

## 1: Learning Language | Hearing Loss | NCBDDD

*Language and Deafness is a comprehensive textbook on current information regarding the many facets of deafness. In my opinion, this is a textbook that is most likely used in deaf education college courses.*

Close Position Statement On Early Cognitive and Language Development and Education of Deaf and Hard of Hearing Children Context Requiring Action Young deaf and hard of hearing children continue to experience delayed cognitive and language development in early childhood that lead to academic difficulties and underperformance when they begin schooling. Despite the good intentions of government, schools, and professionals, this condition persists, resulting in significant under-education and underemployment for persons who are deaf or hard of hearing. The effects of early language deprivation or limited exposure to language due to not having sufficient access to spoken language or sign language are often so severe as to result in serious health, education and quality of life issues for these children. Position on Early Childhood Development and Education for Deaf and Hard of Hearing Children The period from birth to 2 is a critical time for the acquisition of language and cognition for all children, and this period of time is often when deaf and hard of hearing children are deprived of processes that promote healthy language development Humphries et al. Until recently, the view of those in science, society, and education has been that these children will be severely disadvantaged because they lack access to auditory input and therefore auditory language exposure, even if deficient, is the best pathway to resolve this disadvantage. Signed or visual languages are naturally evolved languages of which there are many throughout the world. ASL is the signed or visual language that is prevalent in the United States and is the subject of much of the research discussed in this paper. During this period of early life, many deaf and hard of hearing children are, sometimes unintentionally and unknowingly, unable to access the language of their families or peers because this language is not in a visual form. In the absence of a visual language such as American Sign Language ASL , the risk of harm from language deprivation is heightened and their cognitive capacities are reduced. Language deprivation is the harm that results when a child does not receive sufficient language input to acquire or learn any language or readily develop cognitive capabilities. The presence of a signed language from birth greatly reduces this risk of harm Humphries et al. Studies have shown that early exposure to visual language changes visual processing and heightens skills in joint-attention. Children with early exposure to sign language frequently shift eye gaze, which leads to early vocabulary development. These studies, among others, show that by the age of 4, deaf children who use ASL are able to self-regulate attention to a visual language. Their self-regulation is achieved by careful and constant orchestration of visual gaze and engagement on the part of the adult, especially in contexts involving competing visual input such as book sharing. Early visual skills, particularly the ability to quickly find a picture in an array, predict later reading performance Fernald, It appears that visual learning, which develops along with visual language, is crucial in this correlation. Unlike hearing children, object exploration and receiving caregiver linguistic input in deaf children requires sequential or alternation of gaze, which can be hypothesized to be a more demanding type of visual attention. Managing divided visual attention between signed language input and English print on the page has long been thought to be a particularly effective bilingual strategy of deaf signing mothers with their deaf babies. The persistence of belief that reading a spoken language like English must logically require awareness of phonological coding of English has distracted from consideration in deaf education of the possibility that there are other efficient pathways for deaf children in learning to read. In a meta-analysis of research studies examining spoken language phonological coding abilities in deaf students educated in a variety of communication modes i. Specifically, they found two factors correlated with reading achievement: ASL fluency and exposure to print. However, the correlation between print exposure and literacy only holds when in the presence of ASL fluency. While spoken language phonological coding may not predict reading ability very well in deaf children, signed language phonological coding is a stronger factor in development of reading ability. These findings suggest that an emphasis on visual language development activities as a path to successful reading acquisition may serve as a better model of literacy development for deaf children. Importantly, use of sign language from an

early age does not inhibit the motivation and interest in the learning of speech Swanwick, A study of six bilingual children found that both a baby girl acquiring spoken French and English simultaneously and a baby boy, who was acquiring spoken French and Quebec Sign Language Langue de Signes Quebecoise "LSQ", achieved classic linguistic milestones and exhibited patterns of lexical growth that were consistent with monolingual norms L. Yet another study concluded that young bilinguals were not delayed in the achievement of early language milestones in either of their respective native languages. This finding indicates that both modalities are viable pathways for language acquisition. Moreover, research studies emphasize the importance of fingerspelling for reading. These studies suggest that: Learning to read and write English remains an important educational component for deaf children, and fluency in ASL is linked to literacy and their linguistic, cognitive, and cultural development. When controlled for other factors, these studies and others showed that fluency in ASL predicts reading achievement. With the link between ASL and English literacy, the basis for visual language in the development of literacy in deaf and hard of hearing children is clear. Another source of research support for the importance of visual language and visual learning is suggested by the link between deaf families and English literacy in their children: Hypothesizing that deaf families must be doing something in their daily lives that produces bilinguals able to read and write in English, a number of researchers focused on what happens between signing deaf adults and deaf children in deaf families and communities. These studies identified specific cultural practices and the ways that deaf people link ASL and English in everyday lives, such as: For this reason, early childhood is a crucial point in the education of deaf children. It is here that support for families and support for the child between home and school begins. It begins with clarifying whole-child development to parents—including language both ASL and English, social, cultural, literacy, and behavioral development. Listening technology is often beneficial to deaf and hard of hearing children, with augmented hearing aid systems and cochlear implants playing a role in the development of spoken language. However, as discussed earlier, spoken language development can be enhanced if sign language is also present. Hearing aids have been acceptable and effective listening devices and cochlear implants can, in some cases, be important in the development of spoken English. However, these technologies and devices vary greatly in their linguistic benefit to individual deaf and hard of hearing children. Humphries, et al argue that due to a cavalier treatment of the importance of keeping this kind of data on linguistic benefit, only informed estimates can be made. Such informed estimates indicate that no more than 40 percent of deaf and hard of hearing children who have cochlear implants but do not use sign language get a linguistic benefit from the device. Reliance on only spoken language input via cochlear implants may result in linguistic deprivation if sign language is excluded from the environment of the child. Put simply, if the child is only provided linguistic input through speech and hearing and the CI does not provide the child clear and unambiguous access to this input, language learning is compromised. Often medical and audiology professionals counsel parents to deprive deaf and hard of hearing children especially those who are implanted of exposure to sign language input. This advice to parents arises from a profound misunderstanding about languages, language development, and signed languages. This advice often leads to delayed language development and limited communication in the home and educational planning that does not acknowledge that the lack of progress in all areas of the school curriculum. If listening technology and speech are used with deaf and hard of hearing children, it is critical that signing also be used in a bilingual, bimodal environment. Deaf and hard of hearing children like all children have a right to language. Signed language, being a visual language, is the only completely accessible language for these children. Exposure to signed language from the onset is the only way to ensure this right. Language is essential to education and the education of deaf and hard of hearing children is no exception. Sign language is not only a necessity to ensure a normal cognitive development, language acquisition, and future academic success, but it is also shown to be biologically equivalent to spoken language L. Hope for improvement in the education of deaf and hard of hearing children lies in early exposure and development of signed language fluency. To achieve full participation in American life, deaf and hard of hearing children and youth will need two languages, English and ASL. Development of both English and ASL must begin as early as possible for every deaf and hard of hearing child. Required Action Research has shown that thousands of deaf and hard of hearing children are experiencing various levels

of language deprivation, many to an extent that constitutes harm in the form of educational, social-emotional and cognitive delays. For this reason, it is the position of the National Association of the Deaf that an all-out effort needs to be made to ensure that all deaf and hard of hearing children have full and meaningful access to language from birth and the benefit of visual language and visual learning. All institutions and individuals in the health, education, and child care professions need to be educated on the visual language needs of all deaf and hard of hearing children. It is the responsibility of government agencies such as federal and state Departments of Education and Departments of Social Services to develop safeguards to ensure that every deaf and hard of hearing child is progressing on a developmental path commensurate with children who hear. Federal and state health agencies and disease control agencies have a responsibility to recognize the epidemic nature of language deprivation of deaf and hard of hearing children, including therapies and treatments that have unacceptable failure rates and unpredictable results. There must no longer be excessive reliance on hope and tolerance of high risk that are not acceptable in other health and education contexts. The National Association of the Deaf further encourages the development of legislation to ensure age appropriate language acquisition and development in every deaf and hard of hearing child from birth. Laws and regulations that make clear that deaf and hard of hearing children have a right to language from birth through visual language, need to be legislated and enforced. The National Association of the Deaf asserts that the right to a natural, visual language is a human right of all deaf and hard of hearing children. Sources and Citations Note: Research, key concepts, and, even text was drawn from many sources. The citations made are selected ones, there are many others that are equally supportive of the positions taken in this position paper. Normative Data for American Sign Language. *Journal of Deaf Studies and Deaf Education*, 7 2 , Evidence of a bilingual reading advantage in children in bilingual schools from English-only homes. *Bilingual Research Journal*, 36 1 , Cognitive complexity and attentional control in the bilingual mind. *Child Development*, 70, Psychological Science in the Public Interest, 10 3 , A set of deaf parents and their deaf daughter. Theorizing about the relationship between ASL and reading. American Sign Language syntactic and narrative comprehension in skilled and less skilled readers: Bilingual and bimodal evidence for the linguistic basis of reading. *Applied Psycholinguistics* 29 , The Revolution at Gallaudet University. Developmental social cognitive neuroscience: *Child Development*, 80 4 , *Journal of Deaf Studies and Deaf Education*, 18 4 , Teacher practices for promoting visual engagement of deaf children in a bilingual school. Spoken English language development among native signing children with cochlear implants. *Journal of Deaf Studies and Deaf Education*, 19 2 , Phonological coding in word reading: Evidence from hearing and deaf readers. Visual attention in deaf and hearing infants: *Journal of Child Psychology and Psychiatry*, 46 10 , Foundations and Outcomes pp. English reading achievement and ASL skills in deaf students. Paper presented at the The 21st annual Boston University conference on language development.

## 2: American Sign Language and Deaf Studies

*The Fourth Edition of Language and Deafness covers language and literacy development from preschool through adolescence. It provides a clear depiction of the language/communication systems of d/Deaf and hard of hearing children and adolescents, and offers a comprehensive discussion of the current theories of language acquisition.*

A child with a mild hearing loss may be able to understand the general idea of what is being said but may miss certain sounds or specific details. That child may also have trouble in noisy or distracting environments. A child who is deaf has no hearing at all. A child with a mild hearing loss may not be hearing certain sounds in the English language. These sounds come up a lot in our language so it can be very hard to understand. Take a look at the following example. I ing am and I ould oh e um oro. Ok, did you understand that? That gives you an idea of how hard it can be for a child to not hear even just a few sounds. A child with a severe or profound hearing loss can have even larger problems with speech and language. Imagine not being able to hear anything at all! If our brains do not receive language when we are young, we have a much harder time learning it later on. Children with severe or profound hearing loss need to be exposed to other forms of language, like sign language, so they do not lose the ability to learn language. When your child has an ear infection, he has fluid inside his middle ear. The ear works through tiny moving pieces inside the middle ear. Imagine turning on the radio and submerging your ears into a bath or pool. When a child has an ear infection, there is fluid in the ear and it is infected. This can cause major speech and language delays as described above in the description of a mild hearing loss. You can also do some informal testing around your house. An audiologist can perform a full hearing evaluation on children who have suspected hearing loss. They can even do this for children who cannot participate in a typical screening. Fortunately, you have many options and your audiologist and speech-language pathologist should be able to help you through that decision making-process. The only key is to intervene as early as possible. Children who are identified at birth or shortly thereafter should begin therapy by 6 months of age. Children who are identified later should begin therapy as soon as possible. Here are some decisions that you will need to make for your child. Keep in mind that the best method for you depends on your family, your culture, your preferences, your child, and your situation. To Amplify or Not to Amplify: There are many amazing forms of amplification for children and adults with hearing loss. The technology is getting better every day. However, you also have the choice not to amplify your child. Parents who choose this option are often found in deaf communities. Children need to be exposed to language and it should be a full and robust language, not just the 20 signs you learned from the Baby Sign Language video. Which Type of Amplification to Choose: First of all, I am not an expert in this area and secondly, the technology is constantly changing. Work with your audiologist to find something that works for you and your family. Which Type of Communication Mode to Choose: There are a few different common methods to choose from, though keep in mind that some families do a combination of multiple approaches. Again, as far as I am aware, there is no research showing that one of these is superior to the rest. However, if your goal is for your child to be able to speak as though he does not have a hearing loss, some of the approaches may work better for that. Children who use this approach are not exposed to sign language or visual cues to help them use their hearing. They are taught to use whatever hearing they have left or have after amplification to learn how to listen and speak. This approach has a heavy emphasis on teaching listening skills. Some professionals believe that this type of therapy produces better outcomes for speech production in children with hearing loss. Keep in mind that this approach cannot be used until the child has been amplified enough to be able to hear speech sounds and that some children with severe to profound hearing loss may not benefit from this approach alone. Sign Language Only Approach: In this approach, the children and caretakers all use sign language exclusively. Most commonly, families who choose this method may have deaf parents or caregivers or the child may be attending a school for the deaf. Outside of the Deaf Community this approach is not very common. These approaches use spoken language with some sort of visual support, such as using sign language or hand cues next to the mouth. They may also include other forms of language to facilitate learning, such as written language and pictures. Simultaneous Communication is the use of spoken English with sign language supports

provided in unison. Meaning all instruction and conversations happen in both sign language and spoken English at the same time. One drawback to this method is the limited ability to communicate in two languages at once, simultaneously, while providing accurate language models. Simultaneous Communication is known for producing many structural and grammatical errors even when used by skilled professionals. The benefit is exposure to both an auditory and visual message for children who have a hearing loss. This is believed to support language development in both spoken English and sign language. Total Communication is similar to Simultaneous Communication in that both sign language and spoken language are often used together. This may mean any single or combination of signing, speaking, visual supports, cued speech, writing, listening, media and technology, role play, pictures, and more. There are many things we can do in speech therapy to help a child with hearing loss. The Royal College of Speech and Language Therapists have the following recommendations and clinical guidelines for what should be included in therapy Grade A recommendations have the most research backing them up while Grade C are still research-based but with fewer or less strenuous studies: At the beginning of each session, the speech-language pathologist SLP should visually inspect the amplification equipment e. As appropriate, the SLP should consult with other relevant professionals e. When appropriate to the child, management of hearing loss in children should include: Intervention to develop early communication skills e. Approaches to develop social and interaction skills e. Direct or indirect strategies to facilitate the development of receptive and expressive language skills Grade C Recommendation. Environmental modifications to make language and communication more accessible Grade C Recommendation. Auditory training Grade B Recommendation. Speech reading Grade C Recommendation.

## 3: Deafness and hearing loss

*The Fourth Edition of Language and Deafness covers language and literacy development from preschool through adolescence. Content includes the basics of language development and the relationship between language and cognition.*

They have specific deficiencies in hearing system and cannot communicate either by hearing or speaking. Deaf people are different from other peoples of society forming separate social groups, speak own language, mostly attend different universities, have own magazines, and special sports events including Olympics. With the help of modern developments in deaf language, deaf people can communicate with more ease and express their viewpoint comfortably. Therefore, they are satisfied with their lifestyle, how they spend their days, eventually leading a happy life. However, they are isolated from hearing cultures, in everyday life, in hotels, restaurants, banks, etc. In other words, their culture is different from others and distinctive from the cultural values exhibited by the hearing people. Deaf Culture - Distinctive and Isolated Traditionally, deaf people were taught through different oral methods focusing on developing speaking skills of deaf people. This approach was later on replaced by modern views that require developing communication abilities in infants long before they are able to speak. They are taught deaf language known as sign language from childhood to communicate easily when they are grown. Throughout the world, distinctive yet exclusive language has been developed for the deaf people to become a part of common culture. Padden, Similar to any other cultural or linguistic group, deaf people share common values and communicate in their own sign language. Deaf people, nowadays, are found at every level of public or private level within communities and successful as other hearing people. The second language of deaf people is English with sign language as the first one. However, due to a general attitude, deaf people are isolated and have formed minority groups living in their own culture, speaking their own language, communicating through their own way. It is pertinent to mention that deafness is more than just a medical condition, rather it is a way of life with own language, traditions, behavior, and overall distinctive culture. Due to biased attitude of hearing people, deaf community has developed distrust because they are viewed as disable or sick people needing medication. Similar to other groups, deaf community also has a feeling of self-respect or self-esteem. In other words members of deaf culture share a common sense of pride. They strive to remove their inability of not speaking or hearing with the help of sign language. Deaf language, therefore, is playing a vital role in formation and support of deaf culture uniting deaf people in one community. Hearing people should not try to avoid deaf people and treat them as an isolated group. With the development and advancements in genetic technologies deaf people are playing their due role in the community. For supporting deaf community, it is ethical for hearing people to embrace deaf culture and accept them as a normal linguistic as well as cultural community. Deafness, in fact, is not a disability and societies should treat them just like any other social group. People in deaf community, nowadays, live a normal life, driving, cooking, caring for others, paying their bills, and working like other normal people. Deaf Communities The term deafness is used to describe people having inability to hear. Deafness is a cultural and social phenomenon existing in every country and society of the world. People in deaf communities share a common perception creating a distinctive social, cultural, and linguistic community. The main feature of deaf culture is their language that distinguishes them from other hearing persons. It is pertinent to highlight that deaf culture and hearing cultures are the two extremes existing in the society. Both groups have different set of cultural, linguistics, and social values. They have different beliefs, norms, and attitudes. Hearing culture and deaf cultures, therefore, belong to different worlds. Both communities do not interact socially with each other and remain in their own boundary lines. Deaf communities belong to a culture in which different social and linguistic aspects are exhibited in comparison with people belonging to hearing cultures. Deaf communities include people with hearing impairments, however, isolated from normal social and cultural groups comprising hearing people. There are different problems existing in the deaf cultures. Deaf people generally have less access to communicate with hearing people and sharing information with them. Many deaf persons face serious problems in the ordinary life, like visiting a doctor, getting medical treatments, interacting with

lawyers, engineers, insurance companies etc. They also have low access to different sports as well as religious events. They cannot view most of the programs shown on televisions as no interpretation facility is available so they could understand it. Deaf people have low access to information and education compared with other hearing people. The main method of teaching is the oral sign language and no written way of education available to deaf people. Their chances of studying at high level, for example at university level, are quite low. In other words, educational facilities, especially at the highest level are limited for the people in deaf communities. Deaf culture has high limitations as deaf people are mostly ignorant of their cultural heritage and different other social events. Studies have shown that most of the deaf children are born in families having deaf parents. Since both cultures- hearing and deaf- are separate and significantly different with each other, the integration of both communities is considered an impossible factor. Padden, *Everyday and Routine Life of Deaf People* Deaf culture comprises people with own habits, patterns, customs, language and values. Deaf people consider them a minority group and not as individuals having disabilities. As a different minority and a separate culture they regard each other as a family feeling closer to each other and one community throughout the world. Due to common language, communication, and a separate culture, deaf people prefer spending time with other, marrying their own kind, and choosing their own kinds as mate or friend. Lane, It is pertinent to highlight that movement of accepting deaf as a separate cultural group and not disabled persons has become a part of human rights movement. To support their movement of acknowledging them as a cultural group, deaf language has supported their cause uniting them. Sign language has been accepted by different educational and governmental institutions equivalent to other foreign languages. This language, in most of the cases, is taught by deaf teachers to other deaf students. The way of teaching includes telling stories, singing songs, and narrating dramas. This increases chances of interaction between deaf people and proves as an effective way of interpreting and elucidating point-of-view. Deaf Language Through deaf language, deaf people can communicate with each other, expressing their thoughts, sharing their views, and describing their opinions or beliefs. The language has taken a modern perspective and commonly known as sign language, however, deaf language was born long before it was documented and recognized as a proper language and officially acknowledged by different educational and governmental institutions. Humphries, Sign language has strongly supported deaf communities, uniting them, understanding each other, and communicating in best possible way. Linguistically, sign language is similar to any other language facilitating deaf people to convey their thoughts or feelings through movement of hands, combining different hand shapes, and using facial expressions. The reason for developing this language is to support deaf people as they have different cultures separate from hearing people culture. For centuries, a general conception prevailed that it is not easy or possible to teach deaf people. Deaf children generally did not attend schools. However, evidence suggests that there were schools for deaf children in the 17th and 18th centuries but they did not meet all the requirements, and a dire need initiated to develop a modern language through which deaf people can easily communicate especially with other deaf persons forming a community in which everybody understand others. American Sign Language is considered as a fully functional language meeting all criteria of a true language. It includes basic rules of linguistics, grammar, and different other necessary requirements of a quality language. Humphries, *Use of Hands and Facial Expressions in Deaf Language* Hands are mainly used in sign language to express views with plain colored clothes regarded as the best background to convey meaning. However, in sign language hand movement is not the sole way of expressing rather entire movements of body as well as face are involved. This is a highly visible language as many signs and movements in this language are quick, with some humor and imagination. It is pertinent to mention that deaf people in different countries have different sign languages with standards and rules established as per their own areas. However, American Sign Language is considered as one of the most acceptable, comprehensive, with complete grammatical terms and the easiest of all sign languages in the world. Sign languages are exclusively developed in deaf cultures. People speaking sign language includes friends, family members, teachers, interpreters, and other people mostly deaf, sharing same characteristics. Despite the fact that a common sign language exists in the deaf community, at times specific sign systems are developed in families having deaf child and hearing parents. In this case, signs different to the universal sign language are developed within family being informal sign

system. These sign languages, developed at homes, are known as home sign language. However, whether sign language is developed at home with special symbols or a universally acceptable sign language is learnt, this language is comparatively complex and difficult compared to other languages. Yet for deaf people, with no other way of communication available, sign language is an effective way of communicating especially with other deaf people. It is, in fact, the most creative way to convey feelings, confront limitations, and living comfortably with much each in a community. This is due to the fact that people in deaf culture communicates through sign language, uses visual patterns to express their thoughts, mostly with movements of hands supported by facial expressions making it a highly expressive way of communication. Conclusion Efforts have been made in the paper to describe deaf culture and deaf language. Deaf people mostly are regarded as individuals who cannot hear due to their lacking auditory capability. Deaf people are different from hearing people forming separate social groups, speak own language, and are a distinctive group or culture. The paper has also discussed deaf language as a mean of communication by deaf people. The modern way of communication is sign language with American Sign Language considered as a fully functional language meeting all criteria of a true language; however, there are also other sign languages in the world. Voices from a Culture, Harvard University Press.

## 4: Basics about Hearing Loss in Children | Hearing Loss | NCBDDD | CDC

*Hearing Loss and Deafness. If you're experiencing hearing loss, adjustments can make life easier. Learn more about the condition and assistive devices that may be able to help you.*

Chirogram from Chirologia, In Britain, manual alphabets were also in use for a number of purposes, such as secret communication, [8] public speaking, or communication by deaf people. Arthrological systems had been in use by hearing people for some time; [12] some have speculated that they can be traced to early Ogham manual alphabets. The earliest known printed pictures of consonants of the modern two-handed alphabet appeared in with *Digiti Lingua* Latin for Language [or Tongue] of the Finger , a pamphlet by an anonymous author who was himself unable to speak. Nine of its letters can be traced to earlier alphabets, and 17 letters of the modern two-handed alphabet can be found among the two sets of 26 handshapes depicted. Charles de La Fin published a book in describing an alphabetic system where pointing to a body part represented the first letter of the part e. By , the British manual alphabet had found more or less its present form. Now called Gallaudet University , it is still the only liberal arts university for deaf people in the world. Sign languages generally do not have any linguistic relation to the spoken languages of the lands in which they arise. The correlation between sign and spoken languages is complex and varies depending on the country more than the spoken language. While recent studies claim that International Sign is a kind of a pidgin , they conclude that it is more complex than a typical pidgin and indeed is more like a full sign language. Linguistics[ edit ] In linguistic terms, sign languages are as rich and complex as any spoken language, despite the common misconception that they are not "real languages". Professional linguists have studied many sign languages and found that they exhibit the fundamental properties that exist in all languages. While iconicity is more systematic and widespread in sign languages than in spoken ones, the difference is not categorical. They have complex grammars of their own and can be used to discuss any topic, from the simple and concrete to the lofty and abstract. Sign languages, like spoken languages, organize elementary, meaningless units called phonemes into meaningful semantic units. These were once called cheremes from the Greek word for "hand" in the case of sign languages, by analogy to the phonemes from Greek for "voice" of spoken languages, but now also called phonemes, since the function is the same. This is often called duality of patterning. As in spoken languages, these meaningless units are represented as combinations of features, although often also crude distinctions are made in terms of handshape or handform , orientation , location or place of articulation , movement , and non-manual expression. Common linguistic features of many sign languages are the occurrence of classifiers , a high degree of inflection by means of changes of movement, and a topic-comment syntax. More than spoken languages, sign languages can convey meaning by simultaneous means, e. Though there is still much discussion on the topic of iconicity in sign languages, classifiers are generally considered to be highly iconic, as these complex constructions "function as predicates that may express any or all of the following: Across the field of sign language linguistics the same constructions are also referred with other terms. Today, linguists study sign languages as true languages, part of the field of linguistics. Relationships with spoken languages[ edit ] Sign language relief sculpture on a stone wall: Instead, sign languages, like all natural languages, are developed by the people who use them, in this case, deaf people, who may have little or no knowledge of any spoken language. As a sign language develops, it sometimes borrows elements from spoken languages, just as all languages borrow from other languages that they are in contact with. Sign languages vary in how and how much they borrow from spoken languages. In many sign languages, a manual alphabet fingerspelling may be used in signed communication to borrow a word from a spoken language, by spelling out the letters. This is most commonly used for proper names of people and places; it is also used in some languages for concepts for which no sign is available at that moment, particularly if the people involved are to some extent bilingual in the spoken language. Fingerspelling can sometimes be a source of new signs, such as initialized signs, in which the handshape represents the first letter of a spoken word with the same meaning. On the whole, though, sign languages are independent of spoken languages and follow their own paths of development. The grammars of sign languages do not usually resemble those of spoken languages

used in the same geographical area; in fact, in terms of syntax, ASL shares more with spoken Japanese than it does with English. South Africa , which has 11 official spoken languages and a similar number of other widely used spoken languages, is a good example of this. It has only one sign language with two variants due to its history of having two major educational institutions for the deaf which have served different geographic areas of the country. Spatial grammar and simultaneity[ edit ].

## 5: Deafness and hearing loss: Causes, symptoms, and treatments

*The language has taken a modern perspective and commonly known as sign language, however, deaf language was born long before it was documented and recognized as a proper language and officially acknowledged by different educational and governmental institutions.*

**Key facts** Around million people worldwide have disabling hearing loss 1 , and 34 million of these are children. It is estimated that by over million people will have disabling hearing loss. Hearing loss may result from genetic causes, complications at birth, certain infectious diseases, chronic ear infections, the use of particular drugs, exposure to excessive noise, and ageing. Interventions to prevent, identify and address hearing loss are cost-effective and can bring great benefit to individuals. People with hearing loss benefit from early identification; use of hearing aids, cochlear implants and other assistive devices; captioning and sign language; and other forms of educational and social support. It is estimated that by over million people “ or one in every ten people “ will have disabling hearing loss. Disabling hearing loss refers to hearing loss greater than 40 decibels dB in the better hearing ear in adults and a hearing loss greater than 30 dB in the better hearing ear in children. The majority of people with disabling hearing loss live in low- and middle-income countries. Approximately one third of people over 65 years of age are affected by disabling hearing loss.

**Hearing loss and deafness** A person who is not able to hear as well as someone with normal hearing “ hearing thresholds of 25 dB or better in both ears “ is said to have hearing loss. Hearing loss may be mild, moderate, severe, or profound. It can affect one ear or both ears, and leads to difficulty in hearing conversational speech or loud sounds. People who are hard of hearing usually communicate through spoken language and can benefit from hearing aids, cochlear implants, and other assistive devices as well as captioning. People with more significant hearing losses may benefit from cochlear implants. They often use sign language for communication.

**Causes of hearing loss and deafness** The causes of hearing loss and deafness can be congenital or acquired. Congenital causes Congenital causes may lead to hearing loss being present at or acquired soon after birth. Hearing loss can be caused by hereditary and non-hereditary genetic factors or by certain complications during pregnancy and childbirth, including: Acquired causes Acquired causes may lead to hearing loss at any age, such as: Among children, chronic otitis media is a common cause of hearing loss. Spoken language development is often delayed in children with unaddressed hearing loss. Unaddressed hearing loss and ear diseases such as otitis media can have a significantly adverse effect on the academic performance of children. They often have increased rates of grade failure and greater need for education assistance. Access to suitable accommodations is important for optimal learning experiences but are not always available.

**Social and emotional impact** Exclusion from communication can have a significant impact on everyday life, causing feelings of loneliness, isolation, and frustration, particularly among older people with hearing loss. This includes health sector costs excluding the cost of hearing devices , costs of educational support, loss of productivity, and societal costs. In developing countries, children with hearing loss and deafness rarely receive any schooling. Adults with hearing loss also have a much higher unemployment rate. Among those who are employed, a higher percentage of people with hearing loss are in the lower grades of employment compared with the general workforce. Improving access to education and vocational rehabilitation services, and raising awareness especially among employers about the needs of people with hearing loss, will decrease unemployment rates for people with hearing loss.

**Prevention** Overall, it is suggested that half of all cases of hearing loss can be prevented through public health measures. Overall, preventable causes of childhood hearing loss include: In infants and young children with hearing loss, early identification and management through infant hearing screening programmes can improve the linguistic and educational outcomes for the child. Children with deafness should be given the opportunity to learn sign language along with their families. Pre-school, school and occupational screening for ear diseases and hearing loss is an effective tool for early identification and management of hearing loss. People with hearing loss can benefit from the use of hearing devices, such as hearing aids, cochlear implants, and other assistive devices. They may also benefit from speech therapy, aural rehabilitation and other related services. The lack of

availability of services for fitting and maintaining these devices, and the lack of batteries are also barriers in many low-income settings. Making properly-fitted, affordable hearing aids and cochlear implants and providing accessible follow-up services in all parts of the world will benefit many people with hearing loss. People who develop hearing loss can learn to communicate through development of lip-reading skills, use of written or printed text, and sign language. Teaching in sign language will benefit children with hearing loss, while provision of captioning and sign language interpretation on television will facilitate access to information. Officially recognizing national sign languages and increasing the availability of sign language interpreters are important actions to improve access to sign language services. Encouraging organizations of people with hearing loss, parents and family support groups; and strengthening human rights legislation can also help ensure better inclusion for people with hearing loss. WHO response WHO assists Member States in developing programmes for ear and hearing care that are integrated into the primary health-care system of the country. In , the 70th World Health Assembly adopted a resolution on the prevention of deafness and hearing loss. This resolution calls upon Member States to integrate strategies for ear and hearing care within the framework of their primary health care systems, under the umbrella of universal health coverage. It also requests WHO to undertake a number of actions for promotion of ear and hearing care at global level, including many of those noted above.

## 6: Hearing Problems and Deafness | Hearing Loss | MedlinePlus

*What is Hearing Loss? The term hearing loss describes a problem with a child's hearing. Hearing loss can range from mild to profound. A child with a mild hearing loss may be able to understand the general idea of what is being said but may miss certain sounds or specific details.*

The deaf and hard of hearing community is diverse. However, some people who were born deaf or hard of hearing do not think of themselves as having lost their hearing. **Voices from a Culture** We use the lowercase deaf when referring to the audiological condition of not hearing, and the uppercase Deaf when referring to a particular group of deaf people who share a language – American Sign Language (ASL) – and a culture. The members of this group have inherited their sign language, use it as a primary means of communication among themselves, and hold a set of beliefs about themselves and their connection to the larger society. We distinguish them from, for example, those who find themselves losing their hearing because of illness, trauma or age; although these people share the condition of not hearing, they do not have access to the knowledge, beliefs, and practices that make up the culture of Deaf people. The richness of their sign language affords them the possibilities of insight, invention, and irony. Can one be hard-of-hearing and ASL-Deaf? Can one be hard-of-hearing and function as hearing? What about being hard-of-hearing and functioning as a member of both the hearing and Deaf communities? As for the political dimension: HOH people can be allies of the Deaf community. They can choose to join or to ignore it. Individuals can choose an audiological or cultural perspective. Whatever the decision, the NAD welcomes all Deaf, deaf, hard of hearing, late-deafened, and deaf-blind Americans, and the advocacy work that the NAD does is available to and intended to benefit everyone. Deaf and hard of hearing people have the right to choose what they wish to be called, either as a group or on an individual basis. **Deaf and Dumb** – A relic from the medieval English era, this is the granddaddy of all negative labels pinned on deaf and hard of hearing people. The term is offensive to deaf and hard of hearing people for a number of reasons. They use sign language, lip-reading, vocalizations, and so on to communicate. Obviously, this is incorrect, ill-informed, and false. Deaf and hard of hearing people have repeatedly proved that they have much to contribute to the society at large. This label is technically inaccurate, since deaf and hard of hearing people generally have functioning vocal chords. The challenge lies with the fact that to successfully modulate your voice, you generally need to be able to hear your own voice. Again, because deaf and hard of hearing people use various methods of communication other than or in addition to using their voices, they are not truly mute. **Hearing-impaired** – This term is no longer accepted by most in the community but was at one time preferred, largely because it was viewed as politically correct. To declare oneself or another person as deaf or blind, for example, was considered somewhat bold, rude, or impolite. It implies that something is not as it should be and ought to be fixed if possible. To the best of our own unique abilities, we have families, friends, communities, and lives that are just as fulfilling as anyone else. We may be different, but we are not less. Words and labels can have a profound effect on people. Show your respect for people by refusing to use outdated or offensive terms. When in doubt, ask the individual how they identify themselves.

## 7: Hearing Loss - Speech And Language Kids

*A deaf child born to parents who are deaf and who already use ASL will begin to acquire ASL as naturally as a hearing child picks up spoken language from hearing parents. However, for a deaf child with hearing parents who have no prior experience with ASL, language may be acquired differently.*

He stood in the back, a suited adolescent in a sea of elementary schoolchildren. Her father had been held back. He had lagged behind his peers for a specific reason. Instead, teachers spent years coaching him to speak using physical and visual cues. Raymond Kenney stands in the back row, far right, a bright adolescent in a class of elementary-age students. Kenney is deaf but had no access to sign language in school, so he had limited opportunities to advance. Photo courtesy of Naomi Caselli By age eight, he knew a few basic words, but he could not speak in sentences and used made-up gestures to communicate with his family. He did learn to read, however, and excelled in math and science as a teen. Also, elementary and secondary school programs for the deaf teach and assess ASL proficiency using accepted measurement tools, some of which were developed at BU. But language deprivation remains a real problem for deaf children. Even among school-aged deaf children, estimates based on data from a survey from Gallaudet University, which specializes in deaf education, suggest that at most 40 percent of families use sign language at home. Given this data, educators in the field worry that a majority of deaf children may be deprived of language. Naomi Caselli wants to understand how deaf children under five acquire language. Photo by Cydney Scott Exposure to language from birth is essential for the development of thinking skills, according to a range of studies. Without access to language, children have a harder time in school. They also have more difficulty developing a sense of self and others. They even struggle with planning and time management. So Caselli, Lieberman, and their collaborators are using the tools of linguistics, behavioral psychology, cognitive science, and education to understand how deaf children acquire language and, in turn, how best to teach them. Students at BU could study it, but it did not count as a foreign language. It uses space, coordinated handshapes and movements, facial expressions, and a unique syntax to build meaning. Together, this visual language has all the structural features found in spoken languages. It also has its own literary traditions. The developing brain responds to language no matter how it is presented, so exposure to ASL is equivalent to exposure to a spoken language. At most, 40 percent of families with school-aged deaf children use sign language at home Photo by Cydney Scott Researchers also learned that language deprivation delays the development of thinking skills. They found that children exposed to sign language from birth develop theory of mind apace with hearing children. But children with delayed language exposure also had delays in theory of mind. Now research in the Deaf Studies program is shifting the focus to younger children, from birth to age five. This age range is known as the critical period of language development. During those years, exposure to language triggers all kinds of development. Pull the trigger, and children associate words with things, ideas, and feelings. They form a sense of self and others, an understanding of time and planning, and an ability to pay attention and make connections. On the flip side, without language exposure, children experience a cascade of deficits. Bucci puts it more directly: They also face conflicting advice from health providers, associations, and educators. Some advocacy and professional groups counsel against introducing sign language, particularly targeting parents who want to use medical interventions such as cochlear implants. Parents are told that sign language will distract their child, or that it will take up space in the brain and not leave room for learning spoken languages. Amy Lieberman tracks eye movements to study how deaf children learn and process language. Photo by Cydney Scott These and other concerns have largely been debunked. In a recent review of research on the subject, Caselli and her colleagues, Matthew Hall from the University of Connecticut and Wyatte Hall from the University of Rochester Medical Center, show that learning ASL early supports learning a spoken language later, the same way learning one spoken language supports learning a second. This connection between written language and sounds is called phonological coding. But according to research Lieberman did before she came to BU, this is also a misconception. Research shows that the deaf child will only benefit, whether hearing and speech are introduced later or not. This would not only help researchers understand the scale of the problem but also help

them guide deaf children and their parents to services that can smooth the way to introducing sign language. With new funding from the National Institute on Deafness and other Communication Disorders, part of the National Institutes of Health NIH , they plan to work initially with deaf children who have deaf parents. Caselli hopes it will become a repository for data on how and when children acquire sign language. From there, they will study deaf children with hearing parents, who likely face bigger challenges and potential delays as parents learn to sign. The database will also become a repository for information about milestones, such as the age at which children learn different signs. This information, in turn, can become a source for building assessment tools. Deaf babies who learn sign language from their parents learn to manage their attention by the time they reach preschool, according to earlier research by Lieberman. Photo courtesy of Bruce Bucci Since eye movements reveal a lot about how deaf children process and learn language, Lieberman developed a set of studies using techniques that track eye movements and is continuing this research with a grant from the NIH. She and her research team, which includes both deaf and hearing researchers, are focused on deaf children as young as 18 months and up to five years to understand how and when they learn words. The study will include both deaf children with deaf parents and deaf children with hearing parents.

## 8: Sign language - Wikipedia

*Hearing loss can affect a child's ability to develop communication, language, and social skills. The earlier children with hearing loss start getting services, the more likely they are to reach their full potential.*

The examples and perspective in this section may not represent a worldwide view of the subject. You may improve this article, discuss the issue on the talk page, or create a new article, as appropriate. By correcting for age in assessing hearing, one tends to overestimate the hearing loss due to noise for some and underestimate it for others. As noise damage progresses, damage spreads to affect lower and higher frequencies. Various governmental, industry and standards organizations set noise standards. Exposures to other ototoxins such as pesticides, some medications including chemotherapy agents, solvents, etc. This is called a synergistic interaction. Since noise damage is cumulative over long periods of time, persons who are exposed to non-workplace noise, like recreational activities or environmental noise, may have compounding damage from all sources. Many people are unaware of the presence of environmental sound at damaging levels, or of the level at which sound becomes harmful. Noise damage is cumulative; all sources of damage must be considered to assess risk. Sound intensity sound energy, or propensity to cause damage to the ears increases dramatically with proximity according to an inverse square law: In the USA, Studies of primitive peoples indicate that much of what has been attributed to age-related hearing loss may be long term cumulative damage from all sources, especially noise. People living in preindustrial societies have considerably less hearing loss than similar populations living in modern society. Among primitive people who have migrated into modern society, hearing loss is proportional to the number of years spent in modern society. A summary report was published in Syndromic deafness occurs when there are other signs or medical problems aside from deafness in an individual. These are diseases that have deafness as one of the symptoms or as a common feature associated with it. Many of the genetic mutations giving rise to syndromic deafness have been identified. In nonsyndromic cases, where deafness is the only finding, it is more difficult to identify the genetic mutation although some have been discovered. A single base change in a large Costa Rican family was identified as causative in a rare form of low frequency onset progressive hearing loss with autosomal dominant inheritance exhibiting variable age of onset and complete penetrance by age The most common dominant syndromic forms of hearing loss include Stickler syndrome and Waardenburg syndrome. The most common recessive syndromic forms of hearing loss are Pendred syndrome and Usher syndrome. The congenital defect microtia, deformed or unformed outer ear, can be associated with partial or complete conductive deafness, depending upon the severity of the deformity and whether the middle ear is also affected. It can also be associated with abnormalities of the inner ear giving rise to an additional sensorineural component to the hearing loss mixed deafness. Dozens of additional genes for nonsyndromic deafness have been identified. Premature birth can be associated with sensorineural hearing loss because of an increased risk of hypoxia, hyperbilirubinaemia, ototoxic medication and infection as well as noise exposure in the neonatal units. Disorders[ edit ] strokes – Depending on what blood vessels are affected by the stroke, one of the symptoms can be deafness [45]. Multiple sclerosis, or MS, is an autoimmune disease where the immune system attacks the myelin sheath, a covering that protects the nerves. If the auditory nerve becomes damaged, the affected person will become completely deaf in one or both ears. There is no cure for MS. This usually occurs as a consequence of trauma, including barotrauma, and can give rise to vertigo as well as hearing loss. The patient may be generally unwell at the time. Measles may cause auditory nerve damage but usually gives rise to a chronic middle ear problem giving rise to a mixed hearing loss. Syphilis is commonly transmitted from pregnant women to their fetuses, and about a third of infected children will eventually become deaf. Although rare, it is possible for autoimmune processes to target the cochlea specifically as a first presentation. Granulomatosis with polyangiitis is one of the autoimmune conditions that may precipitate hearing loss. Otosclerosis is a condition that can cause fixation of the stapes or stirrup in the middle ear preventing its movement and causing a conductive hearing loss. Vestibular schwannoma, erroneously known as Acoustic neuromas, and other types of brain tumors can cause hearing loss by infringement of the tumor on the

vestibulocochlear nerve Congenital problems Superior semicircular canal dehiscence , a gap in the bone cover above the inner ear, can lead to low-frequency conductive hearing loss, autophony and vertigo. These medications are considered ototoxic. This includes loop diuretics such as furosemide and bumetanide, non-steroidal anti-inflammatory drugs NSAIDs both over-the-counter aspirin, ibuprofen, naproxen as well as prescription celecoxib, diclofenac, etc. The link between NSAIDs and hearing loss tends to be greater in women, especially those who take ibuprofen six or more times a week. Food and Drug Administration FDA announced that a warning about possible sudden hearing loss would be added to drug labels of PDE5 inhibitors , which are used for erectile dysfunction. Ototoxicity In addition to medications, hearing loss can also result from specific chemicals in the environment: It damages the cochlea with lesions and degrades central portions of the auditory system. The effects is greatest when the combined exposure include impulse noise.

### 9: National Association of the Deaf - NAD

*The diverse ways in which the concept 'natural' has been linked with spoken and sign language and the use of auditory aids can hence be shown to be equivocal and contradictory; for example, promotion of spoken language as more 'natural' than sign language is associated paradoxically with the implantation in deaf children of electronic.*

The earlier children with hearing loss start getting services, the more likely they are to reach their full potential. What is Hearing Loss? A hearing loss can happen when any part of the ear is not working in the usual way. This includes the outer ear, middle ear, inner ear, hearing acoustic nerve, and auditory system. Signs and Symptoms The signs and symptoms of hearing loss are different for each child. Even if a child has passed a hearing screening before, it is important to look out for the following signs. Signs in Babies Does not startle at loud noises. Does not turn to the source of a sound after 6 months of age. Turns head when he or she sees you but not if you only call out his or her name. This sometimes is mistaken for not paying attention or just ignoring, but could be the result of a partial or complete hearing loss. Seems to hear some sounds but not others. Signs in Children Speech is delayed. Speech is not clear. Does not follow directions. Babies and children should reach milestones in how they play, learn, communicate and act. A delay in any of these milestones could be a sign of hearing loss or other developmental problem. Visit our web page to see milestones that children should reach from 2 months to 5 years of age. Screening and Diagnosis Hearing screening can tell if a child might have hearing loss. Hearing screening is easy and is not painful. In fact, babies are often asleep while being screened. It takes a very short time – usually only a few minutes. Babies All babies should have a hearing screening no later than 1 month of age. Most babies have their hearing screened while still in the hospital. Children who do not pass the hearing screening need to get a full hearing test as soon as possible. Good treatment plans will include close monitoring, follow-ups and any changes needed along the way. There are many different types of communication options for children with hearing loss and for their families. Some of these options include: Learning other ways to communicate, such as sign language Technology to help with communication, such as hearing aids and cochlear implants Medicine and surgery to correct some types of hearing loss Family support services.

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