<table>
<thead>
<tr>
<th>Test</th>
<th>Type</th>
<th>Description</th>
<th>Target Population</th>
<th>Time to Administer</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACPT (Auditory Continuous Performance Test)</td>
<td>Auditory Attention Deficits</td>
<td>Determine if an attention problem is one of the underlying factors contributing to a child's learning problems.</td>
<td>6-11</td>
<td>10 minutes</td>
</tr>
<tr>
<td>Arizona</td>
<td>Articulation</td>
<td>Provides a quick, reliable, and well-standardized measure of articulation proficiency in children.</td>
<td>Children between 1.5 and 18 years</td>
<td>2-10 minutes depending on if a language screening is included</td>
</tr>
<tr>
<td>CAAP (Clinical Assessment of Articulation &amp; Phonology)</td>
<td>Articulation and Phonology</td>
<td>The child is taught to develop hearing as an active sense so that listening becomes automatic and the child seeks out sounds in life. Hearing and active listening become an integral part of communication, recreation, socialization, education, and work.</td>
<td>2:6-8:11</td>
<td>15-20 min</td>
</tr>
<tr>
<td>CELF 4 (Clinical Evaluation of Language Fundamentals fourth edition)</td>
<td>Language</td>
<td>Determines language strengths and weaknesses. Provides Receptive Language and Expressive Language scores, and additional composite scores-Language Structure, Language Content, Language Content and Memory, and Working Memory.</td>
<td>5-21 years</td>
<td>30-60 minutes</td>
</tr>
<tr>
<td>CHAPPS (Children’s Auditory Processing Performance Scale)</td>
<td>Screening for APD</td>
<td>A questionnaire that is used to screen for APD by assessing a parent’s and/or a teacher’s judgment of a child’s listening ability as compared to his or her peers.</td>
<td>7+</td>
<td>Depends</td>
</tr>
<tr>
<td>DALS II (Developmental Approach to Successful Listening II)</td>
<td>Auditory Training</td>
<td>Consists of a hierarchy of listening that are worked on in brief individualized sessions.</td>
<td>Pre-School and School Aged Children</td>
<td>Varies</td>
</tr>
<tr>
<td>Erber</td>
<td>Auditory Training</td>
<td>It Evaluates perceptual abilities on four different levels- Detection, Discrimination, Identification, Comprehension</td>
<td>Children</td>
<td>Varies</td>
</tr>
<tr>
<td>GFTA-2 (Goldman Fristoe Test of Articulation 2nd Ed.)</td>
<td>Articulation</td>
<td>Provides information about a child's articulation ability by sampling both spontaneous and imitative sounds. Measures articulation of consonant sounds and determines types of misarticulation. The Sounds-in-Words section is norm-referenced. The Sounds-in-Sentences and Stimulability sections are not norm-referenced.</td>
<td>Children 2-21 years</td>
<td>5 to 15 minus depending on age and attention span</td>
</tr>
<tr>
<td>LACE (Listening and Communication Enhancement)</td>
<td>Auditory Training</td>
<td>An interactive computer program designed to improve listening skills. This program is used in the client’s home in a self-directed manner. It focuses</td>
<td>Adult</td>
<td>Varies</td>
</tr>
<tr>
<td>Test Description</td>
<td>Domain</td>
<td>Description</td>
<td>Subtest Details</td>
<td>Administration Duration</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------------</td>
<td>----------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>PLS (Pragmatic Language Skills Inventory)</td>
<td>Language</td>
<td>Assesses children's pragmatic language abilities in three subscales: Personal Interaction Skills, Social Interaction Skills, and Classroom Interaction Skills.</td>
<td></td>
<td>5:0-12:11</td>
</tr>
<tr>
<td>SCAN-C (Test for Auditory Processing Disorders in Children-Revised)</td>
<td>Direct Audio Processing</td>
<td>Give to children who have normal peripheral hearing but who appear to have poor listening skills, short auditory attention span, or difficulty understanding speech in the presence of background noise. (Need a cd player)</td>
<td></td>
<td>5:0-11:0</td>
</tr>
<tr>
<td>S-CAT (Second Contextual Articulation Test)</td>
<td>Articulation</td>
<td>Part 1-SPAC: Storytelling Probes of Articulation Competence Part 2-CPAC: Contextual Probes of Articulation Competence Part 3-TWCT: Target Words for Contextual Training Determines exact pretreatment status for any particular phoneme or phonological process, evaluates progress during treatment, and ensures correct treatment target. Also allows practice materials to be linked to the assessment process, and documents overall effectiveness of intervention.</td>
<td>Preschool to adults. 3-5 minutes to be administered as a reading task or an imitative task</td>
<td></td>
</tr>
<tr>
<td>SKI-HI</td>
<td>Auditory Training</td>
<td>This program is based in the home and is a developmentally based auditory stimulation training program.</td>
<td></td>
<td>Infants</td>
</tr>
<tr>
<td>SPICE (Speech Perception Instructional Curriculum &amp; Evaluation)</td>
<td>Auditory Training</td>
<td>A guide to clinicians in evaluating and developing auditory skills in children.</td>
<td></td>
<td>Babies and children who have just received CIs</td>
</tr>
<tr>
<td>TOLD</td>
<td>Language</td>
<td>Seven subtests: Picture Vocabulary, Oral Vocabulary, Grammatic Understanding, Sentence Imitation, Grammatical Completion, Word Discrimination, and Word Articulation</td>
<td></td>
<td>4:0-8:11</td>
</tr>
</tbody>
</table>
What Everyone Should Know About Speech Sound Disorders

Special points of interest:

> Articulation
> Phonology

Definition of Speech Sound Disorders

Speech sound disorders (SSD) cover a wide variety of areas but their common theme is they inhibit a person’s ability to communicate. Included in this category are disorders of voice, articulation, or fluency. Most cases of SSD are either articulation disorders or phonological disorders.

What is an Articulation Disorder?

An articulation disorder is associated with the inability to properly produce speech sounds. This is often associated with difficulties involving the articulators (lips, teeth, tongue, soft and hard palate). On average children should have mastered the correct production of most speech sounds by the age of 8. An articulation error is when a sound is substituted (substitution), left off (omission), added (addition), or changed (distorted). The cause of articulation disorders vary. Some children have some form of hearing loss that inhibits them from properly perceiving the sounds. In other cases there is a physical disability involving the articulators including malformations of the lip or palate among others. Neuromuscular problems also impact speech. Finally, articulations disorders can result from overarching developmental delays.

Tell Me About Phonological Disorders

Phonological disorders involve the cognitive processes associated with the selection of proper speech sounds. Clients with phonological disorders have difficulty learning and organizing speech sounds needed to communicate. It is common for children with phonological disorders to substitute all sounds made in a particular way or place in the mouth for something that is easier for them to produce. Also common is cluster reduction. Cluster reduction happens when a child produces “poon” for “spoon” removing the s.

Inside this Issue:

| What is an Articulation Disorder | 1 |
| Tell Me About Phonological Disorder | 1 |
| Treatment | 2 |
| Specific Errors | 3 |
| Things To Do at Home to Help | 4 |
Treatment for Articulation Disorders

The earlier intervention for articulation disorders begins the easier the rehabilitation will progress. There are several factors that influence therapy including the age of the client and the severity of the disorder.

One approach is to target single phonemes. In this instance the clinician would begin by training the client to perceive the difference between the target sound and the error sound. Then the clinician begins working on production of the phoneme in isolation then syllables, words, sentences, and conversation.

Another popular method is the cycles approach. This was developed by Hodson and Paden in 1991. With this type of therapy several different articulation goals are being worked on simultaneously. The rationale behind this approach is that individuals do not learn speech concepts in isolation; they are learned in conjunction with multiple concepts.

Treatment for Phonological Disorders

When a clinician is focusing on a phonological goal it is common to begin with placement. One way is to go through a step-by-step process of teaching the client to move their articulators in the correct way to produce the desired sound. In addition, clinicians know the concepts behind language and it is their goal to teach the client rules of language including past tense. With phonological disorders and other speech disorders it is important to take therapy outside the clinic so the child can generalize what they are learning and apply it to other situations.

Intervention for Both

Often articulation and phonology are combined into one approach. There are two main methods that target both areas. The first is the developmental approach. When using this method the clinician targets articulation or phonological errors in the order in which they typically develop. The non-developmental approach which uses other factors to determine goals. One option is to choose the targets that are most relevant to the client. Targets may also be chosen to coincide with other errors in the child’s use of language. Another option is to choose targets because of their visibility. The visibility of a target makes it easier for the clinician to teach. Finally, some clinicians choose targets based on the apparent level of deviance related to a specific error. This option is organized to increase the client’s intelligibility as quickly as possible by targeting the errors that are the most detrimental.
Common Types of Phonological Processes

- Alveolarization - substitution of and alveolar for a labial or lingual denta
- Assimilation - the process by which a sound becomes more like those around it
- Backing - a phoneme is replaced by another that is produced further back in the mouth
- Cluster Reduction - when two consonants are together but only one is produced
- Coalescence - a different sound substituted for a cluster
- Deaffrication - a fricative replacing an affricate
- Denasialization - a nasal being replaced with a stop with similar placement
- Depalatalization - an alveolar fricative or affricate replaces a palatal fricative or affricate.
- Diminutization - addition of /i/
- Doubling - insertion of a new sound
- Final consonant deletion
- Fronting - a sound being substituted for something that is produced further forward
- Gliding - a glide is substituted for a liquid
- Initial consonant deletion
- Matathesis (Spoonerism) - transposition of two sounds
- Reduplication - when a partial of complete syllable is repeated
- Stopping - substitution of a stop for a fricative or affricate
- Strident deletion - deleting a strident or replacing it with a nonstrident
- Unstressed syllable deletion
- Voicing of devoicing - a change in voicing because of surrounding sounds
- Vocalization (vowelization) - a vowel takes the place of a liquid in the final position

Works Cited

What Everyone Should Know About Language

Special points of interest:

> Expressive and Receptive Language
> Symptoms of Language Disorders
> Types of Language Disorders
> Treatment of Language Disorders

Basics of Language Disorders

Language disorders deal with broad based communication. All disorders fall into one of two categories: expressive language or receptive language. Both types of language disorders can affect one or multiple forms of communication including oral communication, reading, and writing.

An expressive language disorder creates problems for an individual trying to communicate a message to another individual or other individuals. Expressive disorders can present themselves orally or in writing.

Receptive disorders inhibit a person's ability to understand the message being presented to them. This type of disorder is typically experienced when listening or writing. Because of its general nature, receptive language disorders may overlap with auditory processing disorders or aphasia. It is also possible for an individual to have a mixed language disorder in which they experience characteristics of both subgroups.

Another way language disorders are classified is by associating them with the major linguistic component they most impact. There are five different linguistic components: semantics, morphology, syntax, pragmatics, and phonology. Semantics deals with the meanings of individual words and the rules that are in effect when they are combined into phrases. Morphology controls the construction of words by the combination of morphemes, the smallest level of a language that contains meaning. Syntax concerns sentence structure and the creation of grammatically correct sentences. Pragmatics focuses on nonverbal aspects of language including turn taking and personal space. Finally, there is phonology, a component of language the most basic because it deals with individual sounds, or phonemes.

Some language disorders are present in children and others in adults.
Recognizing a Language Disorder

Here are the most common symptoms.

Expressive
- Sentences are not coherent or grammatically correct
- Sentences may be abnormally simple and short.
- Word finding issues are apparent
- Vocabulary might not be as developed as expected

Receptive
- Clients may have a phrase that is used excessively—especially when unsure of what to say or unable to say what is intended
- Common misuse of verb tenses.
- Improper use of pronouns
- Difficulty understanding what others are saying

Slower than normal processing rate
- Trouble following directions
- Difficulty preparing thoughts
- Trouble inferring or predicting
- Echolalia—repetition of words or phrases

Specific Language Disorders

Child Language Disorders
- Language Based Learning Disability—the child has difficulty with age-appropriate reading, spelling, and writing.
- Selective Mutism—the child chooses not to speak in particular social settings

Adult Language Disorders
- Aphasia—can be expressive or receptive. This occurs when there is damage to the language center of the brain.
- Dementia—an acquired disorder leading to intellectual decline from neurogenic causes

Associated Disorders
- Traumatic Brain Injury
- Strokes
- Autism
- Fetal Alcohol Syndrome
- Mental Retardation
- Developmental Delays
- Learning Disabilities
- Specific Language Impairment

Treatment

Treatment for school-age children incorporates both oral language and literacy. Therapy goals should be oriented to the requirements placed on the child in the classroom setting. For adolescent clients, goals become more complex including the introduction of metalinguistics. It is also expected that utterances and conversations become more complex.

Treatment for older adults becomes more specialized. The types of treatment depend on the specific disease or disorder.
Works Cited


All ages provided in this brochure are only averages. Children reach and pass through stages at different rates and that is completely normal.

In addition, what children can understand and what they are able to produce are completely different. In most cases children can understand a wider variety and more complex information than they themselves can convey.

Please keep this in mind when interacting with a child who is exploring their world through language; the most important thing is to be supportive.

Make sure you give your child your full attention. It is also best to have their full attention when speaking to them.

Vocabulary to Know

**Grammatical morphemes**: are used to modify words such as “ing” in talking.

**Mean length of utterance (MLU)**: the average number of morphemes per sentence.

**Morphemes**: smallest unit of meaning in language for example played has two play and the past tense ending “ed.”

**Overregularization**: an error in which children use the rules for plurals and past tenses even when they are inappropriately applied.

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**Ages 2 through 3**

Mean length of utterance is 1-2 or about 2-3 words. The child’s vocabulary is between 150-300 words. Sounds for k, g, f, t, d, and n are beginning to be used.

The child’s speech is now at a point where those who are frequently around them can understand most of what they are saying.

When your child names something he or she is trying to draw your attention to that object. After naming the object the child might add a describing word. Also, the words that your child uses most often are those that are common in their environment.

As far as your child’s understanding you can tell them a string of two tasks to complete. They can also distinguish between go and stop and other similar pairs. In addition, the child is questioning their world so be prepared.

As the child approaches three their vocabulary has almost tripled and three word sentences are easy. Most children should be able to identify their name, age, and sex.

You will begin to notice the correct use of some plurals and past tenses. They have a good handle on the pronouns I, you, and me.

Some helpful hints include playing labeling games with body parts or other word groups to establish vocabulary. Also reading and singing nursery rhymes helps to establish speech patterns.

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**Ages 4 through 6**

By this point in development the child should have most consonants, vowels, and diphthongs. Some exceptions are s, z, r, l, and h blends. Their MLU is between 3.5 - 4.5 and increases with age.

The child’s sentences are beginning to contain more detail. In addition, stories are staying on topic.

At this stage most people should be able to understand 90% of what the child is saying. However, the child might still be over regulating during conversations.

Up to this point the child has been able to ask questions but can now answer simple ones. The child has full use of at least four prepositions including over and under.

Children can identify familiar animals by name. Also, the child should know at least one color.

They are able to pay more attention to short stories and answer some basic comprehension questions. Make-believe play has become very popular and it is a great way for them to explore their world.

Around age five, the majority of children’s speech should be grammatically correct.

The child should understand common opposite pairs including hard-soft. Additionally, time has acquired a basic meaning for them, for example morning, afternoon, and night.

The child is now using spatial relationships such as first, middle, and last. Furthermore, they might start to show off by counting to ten.

After six the remaining consonants should be mastered. Most children can look at a series of pictures and create a story.

Here are some additional resources for parents and caregivers seeking more information.

- [http://www.asha.org/public/speech/development/chart.htm](http://www.asha.org/public/speech/development/chart.htm)
- [http://www.speech-language-therapy.com/devel2.htm](http://www.speech-language-therapy.com/devel2.htm)
Todas las edades en este folleto son sólo promedios. Niños alcanzan y pasan por etapas a diferentes velocidades y eso es completamente normal.

Además, lo que los niños pueden entender y lo que son capaces de producir son completamente diferentes. En la mayoría de los casos los niños pueden entender una variedad más amplia y pueden transmitir información más compleja, y luego ellos mismos.

Por favor, téngalo en cuenta cuando interactúan con un niño que está estudiando su mundo a través del lenguaje; lo más importante es ser solidarios.

Asegúrese de que darle a su hijo su completa atención. También es mejor tener toda su atención al hablar con ellos.

**Vocabulario saber**

**Morfemas gramaticales**: se utilizan para modificar palabras tales como "ing" al hablar.

**Significa longitud de enunciado (MLU)**: el número promedio de morfemas por sentencia.

**Morfemas**: unidad más pequeña de significado en lenguaje interpretado por ejemplo tiene dos juegos y el pretérito terminando a "ed".

**Overregularization**: un error en el que los niños utilizan las reglas plurales y últimos tiempos incluso cuando sean aplicados de manera inapropiada.

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**Edades de 2 a 3**

El promedio de longitud de la expresión es de 1-2 o de 2-3 palabras. El vocabulario del niño es de entre 150 a 300 palabras. Sonidos para k, g, f, t, d, n, y están empezando a ser utilizado.

El habla del niño se encuentra ahora en un punto donde los que son con frecuencia alrededor de ellos pueden entender la mayoría de lo que están diciendo.

Cuando su niño los nombres de algo que él o ella está tratando de llamar su atención sobre ese objeto. Después de nombrar el objeto que el niño podría añadir una palabra descriptiva. Además, las palabras que su hijo usa con mayor frecuencia son aquellos que son comunes en su entorno.

En cuanto a la comprensión de su hijo se les puede decir una cadena de dos tareas que realizar. También se puede distinguir entre ir a parar y otros pares similares. Además, el niño pone en duda su mundo, así que prepárate.

A medida que el niño se acerca a tres su vocabulario casi se ha triplicado y tres palabras son fáciles. La mayoría de los niños deben ser capaces de identificar su nombre, edad y sexo.

Usted empezará a notar el uso correcto de algunos plurales y tiempos pasados. Ellos tienen un buen manejo de los pronombres yo, tú y yo.

Algunos consejos útiles son los juegos con el cuerpo de etiquetado, partes u otros grupos de la palabra para establecer el vocabulario. También leer y cantar canciones de cuna ayuda a establecer los patrones del habla.

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**Edades de 4 a 6**

En este punto del desarrollo del niño debe tener la mayoría de las consonantes, vocales y diptongos. Algunas excepciones son s, z, r, l, h, y las mezclas. Su MLU es entre 3,5 a 4,5 y se incrementa con la edad.

Las frases del niño están empezando a incluir más detalles. Además, las historias se quedan en el tema.

En esta etapa la mayoría de la gente debería ser capaz de entender el 90% de lo que el niño está diciendo. Sin embargo, el niño todavía puede ser más regular durante las conversaciones.

Hasta este momento el niño ha sido capaz de hacer preguntas, pero ahora pueden responder a los simples. El niño tiene pleno uso de al menos cuatro preposiciones entre ellos más o menos.

Los niños pueden identificar a los animales conocidos por su nombre. También, el niño debe saber por lo menos un color.

Son capaces de prestar más atención a las historias cortas y responder a algunas preguntas básicas de comprensión. Juegos de simulación se ha convertido en muy popular y es una gran manera para que ellos exploren su mundo.

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Alrededor de cinco años de edad, la mayoría de habla de los niños debe ser gramaticalmente correcto. El niño debe comprender comunes pares de opuestos como duro-blando. Además, el tiempo ha adquirido un significado fundamental para ellos, por la mañana ejemplo, tarde y noche.

El niño está ahora con las relaciones espaciales, como primero, segundo y último. Además, se podría empezar a mostrar que por contar hasta diez.

Después de seis consonantes restantes deben ser dominadas. La mayoría de los niños pueden ver una serie de imágenes y crear una historia.

Aqui hay algunos recursos adicionales para los padres y cuidadores que buscan obtener más información.

- [http://www.asha.org/public/speech/development/chart.htm](http://www.asha.org/public/speech/development/chart.htm)
- [http://www.speech-language-therapy.com/devel2.htm](http://www.speech-language-therapy.com/devel2.htm)
What Type of Hearing Loss Is It?

There are three types of hearing loss: conductive hearing loss, sensorineural hearing loss, and mixed hearing loss. Of those three, sensorineural is the most common. A sensorineural loss occurs when hair cells, sound receptors, in the inner ear become damaged. When this happens the sound cannot reach the brain. This type of damage is often caused by repeated exposure to loud sounds without the use of protection. This type of loss can also be caused by aging, diseases including but not limited to mumps and meningitis, ototoxic drugs, and heredity. Sensorineural hearing loss is permanent but in the majority of cases hearing aids can provide some assistance. Next there is conductive hearing loss. This is caused when sound is blocked from reaching a properly functioning inner ear by an obstruction in the outer or middle ear. The most common causes of a conductive loss include infections, malformations, and wax buildup. Another cause is otosclerosis, a calcium build up on the middle ear bones. It is possible for this type of hearing loss to be treated medically or surgically. But if these problems are left untreated the hearing loss can become permanent. Mixed hearing loss has components of sensorineural and conductive loss. There is often a partial medial solution but hearing aids are often suggested.

Causes of Hearing Loss

People experience different degrees of hearing loss from slight to profound. All cases of hearing loss fall into two diagnostic categories: conductive hearing loss and sensorineural hearing loss. When the cause is conductive there is something physically blocking the passage of sound. Some examples of this include a buildup of wax, external and middle ear infections, dislocated ossicles (the bones in the middle ear), and a perforated ear drum.

When the hearing loss is sensorineural the sound waves can not be perceived. Prolonged exposure to loud noises causes this type of damage (acoustic trauma) as well as pressure trauma, a fracture in the temporal bone (head trauma), ototoxic drugs, vascular disease, a tumor in the auditory nerve, of many types of infections (measles, mumps, meningitis) may also be responsible. It is also quite possible that it is simply the result of aging.
The configuration of the hearing loss denotes the shape/pattern of the hearing loss as it appears on the audiogram. Diagrams are presented below.

There are also several other ways to label hearing loss. First, there are unilateral and bilateral types of hearing loss. Unilateral signifies that the hearing loss is only in one ear and bilateral designates both ears are affected. Next, there is symmetrical and asymmetrical. These terms refer to whether the degree and configuration of loss are the same in both ears. Third, progressive and sudden are used to specify the onset of the hearing loss.

Progressive means that the hearing loss will continue to become worse over time as opposed to a sudden loss which happens quickly. Finally, there is the distinction that is made between fluctuating versus stable hearing loss. A fluctuating loss changes sometimes for the better but other times for the worse.

**Flat Configuration**

**High Frequency (Sloping) Configuration**

**Low Frequency (Rising) Configuration**

**Saucer Shaped Configuration**
Types of Hearing Aids

There are five main types of hearing aid styles: behind-the-ear, mini behind-the-ear, in the ear, in the canal, completely in the canal.

The bulk of a behind-the-ear (BTE) hearing aid is contained in a plastic case behind the ear. Then there is a piece of clear tubing that is connected to an earmold. This type of aid is easy to handle and maintain. Next there are the mini BTE which is also know as the on-the-ear. It is extremely similar to the BTE except noticeably smaller. Also instead of an earmold they might have an ear piece similar to an ear bud. Third, is the in-the-ear hearing aid. With this style all components fit inside a hard plastic shell that fills the outer part of the ear. Also there is the in-the-canal. type In this instance the entire hearing aid fits inside the ear canal. The completely-in-the-canal aid is even smaller and less conspicuous. Smaller hearing aids are often harder to control.

Hearing Aid Styles

Completely-in-the-Canal (CIC) | Canal | Half-Shell | Full Shell | Behind-The-Ear | Open Ear BTE

Works Cited


Diagram of the Ear

1. Eardrum
2. Malleus
3. Incus
4. Stapes
5. Semicircular canals
6. Auditory nerve
7. Facial Nerve
8. Vestibular nerve
9. Cochlea
10. Eustachian tube

All-in-One Resource on Noise Induced Hearing Loss (NIHL)

Jordan Amor
Ball State University Spring 2011

Honors Thesis

What is NIHL?

Every day our ears are responsible for receiving millions of sounds. Normally, hearing these sounds at safe levels does not affect our hearing. However, when sounds are too loud or loud are prolonged the sensitive structures in the inner ear can be damaged this causes noise induced hearing loss (NIHL). These sensitive structures, called hair cells, convert sound energy into electrical signals that travel to the brain. Once damaged, the hair cells cannot grow back.

Symptoms

When exposed to loud noise over a long period of time, symptoms of NIHL will increase gradually. Over time, the sounds heard may become distorted or muffled, and it may be difficult to understand speech. Someone with NIHL may not even be aware of the loss, but it can be detected with a hearing test.

Prevention

NIHL is 100% preventable so take these easy steps:

- Know which noises can cause damage (those at or above 85 decibels).
- Wear earplugs or other hearing protective devices when involved in a loud activity (special earplugs and earmuffs are available at hardware and sporting goods stores).
- Be alert to hazardous noise in the environment.
- Protect the ears of children who are too young to protect their own.
- Make family, friends, and colleagues aware of the hazards of noise. If hearing loss is suspected, have a medical examination by an otolaryngologist (a physician who specializes in diseases of the ears, nose, throat, head, and neck) and a hearing test by a licensed/certified audiologist (a health professional trained to measure and help individuals deal with hearing loss).

Works Cited

Otitis Media
At a Glance:
Definition: An infection in the middle ear usually caused by bacteria when there is a build up of fluid behind the eardrum.

Statistics:
- There are 7 million cases of middle ear infections each year.
- The majority of cases are in children.

Signs and Symptoms
The majority of cases of otitis media occur in children. If several of these signs are present a doctor needs to be seen.
- Tugging or pulling at ears
- Fussiness and crying
- Trouble sleeping
- Fever
- Fluid draining

Types of Otitis Media
Acute otitis media (AOM) is the most common ear infection. Parts of the middle ear become infected and swollen when fluid is trapped behind the eardrum. This causes pain in the ear commonly called an earache. The child might also have a fever.

Otitis media with effusion (OME) can occur after an ear infection has run its course and fluid stays trapped behind the eardrum. A child with OME may have no symptoms, but a doctor will be able to see the fluid behind the eardrum with a special instrument.

Chronic otitis media with effusion (COME) happens when fluid remains in the middle ear for a long time or returns over and over again, even though there is no infection. COME makes it harder for children to fight new infections and also can affect their hearing.

Treatment
For an acute case of otitis media most doctors will prescribe an antibiotic for 7-10 days. Additionally an over the counter pain medication may be recommended. If the individual continues to have problems with otitis media it is suggested to consult an ear, nose, and throat doctor. Tubes may need to be implanted in the ear assist with drainage.

Works Cited
All-in-One Resource on Presbycusis (Age Related Hearing Loss)

At a Glance

• Definition:
A progressive bilateral hearing loss associated with aging. It begins when the nerve pathways that lead from the middle ear to the brain begin to deteriorate.

Statistics:

• Presbycusis is present in 30-35% of those over 65 and 40-50% over 70.
• About 10.6 million people in the United States alone are suffering from Presbycusis.

Causes and Risk Factors

Tiny hairs in the ears detect sound waves and transmit them to the brain to be interpreted. Hearing loss occurs when these hairs are damaged or die.

They are unable to regenerate. Some risk factors include:
• Family History
• Repeated exposure to loud noises

Signs and Symptoms

This type of hearing loss occurs slowly over time. At the onset, it is most difficult to hear loud sounds.
• Certain sounds seem overly loud
• Difficulty hearing things in noisy environments.
• High-pitched sounds such as "s" or "th" are hard to distinguish from one another
• Men's voices are easier to hear than women's

Treatment

There is no cure for hearing loss because it is a permanent type of damage. However, there are things a patient, family, and friends can do to make it easier for loved one to hear.

First, make an appointment with an audiologist. This hearing professional will be able to tell you if hearing aids are appropriate in your situation.

There are other types of assistive devices including telephone amplifiers, or telephones that convert sound into text and fm systems.

In addition try to:
• Reduce the amount of background noise.
• Look at the individual.
• Speak slowly and clearly.
• There is training available is speech reading and sign language

Works Cited

Coping with Hearing Loss

Jordan Amor
Ball State University Spring 2011

Honors Thesis

You have just found out that you or someone you love has a hearing loss. You are full of questions. What does this mean? What do we do now? How will our lives be different from now on? Hopefully the information in this brochure will help you begin the process of understanding and coping with the lifestyle associated with hearing loss.

Additional Resources

- Alexander Graham Bell Association for the Deaf and Hard of Hearing
- American Society for Deaf Children (ASDC)
  http://www.deafchildren.org/
- American Speech-Language Hearing Association (ASHA)
  http://www.asha.org/
- Association of Late-Deafened Adults
  http://www.alda.org/
- Hearing Loss Association of America
  http://www.hearingloss.org/
- American Academy of Audiology
  http://www.audiology.org/Pages/default.aspx

Steps/ Stages

- Denying that the problem exists
- Guilt for having caused the hearing loss (HL)
- Depression
- Anger at themselves or others
- Anxiety—not knowing what to expect

Grieving

When you find out that you or someone you love has a hearing loss it is as if you are losing a part of what you thought you knew. Hearing loss throws emotions into a turmoil. This is intensified if the hearing loss is quite rapid. To successfully cope with hearing loss, first the client should grieve. This process helps stimulate re-evaluation, which can lead to acquiring positive values and attitudes, and facilitate growth. There are individuals and facilities who are able and willing to help at any point during this process.

Get Active and Get Informed

Having come to terms with the hearing loss you need to become an advocate for yourself and or your loved one.

The first step is to become informed. Look into different types of hearing aids and then get fitted with the correct ones for the hearing loss. It is also important to use assistive technology. This comes in several forms such as frequency modulation (FM) systems, a amplification devise that can be used in almost any situation, or voice converter for the telephone. Another option to consider is learning to speech read, the process of determining the meaning of a speaker’s message using visual cues, lip movements, facial expressions and bodily gestures. This skill can help an individual acquire additional information in challenging situations.
Coping with Hearing Loss

Environmental Management

- Tell friends and family about the hearing loss.
- Ask people to look directly at you when they speak.
- Make sure the area is well lit. This helps provide visual cues for those with hearing problems.
- Use closed captioning when watching TV.
- Arrange furniture to create a positive conversation environment where individuals are facing each other.
- Reduce background noise (Turn off the TV, stereo, etc.).
- Use additional alerting systems that tell occupants when the phone is ringing, a visitor is at the door, there is smoke or a fire has started, or baby is crying. Some signalers have flashing lights and others make a loud sound, or shake the bed.
- Telephone jacks should be installed near electrical outlets to accommodate signalers, voice to text converters, and other devices.
- Since a person with hearing loss may not be able to hear someone's voice on the other side the door, a view panel (a window or side panel) helps identify visitors. A view panel is preferable to a typical peephole because it's easier to see through.
- The type of flooring used is another important consideration. If background noise is problematic, wall to wall carpeting will help absorb sound. However, if occupants depend on feeling vibrations in the home, thin carpeting or rugs, linoleum, or hardwood floors are better.
- Sit closer when speaking to the person who is hard of hearing.
- Try to find a more suitable location for communication.

Works Cited


Members of the Cochlear Implant Team
- Patient
- Parent
- Audiologist
- Speech Pathologist
- Otolaryngologist
- Educational Psychologist
- Social Worker

Criteria for Children
The patient must be at least 12 months of age to receive cochlear implant surgery. In addition, the patient's hearing loss needs to be at least profound and receive little to no benefit from the use of hearing aids.

Prior to surgery the patient's parents must consult with a doctor, preferably an otolaryngologist, to make sure there are no medical contraindications. The patient and the patient's family should have appropriate expectations and motivations. These criteria contribute to the success of the surgery. It is important to know cochlear implant surgery will not result in perfect hearing.

Finally, the patient needs to have access to habilitation and rehabilitation services.

Criteria for Adults
To receive cochlear implant surgery the patient's hearing loss needs to be at least severe to profound and receive little to no benefit from the use of hearing aids.

Prior to surgery the patient must consult with a doctor, preferably an otolaryngologist, to make sure there are no medical contraindications. The patient and the patient's family should have appropriate expectations and motivations. These criteria contribute to the success of the surgery. It is important to know cochlear implant surgery will not result in perfect hearing.

Finally, the patient needs to have access to habilitation and rehabilitation services.
Benefits of Cochlear Implants

In children cochlear implants aid in the development of spoken language both expressive and receptive. Successful surgical outcomes also increase their environmental awareness.

In adults this device increases information input and speech recognition abilities. Adults also gain increased environmental awareness.

Bilateral vs Bimodal

Bilateral cochlear implants are a very new concept. They are still in development and are not currently seen as extremely useful.

In Bimodal cochlear implants the patient has a cochlear implant in one ear and a hearing aid in the other.

Trouble Shooting Cochlear Implants

<table>
<thead>
<tr>
<th>No Sound or Intermittent Sound</th>
<th>Speech is Unclear, Too Soft or Noisy</th>
<th>Intermittent Buzzing Sound</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Insert new or fully charged batteries</td>
<td>• Check if headset coil is in place</td>
<td>• Check for electromagnetic interference (Radio or TV transmission towers, security systems, and some mobile phones.)</td>
</tr>
<tr>
<td>• Use dry pack to remove moisture from speech processor</td>
<td>• If the M light doesn't flash the speaker might be speaking too softly</td>
<td></td>
</tr>
<tr>
<td>• Turn on speech processor</td>
<td>• If the M light stays on attempt to locate and reduce background noise</td>
<td>Battery Charger Won't Charge</td>
</tr>
<tr>
<td>• Ensure headset is properly connected</td>
<td>Sounds are Uncomfortably Loud</td>
<td>• Check batteries for charge</td>
</tr>
<tr>
<td>• Check the headset function</td>
<td>• Reduce microphone sensitivity</td>
<td>• Remove and reinsert the batteries to insure they are installed properly</td>
</tr>
</tbody>
</table>

Works Cited


All-in-One Resource on Classroom Amplification

Jordan Amor
Honors Thesis
Ball State University Spring 2011

Who Benefits and Why?

Teachers are the first to benefit from added amplification. In today's classrooms teachers are fighting a losing battle against background noise that forces them to raise their voices. This causes straining which can lead to permanent damage of the vocal cords.

In addition, all groups of students benefit from classroom amplification systems. These systems allow those students with attention deficit disorder and attention deficit hyperactivity disorder to focus better by blocking out background noise. Classroom amplification makes it easier for those students with hearing disabilities to hear. Finally, students with normal hearing don't have to exert as much energy to hear the teacher.

The use of a sound-field amplification system provides the teacher with a unique opportunity to maximize listening and learning opportunities in the classroom. Sound-field amplification research supports the benefits for both students and teachers. Primary research findings are:

- An improvement in academic achievement, especially for younger students
- An increase in on-task behavior
- An increase in attention to verbal instruction and activities and improved understanding
- A decrease in the number of requests for repetition
- A decrease in the frequency of need for verbal reinforces to facilitate test performance
- A decrease in test-taking time
- An increase in sentence recognition abilities
- An improvement in listening test scores
- An increase in language growth
- An improvement in student voicing when speaking
- An increase in student length of utterance
- An increase in ease of listening and teaching
- A decrease in vocal strain and fatigue for teachers
- A decrease in the special education referral rate
- An increase in seating options for students with hearing loss
- It is a cost-effective means of enhancing the listening and learning environment.
Trouble Shooting CA Systems

Not getting reception — the channel lights on the receiver are red. What’s wrong?
Check that the transmitter is on and is un-muted.
Verify that you are not blocking either the emitters on the transmitter or the sensors on receiver or mounted around room.
If reception is interrupted when facing a certain direction, install an additional sensor in that area of the room.
If team-teaching, verify that transmitters are not on the same channel.
If low battery indicator shows recharge transmitter’s batteries. Replace batteries if recharge is ineffective.

Getting feedback (squealing) — how can it be minimized?
Make sure the speakers are mounted as close as possible to both the ceiling and the listeners; avoid mounting speakers in the teacher’s primary lecture area.
Position the microphone closer to the speakers mouth.
Lower the microphone volume control on the receiver.
Select the low or medium OptiVoice setting.

No sound coming out of the speakers (or sound output is weak).
Verify that the receiver is on (green power light).
Verify that the receiver is picking up a signal (green channel indication light).
Increase the microphone volume or Aux Volume control on the receiver.
Position the microphone closer to the speakers mouth.
Verify that the speaker cables are connected properly.
Verify that the transmitter is not muted.

The receiver won’t turn on — the power light is off. What needs to be done?
Verify that the power supply is plugged into both the receiver and a working wall outlet.
Test with another power supply.
If the power light turns yellow, the receiver is in standby mode.
The receiver will power-down automatically when it does not detect a microphone or audio input for more than ten minutes.
The receiver will turn on automatically when: the microphone is turned on and/or un-muted, or an audio source is connected to the receiver.

How to eliminate ‘dead spots’ or microphone crackling / noise?
Verify that the speaker is not blocking either the emitters on the transmitter or the sensors on receiver or that are mounted around room.
If reception is interrupted when facing a certain direction, install an additional sensor in that area of the room.
If team-teaching, verify that transmitters are not on the same channel.
Recharge or replace the transmitter’s batteries.
Verify that the emitter/microphone is working (Test with another working emitter/microphone).

Works Cited
Classroom Amplification Diagram

Severity of Hearing Loss Graph

http://www.pedsent.com/problems/aud_audiogram.htm
Speech Audiogram

What is Alzheimer's

Alzheimer’s disease is a progressive, degenerative disorder that attacks the brain’s nerve cells resulting in loss of memory, thinking and language skills, and behavioral skills. Alzheimer’s disease is the most common cause of dementia among people 65 years of age and older.

Brain weight is usually reduced due to the atrophy of brain tissue.

Symptoms of Alzheimer's

- Memory loss that disrupts daily life
- Challenges in planning or problem solving
- Difficulty completing familiar tasks
- Confusion with time and or place
- Trouble understanding visual images and spatial relationships
- New problems with words in speech or writing
- Misplacing things and losing the ability to retrace steps
- Decreased or poor judgment
- Withdraws from work or social activities
- Changes in mood and personality

Stages of Alzheimer's

Stage 1: No Impairment—no memory problems or other symptoms.
Stage 2: Very Mild Decline—maybe normal age-related changes, minor memory lapses
Stage 3: Mild Decline—early stage: people close to the client begin to notice changes.
Stage 4: Moderate Decline—forgetful of recent events and personal history, greater difficulty performing complex tasks
Stage 5: Moderately Severe Decline—get confused about where they are and what day it is.
Stage 6: Severe Decline— personality changes may take place and need extensive help with daily activities
Stage 7: Very Severe Decline—last stage individuals need help with the most basic tasks such as eating and using the toilet.
Treatment for Alzheimer’s

Currently there is no cure for Alzheimer’s. However, researchers are trying to develop drug therapies to slow the progression and reduce the damage.

The U.S. Food and Drug Administration (FDA) has approved several medications for treating Alzheimer’s. Several of the drugs are only able to be used during the mild to moderate stages. One type of drug being prescribed is cholinesterase inhibitors. These medications help slow the breakdown of the parts of the brain that are in charge of learning and memory.

Effects on Speech

The Speech Language Pathologist is an important part of the treatment team. Other members include doctors, nurses, and occupational therapists among others. The role of a speech pathologist can take on several forms for an Alzheimer’s patient.

- First there is treatment for disorders such as aphasia and apraxia. To work on aphasia clinicians target the area that is having the difficulty spoken language or written language. It also involves finding alternate communication methods. To decrease the affects of apraxia clinicians work on strengthening articulators. Also they teach the client strategies about the placement of lips, teeth, and tongue.

- Secondly, they can assist in strengthening and maintaining memory. This minimizes the effects and can slow the progression of Alzheimer’s disease.

- In the final stages of Alzheimer’s disease the patient may begin to have trouble with basic functions such as swallowing. The treatment of swallowing is called dysphasia. The treatment can include making diet recommendations such as thickened liquids or pureed foods.

Additional Resources:

Alzheimer’s Disease Education and Referral (ADEAR) Center
P.O. Box 8250
Silver Spring, MD 20907-8250
www.nia.nih.gov/Alzheimers

Alzheimer’s Association
225 north Michigan Avenue, Suite 1700
Chicago, IL 60601-7633
800-272-3900 (toll free)
www.alz.com

Children of Aging Parents
P.O. Box 167
Richboro, PA 18954
800-227-7239 (toll free)
www.caps4caregivers.org

Eldercare Locator
800-677-1116 (toll free)
www.eldercare.gov

Family Caregiver Alliance
180 Montgomery Street, suite 1100
San Francisco, CA 94104
800-445-8106 (toll free)
www.caregiver.org

National Institute on Aging Information Center
P.O. Box 8057
Gaithersburg, MD 20898-8057
800-222-2225 (toll free)
www.nia.nih.gov

Works Cited:


Statistics:

- Two-thirds of children with cerebral palsy will be mentally impaired.
- About 10,000 babies per year in the U.S. will develop cerebral palsy.
- An estimated 800,000 people have cerebral palsy in the U.S.
- About 2-3 children per 1,000 have cerebral palsy.
- In 2003, the average lifetime cost of cerebral palsy is estimated at $921,000. This does not include hospital visits, emergency room visits, residential care, and other out of pocket expenses.

Basics of Cerebral Palsy

The diagnosis of cerebral palsy (CP) refers to any one of a number of neurological disorders that appear during infancy or early childhood before 12 years of age. The disorder is caused by permanent damage to the parts of the brain that controls body movement and muscle coordination. However, it is not a progressive disorder. The damage that causes Cerebral Palsy occurs during a period of brain development. The majority of children with cerebral palsy are born with it. Nevertheless, the majority of cases aren’t detected until months or years later. This is because the areas of the brain that were damaged are not used until later in development.

There are three main factors that cause CP. The first is prenatal, which is before birth or during pregnancy. These causes include intrauterine infection, ingestion of drugs, chromosomal abnormalities, trauma during the first trimester, and radiation exposure. Second, there are perinatal causes which include hemorrhage and anoxia (the umbilical cord being wrapped around the neck) or the use of forceps or a vacuum. Lastly, there are postnatal causes such as infections, trauma, and convulsions. Forty percent of all CP cases have an unknown cause.

Classification of Cerebral Palsy

Physicians identify cases of CP using three criteria: place/location, classification, and severity.

There are four place classifications: monoplegia, where one extremity is effected, hemiplegia, where two extremities on the same side are effected, paraplegia, where two lower extremities, and quadriplegia, where all four extremities are effected.

Next is classification which describes five types of disabilities. Spasticity is the hyperactivity of the stretch reflex. Athetosis is a type of involuntary writhing movements. Ataxia is a discoordination and tremors in both fine and gross motor skills. Tremors are a rhythmic repetitive involuntary movement in the extremities. The last is rigidity which is muscular resistance to passive motion.

The final classification is severity: mild, moderate, severe, and profound.
The early signs of cerebral palsy usually appear before a child reaches 3 years of age. The most common forms are a lack of muscle coordination when performing voluntary movements (ataxia); stiff or tight muscles and exaggerated reflexes (spasticity); walking with one foot or leg dragging; walking on the toes, a crouched gait, or a "scissored" gait; and muscle tone that is either too stiff or too floppy.

Currently there is no cure for cerebral palsy, but there are a variety of resources and therapies can to improve a patients quality of life. Different kinds of therapy can help them achieve maximum potential in growth and development. As soon as CP is diagnosed, a child can begin therapy for movement, learning, speech, hearing, social, and emotional development.

In addition, medication, surgery, or braces can help improve muscle function. Surgery can help repair dislocated hips and scoliosis (curvature of the spine)- both common problems associated with CP. Severe muscle spasticity can sometimes be helped with medication taken by mouth or administered via a pump (the baclofen pump) implanted under the skin of children with CP.

Communicating is difficult for children with cerebral palsy and speech therapy can relieve the frustration of communication problems.

Speech therapy helps the patient correct speech disorders, restore speech, use communication aids, learn sign language, and improve listening skills. Some people with cerebral palsy have problems moving their mouth to form words correctly because of muscle control. Hearing loss can be evident as well in a person with cerebral palsy, and speech therapy can help with speech clarity. Speech therapists can also help clients build their language skills by learning new words, learning to speak in sentences, or improving their listening skills.

To strengthen muscles used in speaking, the patient might be asked to say words, smile, close their mouth, or stick out their tongue. Picture cards may be used to help the patient remember everyday objects and increase vocabulary. The patient might use picture boards of everyday activities or objects to communicate. Workbooks might be used to help the patient recall the names of objects, practice reading, writing, and listening. Computer programs are also available to help sharpen speech, reading, recall, and listening skills.

**Symptoms of Cerebral Palsy**

- Ataxia: lack of muscle coordination when performing voluntary movements.
- Spasticity: stiff or tight muscles and exaggerated reflexes.
- Walking problems: dragging; walking on the toes, a crouched gait, or a "scissored" gait.
- Muscle tone issues: either too stiff or too floppy.

**Treatment of Cerebral Palsy**

Medication, surgery, or braces can help improve muscle function. Surgery can help repair dislocated hips and scoliosis (curvature of the spine), both common problems associated with CP.

**Cerebral Palsy’s Effects on Speech**

Speech therapy helps correct speech disorders, restore speech, use communication aids, learn sign language, and improve listening skills. Some people with cerebral palsy have problems moving their mouth to form words correctly because of muscle control. Hearing loss can be evident as well in a person with cerebral palsy, and speech therapy can help with speech clarity.

**Additional Resources**

4MyChild offers families of children with special needs a kind of help and hope that may change lives for the better.

1-800-4MyChild (1-800-469-2445)

**United Cerebral Palsy**

1660 L Street, NW, Suite 700
Washington, DC 20036

Phone: (800) 872-8527/(202) 776-0406
Fax: (202) 776-0414
E-Mail: info@ucp.org

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**Works Cited**


All-in-One Resource on Huntington's Disease

Jordan Amor
Honors Thesis
Ball State University Spring 2011

What is Huntington's Disease?

Huntington's disease (HD) is also known as Huntington chorea. Huntington's disease is a progressive brain disease. The disease is caused by a mutation on chromosome number 4. It only takes one faulty gene for a person to inherit HD because the disorder is dominante. Signs and symptoms typically first appear in middle age. Some parents may not know they carry the gene until they've already had children and possibly passed on the trait. The disease destroys cells in the basal ganglia causing substantial brain atrophy. The basal ganglia is the part of the brain that controls movement, emotion, and cognitive abilities.

Signs and symptoms usually develop in middle age. Younger people with Huntington's disease often have a more severe case, and their symptoms may progress more quickly. Rarely, children may develop Huntington's disease.

Huntington's disease is not specific to any one population. Also it is not more prevalent within any particular race, ethnic group, or gender. However, the highest incidence of Huntington's disease is in Western Europeans.

Symptoms

Early signs can include:
- Personality changes, such as irritability, anger, depression, or loss of interest
- Decreased cognitive abilities such as decision making and learning new information
- Mild balance problems
- Involuntary facial movements

Later signs include:
- Sudden jerky, involuntary movements though out the body
- Severe balance and coordination problems
- Jerky, rapid eye movements
- Hesitant, halting, or slurred speech
- Swallowing speech
- Dementia

Statistics:
- In the United States alone, about 30,000 people have Huntington's disease.
- A child who has a parent with Huntington's disease has a 50% chance of inheriting the disease.
- 1-3% of Huntington's disease cases are sporadic, meaning they occur even though there is no family history.
- The disease was named for Dr. George Huntington who first described it in 1872.
Treatment

There is no treatment to permanently stop or reverse Huntington's. There are, however, several medications to control symptoms. The medications tend to do one of four things. One type increases the dopamine in the brain to reduce the involuntary movements. Next are tranquilizers to reduce movements. Third are antipsychotics to control hallucinations. Last are medications to help control depression and the obsessive-compulsive tendencies. As with any medication there are side affects that can range from insomnia to nausea.

Physical and speech therapy helps patients to lead more normal lives.

Effects on Speech

One of the functions of the Basal Ganglia is to control muscle movement. This includes the movement of the articulators. This leads to slurred and imprecise speech. Speech Pathologists provide their Huntington's patients with coping techniques including over-articulation.

Genetic Testing

Genetic testing can be used in two ways. First tests can be used to confirm the diagnosis of HD. Second a test is used to determine if the mutated gene has been received before symptoms begin to appear. This is used by some patients when deciding whether or not to conceive.

Works Cited


Additional Resources

Huntington's Disease Society of America is a health organization dedicated to improving the lives of people with HD; www.HDSA.org

HD Lighthouse provides the latest news about the diagnosis, treatment, care, research and the community of HD; www.hdlighthouse.org

HOPES (Huntington's Outreach Project for Education at Stanford) is a student-run project at Stanford University dedicated to making scientific information about HD more accessible to patients and the public; www.stanford.edu/group/hopes

Huntington's Disease Advocacy Center is an on-line resource center for HD families, by HD families; www.HDAC.org

Huntington Project brings together all parties involved and affected by HD from scientists to family members. www.Huntington-Study-Group.org

Huntington's Disease Drug Works provides information on present treatment options, drug developments and clinical trials. www.hddrugworks.org
All-in-One Resource on Pick’s Disease

Jordan Amor
Ball State University Spring 2011

What is Pick’s Disease?

Pick’s disease is now known as frontotemporal dementia (FTD). Pick’s causes shrinking of the frontal, temporal, and anterior lobes of the brain. This new classification includes Pick’s disease, primary progressive aphasia, and semantic dementia. People with Pick's disease have abnormal substances called pick bodies inside nerve cells in the damaged areas of the brain. Pick bodies contain an abnormal form of a protein. This protein is found in all nerve cells. But some people with Pick's disease have an abnormal amount of this protein. The exact cause is unknown. However, there is a strong genetic link. Many different abnormal genes have been found to cause Pick’s disease. Pick’s usually begins between ages 40 and 60.

Symptoms

The symptoms of FTD fall into two clinical patterns that involve either changes in behavior, or problems with language. Behavior changes can be subclassified as either impulsive or bored and listless. Symptoms include inappropriate social behavior; lack of social tact; lack of empathy; distractibility; an increased interest in sex; changes in food preferences; agitation or, conversely, blunted emotions; neglect of personal hygiene; repetitive or compulsive behavior, and decreased energy and motivation. Common symptoms include language disturbance including, difficulty creating or understanding speech. Language problems often occur in conjunction with behavioral symptoms.
Treatment

No treatment has been shown to slow the progression of FTD. Behavior modification may help control unacceptable or dangerous behaviors. Aggressive, agitated, or dangerous behaviors could require medication. Anti-depressants have been shown to improve some symptoms. Sometimes patients with Pick's take the same medications used to treat other types of dementia, such as medications that decrease the breakdown of the chemical messenger, acetylcholine (anticholinesterase inhibitors), and memantine. There is no conclusive evidence that these medications help.

Effects on Speech

The person with frontotemporal dementia may experience language difficulties, including:
- problems finding the right words
- a lack of spontaneous conversation
- circumlocution, using many words to describe something simple
- a reduction in or lack of speech

Speech Pathologists can help the patients by targeting their specific problems. In addition the patient is provided with comfortable and safe environment in which to practice speech skills.

Works Cited


are relatively large and heavy, making up about 25% of their total body weight.

• Approximately 60% of identified victims of shaking injury are male.
• It is estimated that the perpetrators in 65 to 90% of cases are males — usually either the baby's father or the mother's boyfriend.
• Approximately 30 per 100,000 children under age 1 suffered from brain injuries.
• Approximately 1 of 4 babies diagnosed with SBS dies.
• Approximately 1,200–1,400 cases of SBS are diagnosed each year.

What is Shaken Baby Syndrome?

This type of traumatic brain injury happens when a baby is violently shaken. A baby has weak neck muscles and a large, heavy head. Shaking makes the fragile brain bounce back and forth and rotate inside the skull. This causes shearing, bruising, swelling, and bleeding that destroys brain tissue. The shaking action can result in severe brain damage or death. The characteristic injuries of shaken baby syndrome are subdural hemorrhages (bleeding in the brain), retinal hemorrhages (bleeding in the retina), damage to the spinal cord and neck, and fractures of the ribs and bones. These injuries may not be immediately noticeable. The consequences of less severe cases may not be brought to the attention of medical professionals and may never be diagnosed. Shaken baby injuries usually occur in children younger than 2 years old, but may be seen in children up to the age of 5.

Symptoms

- Lethargy/decreased muscle tone
- Extreme irritability
- Decreased appetite, poor feeding or vomiting for no apparent reason
- Grab-type
- Bruises on arms or chest
- No smiling or vocalization
- Poor sucking or swallowing
- Rigidity or posturing
- Difficulty breathing
- Seizures
- Head or forehead appears larger than usual or soft-spot on head appears to be bulging
- Inability to lift head
- Inability of eyes to focus or track movement or unequal size of pupils

Treatment

Emergency treatment for a baby who has been shaken usually includes life-sustaining measures such as respiratory support and surgery to stop internal bleeding and bleeding in the brain. Doctors may use brain scans, such as MRI and CT, to make a more definite diagnosis.
Shaken Baby Syndrome is 100% Preventable!

Here are some alternatives when a baby won't stop crying:
- Make sure the baby’s basic needs are met (for example, being hungry and doesn't needing to be changed).
- Check for signs of illness, like fever or swollen gums.
- Rock or walk with the baby.
- Sing or talk to the baby.
- Offer the baby a pacifier or a noisy toy.
- Take the baby for a ride in a stroller or strapped into a child safety seat in the car.
- Hold the baby close against your body and breathe calmly and slowly.
- Call a friend or relative for support or to take care of the baby while you take a break.
- If nothing else works, put the baby on his or her back in the crib, close the door, and check on the baby in 10 minutes.
- Call your doctor if nothing seems to be helping the infant, in case there is a medical reason for the fussiness.

To prevent potential cases of SBS, parents and caregivers of infants need to learn how to respond to their own stress. It’s important to talk to anyone caring for your baby about the dangers of shaking and how it can be prevented.

Effects on Speech

When a child has been diagnosed with shaken baby syndrome the Speech Language Pathologist will perform two types of assessment, formal and informal. Some of the areas that should be assessed include levels of attention, tolerance of stress, degree of cueing and prompting needed, processing time, fatigue. Also the clinician examines all types of language: expressive, receptive, written, and auditory comprehension. Two major disorders that are often seen are apraxia and dysarthria. Apraxia of speech is a motor speech disorder in which planning and programming required for speech sound production are disrupted. Dysarthria is a weakness in the muscles or an in ability to control aspects for neuromuscular execution of speech.

Works Cited


Diagnosing and Treating Shaken Baby Syndrome

Jordan Amor
Ball State University Spring 2011

Honors Thesis

Testing

When trying to determine whether the patient’s injuries are a result of Shaken Baby Syndrome (SBS) a detailed medical history must be taken including a specific time line of symptoms. A doctor will compete a physical exam to look for signs of injury. Next, tests are preformed including a CT scan and possibly an MRI to document the injuries and identify if they are a result of SBS. These tests may be repeated periodically to monitor change. X-rays are also routinely performed to check for any broken bones. X-rays are usually taken of the skull, extremities, spine, and chest.

Initial Treatment

It is crucial that the incident is reported immediately and that the victim receives treatment immediately. The sooner the victim receives treatment the better his or her chances for survival. Emergency treatment for a baby who has been shaken usually includes life sustaining measures such as respiratory support and surgery to stop internal bleeding including bleeding in the brain.

Speech Therapy

When a child has been diagnosed with shaken baby syndrome a Speech Language Pathologist (SLP) is often referred to the case. There are many areas in which the SLP can be of assistance depending on the age of the patient and their ability levels before and after the injury. It is quite possible that an SLP would be in charge of performing a swallow study. This information allows the patient to be given a diet that is most appropriate for them at that point in time. For clients that are a little older and have begun speaking the SLP can work on improving their speech by targeting specific problems. It is possibly that as a result of the damage the child has a problem with dysarthria. A child’s speech may be slurred and imprecise. The speech pathologist would help the client place his or her articulators to form the desired sounds.

As the child enters school it is likely that he or she would continue working with an SLP. One area that might receive therapeutic attention is pragmatics. Therapy could include turn taking and different types of grammatical morphemes.
Play these games to improve your child’s speech and language skills.

Games

Aggravation, Boggle, Candy Land, Checkers, Chinese Checkers, Fish, I am thinking of..., Pictionary, Puzzles, Rummy, Scrabble, Shoots and Ladders, Uno, Word Searches

General Suggestions

Speech-
Always use a carrier sentence with each turn.
Always be sure the child is saying the carrier phrase or sentence each time. Also correct your child if they mispronounce their target sound.

Language:
Be sure all players use complete sentences every time. Select a sentence that can be used for several games.
Use descriptive words, opposites, similar words, verbs, adjectives, adverbs, etc.
Discuss with your child the different parts of speech you are using.
### Helpful Hints For Clinic

#### Things to Know
- Print flash cards on cardstock— it makes them hold up better and they are harder to see through. If possible laminate them.
- Keep electronic copies of the forms you use on a regular basis.
- As one progresses the less structure is required. You will become more comfortable and not so reliant on a written lesson plan.
- Keep your text books. You never know when they might come in handy.
- Become familiar with the tests you might have to administer. This will make the process smoother.
- It is often easy to adapt games children already know to what you are working on in therapy.
- Try to have as much fun as possible with your client (especially children). The more engaged they are the more they will learn.
- Instead of using picture cards to work on vocabulary use picture books.
- Use your supervisor, she or he is a great source of knowledge and is available to answer questions.

#### Supplies to Have
- Construction Paper
- Playing cards
- Crayons, markers, colored pencils
- Play dough
- Scissors, glue, and other art supplies
- A quality cook book for children (for following directions)
- Word family cards (phonological processing)

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Resources

Books

Blockcolsky, M.S., CCC-SLP, V, Frazer, M.S., CCC-SLP, J, & Frazer, B.A., J.D., D. (1987). 40,000 selected words. San Antonio: Pearson. This is a book containing lists of words for every sound in all possible positions. In addition the words are divided by number of syllables.


Therapy Materials

Articulation Chipper Chat- Super Duper, This is a series of board games involving some of the most common error sounds. The game provides picture cards for initial, medial, and final sounds.

Expanding Expressions Tool Kit by Sara L. Smith, This provides students with a hands-on approach to improving language organization.

Webber's Jumbo Articulation Drill Book- Super Duper, Includes word lists pictures, phrases, and sentences for the most commonly errored sounds in all positions.

Websites

American Speech-Language-Hearing Association (ASHA) www.asha.org

Is a comprehensive site with information from education to careers and certifications.

Discover Education- http://www.discoveryeducation.com/free-puzzlemaker/? CFID=12224149&CFTOKEN=63525910 This site has an awesome puzzle maker.

EdHelper- http://www.edhelper.com/- This resource is especially valuable as a puzzle generators.

Speech Therapy Ideas & Activities- www.angelfire.com/nm2/speechtherapyideas/ This site contains activities divided by category, disorder and some that are specific for schools.

Net Connections for Communication Disorders and Sciences- http://www.mnsu.edu/comdis/kuster2/welcome.html- Is a comprehensive list of websites for information on disorders and activities to do.

Speaking of Speech- www.speakingofspeechee.com- Is a resource full of a wide variety of materials, some resources are free and others have to be purchased.

Super Duper- http://www.superduperinc.com/- Sells materials for speech pathologists. Games, flash cards, and tests are available as are other supplies.

The Listen-Up Web- http://www.listen-up.org/edu/speech.htm This website is a comprehensive list other websites and some brief descriptions.

The Sounds of Spoken Language- http://www.uiowa.edu/~acadtech/phonetics/# This website is extremely helpful with older children and adults. On the website there are animated libraries of the phonetic sounds of English, German, and Spanish.
http://members.tripod.com/caroline_bowen/clinphonology.html.


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