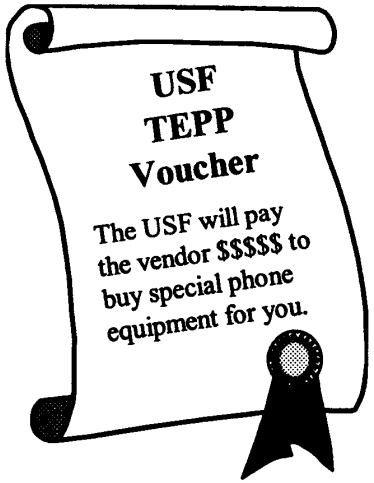
There's no age or income limit, but the same household can only get TEPP money once every three years for the same type of disability. (For example, just one voucher even if two or more deaf people is in the same household.)

How much will TEPP pay?

The amount depends on your disability. On the form, you check off which disability affects your telephone use. You will be mailed a voucher (like a check) for the amount you are qualified to get. These amounts were set based on the usual cost of the equipment needed.

Below are the maximum voucher amounts allowed for each type of disability:

Type of disability	Amount
Hard of Hearing (HH)	$200
Deaf/Severely HH	500
Speech Impaired	1,500
Mobility Impaired	1,500
Deaf with low vision	2,500
Deaf and Blind	6,700



How much do I have to pay?

You pay the first $100. The voucher pays the rest, up to the maximum voucher amount. If you buy equipment that is more expensive than the voucher plus your $100, you must also pay the extra charges. For example, if you mark "Deaf/Severely HH" as your disability, you will get a voucher for $500. If you buy equipment with a total cost of $618, you will pay $118.

What if I can't afford the $100?

The Wisconsin Office for the Deaf and Hard of Hearing (WDHH) has a special program -- the Telecommunication Assistance Program (TAP). This is only for qualified persons who are deaf, deaf blind, or hard of hearing. Unlike TEPP, TAP does have income requirements. But, this separate, state funded program pays the $100 TEPP co-payment if you qualify.

How do I get TAP to pay the $100?

The TEPP and TAP application form are combined. For TAP, you must fill out the household income lines and you also need to send a hearing loss certificate. You must add up all income for everyone living in your house. If your total household income meets the TAP income limits your application will automatically be processed for a TEPP and TAP voucher so your voucher may include the $100 co-payment.

What kind of phone equipment will TEPP allow me to buy?

- ☎ TTY
- ☎ Amplified handset or phone
- ☎ Telebraille/TTY unit
- ☎ TTY with large visual display
- ☎ Special modem
- ☎ Hands-free speaker phone
- ☎ Puff activator
- ☎ Phone signaling system using flashing lights, a vibrator or a loud bell, and
- ☎ Other specialized equipment may be approved on an individual basis

How do I get an application?

To get a TEPP application form, or answers to your questions, call or write:

Public Service Commission
P.O. Box 7854
Madison, WI 53707-7854
☎ (608) 267-1479 TTY
☎ (608) 231-3305 Voice
☎ (608) 266-3957 Fax
pscrecs@psc.state.wi.us E-Mail

OR, contact:

- ☎ The Wisconsin Office for the Deaf and Hard of Hearing at: (608) 243-5626 Voice/TTY
- ☎ The Office for Persons with Physical Disabilities or an Independent Living Center at: (608) 267-9582 Voice (608) 267-9880 TTY
- ☎ Your local telephone company
- ☎ Vendors of specialized equipment.

Where do I mail my TEPP form?

Send completed applications to:

USF Administrator
Williams, Young and Assocs., LLC
P.O. Box 8700
Madison, WI 53708-8700
(608) 274-1980 Voice
(608) 274-4448 TTY
(608) 274-8085 Fax

When will I receive the voucher?

It takes three weeks from the time you mail an application to process it and mail a voucher to you. It takes two or more weeks longer if you apply for TAP also. **If you have questions about the status of your application you may call or write the USF administrator.**

If money is not available when your application arrives, TEPP will hold your application in the order it is received until money is available.

How do I use a TEPP voucher?

Choose your equipment and where you want to buy it. Use the voucher (like a check) to pay the vendor for your qualifying special equipment. You pay: 1) $100, if not TAP qualified, 2) for any purchase amount over the total of the voucher plus your $100, and 3) for any non-qualifying items purchased.

Public Service Commission of Wisconsin
Universal Service Fund

State of Wisconsin
S. 196.218. WI STATS

Telecommunications Equipment Purchase Program (TEPP)

"Meeting Needs for Specialized Telephone Equipment"

APPLICATION FOR VOUCHER

Please print your responses. You may direct any questions about the application or the Telecommunications Equipment Purchase Program (TEPP) by calling: (608) 274-4448 TTY, (608) 274-1980 Voice, or email TEPP@williamsyoung.com.
Mail the application to: **USF Fund Administrator, c/o Williams Young, LLC, P.O. Box 8700, Madison, WI 53708-8700 or**
Fax the application to: **USF Fund Administrator, (608) 274-8085**

PERSONAL INFORMATION

Applicant's Name (Last, First, Middle) (Maiden, if applicable)

Applicant's Postal Address

City State ZIP Code

Telephone Number: ( ) ☐ TTY ☐ Voice

Email Address:

Social Security Number: Date of Birth:

DISABILITY (CHECK ONE):

- ☐ Hard of Hearing (Voucher Maximum $200 and no co-payment required)
- ☐ Deaf/Severely Hard of Hearing (Voucher Maximum $800)
- ☐ Speech Impaired (Voucher Maximum $1,600)
- ☐ Mobility Impaired or Motion Impaired (Voucher Maximum $1,600)
- ☐ Deaf-Low Vision (Voucher Maximum $2,500)
- ☐ Deaf-Blind (Voucher Maximum $7,200)

HOUSEHOLD INFORMATION

Number of people in your household: _____
*Annual household income according to most recent tax return filed: $_____
*(include income of spouse or parent/guardian, if applicable)

There is no income limit for TEPP assistance. Income information will be used to determine if you may be eligible for the Department of Health and Family Services/TAP (Telecommunications Assistance Program) assistance which can pay the $100 co-payment for equipment purchases.

Have you received assistance from the following:

TEPP	TAP
☐ Yes	☐ Yes
When: _____	When: _____
☐ No	☐ No

I certify that I have a disability in the category checked above that limits or curtails my access to or use of telecommunications services. Equipment to be purchased with this voucher is necessary for me to effectively access telecommunications services.

I understand that any deliberate fraud or misuse of this program will result in legal actiontaken by the State of Wisconsin. I also understand that I need to make a $100 co-payment at the time the equipment is purchased unless I qualify as a TAP applicant or in the Hard of Hearing Category.

THESE STATEMENTS ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

_____ _____
Applicant or Guardian Signature Date

The information requested on this form is authorized for collection to administer the Universal Service Fund pursuant to s. 196.218,Stats., and PSC 160.71, Wis. Adm. Code. The information collected is used to determined eligibility for the Universal Service Fund programs of the Public Service Commission of Wisconsin. Completion of this form is voluntary; however, failure to furnish the requested information may result in denial of eligibility for support under these programs. Personally identifiable information collected on this form is not likely to be used for purposes unrelated to the Universal Service Fund programs.

Applicants are processed in the order they are received. Vouchers will be issued on a first come, first served basis in compliance with rules governing the Universal Service Fund. Specific limitations will apply as identified in PSC §160.07 and 160.071, relating to funding, definition of disability and voucher amount. If the applicant receives a voucher, he/she is responsible for the first $100 of the equipment purchased, unless he/she is qualified as a TAP recipient or in the Hard of Hearing Category, and any additional amount exceeding the maximum value of the voucher plus the co-payment.

THIS SECTION FOR OFFICE USE ONLY

TEPP	TAP
Date received: _____	
☐ Eligible	☐ Eligible
☐ Ineligible: Reason: _____	☐ Ineligible: Reason: _____
USF Administer and date: _____	

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