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**A Resource Guide: Mainstreaming a Child with a Hearing Impairment;
What Teachers Need to Know**

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Independent Study

Advisor: Chris Clark

April 28, 2006

INTRODUCTION

Imagine sitting in a classroom and trying to listen to a speaker talk about a topic that is unknown to you. You don't understand the information being presented, and in fact, sometimes the speaker's words are muffled.

Now imagine that the speaker is moving around the room, the further the speaker moves away from you, the less you hear. Now the words are just sounds and there are large holes in all the sentences. This is what a child with a hearing impairment could be experiencing if the regular education teacher isn't using strategies to help the child with a hearing impairment. Regular education teachers often haven't had experiences teaching children with hearing impairments when in a regular education setting.

I have a bachelor's degree in regular education. I was not provided with teaching strategies to teach children with a hearing impairment. I would not have known what kinds of adaptations to implement into my teaching to help a child with a hearing impairment. Now that I am working toward a degree in deaf education, I know what to expect and I have a variety of strategies that I could use to meet the needs of a child with a hearing impairment in a regular education class.

The purpose of this project is to provide regular education teachers with information and teaching strategies to help meet the needs of children with a hearing impairment in the mainstream. Some teachers may need help learning to communicate with a child with a hearing impairment, while others may need some guidance in the importance of classroom acoustics or learning about the many devices used by children with a hearing impairment. Teachers will need to know how academics and social skills can be affected by a hearing loss. The resources I used to gather information include

professional publications on mainstreaming, especially mainstreaming of children with hearing impairments, as well as discussions from teachers at Central Institute for the Deaf (CID) and Special School District of St. Louis County. Personal knowledge and experience was also included. The goal of mainstreaming children with a hearing impairment is to help them learn the skills and strategies both in and out of the classroom to ensure their success in the general population. However, for a large percentage of children with a hearing impairment, a variety of services, based on the individual needs, must be provided as they enter the mainstream.

LITERATURE REVIEW

In today's educational world, there is a national movement for higher educational standards and greater accountability for all students (Luckner & Denzin, 1998). The number of students who are deaf and hard-of-hearing in private settings or self-contained classrooms has decreased. However, the number of children with a hearing impairment in the mainstream in general education classrooms has increased (Luckner & Denzin, 1998). A self-contained classroom is a small class with all children who are deaf or hard-of-hearing being taught by a teacher of the hearing impaired. A mainstream setting typically means that a child with a hearing impairment is put in a regular education classroom with normal hearing peers and a regular education teacher. In order for students with a hearing impairment to succeed in a mainstream setting, there are certain adaptations and accommodations that need to be made by the regular education teacher in the areas of instruction and assessment. Therefore, it is necessary to provide information

to regular education teachers to help them integrate a child with a hearing impairment successfully in the mainstream.

In the past twenty-five to thirty years, national administrators have concluded that the education of deaf and hard-of-hearing students must be improved to meet their unique communication, language, and other related needs (US Department of Education, 1992). The mainstream/inclusion era began after the passing of Public Law 94-142 in 1975. Prior to this law, 80% of students who were deaf or hard-of-hearing were served in special schools (Cohen, 1995). PL 94-142 was an act that ensured all children were being educated in the “least restrictive environment” which meant some or all of their day was spent in regular education classes with hearing peers. Although the law resulted with students with a hearing impairment in regular education classrooms, some students who were deaf and hard-of-hearing were put in self-contained or resource classrooms within a regular education school. In 1995, more than 60% of students who were deaf or hard-of-hearing were in regular education schools (Cohen, 1995).

Regular education teachers have limited experiences working with students with a hearing impairment and must rely on deaf education teachers to help them meet the goals of a child with a hearing impairment in his or her class (Luckner & Denzin, 1998). Language is the main issue to be addressed. Because deaf and hard-of-hearing children must be explicitly taught language, communication is a challenge for these individuals. Their language is often delayed, which in turn affects communication, socialization, and reading. The challenge of the regular education teacher is to teach language in new ways to meet the needs of deaf or hard-of-hearing students (Gutierrez, 1994). Also, regular education teachers assume that children come into the room with a certain amount of

knowledge in the subject areas. However, because of the hearing loss, a child with a hearing impairment is likely to have gaps in the knowledge base and will probably have to spend time catching up to the other students. Each child in a classroom deserves an equal opportunity to learn, even if they have a disability. Lawrence Siegel (2000) states, “deaf and hard-of-hearing children deserve a quality, communication-driven program, which is formally articulated in law, and requires appropriate communication assessment, communication development opportunities, and communication access not just for academics, but for interactions with peers, teachers and staff; deaf and hard-of-hearing role models; and access to extra curricular and other important school activities.” Parents and regular education teachers must remember that a child with a hearing impairment from a self-contained classroom is moving from a class of 3 or 4 students to a class of 20 or more students. There are a variety of new faces and new voices that children will have to localize, listen to, and lip-read. Also, the teacher may not sit directly in front of each child, but rather move around the room. Overall, there are usually more distractions and much more noise in a mainstream setting than a child with a hearing impairment is used to.

In addition to noise distractions in the mainstream classroom, other issues, such as language and social skills, are also determining factors of a child’s success in the mainstream. Nowell and Innes (1997) list several questions to consider when making the decision to put a child in a regular education classroom.

- What is the child’s hearing level and ability to use residual hearing?
- Does the child have access to captioning services, note-takers, hearing devices, TTYs, etc? How well does the child use his or her hearing device?

- What is the individual's preferred mode of communication and does he or she practice it in the environment?
- What is the individual's academic level?
- What is the level of direct communication that will occur in the environment between the teacher and peers?
- Will the child's language abilities and needs be adequately addressed?
- Are there other children of similar age and level with which the child can socialize?
- Is the school staffed by certified and qualified personnel who are trained to work with the student who is deaf?
- Does the school provide a full range of assessment instruments and techniques designed for use with students who are deaf?
- Are there personnel trained to conduct assessments in the child's preferred language and mode of communication?
- Will the child have access to curricular and extracurricular offerings?
- What deaf role models are in the environment?

The most important issues are related to language and communication. In addition to the questions listed above, a child in the mainstream must also have an Individualized Education Program (IEP) that addresses: Communication; linguistic needs; severity of hearing loss; academic level; social, emotional, and cultural needs including opportunity for peer interactions and communication (US Department of Education, 1992).

Even though the overall goal is for a child who is deaf or hard-of-hearing to be mainstreamed, "there is no one best communication method or educational placement to

educate all children who are deaf and hard-of-hearing” (Fiedler, 2001). However, because of language delays and problems with conversation and communication, a child who is deaf or hard-of-hearing needs a communication rich environment. Because children with a hearing impairment in the mainstream are assured an equal opportunity to learn, schools provide a range of educational options which might include itinerant programs, push in services, resource rooms, special day classes, audiologic services, etc. The services are determined by the IEP team based on the individual needs of the student. In addition to services within the classroom or school, a child must have the opportunity to participate in extracurricular activities outside of the classroom to foster social, emotional, and psychological growth and development.

Itinerant teachers and resource rooms can help children that are hearing impaired. In addition to these placements, some accommodations that a regular education teacher can use may include preferential seating, acoustic treatments, posters, extended test taking time, etc. Other adaptations or modifications that a regular education teacher can make include: providing visuals such as overheads and reading material; speaking clearly; standing where child can optimally speech read, etc (Luckner & Denzin, 1998). Assessments may also be adapted to meet the needs of a deaf or hard-of-hearing child. The teacher can use a variety of assessments such as tests, portfolios, observations, and checklists. A deaf or hard-of-hearing child may need extra time, extra information such as defining unknown vocabulary, and special seating to take oral tests.

When discussing mainstreaming, school-aged children between the ages of eight and thirteen are the most common age group of children to be mainstreamed. However, because of technological advances in hearing devices and early diagnosis, integrating

young hearing impaired children into early childhood settings is becoming more and more common. Research indicates that children benefit from mainstreaming at a younger age, however, adaptations may need to be made (Bednarczyk, A., Alexander-Whiting, H., & Solit, G., 1994). An early childhood program can successfully integrate children with a hearing impairment with certain modifications. Modifications to be considered include: communication strategies; visual and auditory input; safety; child-to-teacher ratios; staff training; and parent education (Bednarczyk, A., Alexander-Whiting, H., & Solit, G., 1994).

While many deaf or hard-of-hearing children are attending private schools for the deaf, the ultimate goal is for these children to mainstream into a regular education classroom. It is necessary for a regular education teacher to be prepared for the different learning styles and needs these children bring to the classroom. By adapting lessons, tests, and the classroom environment, a teacher is helping a deaf or hard-of-hearing child adjust to the new educational placement. Mainstreaming is a complicated process, not only for the deaf or hard-of-hearing child, but also for the teacher. By being prepared and up-to date on the needs of these children, the mainstreaming process will go more smoothly for everyone.

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Acknowledgements

This information was written for regular education teachers that may have students that are deaf or hard-of-hearing in their classrooms. Other professionals that work with deaf or hard-of-hearing individuals inside a regular educational setting could also use this information.

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A Resource Guide: Mainstreaming a Child with a Hearing Impairment; What Teachers Need to Know

TERMS YOU NEED TO KNOW

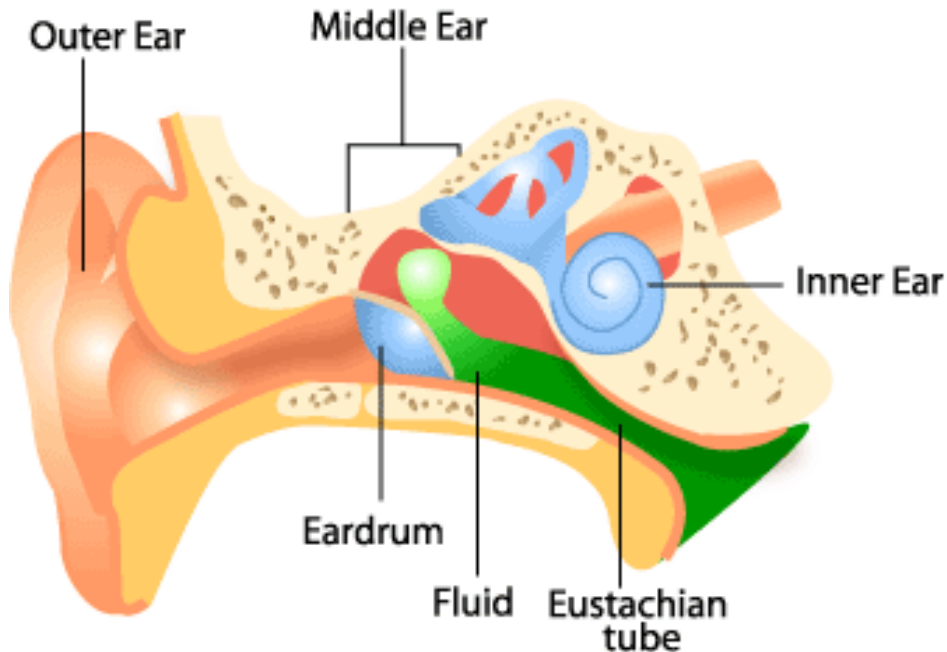
- o deaf- having a hearing loss in which the child has minimal or no hearing. This affects education in that the child is impaired when processing linguistic information through hearing without hearing aids, cochlear implants, or other devices. (Nowell & Innes, 1997) (Tye-Murray, 2004)
- o Hearing Impaired- having abnormal or reduced hearing sensitivity; hearing loss.
- o Hard of Hearing (HOH)- having some level of hearing loss, but not used to refer to a profound hearing loss. This affects a child's education in that the child is able to communicate to some degree with or without amplification. (Nowell & Innes, 1997) (Tye-Murray, 2004)
- o Deaf (capital D)- refers to the individuals with a hearing loss who identify themselves with the Deaf Culture. These individuals see themselves as having a shared experience in beliefs, customs, arts, history, etc. They share a language called American Sign Language (ASL). (Nowell & Innes, 1997) (Tye-Murray, 2004)
- o Prelingual Hearing Loss- refers to a hearing loss acquired before spoken language has occurred. (Tye-Murray, 2004)

- Perilingual Hearing Loss- refers to a hearing loss acquired during the state of developing spoken language. (Tye-Murray, 2004)
- Postlingual Hearing Loss- refers to a hearing loss incurred after the development of spoken language. (Tye-Murray, 2004)
- Progressive Hearing Loss- hearing loss that gets worse over time. Child will need an adjustment to his/her hearing device as this hearing loss increases.
- Congenital Hearing Loss- a hearing loss that was present at birth
- Acquired Hearing Loss - a hearing loss that happened after birth. (example- caused by Meningitis).

Three Types of Hearing Loss

1. Conductive Loss- something is wrong with the outer or middle ear keeping sound waves from traveling to the inner ear. Sometimes a buildup of wax or a foreign object may be in the outer ear and prevent the eardrum from vibrating appropriately. An ear infection can also cause a temporary or conductive hearing impairment. Ossified bones or bones stuck together in the middle ear also cause a conductive hearing impairment. Another example would be atresia, that is having malformed or missing outer ears. (Kozak & Brooks, 2001)
2. Sensorineural Loss- occurs when damage to the inner ear (cochlear) or auditory nerve prevents the sound message from being sent to the brain for processing. Certain diseases, genetic conditions, and medications can cause damage to the inner ear or auditory nerve causing a permanent hearing impairment. A person with a sensorineural hearing loss may hear some sounds however the sounds will be distorted. The degree of hearing loss is based upon how much damage is done to the cochlea. (Kozak & Brooks, 2001)
3. Mixed Hearing Loss- a person with a conductive hearing loss as well as a sensorineural hearing loss.

4. Central Auditory Processing Disorder- no damage to the ear itself, however, the neural system involved with processing or understanding what is said is damaged. These children may have normal hearing, but difficulty processing and understanding what they hear. (Nowell & Innes, 1997)



AUDIOLOGIC INFORMATION: WHAT TEACHERS NEED TO KNOW

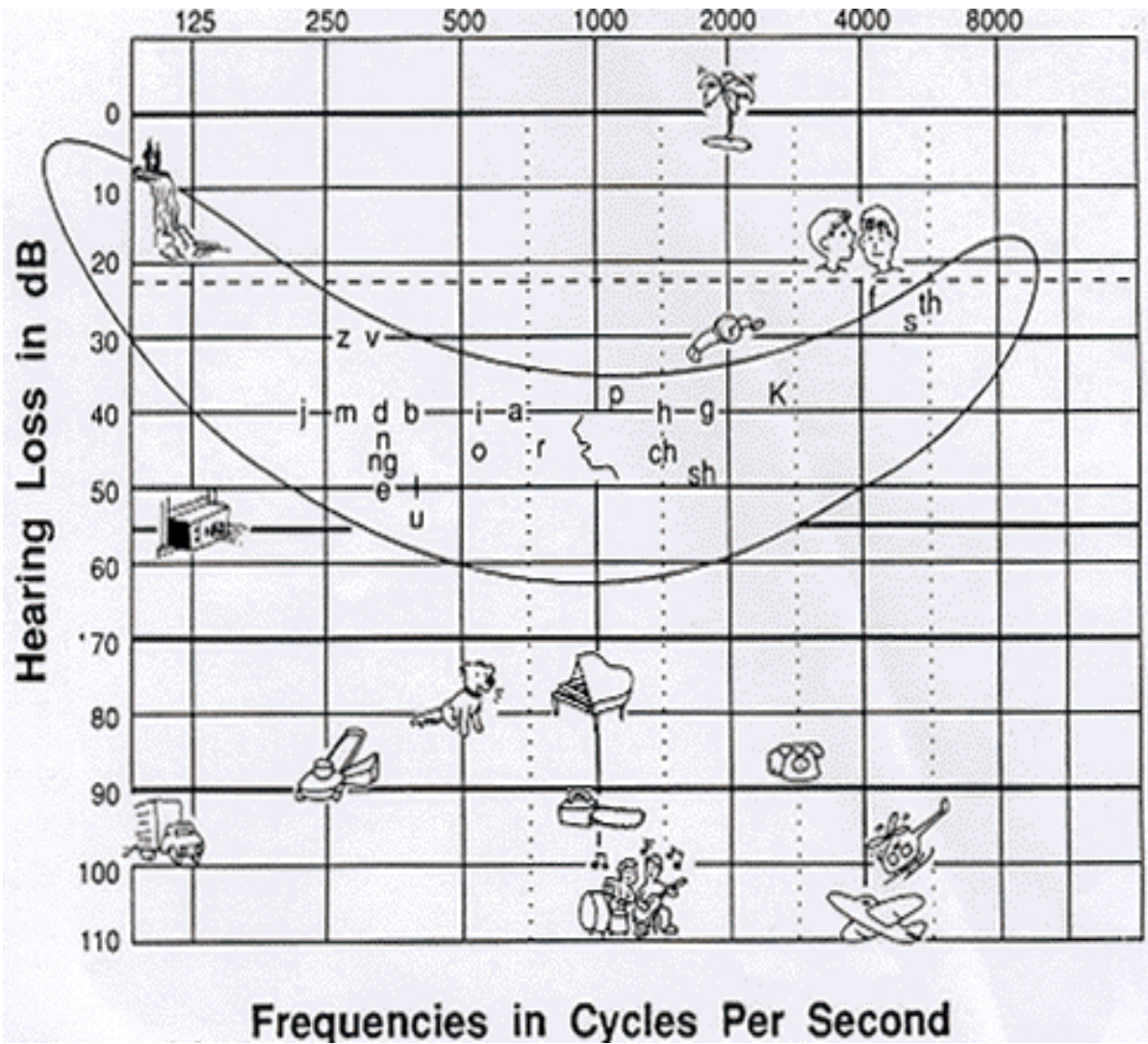
What is an Audiologist?

- An audiologist is a non-medical professional who specializes in the identification, testing, habilitation and rehabilitation of hearing loss.
- Audiologists test the hearing of infants, children, and adults and decide what amplification is needed, and participate in determining what interventions would be helpful.
- Audiologists fit hearing aids and can be responsible for educating parents and teachers on how they work, how to care for them, and what impact they will have on the child.
- Audiologists are members of a cochlear implant team and program the device with the correct mapping program for each individual child.

- Audiologists are the people you talk to when you have problems or questions with hearing aids, cochlear implants, or FM systems.

Understanding an Audiogram

- A graphic record of hearing ability for various sound frequencies that is used to report hearing loss.
- An audiogram will include a table and a graph showing how well sounds are heard at various frequencies for both ears. This graph shows the softest sound that can be heard at different frequencies for each ear.
- An audiogram may also include the client's or student's:
 - Ability to recognize words
 - Ability to understand speech in noisy situations
 - Ability to understand words in context
- Read an audiogram by looking at frequencies (Hz) which are across the top and the intensity of the sounds which are measured down the side (dB).
- Bilateral Hearing loss - both ears have a hearing loss.
- Unilateral Hearing loss- having a hearing loss in only one ear.
- Symmetrical - degree and configuration of hearing loss are the same in each ear.
- Asymmetrical- degree and configuration of a hearing loss are different in each ear (Example- one ear may have a mild hearing loss while the other has a moderate to severe hearing loss).



- The audiogram above shows the speech banana. The speech banana is representation of the distribution of individual phonemes. The speech banana ranges from low frequencies to high frequencies and shows where phonemes are heard in natural conversation.
- The audiogram above also shows familiar sounds that individuals may hear. These sounds are located on the audiogram by loudness and pitch (intensity and frequency). (Example: The sounds at the bottom are louder than the sounds at the top.)

Degrees of Hearing Loss

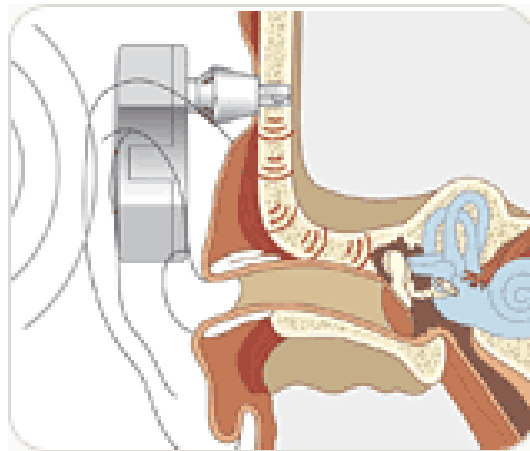
Hearing Threshold (in decibels, dB)	Degree of Hearing Loss	Ability to Hear Speech
0-25 dB	None	No significant difficulty
25-40 dB	Mild	Difficulty hearing soft speech and conversations, but can manage in quiet environments
40-55 dB	Moderate	Difficulty understanding conversational speech, especially when there is background noise. Higher volume levels are required for hearing TV and radio.
55-70 dB	Moderate to Severe	Clarity of speech is significantly affected. Speech must be loud and you may have difficulty in group conversations
70-90 dB	Severe	Normal conversational speech is inaudible. You may also have difficulty with loud speech or only be able to understand shouted or amplified speech
90+ dB	Profound	Unable to clearly understand even amplified speech

(www.stronghealth.com)

Different Types of Hearing Aids

- Analog Hearing Aid- makes all sounds in the environment louder including conversation as well as any background noise.
- Programmable Hearing Aid- a hearing aid that is programmed to amplify some sounds but not others.

- Digital Hearing Aid- programmed to amplify some sounds but not others with digital capabilities.
- Bone conduction hearing aids- designed to bypass the outer and middle ear and send the sound directly to the inner ear. ((Kozak & Brooks, 2001)
- BAHA Hearing Aid- the only implanted treatment for hearing loss that works directly by bone conduction. It allows sound to be processed by the cochlea without involving the outer ear or ear canal. Unlike hearing aids, the BAHA system does not rely on amplification; and unlike cochlear implants, it does not utilize electronic impulses to stimulate the cochlea.



Downloaded from www.cochlearamericas.com on 3/15/06

UNDERSTANDING A CHILD'S LISTENING DEVICE

- Hearing Aid-an electronic listening device designed to amplify and deliver sound from the environment to the listener; includes microphone, amplifier, and receiver. A hearing aid makes sounds louder but not clearer. The sound enters the microphone on the hearing aid and is turned into an electrical signal. An amplifier inside the hearing aid then sends it to the receiver. The receiver then changes it back

into sound which is then sent through the tubing in the ear mold and into the child's ear. Children usually have a *behind the ear* hearing aid.



*Switches on hearing aids may vary from different manufacturers.

How To Put On A Behind the Ear Hearing Aid

1. Carefully insert the ear mold into the child's ear.
2. Tuck the hearing aid behind the ear.
3. Once the ear mold is properly inserted, turn on the hearing aid and check the volume setting. (Note: Some hearing aids have automatic volume controls).
4. Do Ling test* to check frequencies for children who can manage the task.

-o-, /oo/, /ee/, /m/, /s/, /sh/, /er/

*The Ling test is an auditory discrimination test that includes the sounds listed above which range from high to low pitches. The teacher covers her mouth and says one sound at a time and encourages the child to repeat the sound heard. Children under 3 years old will need to have an adult do it.

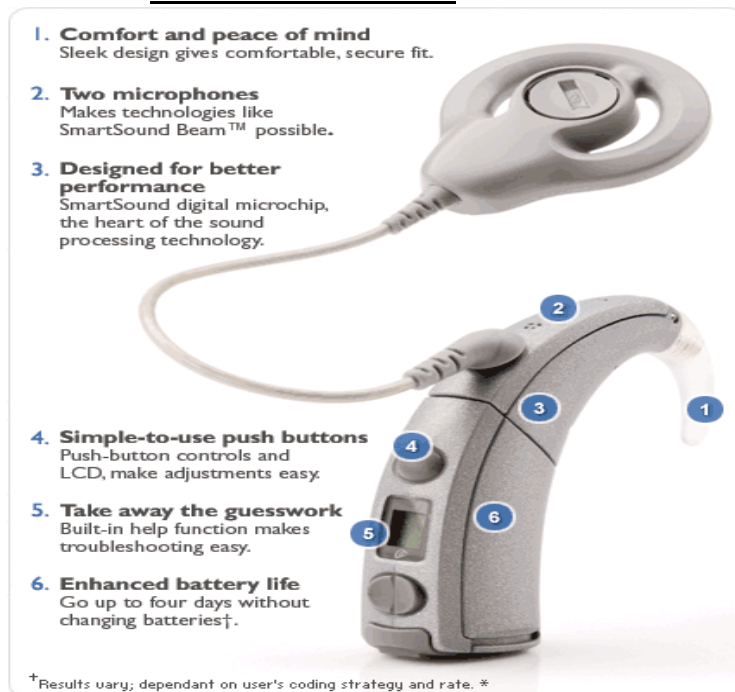
5. In case of squealing: Pull down on earlobe and gently push ear mold into ear, carefully fitting the entire mold in all of the folds of the ear.

Cochlear Implants

- Cochlear Implant- a surgically implanted device designed for individuals with a severe to profound hearing loss bilaterally. To be a candidate for an implant, one usually does not get enough information from hearing aids to develop speech. An implant will electrically send sound information to the cochlea which then sends the information to the brain.

- The candidacy process is as follows:
 1. Audiologist- determines if the individual is a candidate for an implant based on aided and unaided responses in a hearing test.
 2. Medically- the individual has no other health problems and is ok to undergo the surgery and the individual's anatomy of ear and hearing nerve has been judged by the doctor to be intact.
 3. Supportive Educational Environment- a program is available to help the child learn how to use the device as well as to develop speech and language
 4. Supportive Family- families understand the process and are willing to do the necessary things at home to help the individual become successful at using the cochlear implant.

Ear Level Processor



Downloaded from www.cochlearamericas.com on 4/27/06

Body Worn Processor

1. Enhanced battery life
Two standard AAA batteries can last up to five days†.

2. Simple-to-use push buttons
Push-button controls and LCD, let you make quick adjustments.

3. Take away the guesswork
Built-in help function makes troubleshooting easy.

4. Two microphones
Makes technologies like SmartSound Beam™ possible.

5. Designed for better performance
SmartSound digital microchip, the heart of the sound processing technology.

6. Comfort and peace of mind
Sleek design gives comfortable, secure fit.

†Results vary; dependant on user's coding strategy and rate. *The Bodu worn controller is not yet approved by Health Canada.

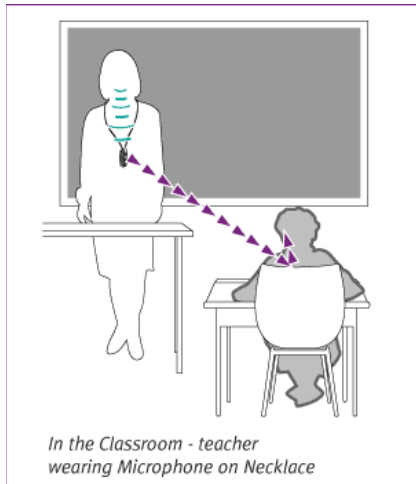
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How To Put on A Cochlear Implant

1. Make sure the cochlear implant is off
2. Place the *body worn* processor in the correct holder case (usually on back or around waist) or the *behind the ear* processor behind the ear.
3. Place the coil with the magnet against the child's head.
4. Carefully move the coil until it adheres to the magnet placed under the skin in the child's head
5. Turn on the cochlear implant and check to make sure processor indicator light is on.
6. Do Ling test to check frequencies
-o-, /oo/, /ee/, /m/, /s/, /sh/, /er/

Other Listening Devices

- FM System- designed to enhance listening at a distance from a talker, and listening in noisy environments. FM's operate on a radio frequency; the FM sends a signal directly from the speaker to the person's hearing aid. FM systems give the child direct access to speech especially in noisy places or at a far distance.



How to Change a Hearing Aid to a Personal FM setting

1. Attach FM boot to hearing aid. The hearing aid usually has three settings: T- M- O, make sure the hearing aid switch is set on T setting (means telecoil).
 2. There are three settings on the FM boot located at the bottom:
Hearing aid only, Hearing aid and FM , FM only.
 3. For classroom learning: switch FM boot to FM only
For small group conversation: switch FM boot to hearing aid and FM
For one-on-one conversation in a quiet room: switch FM boot to hearing aid only
- Sound Field Amplification-this amplification system includes loudspeakers mounted at the ceiling level. The teacher wears a

microphone and the signal is sent to the speakers. This system amplifies the speech from the teacher over the background noise.

(Kozak & Brooks, 2001)

- o Personal Sound Field Amplification- the same as sound field amplification, however, the child has a small speaker that sets on his desk. The teacher wears a microphone and the sound amplified in the small speaker is delivered to the area near the child instead of to a whole room.
- o CART (Computer-Aided Real-time Translation)- when a person such as a stenographer uses a stenotype machine with a phonetic keyboard and special software. This computer translates spoken words into printed text.
- o C-Print Captionist- provides a summary of what is said, which can be verbatim, depending on the skills of the captionist. An outline can also be available based on the notes taken in class.

(Clark Mainstream News, Sept 2001)

(Clark Mainstream News, Sept 2001)

How To Check Listening Devices

- o The hearing devices need to be checked daily, preferably the morning. Parents or teachers do this check for very young children.

Checking the Hearing Aid

1. Check the battery in the battery tester.
2. Check the earmold for any wax/dirt in the opening.
3. Use a stethoset to listen to the hearing aid through the opening in the earmold. (Be sure to use a filter when listening to powerful aids).
4. Close the battery door and make sure the hearing aid is on.
 - a. You may need to use oto-ease (a lubricant) to help with insertion.
 - b. You may need two people in the beginning if the child is resistant or moving around.

- c. If the earmolds are too small, you may need oto-ferm (a sticky cream) to help eliminate squealing.
5. Perform Ling test (-o-, /oo/, /ee/, /m/, /s/, /sh/, /er/).

****Hearing device equipment including battery tester, extra batteries, oto-ease, stethoset all need to be kept in one place.

Checking the Cochlear Implant

1. Make sure the battery is charged by looking at the processor indicators. The processor will show if the battery is working or not. (All cochlear implant brands are different, be sure to get the correct information from the itinerant or audiologist.)
2. Check the coil and magnet when attached to the individual's head to make sure the magnet and coil are attached appropriately and not too tight. (If the skin near the magnet site is red or irritated, contact the audiologist.)
3. Check the program and volume setting on the processor. (All cochlear implant brands are different, be sure to get the correct information from the itinerant or audiologist.)
4. Perform Ling test (-o-, /oo/, /ee/, /m/, /s/, /sh/, /er/)

Troubleshooting Hearing Aids

1. If the hearing aid is not working, remove the old battery by opening the battery door. All batteries have a (+) and (-), match up the plus end with the (+) written on the battery door and close the battery door. Test battery and replace if necessary.
2. Check the ear mold and tubing for wax or dirt. Remove if necessary.
3. Check to make sure the tubing is secure in the ear mold.
4. If the hearing aid won't turn on:

Possible Solutions

- Insert or replace battery
- Check +/- placement of battery
- Check battery size/number
- Make sure switch is set to ON setting or M for microphone

- See if earmold/tube is clogged up. Remove debris.
- See if tubing shows moisture. Place in dry-aid kit if necessary.
(Kozak & Brooks, 2001)

5. The hearing aid often squeals. This is called feedback.

Causes of Feedback

Earmold is not pushed in the ear far enough

volume setting may be too loud

tubing may be cracked

earmold is too small

(Otto, 1998)

Solutions

tell student to push in the earmold, or gently push it back into the child's ear.

turn the volume down

inform the audiologist/parents

inform the audiologist/parents

6. Hearing aid sounds sometimes sound distorted or intermittent:

Possible Solutions

- Battery is leaking (you can remove it) and change battery.
- Corrosion/dirt is on battery contacts. Contact audiologist.
- Collapsed or bent tube- Contact audiologist.
- Hearing aid has gotten wet inside the case - place in dry-aid kit or contact audiologist/parents.
- Damaged hook or tube - contact audiologist.
- Damaged part(s) inside case - contact audiologist.

(Kozak & Brooks, 2001)

Troubleshooting Cochlear Implants

1. Check to make sure battery is working.
2. Check the processor to make sure the correct volume and program is in place.
3. Check coil and wire to make sure no cracks are present.
4. Report any problems to audiologist or parents.

Troubleshooting FM Systems

1. First make sure the hearing aids are working
2. Check to make sure the FM is turned on at the individual's FM boot attached to the bottom of the hearing aid. Make sure the teacher's unit is turned on to FM.
3. If your FM is a device with cords, check to see if there is damage to any of the cords, if so contact the audiologist.

STRATEGIES FOR AN OPTIMAL CLASSROOM ENVIRONMENT

- Classroom drawings, posters, charts, etc should reflect the diverse population within the classroom/school.
- Noisy machines such as air conditioners or heaters should not be present in the classroom.
- Put carpet, rugs, mats on the floors, posters/bulletin boards on the walls, and sound absorbent materials to help reduce noise from bouncing off the floor and wall.
- Use a semicircular seating arrangement for discussions allowing the deaf or hard-of-hearing student to see everyone.
- Have children raise their hand when speaking or have the teacher point out the speaker to help the deaf or hard-of-hearing child locate the speaker faster.

- Seat the deaf or hard-of-hearing student in the best place for attention and participation. Remove all visual barriers from the student and the speaker.
- Put tennis balls on the bottoms of the chairs to eliminate noise
- Use flashing lights and bells for safety alarms. Explain the purpose of these safety features for all people in the room.
- Use room dividers to section off large areas of the classroom such as reading centers or computer areas.
- Use cloth blinds rather than metal on the windows.
(Jacob, 2005)

HELPFUL INDIVIDUALS

Interpreters

- Sign language interpreters are certified professionals who use American Sign Language or Signed English to interpret spoken English for students who are deaf or hard-of-hearing.
- A total communication interpreter uses sign language in addition to mouthing the words the speaker is saying.
- An oral interpreter mouths the words without voice and without signs.
- If a sign language interpreter is used, introduce yourself to the interpreter and go over technical and specialized vocabulary before beginning lessons.
- The interpreter is not a teacher, teacher aide or substitute teacher. He or she is there only to translate what the teacher and students say in the classroom.
- DO NOT speak to the interpreter, speak directly to the child.
(Clarke Mainstream News, Sept 2001).

Itinerants

- A teacher of the deaf who provides services to children in the mainstream.
- These services may include:
 - Academic help
 - Help with tests
 - Auditory rehabilitation
 - Consulting with regular classroom teacher
- Amount of time spent with a child with a child who is deaf or hard-of-hearing is dictated by the child's IEP.

BIRTH - 2 YEARS OLD

The Diagnostic Process

Newborn Hearing Screening

- The hearing screening tests that are necessary to identify newborns and infants with a hearing loss.
- Hearing loss can be genetic or caused by illness or injury.
- The impact on speech, language, and communication is the most important reason for screening.

Types of Hearing Screening Tests

1. OAE: Otoacoustic Emissions Test:
 - A small microphone is placed in the infant's ear.
 - The microphone, connected to a computer, sends soft clicking sounds into the ear and records the inner ear's response to sound
2. AABR: Automated Auditory Brainstem Response:

- Sensors are placed on the head and connected to the computer
- Soft clicking sounds are presented to the ear through small earphones
- The result is a measurement of brain activity in response to sound

If a baby does not pass the screening

- Repeat the test.
- Refer parents to audiologist or ENT doctor
- More extensive testing will be required

3. Behavioral Testing:

- Behavioral/observational: method of testing a child's hearing in which the audiologist presents a sound stimulus and observes the child's behavior for change.

(Tye-Murray, 2004)

Early Intervention Services for a Young Child with a Hearing Loss

- Audiology
- Assistive Technology (hearing aids, cochlear implants, pediatric kit, etc)
- Pediatric kit for hearing aids (batteries, oto-ease, etc.)
- Family Training
- Small Group Instruction
- Speech and Language Therapy

Hearing Aid Orientation

- Educating the parents, caretaker, or teachers in a step-by-step process on how to care for, insert, remove, and troubleshoot hearing aids. (This can be done by a child's itinerant teacher or audiologist.)

A Hearing Aid Orientation will help you understand:

- Parts of hearing aid and how they work
- How to listen to the hearing aid and make sure it is working correctly

- o How to put on/take off the hearing aid
- o How to encourage the child to wear the hearing aids/keep them on
- o How to check batteries and change them if necessary

How Do Infants and Toddlers With A Hearing Impairment Learn Language?

Baby's are constantly listening and vocalizing. Parents or caretakers of baby's with a hearing impairment need to talk directly to the baby ALL THE TIME. Imitating the baby's sounds and encouraging the baby to listen and look are two of the most important things to do to encourage communication.

Important Steps:

- o Eye Contact - make sure you are looking at the child as well as the child is looking at you
- o Turn Taking - when talking and playing
- o Motor imitation - start with gross motor movements and move towards imitations involving the face. Helps later with speech instruction.
- o Non-verbal/Verbal Communication - use gestures in addition to spoken words
- o Receptive Language - what a child understands (keep track of it)
- o Expressive Language - what a child says (keep track of it)
- o Cooing-Babbling- Words- progression of vocalizations to spoken language
- o Connected Language- our ultimate goal
(Kozak & Brooks, 2001)

Strategies to Help Infants and Toddlers

- o Imitation - adults should imitate a child's vocalizations to show they are important. Then ask the child to imitate you.
 - Encourage non-verbal responses as well as vocalizations to let him know that you like him interacting with you.

- Modeling - say for him what he wants you to do or what he would say if he could and then encourage imitation. (Example: "Oh you want a cookie," "I want a cookie.")
- Prompt - give the child a cue to prompt the child to say the targeted word or phrase. (Example: holding up the car and pointing to it to encourage the child to say, "Car, vroom.")
(Kozak & Brooks, 2001)

An Activity to Use with Toddlers

Listening Box

- Provides an activity that offers daily opportunities to practice developing language with your child.
- A container is filled with toys and items designed to be use with birth-2 year olds with a hearing impairment to stimulate listening and language abilities. (Kozak & Brooks, 2001)
- Use a container with a lid in order to open and close it
- The objects should fit in your hand and be large enough to prevent choking.
- The objects should be visually interesting and produce a sound
- Say, "Listen," and name, talk about, and make the sound of the object

***Repeating this activity often allows for repetition and practice for the child.

An Assessment to Use with Toddlers

CASLLS (Cottage Acquisition Scales for Listening, Language, and Speech)

- An assessment tool used to evaluate children in the areas of:

Cognition- assesses the cognitive skills most linked to language learning that are needed to develop language

Social- assesses the social skills that are appropriate for children at a certain age. These social skills are linked to language development

Listening- assesses sound awareness to comprehension of paragraphs, including phonetic listening skills

Language- assesses pre-verbal language through complex sentences, including pragmatic development

Speech- assesses phonetic and phonological speech development.

- 5 developmental levels of the CASLLS are available through 'Sunshine Cottage School for Deaf Children':
 - Pre-verbal
 - Pre-sentence
 - Simple Sentence
 - Complex Sentence
 - Sounds and Speech

The CASLLS is:

- Easy for parents to understand and professionals to use
- Developmentally organized
- Helps with planning time by giving you an area or skill to work on.

Family Routines to Help Develop Language: If families can learn to talk appropriately about all the normal activities in their day, it will be more meaningful to the child. Repetition is important. Setting up sample phrases for all of your routines is helpful. Consistency in vocabulary is crucial.

Examples:

<u>ROUTINE</u>	<u>SAMPLE PHRASES</u>
Wake up/getting out of bed	"Hi____, let's put on your hearing aids/cochlear implant." "Good morning!" "I love you!" "Do you want up/down?" "Here's a hug." "Turn on the light." "Open the curtains." "Do you want to see Mommy/Daddy?"
Getting Dressed	"Lets get dressed." "Here's your shirt." "Put on your shirt." "Where's _____?" "Peek-a-boo" "Here's your arm." "Lets change your diaper." "The diaper is yucky!" "Throw it away." "Open the drawer." "Close the door." "Get your coat." "Pull up your pants." "Zip, zip, zip!" "There's your sock." "Two socks." "Where's you shoes?" "Take off your pajamas."
Mealtime	"Do you want to open the can?" "Open it. Open." "What should we do?" "Pour the water."

	<p>"Do you want to stir?" "Stir it. Stir, stir, stir." "I need a fork." "The soup is hot!" "Be careful!" "Where's the cup?" "Clean the table." "A green cup." "The ice is cold!" "Its ready!"</p>
Playing Together	<p>"Roll the ball." "Catch the ball." "A blue car." "Walk, walk, walk." "The cow says, MOO!" "The bunny hops." "Two blocks." "Uh oh the blocks fell down!" "More blocks." "Push the car. Vrooom!" "Hug the baby." "Put on shoes/" "More juice." "Shhh, the baby is sleeping."</p>
Bathing/Brushing Teeth	<p>"Turn on the water." "The water is cold!" "Turn off the water." "Get the soap." "Wash, wash, wash." "Wash your face." "Mmm, it smells good." "All clean." "Squeeze the toothpaste." "Brush, brush, brush." "Take a drink."</p>
Trips to the grocery store	<p>Fly an item to the card Let the child hold the bag Hand him/her the food, one piece at a time</p>

	<p>Hand some items to put in the car Point out labels and food items Apple, banana, cookie, soup, bread, chicken, etc "Get in the cart." "Sit down." "Hold the bag." Open the bag." "Put it in." "Two apples." "Where's the cheese?" "Push the cart."</p>
<p>Going to bed/nighttime routine</p>	<p>"Put on your pajamas." "Take off your shirt." "Time for bed." "Good night!" "I love you." "Turn off the light." "Pull up the covers." "See you tomorrow."</p>

(Kozak & Brooks, 2001, p100)

PRESCHOOL (3-5 YEARS OLD)

Getting Started with Preschool Children

- To integrate a deaf or hard-of-hearing child into a preschool classroom, teachers and administrators need to meet for extensive planning. Discussions should include communication needs, visual/auditory input, child-to-teacher ratios, staff training, and parent education.
- The deaf and hard-of-hearing child and parents should meet the teacher, tour the school, visit the classroom, and other areas of the school to become familiar with the environment before beginning school.

- Parents need to be educated in all aspects of mainstreaming. They need to understand the struggles as well as the benefits of the integrated program.
 - Social interactions- this may be difficult because children with a hearing impairment lack social skills. Teachers may need to facilitate social situations.
 - Larger class size- may be difficult because of background noise and more people to socially interact with. Listening and talking to a variety of people is often hard for a child with a hearing impairment. Teachers will need to facilitate.
 - Classroom environment- will have more background noise which will affect how well the child with a hearing loss will function.
 - Class discussion/communication- Small groups work best because a child with a hearing impairment often has difficulties listening and talking in large groups. While in class discussions, make sure the child with a hearing impairment can see all the speakers.
 - Teacher/child ratio- Child with a hearing impairment may need accommodations such as to have the teacher repeat directions or give extra information. More time is needed from the teacher.
 - Child expectations- Expectations should be similar to other students in the class, however, accommodations may be needed to help the child with a hearing loss succeed.
- Classmates of the child with a hearing impairment should understand what a hearing loss is as well as how it will impact their classmate. Also, the classmates need to know how to communicate and socially interact with a child with a hearing impairment.
- Parents of all children in the center can be informed about deafness through newsletters, a letter from the teacher/administrator,

bulletin boards, etc. They need to know that having a child with a hearing impairment in the room will not take time away from their child but can improve social interactions and communication with the teacher and other children.

○ **IN-SERVICE TRAININGS:**

- Should be led by a person familiar with the deaf/hard-of-hearing child.
- Should be attended by staff including administrators, teachers, school counselors, psychologists, deaf educators, and other professionals that may interact with the deaf/hard-of-hearing child.
- Should be held for the hearing children in the preschool classroom and school.
- Should include open discussions, sharing information, and time for questions/concerns

In-service training sessions should include:

- Activities that will provide honest and open attitudes about the needs of children with special needs. A teacher of the deaf can discuss disability awareness.
- Role-playing and positive strategies for discussing differences, such as acting out a situation where a child with a hearing impairment has difficulty hearing in large groups.
- Information about the communication needs of deaf and hard-of-hearing students. Include visual aids, small group work, seating/placement, classroom environment, social interactions, etc
- Information about the audiogram, hearing aids, cochlear implants, batteries, etc
- Time for children to see, touch, listen to, and ask questions about hearing devices.

- Information so that teachers can make it clear to the hearing children that the deaf/hard-of-hearing children are equal to other children in the class, just using devices to hear. Teachers should encourage all students to look at the strengths that each student has. For example, pointing out the tallest in the class, shortest in the class, good sports skills, etc. This lets each student know that everyone has something special even though each person is different.
- Information so that teachers/staff know how the hearing aid/cochlear implant functions, how to check for problems, how to change the batteries and clean the ear mold of hearing aid. (Bednarczyk, A., Alexander-Whiting, H., & Solit, G., 1994).

Communication Strategies in the Classroom

<u>DO</u>	<u>DON'T</u>
<p>Picture/Pictograms are a way to provide helpful information to deaf and hard-of-hearing children:</p> <p>Pictogram to show class routines/procedures</p> <ul style="list-style-type: none"> ▪ Classroom rules ▪ Pictures of all the children in the class with their names ▪ Birthdays listed on a chart ▪ Classroom job chart with children's pictures ▪ Pictures for commands and classroom environment 	<p>Speak in an excessive loud voice. Loud speech can be hard to understand.</p>

<p>including bathroom, time to eat, time to play, etc.</p> <ul style="list-style-type: none"> ▪ Pictures at various settings within the school (water fountain, cafeteria, music room, etc) ▪ Classroom centers and materials 	
<p>The deaf/hard-of-hearing child needs to face the teacher when talking.</p>	<p>Talk too slow or slur words. Talking to slowly may alter information.</p>
<p>Deaf/Hard-of-hearing child should sit close and have all visual barriers removed including other students, furniture, etc</p>	<p>Talk with your back to the classroom or anything blocking your mouth.</p>
<p>Child should be placed appropriately during circle time so that everyone can be seen.</p>	<p>Walk around the room while speaking.</p>
<p>Deaf and hearing children should role-play interactions so they can learn how to do things appropriately.</p>	<p>Don't assume the deaf or hard-of-hearing child has heard everything. Ask clarifying questions throughout the lesson or while giving direction.</p>
<p>Children need to know to wave a hand or tap a deaf/hard-of-hearing child and wait for them to look up.</p>	
<p>If a teacher notices the deaf/hard-of-hearing child did not hear what was said, or looks confused, the teacher should:</p> <ul style="list-style-type: none"> ▪ Repeat what was said 	

<ul style="list-style-type: none"> ▪ Rephrase the information or question using short sentences and/or highlighting key words ▪ Have the deaf/hard-of-hearing child relay back what was understood. ▪ Have the child show you what he was saying or asking and then put it into spoken words. 	
<p>Teachers may need to repeat directions and/or show visuals of the activities included in center time</p>	
<p>A classroom aid, parent, or volunteer may need to be paired with the deaf, hard-of-hearing child at each center to give more detailed instructions and use visuals.</p>	
<p>Individuals around the school including recess aids, volunteers, lunch aids, office staff, nurse, etc. need to be aware of the deaf/hard-of-hearing child. They may need to be aware of the device and how to fix it if problems arise, how to handle the child's feelings, and to help the child become socially involved with other children</p>	

More Tips for Preschool Age Children

- On the first day of school, parents should stay with the child until he is comfortable to assure a positive transition.

- Deaf/Hard-of-hearing child should bring pictures from home of family or a favorite toy to help the child transition more easily into a different and new environment.
- Pictures of the classroom should be sent home with the child. These pictures may include students and teachers in the class, lockers or cubbies, favorite things to do at school, centers, etc.
- Minimize problems during group times. All visual barriers need to be removed. It is important for the child to have visual contact with everyone in the group to allow the child to hear and see who is speaking. Utilize a FM if available.
- During story time, the deaf/hard-of-hearing child needs to be able to see the reader. The reader may want to use a variety of visuals including extra pictures, story props, or even acting out parts of the story. This will need to be facilitated by a teacher or itinerate.
- For music and movement, review the movements and rhythm before beginning the activity so the deaf/hard-of-hearing child can have a practice session. Visual information will always be helpful.
- When working on group projects, small groups or pairs work best for deaf/hard-of-hearing children. It will be more comfortable because a child with a hearing loss is able to communicate easier with a small group when they can see and hear all the speakers without a lot of background noise.
- A teacher needs to understand that deaf/hard-of-hearing children become tired from working with a lot of people. The schedule may need to include more breaks or longer transitioning times.
- If a deaf/hard-of-hearing child's behavior changes dramatically:
 - Check the hearing device, maybe it is not working
 - If the device is not working, check all the parts of the device. Sometimes a cord is loose, or the device was turned off. Let the audiologist know as soon as possible

- If the device is working, and there is still a problem, there may have been a change in hearing (contact itinerant/audiologist)

(Otto, 1998)

Strategies to Help Deaf /Hard-of-hearing Children Socialize

- Hearing children should be encouraged to include the deaf and hard-of-hearing student during play, group time and all other components of the day.
- A deaf/hard-of-hearing child needs to have a buddy on the playground to help direct him in case of an emergency, or when it is time to line up.
- The teacher may want to structure activities as group work so the deaf/hard-of-hearing child will have an opportunity to work in small groups which may be easier.
- Have themes including "social topics" such as friendship, avoiding fights, emotions, sharing, differences, etc.
- Make books available to all students about deaf/hard of hearing:
 1. A Button In Her Ear by Ada Litchfield
 2. I Have A Sister My Sister Is Deaf by Jeanne Whitehouse Peterson
 3. Can You Hear the Rainbow: A Story of a Deaf Boy Named Chris by Jamee Riggio Heelan
 4. Cosmo Gets an Ear by Gary Clemente
 5. Patrick Gets Hearing Aids by Maureen C Riski

SCHOOL AGED (6 years and up)

Getting Started with School Aged Children

- To integrate a deaf or hard-of-hearing child into a mainstream classroom, teachers/administrators need to meet for extensive

planning to guarantee the success of the child. Discussions should include communication needs, visual/auditory input, disability awareness, staff training, and parent education.

- The deaf and hard-of-hearing child and parents should tour the school, meet the teacher, visit the classroom, and other areas of the school to become familiar with the environment before beginning school.
- Parents need to be well educated about all aspects of mainstreaming. They need to understand the struggles as well as the benefits of the integrated program.
 - Social interactions- this may be difficult because children with a hearing impairment often lack social skills. Teachers may need to facilitate social situations.
 - Larger class size- may be difficult because of background noise and more people to socially interact with. Listening and talking to a variety of people talk is often hard for a child with a hearing impairment.
 - Classroom environment- will have more background noise which will affect how well the child with a hearing loss will function.
 - Class discussion/communication- Small groups works best because a child with a hearing impairment often has difficulties listening and talking in large groups. When in class discussions, make sure the child with a hearing impairment can see all the speakers.
 - Child expectations- Expectations should be similar to other students in the class, however, accommodations may be needed to help the child with a hearing loss succeed.

Schedule a Disability Awareness Day

- o Classmates of the child with a hearing impairment should understand what a hearing loss is as well as how it will impact their classmate with a hearing loss. Also the classmates need to know how to communicate and socially interact with a child with a hearing impairment.
 - A teacher of the deaf will come in and discuss the disability of having a hearing impairment. She should discuss communication needs, social needs, as well as educational needs. The teacher of the deaf will also explain different types of amplification and allow the students/other individuals to touch and explore the devices.
 - The teacher of the deaf should facilitate activities that will provide honest and open attitudes about cultural differences of children with special needs such reading books about diversity and sharing stories.
 - The teacher of the deaf should facilitate role-playing and positive strategies for discussing differences such as acting out a situation where a child with a hearing impairment has difficulty hearing in large groups

- o Parents of all children in the school should understand deafness. Newsletters, a letter from the teacher/administrator, bulletin boards, etc may be appropriate. They need to know that having a child with a hearing impairment in the room will not take time away from their child but can improve social interactions and communication with the teacher and other children.

- o **IN-SERVICE TRAININGS:**
 - Should be led by a person familiar with the deaf/hard-of-hearing child.
 - Should be attended by staff including administrators, teachers, and teacher's aids, school counselors, psychologists, deaf educators, or other professionals that may interact with the deaf or hard-of-hearing child.

- Should be held for hearing children in the mainstream classroom.
- Should include open discussions, sharing information, and any questions/concerns
- Should include information on the communication needs of deaf and hard-of-hearing students including visual aids, small group work, seating/placement, classroom environment, social interactions, etc
- Should include explanations of audiologic information including understanding audiograms, information on hearing aids, cochlear implants, batteries, etc
- Should include time for children to see, touch, listen to, and ask questions about hearing devices.
- Should reinforce to the hearing children that deaf/hard-of-hearing children are the same just using devices to hear better. The teacher should make it clear that all students are equal. Teachers should encourage the hearing students to look at strengths that each student has. For example, pointing out the tallest in the class, shortest in the class, good sports skills, etc. This lets each student know that everyone has something special even though each person is different.
- Should include information so teachers/staff can know how the hearing aid/cochlear implant functions, how to check for problems, how to change the batteries and clean the ear mold of hearing aid,

(Bednarczyk, A., Alexander-Whiting, H., & Solit, G., 1994).

Communication Strategies in the Classroom

<u>DO</u>	<u>DON'T</u>
Use visual aids in the classroom when giving directions or teaching lessons.	Speak in an excessive loud voice. Loud speech can be hard to understand.
Seat the student in the front of the classroom in or by the speaker.	Talk too slow or slur words.
Encourage the student to ask questions to clarify information, or ask for repeated directions.	Talk with your back to the classroom or anything blocking your mouth.

Use attention getting signals such as hand signals or lights.	Walk around the room while speaking.
Send home a written schedule of assignments with directions in case the deaf or hard-of-hearing child missed any information.	Don't assume the deaf or hard-of-hearing child has heard everything. Ask clarifying questions throughout the lesson or while giving direction.
Before using select vocabulary in class, send a copy home of new vocabulary to help familiarize the student with unknown vocabulary words.	
Set up a buddy system to help the deaf or hard-of-hearing student get accurate notes and assignments.	
Communicate with the student's parents through a daily communication log or daily e-mail.	
Parents should have an extra set of textbooks at home to help with any assignments.	

(Jacob, 2005)

Helping Deaf and Hard-of-Hearing Children Learn Language

Receptive and expressive vocabulary for deaf and hard-of-hearing children is typically an area of weakness. By implementing strategies that will help children with vocabulary, teachers can expect less difficulty during class instruction.

Strategies to Help Teach Vocabulary

- Pre-teach important vocabulary, terms, and concepts before the lessons.
- Select vocabulary words that are related to one another to help the deaf or hard-of-hearing student learn the new words in meaningful categories and in different contexts.

- Choose vocabulary terms that are interesting to the student and are a part of his daily life.
- Have the child keep a vocabulary book or folder with learned vocabulary words for practice.
- Don't assume the child knows simple vocabulary terms. Check vocabulary for comprehension. Listen to the child's spontaneous language so you can help him with words that are being omitted.
- Work on expressions, slang, and idioms that people use everyday. These make learning fun but are a learning experience for the deaf or hard-of-hearing child. These may include words or sayings such as: "Cool," "It's raining cats and dogs," "You look blue," etc.
- Work on multiple meanings including synonyms and antonyms.
(Clark Mainstreaming News, Oct 2003)

Teaching Strategies in the classroom

- Use an overhead projector or other visuals including real objects, pictures, photographs, charts, close-captioned videos, etc while teaching to assist the deaf or hard-of-hearing student.
- Use hands-on activities whenever possible.
- Use role-playing and dialogue in the classroom. Good oral communication practice. Relate situations to real-life experiences.
- Use concise statements
- Divide lengthy directions into multiple steps and ask questions to clarify understanding. Check for understanding by having the student restate directions. Sometimes students will just say "I understand" when they really do not. Provide extra one-on-one time after directions for any clarifications needed.

- Use smaller cooperative learning groups. This will be more comfortable and easier for the deaf/hard-of-hearing student to be able to ask questions and interact with a smaller group of people. In addition, there will be less noise in a smaller group.
- Modify class schedule to help with fatigue. (Example: incorporate active learning rather than all lecture)
- Provide a note taker during lectures.
- Provide computer games or review sheets to help the deaf or hard-of-hearing student practice and review material
- Use peer tutors or volunteers to help work with the students
- When reading aloud in class, give the deaf or hard-of-hearing child a copy of the reading material so he or she can follow along.
(Luckner & Denzin, 1998)

Evaluations (Accommodations for test taking should be noted in the IEP)

- When giving spelling tests aloud, allow the deaf or hard-of-hearing child time to lip-read. Also, say the word and use it in a sentence. The child may also need to take the test in a private setting or use an FM to cut back on the background noise.
- Provide visuals or extra information on test questions.
- Teach test taking skills (For example: how to skim paragraphs in order to read for comprehension; how to make a guess on a multiple choice test)
- Provide short tests on a more frequent basis
- Use portfolios and observation assessment in addition to tests to evaluate a child.
(Luckner & Denzin, 1998)

Encouraging Social Interactions

- Inform other classmates about the child with a hearing loss
Discuss: What is a hearing loss?
How will a hearing loss affect the child and the classroom.
Show and Tell with hearing devices
- Deaf and Hard-of-hearing students need to be positioned to have the capabilities to lip read. Remove all visual barriers between the student and speaker.
- Have books about hearing loss available in the classroom
 1. A Button In Her Ear by Ada Litchfield
 2. I Have A Sister My Sister Is Deaf by Jeanne Whitehouse Peterson
 3. Can You Hear the Rainbow: A Story of a Deaf Boy Named Chris by Jamee Riggio Heelan
 4. Cosmo Gets an Ear by Gary Clemente
 5. Patrick Gets Hearing Aids by Maureen C. Riski
- Invite deaf or hard-of-hearing adults to come and share stories with the class.
- Encourage small and large group work to give the deaf and hard-of-hearing child an opportunity to ask questions within both group settings.
- Teach lessons on social topics such as friendship, emotions, giving compliments, dating, conversation skills, etc. Include role-playing in these lessons. This is helpful with the deaf and hard-of-hearing child's pragmatic language as well as socialization.
(Luckner & Denzin, 1998)
- Encourage deaf or hard-of-hearing students to participate in extracurricular activities such as clubs, sports, etc. Implement appropriate in-services as needed.

- Deaf or hard-of-hearing students may miss conversations about after school get-togethers. Encourage hearing students to invite the deaf or hard of hearing student to these activities.

OTHER USEFUL RESOURCES

This resource guide is only a summary of important information that teachers and other professionals working with children with a hearing impairment need to know. For further information about any of the discussed topics please refer to the following list:

1. Central Institute for the Deaf (CID) Oral School and Outreach Center, 4560 Clayton Ave., St. Louis, MO 63110
314/977-0132
www.cid.wustl.edu
2. The Moog Center for Deaf Education, 12300 South Forty Drive, St. Louis, MO 63141
314/692-7172
office@moogcenter.org
3. St. Joseph Institute for the Deaf-St. Louis, 1809 Clarkson Rd, Chesterfield, MO 63017
636/532-3211
www.sjid.org
3. Alexander Graham Bell Association for the Deaf and Hard of Hearing
www.oraldeafed.org
4. Cochlear America
www.cochlearamericas.com
5. Advanced bionics (Cochlear Implants)
www.advancedbionics.com
6. Phonak Hearing Aids
www.phonak.com

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