

ALU

Special Education Online Journal



## SPECIAL EDUCATION ONLINE JOURNAL

Volume 1. Issue 1

Jan 2017

### SPECIAL EDUCATION

Special education (also known as special needs education, aided education or exceptional education) is the practice of educating students with special educational needs in a way that addresses their individual differences and needs. Ideally, this process involves the individually planned and systematically monitored arrangement of teaching procedures, adapted equipment and materials, and accessible settings. These interventions are designed to help learners with special needs achieve a higher level of personal self – sufficiency and success in school and their community, than may be available if the student were only given access to a typical classroom Education. Common special needs include learning disabilities, communication disorders, emotional and behavioral disorders, physical disabilities, and developmental disabilities. Students with these kinds of special needs are likely to benefit from additional educational services such as different approaches to teaching, the use of technology, a specifically adapted teaching area, or a resource room.

#### Editorial

We are happy to publish this special Education Online Journal which centers on the emerging trends in the field of special education. This is the first knowledge initiative from Department of Special Education and Rehabilitation Science, Alagappa University. Its goal is to reach the community through its various services and this is one of its kind. This issue focused on the attitude of teachers towards our recent concept inclusion of children with special needs in regular classroom. This issue also covered about the nature of cerebral palsy, learning disability, hearing impairment and rehabilitation services for children with special needs. It is an attempt to bring out awareness and develop knowledge on special education. Your feedback will be considered for future structuring.



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## **Attitude of Prospective Teachers towards the Inclusion of children with Special needs**

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### **Abstract**

In the present study attitude of prospective teachers towards inclusion of children with special needs was investigated. Attitude is a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor" (Eagly, & Chaiken, 1993). Prospective teachers' attitudes towards their current student population with special needs dramatically affect the success and effectiveness of their instruction. The aim of this study is to examine what attitudes prospective teachers hold towards inclusive education, which variables are related to their attitudes and if these affect the social participation of pupils with special needs in regular schools. Using a questionnaire to assess the attitude towards inclusion practice for children with special needs were developed by investigator was administered to a random sample of 100 prospective teachers. It is found that out of 25 statements, the prospective teacher's attitude was neutral in 20 statements. Further, the results reveal that significantly positive attitude of prospective teacher tends to have a more favourable attitude towards the inclusion of special need students. It was recommended that prospective teachers should attend seminars and conferences to improve their knowledge about ways of practicing and accepting inclusion for a better tomorrow for our special needs children.

**Keywords:** Attitude, Inclusion, Children with special needs, Prospective Teacher

### **Introduction**

Education systems have changed significantly in the last few decades as educating children with special needs in regular schools has become an important goal in many countries. This development to keep pupils with special needs in regular education settings instead of referring them to special schools is best described with the term 'inclusion'. According to Rafferty, Boettcher, and Griffin (2001), inclusion refers to 'the process of educating children with special needs in the regular education classrooms of their neighbourhood schools – the schools they would attend if they did not have a disability – and providing them with the necessary services and support'. And important to identify prospective teachers' attitudes toward inclusion because it can dramatically affect their

performance and the success of children with special needs in the classroom. According to Avramidis et al. (2000), "Professionals' attitudes may act to facilitate or constrain the implementation of policies the success of innovative and challenging programs must surely depend upon the cooperation and commitment of those most directly involved". Successful inclusion warrants teacher's awareness, positive attitude and competencies to understand and recognize the strength and weakness of the student with special needs.

### **Need for the Study**

Attitudes play a significant role in determining behavior (Ajzen & Fishbein, 1977); therefore important to ascertain the factors shaping the attitudes of mainstream teachers as they attempt to include students with special needs. More specifically, this study is based on the premise that the attitudes of mainstream prospective teachers towards the inclusion of students with special needs.

While prospective teachers view inclusive education as a challenge, they emerge as accepting of students with special needs into their regular classrooms. Inclusive settings appear to provide a forum for prospective teachers to experiment with different techniques and strategies to ensure that all students within this setting are achieving. Within the contemporary inclusive classrooms, teachers face increased pressure as their roles diversify, compared to previous generations (Avramidis, Bayliss, & Burden, 2000; Clayton, 1996; Forlin, 1997; Long, 1995; McKinnon & Gordon, 1999; Paterson & Graham, 2000; Schloss, 1992). Teachers have varied in their responses to these challenges (Westwood & Graham, 2003). Mainstream teachers are now called upon to be sensitive to the variety of modern classrooms and to be able to rise to the challenge by adjusting their teaching styles in accordance with the multiplicity of learning styles they face (Peterson & Beloin, 1992). They are further required to be psychologically and practically prepared to take on the dynamic role of inclusive educator (Mullen, 2001), while being aware that making physical provision for students with disabilities is not as important as making attitudinal changes resulting in the removal of barriers to physical and educational access (Beattie, Anderson, & Antonak, 1997). Several mainstream educators view the philosophy of inclusive education as an exciting challenge, the stresses associated with its introduction being seen as life-sustaining, enjoyable and beneficial (Bernard, 1990); on the other hand, it has been noted that the experience of being an inclusive educator is challenging enough to cause teachers to become physiologically and

psychologically stressed (Whiting & Young, 1996). Fritz and Miller (1995) found that inclusion was an impossible obstacle for some teachers; however, others have seen it as an opportunity for personal and professional growth while contributing to the dynamic field of education. It would appear that the attitudes of educators toward the inclusion of students with disabilities are multidimensional and complex. Positive attitudes are considered to encourage the inclusion of students with disabilities into regular classrooms, while negative attitudes support low achievement and poor acceptance of students with disabilities into mainstream settings (Beattie et al., 1997). The purpose of the study was investigated the professional educators' attitude and integration of special need children in regular classrooms. The present study intended to study on the attitude of prospective teachers towards the inclusion of children with special needs.

### Statement of the Problem

“Attitude of Prospective Teachers towards the Inclusion of Children with Special needs”

### Objectives of the Study

1. To develop a tool to assess the attitude of prospective teachers towards the inclusion of children with special needs.
2. To find out the attitude of prospective teachers towards the inclusion of children with special needs.
3. To find out the significant difference among attitude of prospective teachers towards the inclusion due to variation in their personal variables such as gender, age, Community, educational qualification and socio- economic status.

### Hypotheses of the Study

1. There is a significant difference among attitude of prospective teachers towards the inclusion due to variation in their personal variables such as gender, age, Community, educational qualification and socio- economic status.

### Methodology

Survey method is adopted in the study. 100 prospective teachers were selected in the using simple random sampling techniques and their level of attitude was assessed. The raw data were scored and subjected to analysis and interpreted below.

### Results and Discussions

The data collected through the questionnaire was analyzed. Mean and standard deviation and correlated 't' value was calculated. Based on the mean  $\pm$  1 SD the level of attitude of prospective teachers was calculated and the results were tabulated in the tables below.

**Table-1 Number and Percentage Analysis of Attitude of prospective Teachers towards the Inclusion**

Positive Attitude		Neutral Attitude		Negative Attitude	
No.	%	No.	%	No.	%
12	12%	75	75%	13	13%

From the above table, the different level of prospective teachers' attitude towards the inclusion of children with special needs and their percentage were given. The sample wise analysis demonstrated that 75 (75%) of students showed neutral attitude towards inclusion of children with special needs. Whereas 12(12%) and 13(13%) of prospective teachers showed positive and negative attitude towards inclusion of children with special needs. Therefore, most of the teachers have neutral attitude towards inclusion.

**Table-2 Effect of personal variables in the Attitude of prospective Teachers towards the Inclusion of Children with Special needs**

Variables	No.	Mean	SD	Correlated 't' value
Gender	Male	65	2.09	0.53@
	Female	35	2.07	
Age	21-30	55	2.08	0.38@
	31-40	40	2.09	
	41-50	5	2.00	
Community	OC	7	2.05	0.15@
	BC/MBC	62	2.37	
	SC/ST	31	2.19	
Educational Qualification	UG	53	2.51	1.65@
	PG	35	2.07	
	PG WITH M.Phil	12	2.60	
Socio-Economic status	Rs.5000-10000	27	2.03	0.82@
	10000-15000	32	2.16	
	15000-20000	30	2.22	
	Above 20000	16	2.24	

From the table showed that there are no significant differences in the attitude of prospective teachers due to variation in their gender, age, community, educational qualification and socio economic status. Therefore formulated hypothesis , There is a significant difference among attitude of prospective teachers towards the inclusion due to variation in their personal variables such as gender, age. Community, educational qualification and socio-economic status are rejected.

### **Conclusion**

Prospective teachers' attitudes towards inclusive education could be formed and developed in the context of an educational system which can provide some specific conditions in order to have a good practice in this field. Those conditions refer to a restructure of the curricula, more help from support teachers, more time for preparing the educational activities, decreasing the number of students in one class, creating and developing opportunities for interactive partnerships between teachers, students, support teachers and parents and so on. The reform of the curriculum should be made in parallel with a proper training for teachers regarding their knowledge of inclusion and its principles. The difficulties are inherent to any change or reform, but it is necessary to develop an educational system which can properly respond to all the needs, characteristics and individual differences of all children in school.

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### **CEREBRAL PALSY**

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### **Abstract**

This thematic paper focuses on cerebral palsy and its types. Cerebral palsy is a term which encompasses a set of neurological conditions that

cause physical disability in human development - they affect the brain and nervous system. The word *cerebral* refers to the area in the brain that is affected, while palsy means complete or partial muscle paralysis, frequently accompanied by loss of sensation and uncontrollable body movements or tremors. Cerebral means related to the brain or cerebrum. *Cerebrum* is a Latin word meaning "brain; top of the head, skull". In the English language the cerebrum is the anterior (front) portion of the brain consisting of two hemispheres; it is the dominant part of the brain in humans. Experts say that anything which tends to cause either a premature birth or a low-weight baby who is not developed enough to cope with the stresses of life outside the womb will raise the risk of cerebral palsy.

### **INTRODUCTION**

Cerebral palsy (CP) is a group of permanent movement disorder that appears in early childhood. Cp is considered a neurological disorder caused by a non progressive brain injury or malformation that occurs while the child's brain is under development. Cerebral palsy primarily affects body movement and muscle coordination. There may be problems with sensation, vision, hearing, swallowing, and speaking. Often babies with cerebral palsy do not roll over, sit, crawl, or walk as early as other children of their age. Difficulty with the ability to think or reason and seizures each occurs in about one third of people with CP. while the symptoms may get more noticeable over the first few years of life, the underlying problems do not worsen over time.

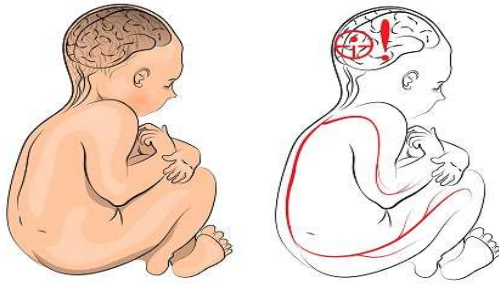
### **Meaning of Cerebral Palsy**

Cerebral palsy is the result of a brain injury or a brain malformation. Individual with cerebral palsy were most likely born with the condition, although some acquire it later. It was once thought that cerebral palsy was caused by complications during the birthing process. Some research suggests the majority of cerebral palsy cases result from abnormal brain development or brain injury prior to birth or during labor and delivery. Accident, abuse, medical, malpractice, negligence, infections and injury are some known risk factor that may lead to cerebral palsy.

## Definition of Cerebral Palsy

While cerebral palsy (pronounced she-ree-brel-pawl-zee) is a blanket term commonly referred to as CP and described by loss or impairment of motor function. Cerebral palsy is actually caused by brain damage or abnormal development of the brain that occurs while a child's brain is still developing before birth, during birth, or immediately after birth. Cerebral palsy affects body movement, muscle control, muscle coordination, muscle tone, reflex, posture and balance it can also impact fine motor skills, gross motor skills, and oral motor functioning.

### CEREBRAL PALSY



## Causes Cerebral Palsy

- Cerebral palsy is caused by a brain injury or problem that occurs during pregnancy or birth within the first 2 to 3 years of a child's life, it can be caused by problems from being born too early (premature birth)
- Not getting enough blood, oxygen, or other nutrients before or during birth.
- A serious head injury
- A serious infection that can affect the brain such as meningitis.
- Some problems passed from parent to child, (genetic conditions) that affect brain development.

## Types of Cerebral Palsy

Cerebral palsy based on the four types' they are following

- Classification based on severity level

- Classification based on topographical
- Classification based on motor function
- Classification based on gross motor function classification systems.

## Can Cerebral Palsy be prevented?

To prevent cerebral palsy (CP) prospective parents should follow these guidelines.

- Get regular prenatal care.
- Expectant mother and in some cases, expectant fathers should get a simple blood test to determine their Rh factor.
- An incompatibility between mother and child usually does not cause problems with the first pregnancy.



- In addition, an immunization given to the mother after delivery of an Rh positive child can prevent problems for future pregnancies.
- Women should be immunized against rubella before getting pregnant.
- Women who are expecting or who plan to become pregnant should try to avoid toxoplasmosis by not eating undercooked pork or lamb and by keeping away from cat litter boxes.
- Parents should follow safety precautions, such as using child safety seats, in vehicles to prevent head injury and having children wear safety equipment, such as helmets, for bike riding or other activities.

- Parents should seek treatment right away for a baby who is jaundiced. It phototherapy isn't effective, as in some severe cases, a special form of blood transfusion can correct the jaundiced condition.



### Conclusion

Cerebral palsy is the most common movement disorder in children. It occurs in about 2.1 per 1,000 live births. Cerebral palsy has been documented throughout history with the first known descriptions occurring in the work of Hippocrates in the 5<sup>th</sup> century BCE. Cerebral palsy is the result of a brain injury or a brain malformation. The cerebral palsy affected person is facing many problems of our life's. Can Cerebral Palsy be prevented only in parents' hands. This article deals with cerebral palsy persons and our parents' care. Cerebral palsy affected persons want to be dependent on others. This article explains the meaning of cerebral palsy, the definition of cerebral palsy, and the prevention of cerebral palsy.

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### LEARNING DISABILITY

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#### Introduction

Learning disability is the classification that includes several areas of functioning in which a person has difficulty learning in a typical manner usually caused by an unknown factor or factors given “difficulty learning in a typical manner” This does not exclude the ability to learn in a different manner. Therefore, some people can be more accurately described as having a “Learning difference” Thus avoiding any misconception of being disabled with a lack of ability to learn and possible negative stereotyping. While learning disability, learning disorders and learning difficulty are often used interchangeably they differ in many ways.

### LEARNING DISABILITY



## **Definition**

Heterogeneous group of disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning or mathematical abilities.

These disorders are intrinsic to the individual and presumed to be due to central nervous system dysfunction. Even though a learning disability may occur concomitantly with other handicapping other handicapping conditions (eg. Sensory impairment, intellectual disability, social and emotional disturbance) or environmental influences (eg cultural differences, insufficient in appropriate instructions, psychogenic factors). It is not the direct result of those conditions or influences.

## **Types of Learning Disabilities**

There are many types of learning disabilities that appear in school-aged children. With early intervention, accommodations and modifications, many children overcome their learning problems and are able to achieve their full potential. If your child has been diagnosed with a learning disability, it may not be as problematic as it sounds. The most important thing you can do as a parent is to learn as much as you can about your child's disorder.

Besides dyslexia, there are numerous other types of learning disabilities that appear in school-aged children. These include:

### **1. Auditory Processing Disorders:**

This is one of the most common learning disabilities listed on an IEP. It appears under the category of Specific Learning Disability. Auditory processing disorder means that a child has difficulty understanding sounds. For example, a child will physically hear correctly but doesn't comprehend the words meaning or use. A child with this problem has trouble understanding spoken directions from a parent or teacher or following a conversation. They are also easily distracted by noise.

### **2. Aphasia:**

Aphasia is a condition that results in the limited ability to use or comprehend words. Those with mild aphasia might have difficulty remembering the names of objects or people while

severe forms can impair the ability to speak. Aphasia is not the same as autism.

### **3. Dyscalculia:**

This type of learning disability involves difficulty with calculating numbers or grasping mathematical concepts. There is no single type of math disability as it varies from child to child.

### **4. Dysgraphia:**

This condition involves problems with handwriting. It can include illegible writing, awkward pencil grip, inappropriately sized or spaced letters or spelling problems. Students with this problem sometimes use a laptop computer at school as an accommodation.

### **5. Dyspraxia:**

Children with this problem have difficulties with motor tasks including either large movements or small movements. These can range from walking and balance problems to difficulty with picking up a pencil.

### **6. Sensory Processing Disorder:**

SPD is thought to be a neurological disorder that causes difficulties with processing information from one or several of the five senses. The child perceives things abnormally which causes stress and confusion. These children may incorrectly process information which results in inattentiveness, disorganization and poor school performance. Specific behaviors can include a hypersensitivity to clothes rubbing against the skin, the inability to tolerate normal lighting, a dislike of being touched and being uncomfortable with eye contact.

### **7. Short and Long Term Memory Problems:**

These children have a problem with creating or retrieving memories. Students have trouble remembering facts, numbers and assignments. They also have difficulty following instructions.

### **8. Visual Processing Disorder:**

This disorder involves difficulties understanding visual input. A child doesn't have sight limitations

but has difficulties understanding and using visual information. The child has problem judging physical distances, differentiating between similar letters or objects and understanding spatial relationships.



#### Assessment:

Many normed assessments can be used in evaluating skills in the primary academic domains reading, including word recognition, fluency and comprehension. Mathematics including computation and problem solving and written expression. Including handwriting, spelling and composition.

#### Psychologist:

Schools in the united state have legal obligations to new arrivals to the country. Including undocumented students. The landmark Supreme Court ruling grants all children no matter legal status to a free education. Additionally specifically in regards to Ell's the supreme court ruling Lau- Nichols (1974) ruled that equal treatment school did not mean equal educational opportunity. Thus if a school teacher a lesson in a language that students do not understand then they are effectively worthless. This ruling is also supported by English language development services provided in school but unfortunately these ruling do not require the individuals that teach and provide services to have any specific training nor are licensing different from typical teacher or services provider.

#### Causes:

The cause for learning disability is not well understood and sometimes there is no apparent cause for a learning disability. However some causes of neurological impairments include.

#### Heredity:

Learning disability often run in the family children with learning disability is likely to have parents or other relatives with similar difficulties.

#### Problems during pregnancy and birth:

Learning disabilities can result from anomalies in the developing brain illness or injury fetal exposure to alcohol or drugs, low birth weight' oxygen deprivation or by premature or prolonged labour.

#### Accidents after birth:

Learning disabilities can also be caused by head injuries, malnutrition, or by toxic exposure such as heavy metals or pesticides.

#### Culture:

- There are three patterns that are well known in regards to main stream students and minority labels in the us.
- A higher percentage by children then minority children then of white children are assigned to special education.
- Within special education, white children are assigned to less restrictive programs then are their minority counterparts.
- The data – Driven in consistent methods of diagnosis, treatment and funding –make the over an system difficult to describe or change.
- In the present day it has been reported that white districts have more children from minority backgrounds enrolled in special education then they do minority students. It was also suggested that districts with a higher percentage of minority faculty had power minority students places in special education suggesting that minority students are treated differently predominantly minority districts.

#### Conclusion

The effects of having a learning disability or learning differences are not limited to educational outcomes; individuals with learning disabilities may experience social problems as well. Neuropsychological differences can affect the accurate perception of social cues with peers. Many studies have been done to asses that the learning disabilities.



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## HEARING IMPAIRMENT

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### INTRODUCTION

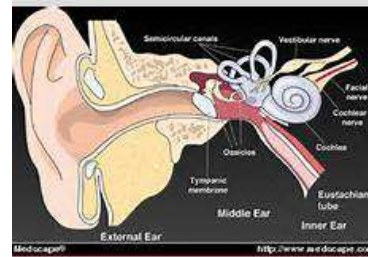
Hearing loss is considered to be the most prevalent congenital abnormality in newborns and is more than twice as prevalent as other conditions that are screened for at birth, such as sickle cell disease, hypothyroidism, phenylketonuria, and galactosaemia (Finitzo & Crumley, 1999). It is one of the most common sensory disorders and is the consequence of sensorineural and/or conductive malfunctions of the ear. The impairment may occur during or shortly after birth (congenital or early onset or may be late onset) caused post natal by genetically factors, trauma or disease. Hearing loss may be pre-lingual (i.e., occurring prior to speech and language acquisition) or post-lingual (i.e., occurring after the acquisition of speech and language).

### DEFINITION

Hearing loss in infants is silent and hidden, great emphasis is placed on the importance of early detection, reliable diagnosis and timely intervention (Spivak, et al., 2000). (i.e. occurring after the acquisition of speech and language),

Schuknect (1974) has described four types of human presbycusis:

1. Sensory, mainly affecting the cochlear hair cells and supporting cells.
2. Neural, typified by the loss of afferent neurons in the cochlear.
3. Metabolic, where the later wall and streak vascular is of cochlea atrophy.
4. Mechanical where there seemed to be a "stiffening" of the basilar membrane.



Three attributes are considered:

1. Type of hearing loss
2. Degree of hearing loss
3. Configuration.

### Type of hearing loss:

A hearing loss can be classified as a conductive, sensory, neural, or mixed hearing loss, based on the anatomic location of the problem, (i.e. middle or inner ear). A hearing loss may also be labeled as unilateral or bilateral, depending on whether the loss is in one (unilateral) or both (bilateral) ears.

### Auditory processing disorder:

Auditory processing disorder is a deficit in neural processing of auditory stimuli that is not due to higher order language, cognitive, or related factors. The results of hearing sensitivity and physiological tests, such as otoacoustic emissions (OAE) and auditory brainstem response (ABR) are normal in children with a central auditory disorder

### Conductive hearing loss:

- Characterized by an obstruction to air conduction that prevents the proper transmission of sound waves through the external auditory canal and the middle ear.

- It is marked by an almost equal loss of all frequency. The auricle (pinna), external acoustic canal, tympanic membrane, bones of the middle ear may be dysfunctional.
- Sensorineural hearing loss:
- Occurs when the sensory receptors of the inner ear are dysfunctional sensor neural deafness is a lack of sound perception caused by a defect in cochlea and the auditory division of the vestibulocochlear nerve. this type of hearing loss is more common than conductive hearing loss and is typically irreversible.

**Degree of hearing loss:**

- Deaf/Deafness refers to a person who has a profound hearing loss and uses sign language.
- Hard of hearing refers to a person with a hearing loss who relies on residual hearing to communicate through speech and lip-reading.
- Hearing impaired is a general term used to describe a deviation from normal hearing, whether permanent or fluctuating and ranging from mild hearing loss to profound deafness.
- Residual hearing refers to the hearing that remains. It is suggested that the greater the hearing loss, the lesser the residual hearing.



The level of severity of hearing loss as used in this guideline is defined as follows:

10 to 15 dB HL	Normal Hearing
16 to 25 dB HL	Slight Hearing loss
26 to 40 dB HL	Mild Hearing loss
41 to 55 dB HL	Moderate Hearing loss

56 to 70 dB HL	Moderate severe Hearing loss
71 to 90 dB HL	Severe Hearing Loss
>90 dB HL	Profound Hearing Loss

(Average Threshold level re for 0.1, 1 and 2KHZ, Clark(1981))

**Configuration of hearing loss:**

There are four general configurations of hearing loss:

**1.Flat**

Thresholds essentially equal across test frequencies.

**2.Sloping**

Lower (better) thresholds in low-frequency regions and higher (poorer) thresholds in high-frequency regions.

**3. Rising**

Higher (poorer) thresholds in low-frequency and lower (better) thresholds in higher-frequency regions.

**4. Trough-shaped: (Cookie-bite or “U” shaped)**

**Greatest hearing loss in the mid-frequency range, with lower (better) thresholds in low and high frequency regions. Hearing Aids**

Hearing aids may be appropriate for some individuals with hearing impairment. In general, most people with hearing impairment get the most benefit when hearing aids are specific to their needs. Hearing aids need to be readjusted at regular intervals. Many people stop using hearing aids before they have been properly fitted or adjusted, which can take several visits. It is recommended to talk to a certified audiologist about proper fitting, calibration, and care of hearing aids in order to maximize their potential.

Most modern hearing aids are discreet. Many are able to help make speech clearer by boosting certain frequencies while blocking out background noise. This is preferable to simple amplifiers, which make all sounds louder and may not improve a person’s ability to understand speech (particularly in a noisy environment).

### Types of hearing aids include:

**Behind the ear:** BTE hearing aids have a processor which sits behind the ear.

- **Receiver in the ear:** RITE hearing aids have a processor behind the ear and a receiver that fits into the ear canal.
- **In the ear:** ITE hearing aids sit at the beginning of the ear canal.
- **In the canal and completely in the canal:** ITC hearing aids are smaller than ITE and fit into the ear canal. CIC are smaller still, but may be unsuitable for some users due to the small size and increased potential for ear infections.



- **Body-worn:** BW hearing aids have a microphone and processor which are worn somewhere on the body, such as in a pocket or on a strap around the neck. BW hearing aids are appropriate for individuals who have difficulty using smaller hearing aids.
- **CROS:** a CROS hearing aid is intended for individuals who have a unilateral (one side only) hearing impairment. This type of hearing aid has two microphones – one for each ear – but only delivers the sound to the unimpaired ear.



- **Bone conduction and bone anchored:** bone conduction hearing aids and bone anchored hearing aids both use vibration delivered to the mastoid bone

behind the ear. This bypasses the outer and middle ear, allowing individuals with a conductive hearing loss to take advantage of a working inner ear. A bone conduction hearing aid is worn behind the ear, whereas a bone anchored hearing aid has a surgically implanted component that sits directly against the mastoid bone.

### Conclusion

Hearing impairment is the common disabilities for the present generation. The most people are affected for the hearing impairment. 50% of the people have problem with our health condition. The major challenge facing people with hearing impairment is communication. Hearing impaired persons vary widely in their communication skills. This article deal with only the hearing impairment person how to facing the society with hearing aids. Hearing impaired persons want independent life.

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## **REHABILITATION SERVICES**

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### **Introduction:**

This course provides a general introduction to the field of rehabilitation, placing emphasis on its historical and philosophical underpinnings. Students explore societal values and trends and rehabilitation practices, policies and principles within the context of past and present political climates. The phases of the rehabilitation process are introduced and the role for advocacy and consumerism are also discussed

### **Rehabilitation**

Rehabilitation is a treatment or treatments designed to facilitate the process of recovery from injury, illness, or disease to as normal a condition as possible.

### **Purpose**

The purpose of rehabilitation is to restore some or all of the patient's physical, sensory, and mental capabilities that were lost due to injury, illness, or disease. Rehabilitation includes assisting the patient to compensate for deficits that cannot be reversed medically. It is prescribed after many types of injury, illness, or disease, including amputations, arthritis, cancer, cardiac disease, neurological problems, orthopedic injuries, spinal cord injuries, stroke, and traumatic brain injuries. The Institute of Medicine has estimated that as many as 14% of all Americans may be disabled at any given time.

### **Precautions**

Rehabilitation should be carried out only by qualified therapists. Exercises and other physical interventions must take into account the patient's deficit. An example of a deficit is the loss of a limb.

### **Description**

A proper and adequate rehabilitation program can reverse many disabling conditions or can help patients cope with deficits that cannot be reversed by medical care. Rehabilitation addresses the patient's physical, psychological, and

environmental needs. It is achieved by restoring the patient's physical functions and/or modifying the patient's physical and social environment. The main types of rehabilitation are physical, occupational, and speech therapy.

Each rehabilitation program is tailored to the individual patient's needs and can include one or more types of therapy. The patient's physician usually coordinates the efforts of the rehabilitation team, which can include physical, occupational, speech, or other therapists; nurses; engineers; physiatrists (physical medicine); psychologists; orthotists (makes devices such as braces to straighten out curved or poorly shaped bones); prosthetists (a therapist who makes artificial limbs or prostheses); and vocational counselors. Family members are often actively involved in the patient's rehabilitation program.

### **Physical therapy:**

Physical therapy helps the patient restore the use of muscles, bones, and the nervous system through the use of heat, cold, massage, whirlpool baths, ultrasound, exercise, and other techniques. It seeks to relieve pain, improve strength and mobility, and train the patient to perform important everyday tasks. Physical therapy may be prescribed to rehabilitate a patient after amputations, arthritis, burns, cancer, cardiac disease, cervical and lumbar dysfunction, neurological problems, orthopedic injuries, pulmonary disease, spinal cord injuries, stroke, traumatic brain injuries, and other injuries/illnesses. The duration of the physical therapy program varies depending on the injury/illness being treated and the patient's response to therapy. Exercise is the most widely used and best known type of physical therapy. Depending on the patient's condition, exercises may be performed by the patient alone or with the therapist's help, or with the therapist moving the patient's limbs. Exercise equipment for physical therapy could include an exercise table or mat, a stationary bicycle, walking aids, a wheelchair, practice stairs, parallel bars, and pulleys and weights.

Heat treatment, applied with hot-water compresses, infrared lamps, short-wave radiation, high frequency electrical current, ultrasound, paraffin wax, or warm baths, is used to stimulate the patient's circulation, relax muscles, and relieve pain. Cold treatment is applied with ice packs or

cold-water soaking. Soaking in a whirlpool can ease muscle spasm pain and help strengthen movements. Massage aids circulation, helps the patient relax, relieves pain and muscle spasms, and reduces swelling. Very low strength electrical currents applied through the skin stimulate muscles and make them contract, helping paralyzed or weakened muscles respond again.

### **Occupational therapy**

Occupational therapy helps the patient regain the ability to do normal everyday tasks. This may be achieved by restoring old skills or teaching the patient new skills to adjust to disabilities through adaptive equipment, orthotics, and modification of the patient's home environment. Occupational therapy may be prescribed to rehabilitate a patient after amputation, arthritis, cancer, cardiac disease, head injuries, neurological injuries, orthopedic injuries, pulmonary disease, spinal cord disease, stroke, and other injuries/illnesses. The duration of the occupational therapy program varies depending on the injury/illness being treated and the patient's response to therapy.

Occupational therapy includes learning how to use devices to assist in walking (artificial limbs, canes, crutches, walkers), getting around without walking (wheelchairs or motorized scooters), or moving from one spot to another (boards, lifts, and bars). The therapist will visit the patient's home and analyze what the patient can and cannot do. Suggestions on modifications to the home, such as rearranging furniture or adding a wheelchair ramp, will be made. Health aids to bathing and grooming could also be recommended.

### **Speech therapy**

Speech therapy helps the patient correct speech disorders or restore speech. Speech therapy may be prescribed to rehabilitate a patient after a brain injury, cancer, neuromuscular diseases, stroke, and other injuries/illnesses. The duration of the speech therapy program varies depending on the injury/illness being treated and the patient's response to therapy.

Performed by a speech pathologist, speech therapy involves regular meetings with the therapist in an individual or group setting and home exercises. To strengthen muscles, the patient might be asked to say words, smile, close his mouth, or

stick out his tongue. Picture cards may be used to help the patient remember everyday objects and increase his vocabulary. The patient might use picture boards of everyday activities or objects to communicate with others. Workbooks might be used to help the patient recall the names of objects and practice reading, writing, and listening. Computer programs are available to help sharpen speech, reading, recall, and listening skills.

### **Rehabilitation centers**

Rehabilitation services are provided in a variety of settings including clinical and office practices, hospitals, skilled-care nursing homes, sports medicine clinics, and some health maintenance organizations. Some therapists make home visits. Advice on choosing the appropriate type of therapy and therapist is provided by the patient's medical team.

### **TYPES OF REHABILITATION SERVICES**

1. Patient rehabilitation facility
2. Outpatient rehabilitation
3. Physical therapy
4. Occupational therapy
5. Speech/swallowing therapy
6. Balance therapy
7. Respiratory therapy
8. Neuropsychological
9. Vision therapy

### **Inpatient Rehabilitation Facility:**

If the patient recovers to the point that they no longer need the level of care provided by a hospital but they are still not capable of living unassisted, they will often be sent to an inpatient rehabilitation facility. These rehabs offer rooms that are often similar to a hospital room and many times are connected to a hospital, but they are geared completely toward rehab. Because the level of medical care is typically not as robust as a hospital they are lower cost and therefore offer the opportunity for longer term rehabilitation than the average hospital where beds are at a premium. Various rehab facilities specialize in different types of recovery so it is fair to ask what options are available and to understand which would be best suited to working with brain surgery recovery. Often a good indicator is a facility that deals with stroke recovery since it is more common than brain surgery but requires many of the same skills. At an inpatient rehabilitation facility, the patient will typically get a much more rigorous schedule with several group classes and individual sessions per day. Because of this and because the therapists here

are likely to be very experienced, rapid progress can be made in a good inpatient setting. Patients will wear their own clothes: sweat pants and t-shirts or sweat shirts during the day because of the gym-like atmosphere

During the stay at an inpatient rehabilitation facility, the physician that is in charge of patient care is often a physiatrist. A physiatrist is a physician that specializes in physical medicine and rehabilitation. Their focus is on restoring function to patients. Some common areas of specialty for a physiatrist are sports medicine, pediatrics, geriatric medicine and brain injury. The physiatrist may treat the patient directly, such as prescribing any needed medication, or may lead an interdisciplinary team that is treating the patient. The physiatrist may meet with all of the different types of therapists that are treating the patient at periodic intervals such as once a week, to determine the patient's progress, and to assess continuing and evolving needs. This group, led by the physiatrist, will make recommendations as to how to treat the patient as well as when to release the patient from rehabilitation.

#### **Outpatient Rehabilitation:**

Once the patient has recovered enough to go home from either the hospital or the inpatient rehab facility, they will often be given some amount of outpatient rehabilitation. This is most often provided at a rehabilitation facility that the patient will travel to a few times a week but it can also be in-home. The trade off between the two is that although in home is more convenient, often insurance will cover more visits at a rehab facility due to lower cost and the rehab facility will often have better equipment and skills than in home care. One advantage that opens up to a patient once they reach outpatient care is that there will often be a wider variety of types of rehab than might be within a given hospital or rehab facility. The patient might seek out specialists in balance therapy, vision therapy and other "boutique" rehabs that could be especially useful to the patient.

#### **Physical Therapy:**

This is a very broad category of therapy that involves most strengthening and coordination work designed to overcome any physical weakness that the patient is left with after surgery. Physical therapists, for example, work with patients who have had hip or knee replacements to increase their strength and flexibility so that they can walk again.

Although brain surgery does not directly affect the muscles and joints in the same way that a hip replacement does, it can require much of the same recovery for two reasons. First, anytime a patient is immobilized in a hospital bed for some time they lose strength. If that immobilization is extended the patient may need some PT to get strong enough to safely go home. More common for brain surgery is that the control of some muscle or set of muscles is weakened for neurological reasons. Put simply, the muscle is healthy but the neural pathway (the nerves or areas of the brain that control the nerves) are damaged in some way. It is not unlikely that a neural pathway can be damaged but not destroyed; therefore, the muscles affected seem to be dramatically weakened. This can be thought of as the brain just not being able to "get enough of a signal" to the muscle to fully activate it. In these cases, therapy can be very effective at exercising that pathway and helping it to become more useful. This is the same process that a stroke patient will go through. In many cases PT will also include balance, coordination, gait training and overall strengthening. It is very broad by definition.

#### **Occupational Therapy**

OT will focus very specifically on the needs of the patient to be able to work as well as daily living tasks such as grooming and household care. If a patient had a weakness in the fingers for example, an OT will evaluate the ways in which this patient needs to use those fingers in their daily life and work and will help them to adapt. OT is a combination of rebuilding the deficits and finding workarounds to allow the patient to continue to perform the needed task. OT might prescribe adaptations to the patient's home or work environment such as handrails, modified shower, lowered counters, etc. Typical inpatient facilities have kitchens, bathrooms, and work environments in which they help the patient practice the life skills that they will need.

#### **Speech/Swallowing Therapy**

If there is a weakness or deficit with the mouth or throat, it can manifest itself as a lack of clear speech or a slow or weakened swallow. Speech therapists specialize in these oral deficits and provide exercises that will strengthen the specific muscles that are slow or weak. Speech and swallowing are amazingly complex activities that require a great deal of coordination in all these oral muscles. Speech therapists can use a combination of observation and imaging diagnostics such as moving x-ray that allow them to understand and

treat these conditions. Columbia University provides additional information about swallowing problems (also known as dysphagia) and treatments.

### **Balance Therapy**

Brain surgery has the potential to affect a patient's balance. Some PT's specialize in balance or what is often called vestibular rehabilitation. Balance therapists are skilled at retraining the brain's ability to interpret and react to the balance related signals that it gets from the inner ear, eyes and feet. It is physical therapy focused on the patient's balance. Some patients will have a problem with vertigo as well as balance. Balance therapy will address these issues.

The **American Physical Therapy Association** website provides a great deal of information about balance therapy including patient handouts.

### **Respiratory Therapy**

Since the brain controls breathing and since surgery carries with it some risk of respiratory complications, it is likely that a patient will at least be evaluated by respiratory therapists during their recovery. The **American Association for Respiratory Care** provides additional information about respiratory tests.

### **Neuropsychology**

Neuropsychology deals with cognitive processes of the brain including, but not limited to, short and long term memory, concentration, attention, problem solving and abstract reasoning. Don't confuse this with psychotherapy - it is not "counseling". Neuropsychologists will give a battery of standardized tests to determine neurological deficiencies, if any. Note that these tests cannot take into account the patient's cognitive level prior to surgery. However, testing may determine the patient is functioning below average in specific cognitive categories and help them to understand and improve on their deficiencies. Also, this information may be very important in determining the patient's ability to return to work and/or if the patient qualifies for disability. The National Academy of Neuropsychology offers a patient information page (PDF format) that provides more detailed information about neuropsychological evaluations.

### **Vision Therapy**

Vision therapy is for your eyes, just like physical therapy is for your body. When a body part isn't functioning correctly, we attempt to bring it back into full use with exercise and retraining. In the case of a turned eye or an eye lacking in mobility, vision therapy can help:

- strengthen the muscles controlling the eyes
- speed the time it takes for the eye to return to the regular position
- teach the eyes to work as a team again (just because an eye goes back to its proper position, doesn't mean the eyes will automatically work together as a team again)

### **Child Services**

- **Early Intervention Services** - helps children (ages 0 to 3) with disabilities learn and grow.

### **Advocacy & Customer Service**

If you have applied for or are receiving services from the DHS Division of Rehabilitation Services (DRS) and have concerns or complaints, please contact the Client Assistance Program.



More than a billion people in the world today experience disability. These people generally have poorer health, lower education achievements, fewer economic opportunities and higher rates of poverty. This is largely due to the barriers they face in their everyday lives, rather than their disability. Disability is not only a public health issue, but also a human rights and development issue. WHO's efforts to support Member States to address disability are guided by the overarching principles and approaches reflected in the *WHO global disability action plan 2014-2021*, the *World report on disability*, and the Convention on the Rights of Persons with Disabilities.



While many countries have started taking action to improve the lives of people with disabilities, much remains to be done. The evidence in the *World report on disability* suggests that many of the barriers people with disabilities face are avoidable and that disadvantages associated with disability can be overcome. The report calls on governments to review and revise existing legislation and policies for consistency with the Convention on the Rights of Persons with Disabilities (CRPD) and to develop national disability strategies and action plans.

#### Disability and rehabilitation in emergencies



Emergencies, particularly sudden-onset disasters and situations of protracted conflict, can result in a surge of people with critical injuries. In such contexts, local health and rehabilitation services may not be able to cope with their needs, and they may suffer from secondary complications of their injuries, due to a lack of access to medical management, medications, and assistive devices. These injuries and complications may result in their experiencing long-term disability. People living with disability prior to the emergency are also disproportionately affected in such situations and are known to have particularly high rates of mortality in emergencies

#### Rehabilitation after a fall

Rehabilitation physicians should develop a standard evaluation for targeted groups of patients to increase participation in rehabilitation programs after a fall. The patient's history should include information about the individual's history of falls, the circumstances of the falls, the associated symptoms, and the known comorbidities (eg, sensory impairment, depression, CVA, incontinence) that may lead to falls. Physical examination should include an assessment of the following: vital signs with orthostatic blood pressure measurements, visual and hearing impairments, arrhythmias, bruits, postural instability, joint limitations, podiatric problems, gait dysfunction, lower-extremity weakness, and changes in mental status. Any adaptive equipment and the patient's FIM score should be reviewed. The get-up-and-go test is a useful clinical tool for follow-up assessments of balance or gait dysfunction.

#### Legal Issues

Physicians should be aware of and follow state guidelines regarding the reporting of potentially unsafe drivers. Regulations vary from state to state. State-mandated tests of visual acuity are associated with lower rates of fatal accidents. Although physicians and therapists evaluate patients by documenting and reporting physiologic changes, medical conditions, and formal test results, the state ultimately confers licenses to operate a motor vehicle. State DMVs, however, take the results of these evaluations into strong consideration.

In 1996, the California DMV implemented a requirement that physicians must report patients who have moderate-to-severe AD, and the DMV revokes the patient's license without additional testing. Patients with mild dementia are required to undergo repeat examination to demonstrate their driving ability. If physicians fail to comply with this regulation, they may lose their medical license and also incur legal liability should their patient be involved in a collision. In a study by Cable and colleagues, 30% of geriatricians in states other than California do not know how to report patients with dementia who are potentially dangerous drivers. All states should develop protocols for the evaluation of patients with cognitive impairments.

#### Conclusion:

The Importance of the Individual Person in their the Definition of Rehabilitation Limitations Related This evidence-based, point-of-care



resource is for physical therapists, Context and How To Do Person-Centred Rehabilitation Using the ICF as to the Scope of this textbook Future Directions of Interprofessional Rehabilitation. a Way to Map Interprofessional Rehabilitation Revisiting occupational therapists, speech therapists and rehabilitation professionals With Rehabilitation Center, therapists can access the most current information in their specialty so they can provide the best care to their patients.

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