

Training Module on Multiple Disabilities



शिक्षा का अधिकार

सर्व शिक्षा अभियान
स्व पढ़ें सब बढ़ें

Sarva Shiksha Abhiyan

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Section 1

Introduction

Children with severe and multiple disabilities pose unique challenges to educators. Such children need more individual support and care than a normal child. The services for such children are gaining focus and importance in the country with the recognition of this disability under the National Trust Act (1999). It is essential that service providers must have a good understanding of Children with multiple disabilities, when decisions are made about interventions and the plans and strategies for their implementation. There has long been a need for a structured framework for the practical and rational assessment for such children and a logical, systematic approach to intervention methods that focuses on the development of appropriate service models to be used by the qualified special teachers and general teachers in the existing system of Education for all Program -Sarva Shiksha Abhiyan.

This package of content and module will be useful to the special teachers of SSA, in imparting systematic training towards the education of children with Multiple disabilities. The contents have been divided into three main sections namely Introduction to MD, Educational aspects and Therapeutical and support services. The contents in each area has covered not only the compatibility of strategies for teaching children with multiple disabilities, but also understanding Multiple Disabilities, Various Assessment procedures, techniques of development of communication, curriculum development , early intervention strategies etc in a very comprehensive manner.

Sense International (India) as the only NGO in the country, working towards the needs of Deafblind and Multi sensory impaired children has collaborated with the Sarva Shiksha Abhiyan in developing this module and contents as a training package towards establishing more service models for children with multiple disabilities to lead an independent life. The main purpose of this proposed training module is to assist resource teachers, block resource coordinators of SSA with basic skills to identify, assess and strengthen services for children with Multiple disabilities in local districts within the State. In addition, this training will enable them to work more effectively with learners/ students who are deafblind. It would also increase the number of trained teachers in the field of Multiple Disabilities.



Section 2

Acknowledgements

This module is an outcome of combined efforts of a number of people - the Sense International (India) team, SSA, children with Multiple Disabilities, their teachers, parents and other stake holders in the community.

This training module is a compilation of information sourced from various materials/literature, internet etc. We gratefully acknowledge and recognize their contributions and permission of copyrights given for adapting some chapters.



Section 3

About Multiple Disabilities

Understanding Multiple Disabilities

Section 1: In this module the learner will understand

- About Multiple Disabilities and different definitions
- Characteristics of children with Multiple disabilities
- Incidence and prevalence

Introduction

Children who have a combination of severe disabilities are called “Multiply Disabled”. **Caring for multiply and severely disabled children is never easy and they need an enormous amount of time, patience and love.**

Realising the need for promotion of services for children with multiple disabilities, an autonomous organization of the Ministry of Social Justice and Empowerment, Government of India, was set up under the “National Trust for the Welfare of Persons with Autism, Cerebral Palsy, Mental Retardation and Multiple Disabilities” Act (Act 44 of 1999). The National Trust was set up to find an *answer* to the worries of parents of such children.

Definition of Multiple Disabilities

According to the act “Multiple Disabilities” means a combination of two or more disabilities as defined in clause (i) of section 2 of the Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995 (1 of 1996). Disabilities under the National Trust Act are in fact Developmental Disabilities caused due to insult to the brain and damage to the central nervous system. These disabilities are Autism, Cerebral Palsy, Mental Retardation and Multiple Disabilities. These are neither diseases nor contagious nor progressive. They cannot be cured by drugs or surgery. But early detection and training improve outcome. This is done using the services of Physio-Occupational and Speech Therapists, Community Based Rehabilitation Workers and Special Educators.

The combination of disabilities and degree of severity is different in each child. The time at which the disability occurs in the child, what is known as the ‘age of onset’, may also range from birth to

a few days after birth, from early childhood till late teens. Sometimes children are born with one disability but acquire the second or third disabling conditions during childhood. The characteristics and the needs of the children depend on the nature of combination of the disabilities, the age of onset and the opportunities that have been available to a child in his environment.

Multiple Disability refers to: a combination of two or more disabling conditions that have a combined effect on the child's communication, mobility and performance of day-to-day tasks.

We can say that just as every child is different, similarly every child with MD is different. However there are some things that this group of children have in common.

- It affects the all-round development of the child
- Communication with the world around is most severely affected
- Opportunities to interact with the environment becomes very limited
- Ability to move around in the environment is restricted
- Need regular help in simple day-to-day activities such as wearing a shirt, opening a door, finding a chair to sit down and so on.
- A highly structured educational / rehabilitation programme helps in their training.

Section 2: Characteristics of Children with Multiple Disabilities

Children with MD show some of the following characteristics:

Vision Problems: As children grow, some of them appear to always squeeze their eyes together to look at something closely, or keep looking at their moving fingers/paper, bump into things while walking, complain of too much light all the time. Their eyes may also look different from 'normal' eyes.

Hearing Problems: A child with a hearing problem may respond to only particular sounds. They may take a long time and repeated training to develop speech. And mostly they may only repeat what they hear. They may also learn to adapt to their routine environment by 'guessing' the conversations going around, but may actually face a lot of difficulty in a new place with unknown people. Sometimes deaf children also show difficulty in balancing their body or walking in a straight line.

Learning Problems: Due to the combined loss of two or more disabilities, the rate and speed of learning of the children is very slow. Learning often becomes repetitive and meaningless, unless special care is taken to make the child feel safe about exploring the world around him. Multi handicapped children also have very limited ideas to play with toys or things around them.

Communication: Communication is probably the one area that is most significantly affected in children with multiple disabilities. The children are unable to see or hear or follow the different ways in which their brother and sister play with each other, elders are greeted, standing in a line to get a ticket or passing a bottle of water around a dining table.

Posture and Mobility: Our sight, hearing and body movements help us to move around, without bumping into things, remember the way to reach places or even to use our own hands to hold and look at things. Presence of Cerebral Palsy, locomotor disabilities and balance difficulties makes it hard for the child to manage his own body movements sometimes and so it becomes very difficult to use his body to move from one place to another.

Odd Behaviours: Most children with multiple disabilities show strange behaviours that are called 'self-stimulating' behaviours. Some of these are moving one's body repeatedly, shaking head side to side, moving fingers in front of eyes, hitting or slapping the ears, swinging in one place and so on. The children mostly do this due to lack of anything else to do. Sometimes it is important for them to continue doing it from time to time as it helps them get some information about the world around them in their own special way. Sometimes these children also show disturbed sleep patterns.

Medical Conditions: Most multi-handicapped children also suffer from other medical conditions such as epilepsy, frequent eye and ear infections, respiratory disorders, muscular degeneration frequent surgeries and so on. Such medical conditions lead to frequent hospitalizations and the child again misses out on a lot of exposure and learning from the environment.

Prevalence: The percentage of students having severe multiple disabilities is very low. Approximately 0.1 to 1 percent of the general school-age population and approximately 2 percent of the total population of school age students have severe and multiple disabilities. It is not likely that more than one student with severe multiple disabilities would be enrolled in a general classroom at any given time.

Section 3: Screening and Identification

Importance of Early Identification of Children with Multiple Disabilities

Students with severe and multiple disabilities are identified at birth or in the early stages of life, or after a traumatic accident or illness. These children are identified by medical professionals. Assessments performed on these students are to primarily help teachers understand the student's needs and how they can motivate and provide the best possible services to the student.

Techniques of Identification

Timely identification of impairments, a secondary prevention, can reduce the impact of the impairment on the functional level of the individual and also in checking the impairments from becoming a disabling condition. Initially they need to be identified as soon as possible at home by

the parents and outside (in the anganwadi centres/schools/sub-health centres/through camps), and then they need to be assessed by a team of specialists in order to plan necessary interventions.

There are no standardized checklists for screening and identifying children with Multiple Disabilities. But a screening checklist for single disabilities that illustrates the various combinations of disabilities in Multiple disability can be used to identify which combination of disabilities the child has.

The following checklist can be used by parents, anganwadi workers or early intervention teachers to observe and identify the children with disabilities for early identification of multiple disabilities in children. (This checklist is mainly used for screening children in the age group of 6 months to 2 years)

I. Hearing Impairment

1. Does a child turn towards the source of sound/voice from the back or towards one side of the body?
2. Does he/she have discharge from the ear?
3. Does the child use gestures excessively, while communicating?
4. The child does not speak or has defective speech?
5. The child does not understand spoken language?

II. Visual Impairment

1. The child does not follow an object moving before his eyes?
2. The child does not reach for toys and things held in front of him?
3. One eye moves differently from the other; including squint?
4. Eyes are either red or have a yellow discharge, or the tears flow continuously.
5. The child has a tendency to bring pictures, books or toys very close to the eyes?

III. Mental Retardation

1. Does the child respond to name/voice?
2. Does the child hold the head steadily?
3. Can the child walk well as per his age?
4. Can the child have toilet control/eat/drink by himself by fourth year?
5. Does the child get fits?

IV. Locomotor Disability

1. The child is not able to raise both the arms fully without any associated difficulties.
2. The child is not able to grasp objects without any associated difficulty.
3. The child has absence of any part of the limb.
4. The child has a difficulty in walking.

V. Cerebral Palsy

1. Whether child's milestones are delayed?
2. Head unsteady even by 8 months of age?
3. Is the muscle tone of the body in the child different, like stiffness or flaccid?
4. Does the child show preference for one side of the body?
5. Does the child exhibit unusual posture?

The following checklist is for identifying Special needs in children among school age. (This checklist has been used by SSA Andhra Pradesh and is very comprehensive). If the response to any 4-5 questions is "yes" then the child needs to go for referral.

1. Cerebral Palsy

- | | |
|---|----------|
| 1. The child has drooling? | Yes / No |
| 2. The child has problems in controlling voluntary movements? | Yes / No |
| 3. The child has an odd gait, posture and shows problems in balancing? | Yes / No |
| 4. The child has problems in performing activities of daily living? | Yes / No |
| 5. The child has difficulty in gross motor skills such as sitting on a regular chair without support, walking, jumping & bending etc.? | Yes / No |
| 6. The child has problems in fine- motor skills & eye--hand coordination skills such as holding and placing objects, cutting, writing etc.? | Yes / No |
| 7. The child has problems in articulation and regulating breathing while speaking? | Yes / No |
| 8. The child requires assistance in reading / writing due to poor coordination? | Yes / No |
| 9. The child stuck in one position and unable to move? | Yes / No |
| 10. The child does not have head and neck control? | Yes / No |
| 11. The child is not having free movements of upper or lower limbs due to muscle stiffness? | Yes / No |

2. Hearing Impairment

1. Does the child have problems to hear when you speak to him from behind? Yes / No
2. Does the child speak too loudly or too softly? Yes / No
3. The child is not responding when called by his / her name at a 3-5 feet distance? Yes / No
4. Does the child exhibit voice problem and mispronunciation very often? Yes / No
5. Does the child understand only after few repetitions? Yes / No
6. Does the child answer your questions irrelevantly? Yes / No
7. Does the child favour one particular ear for listening purpose? Yes / No
8. The child responds to the questions through gestures or signs? Yes / No
9. Does the child have problems in play ground while playing with peers? Yes / No
10. The child needs more repetitions in class? Yes / No
11. The child turns the TV / Radio too loud? Yes / No
12. The child does not respond to the sounds in the classroom? Yes / No
13. Is the child not able to speak properly? Yes / No
14. Does the child keenly observe other people's facial expressions / lips while talking? Yes / No

3. Mental Retardation

1. The child does not respond while calling by his / her name? Yes / No
2. Does the child have appropriate memory and mental maturity? Yes / No
3. Is the child taking more time to learn things when compared to the same age peers? Yes / No
4. Does the child perform his / her daily activities like toileting, bathing, hair combing, dressing etc. independently? Yes / No
5. Does the child require too many repetitions to remember simple things? Yes / No
6. Head, eyes, lips etc. are different in structure? Yes / No
7. Does the child have problem in understanding and behaving according to the situations? Yes / No
8. Does the child have aggressive & emotional behaviour? Yes / No

- | | |
|--|----------|
| 9. Has problem in mixing -up with his / her peer? | Yes / No |
| 10. The child is not able to control his / her nature calls, drooling etc? | Yes / No |
| 11. Does the child have low memory and needs frequent repetitions of the commands in his / her daily life? | Yes / No |
| 12. Does the child have Down Syndrome symptoms (like short nose, opened mouth, floppy eye lashes etc.)? | Yes / No |
| 13. Is the child unable to control his / her emotions? | Yes / No |
| 14. Is the child not aware of his / her hunger & thirst? | Yes / No |

4. Visual Impairment

- | | |
|--|----------|
| 1. Does the child have difficulty in counting the finger of an outstretched hand at a distance of one meter? | Yes / No |
| 2. Does the child move his / her head towards the source of light? | Yes / No |
| 3. Does the child rub his / her eyes frequently? | Yes / No |
| 4. The child keeps the book too far / too close to his / her eyes while reading? | Yes / No |
| 5. Does the child frequently ask other children while taking down the notes from the blackboard? | Yes / No |
| 6. Does the child look at objects on the side? | Yes / No |
| 7. The child has difficulty in reading from the black board, even if she is sitting in the first row? | Yes / No |
| 8. The child is not able to identify / match colours? | Yes / No |
| 9. Does the child have abnormal structure of eyes (bulging / too big / too small)? | Yes / No |
| 10. Does the child get water frequently from his / her eye? | Yes / No |
| 11. The child has problem in following the moving objects? | Yes / No |
| 12. Lighting variations in the environment confuse the child? | Yes / No |
| 13. The child blinking eyes very often? | Yes / No |
| 14. The child finds it difficult to identify objects / people at distance 4-5 meters or further? | Yes / No |

5. Learning Disabilities

1. Does the child have difficulty in maintaining attention while performing a given task without getting distracted when unsupervised? Yes / No
2. Does the child have difficulty in completing the task within the prescribed time limit when unsupervised? Yes / No
3. Does the child leave letters or words while reading a line from a text? Yes / No
4. Does the child have difficulty tracking lines or words in a row? Yes / No
5. Does the child have difficulty organizing things for example by shape, colour or size such as placing books in a school bag systematically by size or arranging clothes on a rack in categories of size and use? Yes / No
6. Does the child have difficulty in coping from black board without missing letters or words? Yes / No
7. Does the child have difficulty in using mathematical symbols and understanding? Yes / No

Autism

Modified Checklist for Autism in Toddlers (M-CHAT). (This is a screening test used for toddlers between 16 and 30 months of age, to assess risk for autism spectrum disorders (ASD).

Please fill out the following about how your child **usually** is. Please try to answer every question. If the behaviour is rare (e.g., you've seen it once or twice), please answer as if the child does not do it.

1. Does your child enjoy being swung, bounced on your knee, etc.? Yes/No
2. Does your child take an interest in other children? Yes/No
3. Does your child like climbing on things, such as up stairs? Yes/No
4. Does your child enjoy playing peek-a-boo/hide-and-seek? Yes/No
5. Does your child ever pretend, for example, to talk on the phone or take care of dolls, or
6. pretend other things? Yes/No
7. Does your child ever use his/her index finger to point, to ask for something? Yes/No
8. Does your child ever use his/her index finger to point, to indicate interest in something? Yes/No

9. Can your child play properly with small toys (e.g. cars or bricks) without just mouthing? Yes/No
10. Fiddling, or dropping them? Yes/No
11. 9. Does your child ever bring objects over to you (parent) to show you something? Yes/No
12. 10. Does your child look you in the eye for more than a second or two? Yes/No
13. 11. Does your child ever seem oversensitive to noise? (e.g., plugging ears) Yes/No
14. 12. Does your child smile in response to your face or your smile? Yes/No
15. 13. Does your child imitate you? (e.g., you make a face; will your child imitate it?) Yes/No
16. Does your child respond to his/her name when you call? Yes/No
17. If you point at a toy across the room, does your child look at it? Yes/No
18. Does your child walk? Yes/No
19. Does your child look at things you are looking at? Yes/No
20. Does your child make unusual finger movements near his/her face? Yes/No
21. Does your child try to attract your attention to his/her own activity? Yes/No
22. Have you ever wondered if your child is deaf? Yes/No
23. Does your child understand what people say? Yes/No
24. 21. Does your child sometimes stare at nothing or wander with no purpose? Yes/No
25. Does your child look at your face to check your reaction when faced with something unfamiliar? Yes/No

(Adapted from ©1999 Diana Robins, Deborah Fein, & Marianne Barton

<http://www.dbpeds.org/media/mchat>)

Scoring M-CHAT

A child fails the checklist when 2 or more critical items are failed OR when any three items are failed. Yes/no answers convert to pass/fail responses. Below are listed the failed responses for each item on the M-CHAT. Bold capitalized items are CRITICAL items. Not all children who fail the checklist will meet criteria for a diagnosis on the autism spectrum. However, children who fail the checklist should be evaluated in more depth by the physician or referred for a developmental evaluation with a specialist.

1. No; 2. No; 3. No; 4. No; 5. No; 6. No; 7. No; 8. No; 9. No; 10. No; 11. Yes; 12. No; 13. No; 14. No; 15. No; 16. No; 17. No; 18. Yes; 19. No; 20. Yes; 21. No; 22. Yes; 23. No;

Checklist for Autism for School Age Children

1. Problems in social relatedness and communication.
2. (Difficulty in mixing with other children; prefers to be alone; aloof manner; difficulty in expressing needs; uses gestures or pointing instead of words).
3. Abnormal responses to one or a combination of senses; such as sight, hearing, touch, balance, smell, taste, reaction to pain.
4. Sustained odd play.
5. Uneven gross/ fine motor skills.
6. Not responsive to verbal cues.
7. Acts as deaf.
8. Little or no eye contact.
9. Insistence on sameness; resist changes in routine.
10. Noticeable physical over activity or extreme under activity.
11. Tantrums; displays extreme distress for no apparent reason.
12. Abnormal ways of relating to people, objects and events. (Inappropriate attachment to objects; don't seek cuddling).
13. Spins objects.

(Source: <http://www.autism-pdd.net/checklist.html>)

Physical Disabilities: (School teachers and parents should use this check list):

- (a) Deformity in the neck, hand, finger, waist or legs.
- (b) Difficulty in sitting, standing or walking.
- (c) Difficulty in lifting, holding or keeping things on floor.
- (d) Difficulty in moving or using any part of body.
- (e) Difficulty in holding a pen.
- (f) Using a stick to walk.
- (g) Jerks during walking.
- (h) Lack bodily coordination.

- (i) Epileptic movements or tremors.
- (j) Joint pains.
- (k) Any part of the body is amputated.

Note: If any of the above conditions is/are present, the child should be carefully examined by a qualified orthopaedic surgeon and referred to a physiotherapist &/or prosthetic/orthotic technician as needed.

(Source: http://rehabcouncil.nic.in/pdf/idnt_ass_dis.pdf)

Section 4: Causes and Types of Multiple Disabilities

There are several factors that cause severe and multiple disabilities & can be divided as follows:

Prenatal causes which include:

- Chromosomal abnormalities
- Viral infections
- Drug and Alcohol use during pregnancy
- Mother's malnutrition
- Physical trauma to the mother

Perinatal causes which include:

- Lack of oxygen supply to the baby's brain
- Physical injury to the baby's brain at birth
- Contracted infections during birth

Postnatal causes which include:

- Childhood infections such as meningitis & encephalitis
- Traumatic brain injury from an accident or abuse
- Lead poisoning
- Reactions to medication
- Exposure to toxins or other environmental conditions

As with other disabilities, the severity and complexity of the disability depends on the genetic abnormality, the amount of damage to the brain and the environment in which the child is raised.

Different Types of Multiple Disabilities

Children with multiple disabilities will have a combination of various disabilities that may include: speech, physical mobility, learning, mental retardation, visual, hearing, brain injury and possibly others. Along with multiple disabilities, they can also exhibit sensory losses and behaviour and or social problems. There are many educational implications for these students.

CEREBRAL PALSY (CP)

“Cerebral” means brain. “Palsy” means a disorder of movement. CP refers to a group of non-progressive neuromuscular problems of varying severity.

CP is damage to the brain, primarily to the part of the brain that controls motor functions. However other parts of the brain may also be affected. In such cases the person affected has more than one disability.

The extent of the damage varies from person to person. Mild disability might mean fine motor skills, like using scissors or writing, are difficult. Severe disability can mean poor movement of all four limbs, the trunk and neck. The child may even have difficulty in swallowing.

AUTISM

All children with ASD demonstrate deficits in 1) social interaction, 2) verbal and nonverbal communication, and 3) repetitive behaviours or interests. In addition, they will often have unusual responses to sensory experiences, such as certain sounds or the way objects look. Each of these symptoms runs the gamut from mild to severe. They will present differently in each individual child. For instance, a child may have little trouble learning to read but exhibit extremely poor social interaction. Each child will display communication, social and behavioural patterns that are individual but fit into the overall diagnosis of ASD.

MENTAL RETARDATION

Intellectual disability is characterized both by a significantly below-average score on a test of mental ability or intelligence and by limitations in the ability to function in areas of daily life, such as communication, self-care and getting along in social situations and school activities. Intellectual disability is sometimes referred to as a cognitive disability or mental retardation.

Children with intellectual disability can and do learn new skills, but they develop more slowly than children with average intelligence and adaptive skills. There are different degrees of Intellectual disability, ranging from mild to profound. A person’s level of Intellectual disability can be defined by their intelligence quotient (IQ), or by the types and amount of support they need.

(Source: <http://www.cdc.gov>)

LOCOMOTOR DISABILITY

“**locomotor disability**” means disability of the bones, joints or muscles leading to substantial restriction of the movement of the limbs or any form of cerebral palsy.

Spinal cord injuries: usually the result of a traumatic blow to the spine. Some spinal cord injuries can completely heal; others will cause paralysis.

Cerebral palsy: a group of non-progressive conditions involving muscle control, posture, and movement caused by brain damage.

Polio: a highly contagious infectious disease caused by polioviruses. It is destructive to the nervous system and can cause paralysis.

Muscular Dystrophy: an inherited group of diseases that affect the muscles, causing them to weaken and break down over time.

Contractures: permanent tightening of muscles and joints

Club Foot (talipes equinovarus) — There are 3 components of deformity — equinus, hindfoot varus and forefoot adductus. Club foot is more common in boys.

HEARING IMPAIRMENT

“Hearing impairment” means loss of sixty decibels or more in the better ear in the conversational range of frequencies.

DEAFNESS

A hearing loss greater than 90 dB. Individuals who are deaf have vision as their primary input and cannot understand speech through the ear. Deafness means a hearing impairment so severe that the child is impaired in processing linguistic information through hearing, which adversely affects educational performance. (IDEA).

Different types of Hearing loss

Sensorineural Hearing Loss: Permanent hearing loss that is a result of damage to the cochlea or auditory nerve. The treatment for sensorineural hearing loss is often the use of hearing aids or cochlear implants.

Conductive Hearing Loss: Conductive hearing loss results from defects in the outer or middle ear. The sound is not conducted efficiently to the inner ear. All sounds heard thus become weak and/or muffled. Usually such individuals speak softly irrespective of the surrounding environmental noise. It can generally be offset by amplification or medical intervention. Sometime surgery can restore hearing in a conductive hearing loss.

Mixed Hearing Loss: A hearing loss resulting from a combination of a conductive hearing loss and a sensorineural hearing loss.

Central Auditory Disorder: Central hearing loss is due to a damage, malformation or infections of the neural pathways and the hearing centers in the brain. The child may hear but has difficulty in understanding what he hears. Some of the children classified as learning disabled or slow learners may have this type of hearing loss.

VISUAL IMPAIRMENT

Blindness: refers to a condition where a person suffers from any of the following conditions, namely:

Total absence of sight or Visual acuity not exceeding 6/60 or 20/200 (Snellen) in the better eye even with correction lenses; or limitation of the field of vision subtending an angle of 20 degree or worse. For deciding about blindness, the visual acuity as well as field of vision has been considered.

Low Vision: The Persons with Disabilities Act, 1995 also recognizes low vision as a category of disability and defines it as follows:

“Person with low vision” means a person with impairment of visual functioning even after treatment or standard refractive correction but who uses or is potentially capable of using vision for the planning or execution of a task with appropriate assistive device”.

The loss of vision caused by these conditions can range from a mild impairment to complete blindness. The children with visual impairment and brain damage may seem to use their vision differently at different times of the day. In addition these children have trouble with perceptual responses, such as perceiving depth, remembering visual information, searching for objects they see and identifying important visual information. (Punani and Rawal)

MENTAL ILLNESS

Studies indicate that approximately 2% of children and adolescents receive intervention for mental illness and psychosocial problems (Cohen, Cohen, & Brook, 1993). The most common types of mental illness seen in children are

Anxiety Disorders: Children with anxiety disorders respond to certain things or situations with fear and dread, as well as with physical signs of anxiety (nervousness), such as a rapid heartbeat and sweating. Separation anxiety disorder, overanxious disorder and posttraumatic stress disorder are the common types of anxiety disorder seen in children.

Disruptive Behaviour disorder: Children with these disorders tend to defy rules and often are disruptive in structured environments, such as school. Common types seen in children are conduct disorder, oppositional defiant disorder and attention deficit hyperactivity disorder (ADHD).

Eating Disorder: Eating disorders involve intense emotions and attitudes, as well as unusual behaviors, associated with weight and/or food. Anorexia nervosa and bulimia nervosa are the two types of eating disorders seen in children

Affective disorders: These disorders involve persistent feelings of sadness and/or rapidly changing moods. Most common types seen in children is major depressive disorder

Pervasive Developmental Disorders or Autistic Spectrum Disorders: These children have difficulties and abnormalities in their abilities to form reciprocal social interaction and to verbally and nonverbally communicate.

Section 5: Impact on Developmental Areas and the Need & Importance of Early Intervention (Through Educational and Therapeutic interventions)

Communication

What is Communication?

Communication is the process by which people share their ideas, information, opinions and feelings. The message is enclosed in a package and is channelled and imparted by a sender to a receiver via some medium. The receiver then decodes the message and gives the sender a feedback. It is a two-way activity between two or more people. Hence, all forms of communication require

1. A sender,
2. A message, and
3. An intended recipient.

There are various modes of communication. There are *auditory means*, e.g.; speech, song and tone of voice and there are *nonverbal means*, e.g. body language, sign language, paralanguage, touch, eye contact and then there are *means that involve use of other media* e.g. Pictures, graphics, sound and writing. Communication thus is a process by which meaning is assigned and conveyed in an attempt to create shared understanding.

Why is Communication Important?

When a person cannot speak or otherwise communicate clearly and effectively, other people may mistakenly think that s/he does not comprehend or is unable to learn to communicate and make decisions. With access to a communication method/system/device and training to use it (and training for their communication partners), many people with communication challenges can communicate without speaking. They can resume, maintain, or gain for the first time the ability to express themselves in conversation with others and to make choices and decisions. They can demonstrate their understanding of their life and circumstances. They can further develop their

communication skills, their thinking and their ability to relate to others, which are critical foundations for development throughout life.

What is a Communication Disorder?

The process of communication requires a vast repertoire of skills in interpersonal processing, listening, observing, speaking, questioning, analyzing gestures and evaluating.

A communication disorder is a speech and language disorder which refers to problems in communication and in related areas. The delays and disorders can range from simple sound substitution to the inability to understand or use language. Communication disorders manifest independently, or they co-exist with some other primary disability. Some commonly seen communication disorders originating during early childhood are:

1. Expressive Language Disorder
2. Mixed Receptive –Expressive Language Disorder
3. Phonological Disorder
4. Stuttering

Expressive Language Disorder

Expressive language disorder is generally a childhood disorder where a child has difficulty expressing him- or herself using speech. The signs and symptoms vary drastically from child to child. The child has problems putting sentences together coherently, using proper grammar, recalling the appropriate word to use, or other similar problems. The child cannot communicate at the same level or with the same complexity as his or her peers and often has a smaller vocabulary.

Children with expressive language disorder have the same ability to understand speech as their peers, and have the same level of intelligence.

There are two types of expressive language disorder: *the developmental type* and *the acquired type*. Developmental expressive language disorder does not have a known cause and generally appears at the time a child is learning to talk. Acquired expressive language disorder is caused by damage to the brain, such as stroke or traumatic head injury or other medical conditions.

Mixed Receptive – Expressive Language Disorder

Mixed receptive-expressive language disorder is diagnosed when a child has problems expressing him-or herself using spoken language and also has problems understanding what people say to him or her. Just like expressive disorder, there are two types of mixed receptive-expressive language disorder: developmental and acquired.

Phonological Disorder

Phonological disorder occurs when a child does not develop the ability to produce some or all sounds necessary for speech that are normally used at his or her age. The child is unable to create speech at a level expected of his or her age group because of an inability to form the necessary sounds. It is also called articulation disorder, developmental articulation disorder, or speech sound production disorder.

Stuttering

Stuttering also known as stammering, is a speech disorder in which the flow of speech is disrupted by involuntary repetitions and prolongations of sounds, syllables, words or phrases, and involuntary silent pauses or blocks in which the stutterer is unable to produce sounds.

Conclusion

Treatment for such disorders is important not only for the child's development to be able to form speech sounds, but for other reasons, as well. Children who have problems creating speech sounds may have academic problems in subject areas such as spelling or reading. Also, children who sound different than their peers may find themselves frustrated and ridiculed and may become less willing to participate in play or classroom activities.

Motor Development

Motor coordination involves simple gross muscular activities like running, dancing, throwing and kicking, walking, crawling, or fine muscular activities like fastening lace, sewing, buttoning, unbuttoning, stitching, tracing or writing.

Multiple disabilities has an impact on motor coordination and this is visible directly in the routine or age appropriate motor activities like, somersaulting, or holding a pencil and writing etc. These difficulties are seen despite average or above average general intellectual abilities in the child. However, primary conditions like Mental retardation, cerebral palsy, muscular dystrophy, ADDs, PDDs, sensory impairments and neurological conditions abet the situation. The developmental history of these cases show delays in motor milestones (such as neck holding, turning over , crawling , creeping , sitting, standing , walking and so on) , their motor co-ordination problems are evident in simple tasks.

Socialisation

Socialization is an active process of learning and social development, which occurs as we interact with one another and become acquainted with the social world in which we live. Early childhood is the period of the most intense and the most crucial socialization. This is when we acquire language and learn the fundamentals of our culture. It is also when much of our personality takes shape.

Cognitive Development

Multiple disabilities have interactional, rather than additive effects, making instruction and learning complex.

The primary measures of cognitive abilities of individuals with multiple disabilities are individual intelligence tests and tests of adaptive behaviour. Accurate psychological and cognitive assessment of these individuals is challenging due to their frequent limitations in controlled movement, vision, hearing, communication, or cooperative behaviour. Thus, interviews with family members and educators regarding the person's adaptive behaviour skills (i.e., communication, self-care, home living, social skills, community use, self-direction, health and safety, functional academics, leisure, and work) may be more informative and reliable than a norm-based IQ or achievement score.

Sensory System

Sensory system is responsible for processing sensory information and consists of sensory receptors, neural pathways and parts of the brain involved in sensory perception. Commonly recognized sensory systems are those for vision, hearing, somatic sensation (touch), taste and olfaction (smell).

Learning

Human learning may occur as part of education, personal development, or training. Or it may occur as a result of activities such as play. Play has been approached by several theorists as the first form of learning. Children play, experiment with the world, learn the rules and learn to interact. In fact play is pivotal for children's development, since they make meaning of their environment through play.

Early Intervention

The earlier children *with or at risk* of disabilities receive assistance and the sooner their families receive support towards their children's development, *the farther they will go in life.*

The following Early Intervention Steps may be needed to help the child with multiple disabilities to reach its maximum independence in getting ready for school.

Assisting technology devices and services - equipment and services that are used to improve or maintain the abilities of a child to participate in such activities as playing, communication, eating or moving.

Audiology - identifying and providing services for children with hearing loss and prevention of hearing loss.

Family Training - services provided by qualified personnel to assist the family in understanding the special needs of the child and in promoting the child's development.

Medical Services - only for diagnostic or evaluation purposes.

Nutrition Services - services that help address the nutritional needs of children that include identifying feeding skills, feeding problems, food habits and food preferences.

Occupational Therapy - services that relate to self-help skills, adaptive behaviour and play and sensory, motor and postural development.

Physical Therapy - services to prevent or lessen movement difficulties and related functional problems.

Psychological Services - administering and interpreting psychological tests and information about a child's behaviour and child and family conditions related to learning, mental health and development as well as planning services including counselling, consultation, parent training and education programs.

Rehab worker/Special teacher/Community worker - someone who works in partnership with the family by providing assistance and services that help the family to coordinate and obtain their rights as well as in preparing an assessment of the social and emotional strengths and needs of a child and family and providing individual or group services such as counselling or family training.

Special Instruction - includes designing learning environments and activities that promote the child's development, providing families with information, skills, and support to enhance the child's development.

Speech-language Pathology - services for children with delay in communication skills or with motor skills such as weakness of muscles around the mouth or swallowing.

Vision Services - identification of children with visual disorders or delays and providing services and training to those children.

Health Services - health-related services necessary to enable a child to benefit from other early intervention services.

Section 6: Assessment

Assessment is an on-going process to know the abilities and progress of an individual in different areas of development. It is a systematic way of gathering information about a student's Qualities, Characteristics, Behaviours and the environment to aid in teaching.

Needs Assessment is one of the most critical components in Educational Programming since without assessment a student cannot be placed in an "Individualized Educational Programme". Thus assessment is more than the simple administration of tests. It is an ongoing problem-solving process.

Clinical assessments conducted by medical professionals are used to determine the nature, cause, and potential effects of a patient's injury, illness, or wellness. This allows the professionals to compile the best possible treatment options for their patients based on numerous physical, mental, and medical factors.

Functional Assessment of Students with Multiple Disabilities

Functional Assessment is an informal way of collecting information about a child with regards to how he/she functions and can be done through observation, interviews or questionnaires. Functional assessment for a child with Multiple Disabilities involves two basic steps. The first is to gather information about the child by talking to the people who know the child well, by examining medical reports and by actually observing the child engaged in typical activities. Based on the questions that emerge the second step is to set up an environment and engage the child in activities that allow to test specific skills and the usefulness of specific environmental modifications and task modifications like time, space, position etc. The FA for children with MD is done in an informal setting and the findings are not norm based but show at what level the child is functioning and which will later help in planning the Individualized Educational plan of a child.

The various areas of Functional Assessment are:

1. Motor
2. Fine motor and gross motor
3. Self help skills – Toileting, brushing, bathing, drinking, eating and grooming
4. Communication – expressive and receptive
5. Socialisation – at home and community
6. Cognitive – matching, identification, functional literacy
7. Orientation and mobility – indoor and outdoor
8. Sensory – vision, hearing, touch, taste, smell
9. Pre-vocational / vocational- Art & craft and needle work

Modifications for the assessment of children with MD (What, Why, Who, When, Where and How).

How do we modify the Assessment of Children with MD

General adaptations to accommodate the unique testing needs of children who have MD

Type of Assessment or Testing Environment

1. The testing room should be free from visual and auditory distraction, have good ventilation and be maintained at a comfortable temperature
2. Child with low vision needs proper lighting and proper direction of light in the test room. The room should be illuminated adequately from an overhead non –flickering source.
3. The material used and provided to the child should be at an appropriate height, distance, colour, contrast, age appropriate and the sitting position of the child and the assessor to be comfortable.

The Examiner or Evaluator

It is necessary to be alert to each child's indication of stress, related to visual fatigue and plan for numerous breaks and frequent changes of tasks. Preparation of the examiner also involves learning as much information as possible about the child to be tested. Medical and Educational records including the result of previous assessment, need to be reviewed. Current neurological or medical information is very important when a child is experiencing frequent seizures or medication for such medical problems.

What do we Assess?

We can consider these five categories to develop an effective programme for the child, as it is the base of learning:

- The student's available avenues for communication input and output.
- Student's present receptive and expressive communication and language.
- The environment in which the communication and learning happen.
- The people with whom the child communicates.

After getting basic information from parents on child's current level in different developmental areas, Callier Azusa scale can be used to assess the functional level in each area of development like:

- Motor Development
- Perceptual Development
- Daily living Skills
- Language Development
- Socialization

Clinical Assessment

Clinical assessments conducted by medical professionals are used to determine the nature, cause, and potential effects of a patient's injury, illness, or wellness. This allows the professionals to compile the best possible treatment options for their patients based on numerous physical, mental, and medical factors.

Educational Aspects

Section 7: Multiple Disabilities and their Impact

Impact of Multiple Disabilities through SSA

Children with multiple disabilities will receive tremendous support through the Individualized Education Plan (IEP) and related services through Sarva Shiksha Abhiyan (SSA). viz. audiology services, counselling services, early identification and assessment of disabilities in children, medical services, occupational therapy, orientation and mobility services, parent counselling and training, physical therapy, psychological services, recreation, rehabilitation, school health services, social work services in schools, speech-language pathology services and transportation.

Major Educational Areas in Need of Intervention

In order to achieve the objectives of SSA, we must follow the holistic approach of inclusive education and it can be ensured by addressing the three main closely-related areas in the school environment- School's culture, educational policies and practices.

By signing up to an inclusive policy, the school organizes itself for following practices that reflect inclusive school cultures and policies by ensuring that classroom and extra-curricular activities encourage the participation of all students and utilize their knowledge and experience outside school.

Section 8: Inclusion

Induction of Child with MD in to Regular School

We need a school where all children receive instruction that fits their individual skill levels and learning styles. A school where students who need special education services receive them without having to be separated from their peers. A school where teachers work together to the benefit of all students, sharing their expertise in planning and implementing strategies and support.

If the team determines that a particular student (not a group or category of students) has needs, which can only be met outside the general education setting, then alternatives needs to be developed for that individual student.

It is important that in an inclusive school, the placement of all students is based on chronological age, not on perceived “developmental level” and students with disabilities get access to age-appropriate classes.

With regard to the Curriculum Content, the school needs to follow grade-level general education curriculum as the starting point for planning for all students with need-based adaptation, modification, or alternative lessons, materials and activities tailored to individual levels. We also need to ensure that the “functional” and “remedial” skills are taught in addition to, not instead of, the academic curriculum.

Teacher Preparation

Supportive plan and inclusion process to provide a comprehensive support to meet a variety of needs, including:

- Educational needs
- Physical management
- Emotional needs
- Personal care
- Social needs (Family, friends, Community)
- Vocational needs
- Economical needs
- Leisure activities
- Special educators are integral part of life of deafblind persons
- Educators should have skills and be knowledgeable for the given job
- Educators should engage in activities together in order to share reflections on the play learning and participations of children
- Educators should welcome comment from colleagues on various areas like the accessibility of their language and the participation of children in the activity
- Educator should modify their approach to activities in response to feedback.

Peers in Inclusive Settings/ Buddy System and Improving Outcomes

Roles of Peers in Children’s Development

Peer relationships, especially friendships, serve several important roles in children’s and adolescents’ personal and social development. For one thing, they provide an arena for learning

and practicing a variety of social skills, including negotiation, persuasion, cooperation, compromise, emotional control, and conflict resolution (Asher & Parker, 1989; Erwin, 1993; Gauvain, 2001; Maxmell, Jarrett, & Dickerson, 1998; Sutton-Smith, 1979).

In addition, peers often provide much-needed social and emotional support. In the preschool years children see their age-mates primarily as sources of recreation, but as they grow older, they find that friends can provide comfort and safety—a group with which to eat lunch, a safe haven from playground bullies and so on (Berndt, 2002; Pellegrini & Bartini, 2000; Youniss & Volpe, 1978). Once children reach puberty, they rely increasingly on peers rather than adults for emotional support, especially in times of trouble or confusion (Levitt, Guacci-Franco, & Levitt, 1993; Rubin, Bukowski, & Parker, 1998; Wentzel, Barry, & Caldwell, 2004). Such support may be especially important for young people from unaffectionate or excessively punitive home environments (Berdan & Keane, 2005).

Many adolescents, especially girls, reveal their innermost thoughts and feelings to their friends (Levitt et al., 1993; Patrick et al., 2002; A. J. Rose, 2002). Friends often understand a teenager's perspective—the preoccupation with physical appearance, the concerns about the opposite sex and so on—when no one else seems to understand. By sharing their thoughts and feelings with one another, teens may discover that they aren't as unique as they once thought and may gradually abandon the personal fable mentioned earlier (Elkind, 1981).

Peers also play a third important role in personal and social development: They serve as socialization agents that help to mould children's behaviors and beliefs. Young people socialize with one another in a variety of ways (Erwin, 1993; Ginsberg, Gottman, & Parker, 1986; J. R. Harris, 1998; A. M. Ryan, 2000). They define options for leisure time, perhaps getting together in a study group.

- Give the child the opportunity to observe the children in the inclusive setting
- Take the child out and stay with him while explaining what is happening around him
- Encourage the peer group and the child to interact. Do not force them, but give them time to accept each other
- Allow the child to share a special toy or item of interest with other children in the neighbourhood
- Arrange activities where the children will feel comfortable playing together, such as simple activities where all children do the same thing. Action song etc
- Providing information on the condition of children with multiple disabilities through peer sensitization programmes
- Interactions between peers and children with multiple disabilities will contribute immensely in resolving their emotional reactions and help learn from each other.

- Peers/Siblings can be involved in intervention programs for children with multiple disabilities right from the beginning.

As the child starts to feel comfortable with group fade your presence and assistance

Adaptations

- Sibling can be encouraged to take the child along for the activities in the neighbourhood including social gatherings. Orient the sibling regarding any special precautions or strategies
- Organize seasonal celebrations, games, picnics, outings and activities that will include the child.

Section 9: Importance of Assessment

Purpose of Assessment

Assessment in educational settings serves five primary purposes:

- Screening and identification
- Eligibility and diagnosis
- IEP development and placement
- Instructional planning
- Evaluation

Various areas of the child with MD related to learning

Assessments associated to:

- Linguistic (verbal)
- Musical
- Spatial
- Logical-mathematical
- kinaesthetic
- Interpersonal (understanding of others) and
- Intrapersonal (understanding of self)

Gardner's theory's eight currently accepted intelligences are:

- Visual/Spatial
- Linguistic

- Logical-mathematical
- Kinaesthetic
- Musical
- Interpersonal
- Intrapersonal
- Naturalist

Visual/Spatial Intelligence: Ability to perceive the visual. These learners tend to think in pictures and need to create vivid mental images to retain information. They enjoy looking at maps, charts, pictures, videos and movies.

Their skills include: puzzle building, reading, writing, understanding charts and graphs, a good sense of direction, sketching, painting, creating visual metaphors and analogies (perhaps through the visual arts), manipulating images, constructing, fixing, designing practical objects, interpreting visual images.

Verbal/Linguistic Intelligence: Ability to use words and language. These learners have highly developed auditory skills and are generally elegant speakers. They think in words rather than pictures.

Their skills include: listening, speaking, writing, storytelling, explaining, teaching, using humour, understanding the syntax and meaning of words, remembering information, convincing someone of their point of view, analyzing language usage.

Logical/Mathematical Intelligence: Ability to use reason, logic and numbers. These learners think conceptually in logical and numerical patterns making connections between pieces of information. Always curious about the world around them, these learners ask lots of questions and like to do experiments.

Their skills include: Problem solving, classifying and categorizing information, working with abstract concepts to figure out the relationship of each to the other, handling long chains of reason to make local progressions, doing controlled experiments, questioning and wondering about natural events, performing complex mathematical calculations, working with geometric shapes.

Bodily/Kinaesthetic Intelligence: Ability to control body movements and handle objects skilfully. These learners express themselves through movement. They have a good sense of balance and eye-hand co-ordination. (e.g. ball play, balancing beams). Through interacting with the space around them, they are able to remember and process information.

Their skills include: Dancing, physical co-ordination, sports, hands on experimentation, using body language, crafts, acting, miming, using their hands to create or build and expressing emotions through the body

Musical/Rhythmic Intelligence: Ability to produce and appreciate music. These musically inclined learners think in sounds, rhythms and patterns. They immediately respond to music either appreciating or criticizing what they hear. Many of these learners are extremely sensitive to environmental sounds (e.g. crickets, bells, dripping taps).

Their skills include: Singing, whistling, playing musical instruments, recognizing tonal patterns, composing music, remembering melodies, understanding the structure and rhythm of music

Interpersonal Intelligence: Ability to relate and understand others. These learners try to see things from other people's point of view in order to understand how they think and feel. They often have an uncanny ability to sense feelings, intentions and motivations.

Their skills include: Seeing things from other perspectives (dual-perspective), listening, using empathy, understanding other people's moods and feelings, counselling, co-operating with groups, noticing people's moods, motivations and intentions, communicating both verbally and non-verbally

Intrapersonal Intelligence: Ability to self-reflect and be aware of one's inner state of being. These learners try to understand their inner feelings, dreams, relationships with others and strengths and weaknesses.

Their skills include: Recognizing their own strengths and weaknesses, reflecting and analyzing themselves, awareness of their inner feelings, desires and dreams, evaluating their thinking patterns, reasoning with themselves, understanding their role in relationship to others.

Section 10: IEP

Why is it called so – Individualised, because the education /training programme is specifically designed to meet the learning needs of the individual child rather than a general syllabus for a group or class full of such children.

To put it simply, IEP includes, a brief background of the child (medical and educational), statement of present level of functioning, annual goals, including short-term objectives, teaching strategies, specific educational services to be provided, the child's ability to be able to participate, the projected dates for initiation and anticipated duration of such service, appropriate objective criteria and evaluation procedures and schedules for determining, on at least an annual basis, whether instructional objectives are being achieved.

Section 11: Planning for Needs-based Educational Supportive Service

Educational Placement: As far as possible, every child with special needs should be placed in regular schools, with needed support services.

Aids and Appliances: All children requiring assistive devices should be provided with aids and appliances, obtained as far as possible through convergence with the Ministry of Social Justice and Empowerment, State Welfare Departments, National Institutions or NGOs.

Support Services: Support services like physical access, resource rooms at cluster level, special equipment, reading material, special educational techniques, remedial teaching, curricular adaptation or adapted teaching strategies could be provided.

Teacher Training: Intensive teacher training should be undertaken to sensitize regular teachers on effective classroom management of children with special needs. This training should be recurrent at block/cluster levels and integrated with the on-going in-service teacher training schedules in SSA. All training modules at SCERT, DIET and BRC level should include a suitable component on education of children with special needs.

Resource Support: Resource support could be given by teachers working in special schools. Where necessary, specially trained resource teachers should be appointed, particularly for teaching special skills to children with special needs. Wherever this option is not feasible, long term training of regular teachers should be undertaken.

Individualized Education Program

For more details on this topic, see Individualized Education Program.

IDEA requires that schools create an Individualized Education Program (IEP) for each student who is found to be eligible under both the federal and state eligibility/disability standards.

In addition to the child's parents, the IEP team must include at least one of the child's regular education teachers (if applicable), a special education teacher, someone who can interpret the educational implications of the child's evaluation, such as a school psychologist, any related professional concerned with the child.

Section 12: Understanding Additional Needs of Children with MD - An Overview of Emotional Support for Children with MD

The following emotional disturbances are usually seen in children with MD

- Disruptive to classroom activity or any activity.
- Impulsive.
- Inattentive, distractible.
- Appears pre-occupied.
- Extreme resistance to change and transitions (familiar to unfamiliar environment).

- Low self esteem.
- Unable to work in groups.
- Engages in self injurious behaviour.
- Has no regard for personal space and belongings.
- Persistently tries to manipulate situations.

Children with multiple disabilities or severe disabilities often have significant needs relating to their healthcare, personal care and educational needs. As a teacher, it is important to keep your mind focused on the educational aspect of your work with these children. Your job is to TEACH, as well as to link in as best you can with therapists, doctors, nursing staff and caregivers who may provide support and care to the child. As such, you need to consider how your teaching practice relates to the goals which have been established in the IEP document for each student and work towards achieving those goals.

It is very important to work closely with other specialists, but make sure you keep your own skills in mind too. As a special educator, you too are a specialist with your own unique set of skills.

Section 13: Need and Strategies of Curricular Adaptation and Teaching Strategies for Child with MD in IE

Effective teaching leads a child to function as independently as possible in the world around him. A curriculum for a child with Multiple Disabilities needs to reach the goal of enabling the child towards personal adequacy, social competency and economic independence. More significantly make his life easier and healthier.

Teaching Strategies for Children with MD

Giving choices for communication, problem solving, exploration and independent mobility are the key areas of teaching program. A constant interaction between the child and his parent or other caregiver is important. This will help build a safe and trustful world for him.

Reward and Reinforcement are very basic to the learning environment of the child. Attention and praises will not spoil any child with multiple disabilities any more that it would spoil the other siblings.

And, above all, teachers must “Be Positive”.

Developing a Teaching Program

Independence is the goal: No matter how small or big the task is the child should learn to use it to make life easy and simpler for him.

Teach **skills that are functional and meaningful**: with the limited opportunities available to the child, it is wise to teach him things that are directly related to his environment and those that he has high chances of doing through out the day.

Teach skills in natural settings: This point can never be stressed enough number of times. The child is able to remember things that he learns while going through his/her day to day routines. This helps him to learn better and remember.

Provide assistance as needed: Encourage the child in every attempt. Do not laugh at or scold when he is trying his best.

Take advantage of the teachable moment: Sometimes you may not plan to teach an activity, but the child shows curiosity to explore a particular object. Use this time to teach him more about that object.

Provide repeated opportunities to practice: This will help the child to get opportunities to try out the activity again and again.

Use real objects: When experience to know about the world is so limited it is better to use objects that he sees and uses everyday rather than expensive and unusual things.

Develop routines: Have fixed timetable for the day with the child. This helps him to have more control over his life and to anticipate what is going to happen with him next. This also helps to encourage communication attempts by the child immensely.

Multi-sensory approach: It is best to make use of all remaining sensory abilities of the child- like seeing, hearing, touching, smelling and movements. All should form a part of the teaching moments for the child.

Plan inclusive activities: With highly individualized activities being planned for the child, there is always a risk that either the parent or one caregiver is constantly trying to teach the child. It is important that the child should know what others enjoy doing and for him to be part of that too. Plan certain activities that he can do with other siblings in the family.

Make use of resource persons from the community: It is important that the best advantage is taken from the resource persons from the community as teachers.

Curricular Approaches for Children with Multiple Disabilities

The Functional Curriculum

According to Erin (1995) the most important skills for children with Multiple disabilities to learn are functional skills. These are the skills that enable such children to do ordinary daily skills. These may be as simple as grasping a spoon or as complex as travelling to a new job independently.

Environmental/physical accommodations/modifications

- Providing preferential seating
 - Altering physical arrangement of classroom
 - Reducing distractions
 - Providing quiet corner/room
 - Modifying equipment
 - Adapting writing assignments
 - Allowing use of study carrel
 - Providing assistance in maintaining uncluttered space
 - Providing space for movement or breaks.
- Evaluation-Accommodations
 - Allowing answers to be dictated
 - Allowing frequent rest breaks
 - Allowing additional time
 - Allowing oral testing/using sign language
 - Giving no timed tests
 - Giving choice of test (multiple-choice, essay, true-false)
 - Accepting short answers
 - Allowing open book or open note tests
 - Shortening test
 - Reading test to student
 - Providing study guide prior to test
 - Highlighting key directions
 - Giving test in alternative site
 - Allowing calculator, word processor.

Section 14: TLM, Functionality of Activity and Compensatory Skills

Children who are MD represent a heterogeneous group in the terms of cognitive and functional capacities. The unique support needs of these students include specialized communication and mobility instruction, the ongoing adaptation of sensory information and the provision of experiential learning opportunities in the context of safe, but responsive, environments.

What area will TLM help develop?

- Language & Communication
- Sensory development
- Orientation & Mobility training
- Cognitive & Social skills
- ADL

Section 15: Understanding Behaviour

Many times there can be many underlying causes for behavioural issues in children with MD such as challenges in communication, medical issues, socialization and some sensory challenges.

Along with the principles of behaviour modification to increase desirable behaviours and decrease undesirable behaviours, the following Best Practices and Accommodations should be done

- Develop consistent behaviour expectations.
- Involve the student in setting academic and personal goals wherever possible.
- Engage in role playing situations.
- Communicate with parents so that strategies are consistent at home and school.
- Set limits and boundaries.
- Apply established consequences immediately, fairly and consistently.
- Acknowledge and reinforce acceptable behaviour.
- Avoid confrontation and power struggles.
- Provide a highly structured classroom environment.
- Clearly post rules and expectations.
- Establish a quiet cool off area.
- Provide and teach opportunities for the student to use self-control/self-monitoring techniques to control behaviour.

- Teach self-talk to relieve stress and anxiety.
- Teach and provide time for relaxation techniques.
- Establish cues as reminders for inappropriate behaviour.
- Redirect to avoid situations that may increase anxiety levels.
- Remain calm and aware of your body language when addressing the student.
- Provide a positive and encouraging classroom environment.
- Use specialized technology and software.
- Give frequent feedback.

Section 16: ADL Needs of MD with Specific Reference to School

Activities (of) Daily Living (ADLs) ADLs are “the things we normally do in, including any daily activity we perform for self-care (such as feeding ourselves, bathing, dressing, grooming), work, homemaking and leisure.

Basic ADLs

The basic activities of daily living consist of these self-care tasks:

- Personal hygiene
- Dressing and undressing
- Eating
- Transferring from bed to chair and back
- Voluntarily controlling urinary and fecal discharge
- Elimination
- Moving around (as opposed to being bedridden).

Requirements of Adaptation in the School for the ADL Activity and Environmental Modification and removing Architectural Barriers

- Accessibility to reach the ADL activities in the school should be provided
- Ramps and adaptive toilet facilities in the school should be made compulsory
- Proper lighting facilities inside the premises should be provided
- There should be elimination of architectural barriers while reaching for the ADL activities
- And there should be a caregiver to provide service during the ADL activities.

Modified Devices needed for Eating and Toileting in School

Toileting skills are important part of personal development and are necessary skills that enable independence and acceptance in social setting i.e. school, restaurants and places of employment.

If the child is physically unable to perform the eating activity because of the difficulties, consider using an adapted eating apparatus, such as a spoon that can be strapped to the Childs hands. To keep in mind: The child should be able to discriminate between a finger and spoon at this stage.

Section 17: Service Delivery Models

All students with multiple disabilities are entitled to a variety of service delivery models that include Home based programs, Community based Rehabilitation, Centre based Model and Residential Model, specialized school programs, special day classes in public and private schools, and in inclusive general education classes in public schools.

Centre Based Model/Special Educational Units: The units provide pre-school training and education in daily living skills, as well as more intensive training in motor development, personal activities, social and communication skills, academic areas and pre-vocational subjects. After intensive training in a specialist education unit, children are admitted to mainstream schools alongside their sighted peers, through the SSA or Integrated Education for Disabled Children. This allows Children with Multiple Disabilities to gain independence and become part of mainstream life.

Home Based Model: Under this Model specialist services are brought to the communities and homes where children with multiple disabilities live through home-based care. Experience shows that when a child with Multiple Disability learns successfully in the presence of his or her family, the family members are much more likely to develop positive and supportive attitudes about their child's potential. This leads to better results and improves the family's ability to care for their child as well as helps to increase people's understanding about disability and reduce the stigma associated with it.

Community Based Model: Community based programmes are implemented through the combined efforts of disabled people themselves, their families and communities and the appropriate health, education, vocational and social services. The programmes are developed in response to a need to reach out to a greater proportion of the rural disabled population in India. Local volunteers are identified and trained to provide services and support to children in such remote areas and specific community based activities are implemented for greater interaction and consecutive progress. These volunteers eventually integrate into the system to widen to reach out to the needs of these children.

Section 18: Strategies for School Readiness (Early Intervention Techniques and Methods)

Strategies and Modifications that can be adapted for School Readiness

What can be done?

- Early intervention is necessary - as soon as the child begins school.
- Involvement of the appropriate professionals, i.e., occupational therapists, speech/language therapists, physio therapists, etc.
- The physical arrangement of the classroom will need to best accommodate this child.
- Integration among their peers is important to assist these students with social development. It's important to integrate multiply disabled children as much as is possible.
- Ensuring that all students demonstrate respect for the multiply disabled student who becomes a teacher's responsibility and needs to be taken seriously with ongoing activities that develop respect from the other students in the class.
- An Individual Education Plan will need to be carefully planned out and adjusted on a regular basis and will need to be aligned to the child.
- Remember, these children are often completely dependent upon others for most/all of their daily needs.
- Assistive technologies may assist this child and it is needed to decide which assistive technologies will be most appropriate.
- A safety plan will need to be developed and should be included in the IEP.

Most importantly, these children are to be given the same rights as non-identified school age children including screening, evaluation and an appropriate program and services.

Section 19: Methods of Adaptive Evaluation of CWMD in IE

Assessment for initial identification is used to identify individual who might need further evaluation or who might develop problems in the future. Further it identifies individuals who with some type of remedial programme might be able to cope with the problem. In other words, assessment is used to determine the students who require pre-referral intervention.

Formal Assessment

Norm Referenced Assessment (NRT)

A norm referenced assessment is standardized measure that allows comparisons of the subjects performed to that of a normal or average group e.g., Intelligence tests.

Criterion Referenced Assessment (CRT)

Criterion assessment compares the performance of an individual to the pre-established criteria.

Designing and delivering Teaching Programmes

There are certain fundamental principles that have to be borne in mind while imparting any skill to the child

The teaching must always proceed from

1. Simple to complex. Always start with a step in which the child is bound to meet with success: this would motivate the child to learn further.
2. Know the unknown: The child's current level of functioning must be the starting point to teaching the skills.
3. Concrete to abstract: All teaching must have concrete examples associated with it.
4. Whole to part: Any concept taught must be introduced as a whole.

Therapeutic and Support Services

Section 20: Orientation and Mobility Needs for Multiple Disability (MD) Persons and Adaptations

It is important to remember that individuals with motor difficulty may also learn to travel independently, using assistive devices such as braces, crutches, or a wheel chair. When looking at adapting and changing the environment, think about changes that will allow a child to be more independent rather than thinking about just making things easier for him. When adapting or changing the physical environment think about:

- a. changes that increase the child's independence
- b. changes that will benefit all the children
- c. making adaptations natural versus artificial
- d. before making adaptations, can the child negotiate the physical environment with familiarization versus changing the environment
- e. Fading adaptations and making sure that the child can negotiate the real world.

Section 21: Importance of Communication for CWMD

- a. What is Communication?

We communicate with one another in many different ways and our senses are the principal

channels for this process. i.e., vision, hearing, smell, touch and taste. These channels give us the information about the environment around us and we can send messages through these senses. Communication can be done by verbal, non-verbal i.e. spoken language, written material, gestures, pictures or signs.

b. Development of Communication

In fact, all babies begin to communicate from the moment they are born, whether they are disabled or not. In the first month of development the main behavior seen with children is reflex response. For e.g.: if we touch a baby's lips we can elicit sucking response from the baby or on hearing a loud noise he startles. These are voluntary movements to specific environmental stimuli. Later the baby starts to explore the environment visually i.e. looking at person holding an object etc. He also starts playing with his own body e.g. sucking thumb or toe or scratching on body etc... When a baby coos and his mother imitates and so on. Gradually the baby starts waiting for the person to respond. This is the stage when the child and adult enter into communication. This type of actions of turn taking becomes the spring board for the development of communication.

For children with Multiple disabilities there will be significant challenges in development of communication skills. They do not get any information or motivation from the environment around them due to which they tend to be less responsive than their non-disabled peers. As a result people around them become less responsive. These children also find it difficult to explore the environment physically and using their senses like vision, hearing etc. Thus these children become passive and have very limited opportunities to initiate and imitate objects.

c. Developing Early Communication in MD Children

Early bonding provides a sense of security.

The child feels motivated to move around and explore.

The child learns to occupy himself with useful and appropriate play/routine activities rather than merely being engaged in self-stimulatory behavioral patterns.

The child learns a way to express his needs and desires early in life.

The child starts receiving medical and Para-medical support early which helps communication process (starts using glasses, hearing aids, special chairs, ortho equipments and develops better posture and balance.)

d. Modes of Communication

We know that every child communicates in his /her own way. However we as teachers need

to add to the child's communication by adding to the modes or ways he /she communicate. This can be done by using objects, pictures, photographs, or symbols to support or supplement the student's communication.

Most children with deafblindness or multiple disabilities use different modes for receiving information and different ones for expressing information. According to the situation one mode may be also used more than the other. However it is important to remember that no one particular mode is more important than the other and its use depends entirely on the student's needs and situation.

The Different Modes of Communication used in Children with DB/MD are:

Tangible Symbols: Objects or pictures that stand or represent something about which we need to communicate. Tangible symbols can be Whole objects, Actual objects, Partial Object cues, Associated objects.

Object Cues: Refers to objects which are a part of the activity the student is doing. The same objects are shown or given to the student as a cue for a particular activity. For e.g.: Showing the student the spoon before he starts eating. The purpose of using objects is basically to give the student information about the activity, about what is to happen.

Actual Objects: Using objects cue with actual objects, for e.g.: during massage session using the oil bottle is an e.g. of actual object as object cue. It is easier for the child to understand as it is consistently used in the activity and helps the child to form an association.

Partial Object cues: When the student understands the activity after seeing the actual object, the size of the actual object can be reduced by using for e.g.; a smaller bottle. Using a partial object makes the object more portable and easier to carry.

Associated Objects: - These refer to objects which are not directly a part of the activity, but are related to it in an indirect way. For e.g.; while going shopping the shopping bag can be considered as an associated object for the activity 'Shopping'.

Pictures or Photographs: If the children have good residual vision then photographs or pictures representing an activity familiar to the child can be used. When the child looks at the picture he will understand the activity that is going to follow.

It is important to note that if we have to use tangible symbols, we need to know if the child is making any attempt to communicate with someone and whether the child has an understanding that his behaviors will bring about or influence or some change in the environment.

Another mode of communication system is called the **Calendar system**.

Just like the way we use calendar system in our day-to-day life, children with MD also need a calendar system to help them know about the different events and activities that are going to happen during the day, week or month. For these children calendar is represented by placing objects or pictures representing separate activities in separate compartments or boxes.

A calendar system helps the child know what is going to happen next. Calendar boxes can be made of various materials such as wood, small plastic boxes, or shoe boxes attached to one another.

Anticipation Calendars are generally used for beginning with two containers to represent the activity that has finished and the one that is to be started with a difference in the two containers.

Daily Calendars from anticipation calendar the child can be moved on to daily calendars. Specifically daily calendars should have 3-8 compartments each large enough to accommodate a representational object of each selected activity.

The routine for the daily calendar should be done in the same consistent manner each time.

Techniques /Strategies of enhancing communication including cues, turn taking and choice making

- *Turn taking:* Turn taking requires responding to the child's behavior and communication during the day or during various activities.
- *Choice making:* Choice making offers opportunities to the child for active participation.
- *Imitation:* Imitation is modeling the desired response and encouraging the child to imitate.
- *Exploring together:* It stimulates the child's curiosity about the environment and develops the skills to learn new things.
- *Manipulating:* Games or play enhance the child's ability to coordinate his eyes and hands which enables the child to control over the toys and objects.
- *Socialization:* Is an interaction between two or more people and involves give and take.
- *Pretending games:* This enables child to use his imagination to make objects into symbols.
- *Problem solving games:* it helps the child to think carefully how to carry out an activity and work things out for himself.

Alternate and Augmentative Communication

- According to Beukelman and Mirenda (2005), augmentative and alternative communication attempts to compensate for limited verbal communication skills by integrating symbols, devices, techniques, and strategies to enhance or encourage communication. Augmentative

and alternative communication includes “unaided modes” of communication, such as gestures, signs and facial expressions, or “aided modes” ranging from the low tech—such as drawings and tangible symbols—to the high tech—such as speech-synthesized devices and laptop computers (Johnston, McDonnell, Nelson, & Magnavito, 2003).

- Sign language is the most obvious choice of communicative skills that can aid communication and can be very effective in developmentally capable individuals with dual sensory impairments. However, in individuals with multiple disabilities and additional cognitive issues, sign language can sometimes be a challenging communication strategy. Gestural communication alone often restricts social interaction in this population to the immediate present, to items or things that can be touched at that particular moment. Materials and tools designed to augment communication in students with multiple disabilities can be used to bridge this gap and provide these individuals with the means to communicate and make purposeful choices in their lives.

Augmentative Communication

Simple systems depend on words or pictures to convey a variety of messages. The simplest may consist of a sheet of cardboard on which pictures, photographs, objects, symbols or words and phrases are shown. Early introduction of alternative modes of communication create many opportunities for communicative interactions. Augmentative Communication allows the child to call attention, signal emergencies, answer Yes or No, provide information, make requests, carry on a conversation, express emotion, give opinions, greet people and prepare messages in advance.

Assistive Devices to Support Communication

Assistive technology allows disabled students to learn in classroom settings. Students with severe and multiple disabilities may need to use several devices to function at their highest level of capability.

Assistive Technology

A variety of AT devices are used to help children with severe and multiple disabilities in the classroom. Communication boards, computers, head sticks and adaptive switches allow disabled children to communicate effectively with others. Teenage Switch Progressions allow students to press a switch to activate activity-based instruction on the computer. Other types of AT technology include wheelchairs, walkers, speech synthesizers, alternative keyboards, pointing systems, talking clocks and calculators, voice recognition software, picture boards, Braille machines, reading machines, magnification software, phonic ear devices, telecommunication devices and sound magnification systems.

Section 22: ADL for Children with MD

There are few principles to be followed while teaching a child with Multiple Disability (DB). These are:

1. Task analysis
2. Chaining
3. Prompting
4. Fading
5. Teach self-care tasks in the natural settings at appropriate time.

Task Analysis

Task analysis means breaking a complex task into simpler steps. Small steps help children to practice better and remember better.

Chaining

It can be defined as the process of teaching each component of a behaviour and then connecting the behavioural components. Chaining can be backward or forward.

Prompting and Fading

Prompts are of different kinds: physical and verbal prompts. Physical prompts are guiding the child physically, i.e. by holding hands. While giving verbal prompts, the therapist gives verbal instructions as what to do but does not guide the child physically.

Fading is the process in which the prompts are reduced.

Adaptations needed for ADL for a Child with MD

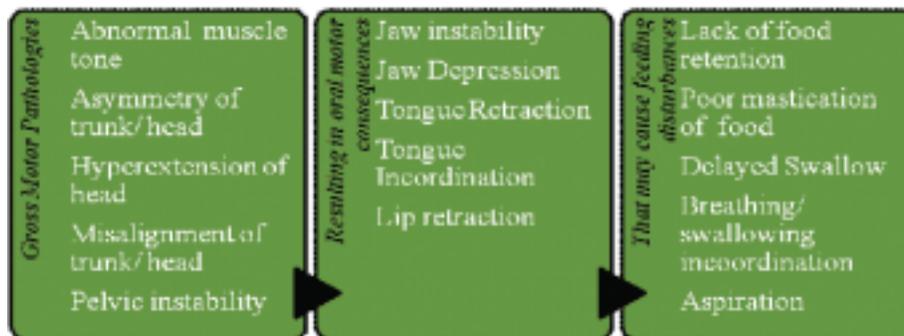
1. Dressing
 - Child with visual impairment
 - Front/ back can be taught by keeping tabs, or by identifying the buttons.
 - In/out can be taught by teaching them to differentiate the stitches.
 - Child who cannot stand, but has good sitting balance
 - Teach side push ups
 - Teach hip hiking

- Child who does not have sitting balance
 - Teach rolling sideways
 - Buttoning
 - Button hook
2. Toileting
- If the child cannot squat
 - Toilet stool.
 - Child cannot reach backwards to clean
 - Long handled brush
 - Child cannot grasp the mug and pour water
 - Hose pipe
3. Bathing
- If the child cannot hold a soap, or if it slips from his hands
- Soap on a rope
 - Loofah, where soap is kept inside
 - Long handled brushes to reach back side
4. Grooming and Eating
- If the child is not able to hold spoons and other objects, use a universal cuff. Built up handles are used if the child has a poor grasp.

Feeding Difficulties in Children with MD and its Management

Children with Cerebral Palsy will have feeding difficulties.

- Causes of feeding disturbances (Redstone & Joyce (2004))



- Positioning

The child should be seated on a firm surface with stable pelvis.

- Position the baby so that the head is slightly forward
- Keep the spoon/ bottle in front and not from above or sideways. Giving food from above causes the head to press back and the body to stiffen. This makes swallowing difficult

Checklist for Proper Positioning of the Child with CP for Feeding/ Swallowing (Redstone & Joyce (2004))

- Is the child upright?
 - Chair seat and back should be at 90° and child maintained upright
- Is he/ she symmetrical
- Are the hips, knees and feet in 90° flexion?
- Are the feet stable?
 - Feet should be touching the floor. If not, foot support should be provided
- Is the pelvis stable?
- Is a well-positioned, tight seat- belt being used?
- Has a solid table surface been provided?
- Is the head in a chin tuck position?
 - If not, check the above items
 - If a chin tuck position cannot be attained through postural alignment, then oral control should be administered

- Before feeding

- Hypotonia
 - Tapping or quick stretch of cheeks and lips
 - Vibration
- Hypertonia
 - Deep & firm pressure using a downward stroking motion
 - Lip closure

- Quick stretch
- Chin tuck
 - Keep the neck slightly flexed
- Tongue thrust
 - Apply firm pressure with your finger or the ball of the spoon on the tongue in a backward direction
 - Use jaw control techniques to keep the mouth closed.
- Retracted tongue
 - Apply firm pressure in a forward direction
- Activities to facilitate tongue movements

Use honey/ sugar syrup or jam or something that the child likes. Lemon extract (squash) is also very useful

 - Forwards
 - Sideways
 - Over the upper lip
 - From the hard palate
- During feeding
 - Breast/ bottle feeding

If the child does not suck, or is not able to coordinate between sucking, swallowing and breathing

 - Massage cheeks
 - Cheek support
 - Insert and pull out the nipple from mouth
 - External pacing, where mother removes the nipple from the child's mouth after she sucks 2-3times.
 - Jaw control techniques

If the child cannot control his jaws and close his mouth or munch (up and down movements) or chew (rotatory movement)

- From the side
 - Right handed feeder uses the index and middle fingers of the non-dominant hand
 - Stand or sit on the right side of the child
 - Non-dominant hand must go around the back of the child's head
 - Index finger placed midway between the lower lip and the bottom of the chin
 - Middle finger is placed under the chin.
- From front

Permits eye contact between the child and the feeder but offers less oral control. It should be done with the non-dominant hand

 - Hold thumb, index finger and middle finger 90° to each other
 - Thumb on the chin
 - Middle finger under the chin
 - Index finger over the jaw joint.

Checklist for Oral Control (Redstone & Joyce (2004))

- Front Oral Control
 - Sit in front of the child or infant for eye contact
 - Use non-dominant hand
 - thumb on chin
 - Middle finger under the chin
 - Index finger over the joint
- Side Oral Control
 - Right handed feeder sits on the left side of the child
 - Use non- dominant hand
 - Index finger on chin
 - Middle finger under the chin
- Don'ts
 - Don't exert too much pressure
 - Don't push the child into extension

- Activities to develop munching and chewing
 - Work on tongue movements and jaw control
- Cut potatoes/ carrots into long strips and cook it
 - Keep it inside the mouth, over the molars and not in the front
 - Use jaw control techniques and help the child in up and down movements
- Cut mangoes/ apples into small pieces and cover them with a clean cloth
 - Keep it inside the mouth, over the molars and not in the front
 - Use 3 jaw chuck and help the child in up and down movements
 - The juice that comes out will be a reward to the child
- Once the child is able to bite and munch/ chew soft food, shift to little hard food like biscuit. Initially it can be dipped in ware/ milk and later can be given as such

Later, give hard food like murukku, chakli, sev, papad, gathiya, farsan, chivda, peanuts, khakra, rotis etc.

- Swallowing
 - Cold stimulation to tongue and soft palate
 - Take an ice cube and rub slowly for 3- 4 times in a circular manner over the cheeks, tongue and soft palate as shown in the picture. Wipe away excess water
 - Jaw support
 - Positioning neck in slight flexion
 - Brushing the neck
 - Stimulate the neck and apply slight pressure over supra sternal notch (bottom of the neck).

Section 23: Therapy and its Need for CWMD

Various common therapies for children with MD include occupational therapy, physical therapy, speech therapy, prosthesis and orthotics etc.

Occupational Therapy

Occupational therapist is concerned with analyzing the child's ability to perform in everyday contexts. Goals of occupational therapy intervention with children are to improve performance components, enhance performance of functional activities, modify performance context, prevent disability and

social role dysfunction, increase self-esteem and self-actualization and to promote positive interactions and relationships.

Physiotherapy

Occupational and physical therapists work closely together as rehabilitation professionals. Physical therapist assists the child in improving position, movement, strength, balance and control of body.

Prosthesis and orthotics

These professionals design callipers and splints for children with MD and physical problems.

Section 24: Speech Therapy, an Overview

Children with multiple disabilities often have difficulty using speech for the communication purpose. These difficulties arise due to the multiple associated conditions like cerebral palsy, intellectual disabilities, hearing impairment etc. Speech therapy deals with speech problems of an individual. However, the field of Speech Pathology doesn't only tackle speech, but also language and other communication problems of an individual. The focus of Speech Therapy is on fixing speech related problems like vocal pitch, volume, tone, rhythm and articulation.

Goals of Speech Therapy

Speech Therapy aims for an individual to develop or get back effective communication skills at its optimal level. Recovery mainly depends on the person and severity of the problem, especially if speech problem is acquired; one may or may not get back to old level of speech function.

Speech Problems

Speech problems are mainly categorized into three heads namely: Articulation Disorders, Resonance or Voice Disorders and Fluency Disorders. Each disorder deals with a different pathology and uses different techniques for therapy.

Articulation Disorders

Articulation Disorders are basically problems with physical features used for articulation. These features include lips, tongue, teeth, hard and soft palate, jaws and inner cheeks. If children with multiple disabilities have an Articulation Disorder, then they may have a problem producing words or syllables correctly, making sound difficult to understand.

Resonance or Voice Disorders

Resonance, more popularly known as, Voice Disorders mainly deal with problems regarding phonation or the production of the sound. Most probably, children will have a Voice Disorder when the sound that larynx or voice box produces comes out to be hushed, nasal, discontinuous, weak, too loud or any other characteristic not pertaining to normal.

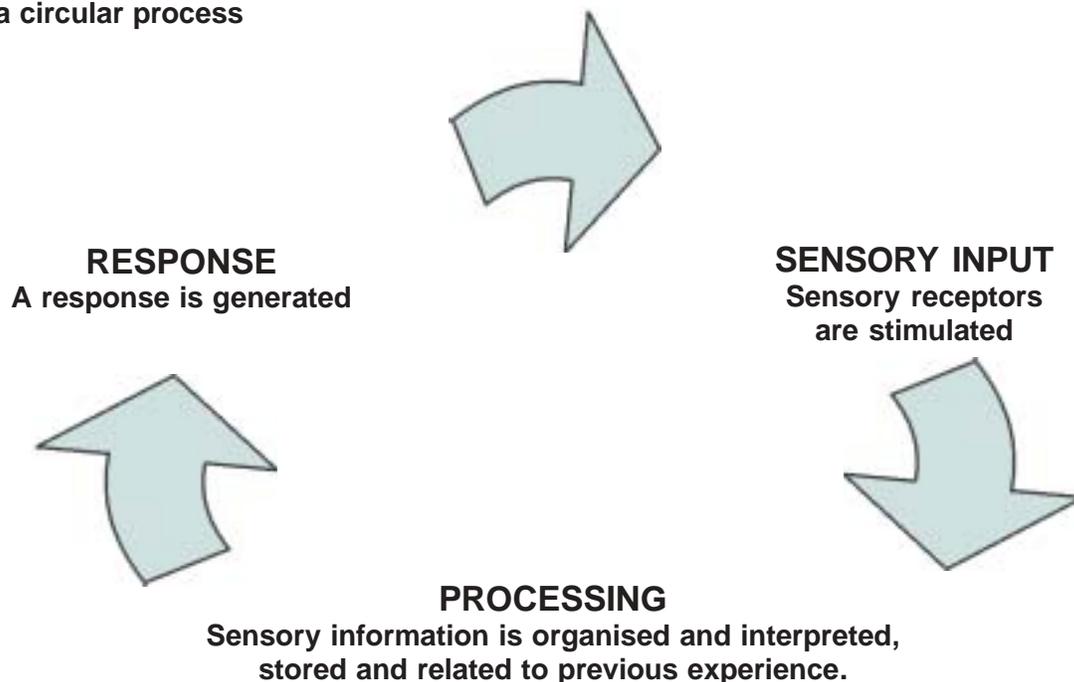
Fluency Disorders

Fluency Disorders are speech problems with regard to the fluency of the speech. There are some cases that one talks too fast, in which people can't understand the speech. The most common Fluency Disorder however, is Stuttering, which is a disorder of fluency where speech is constantly interrupted by blocks, fillers, stoppages, repetitions or sound prolongations.

Section 25: Sensory Integration Therapy

Sensory Integration is the neurological process that organizes sensation from one's own body and from the environment and makes it possible to use the body effectively within the environment (Ayres, 1972 (p. 11)).

It is a circular process

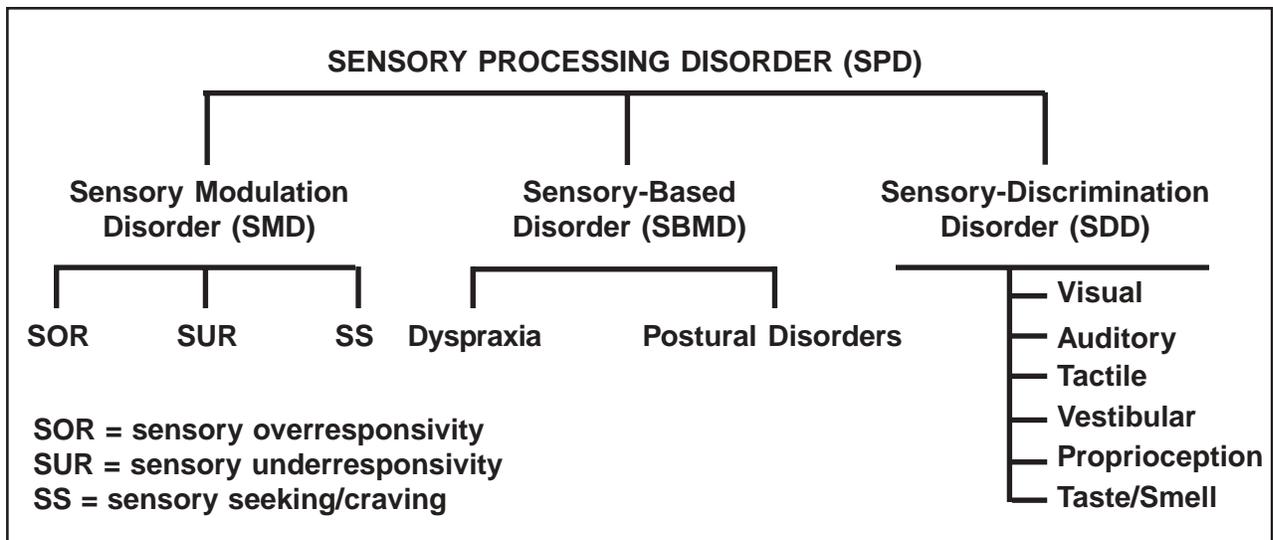


Sensory Integration Disorders

Sensory integration disorders are central nervous system disorders characterized by imbalance among the primary sensations of sight, hearing, touch, taste, smell, vestibular or proprioception. Sensory Integration or Sensory Processing Disorders (SPD) can be classified as follows (Miller et al, 2007)

Pattern 1: Sensory Modulation Disorder (SMD)

Sensory modulation occurs as the central nervous system regulates the neural messages about sensory stimuli. Responses are inconsistent with the demands of the situation and inflexibility



adapting to sensory challenges encountered in daily life is observed. Difficulty achieving and maintaining a developmentally appropriate range of emotional and attentional responses often occurs. Three subtypes of SMD exist as detailed below:

SMD Subtype 1: Sensory Overresponsivity (SOR)

People with SOR respond to sensation faster, with more intensity, or for a longer duration than those with typical sensory responsivity. Overresponsivity may occur in only one sensory system (e.g., tactile defensiveness) or in multiple sensory systems (e.g., sensory defensiveness). Most common types of SOR are tactile defensiveness where the child overreacts to ordinary touch sensation, gravitational insecurity where the child is defensive to vestibular or movement sensation, hyperacusis where the child is sensitive to sounds and hypersensitivity to various smells and tastes.

SMD Subtype 2: Sensory Underresponsivity (SUR)

Children with SUR fail to attend to or register relevant stimuli. They will be oblivious to touch, pain, movement, taste, smell, sight or sound. These children will be over focussed on irrelevant stimuli. This interferes with the child's ability to attach meaning to an activity or situation. They lack inner drive and are often labelled "lazy" or "unmotivated". However, in SUR, inaction is not due to a lack of motivation but rather to a failure to notice the possibilities for action.

SMD Subtype 3: Sensory Seeking/Craving (SS)

People with SS crave an unusual amount or type of sensory input and seem to have an insatiable desire for sensation. They energetically engage in actions that add more intense sensations to their bodies in many modalities (e.g., spicy food, loud noises, visually stimulating objects, constant

spinning). Invasive SS behaviours can influence social interactions with peers (e.g., other people are crowded and touched, physical boundaries are not observed). Active SS often leads to socially unacceptable or unsafe behaviour, including constant moving, “crashing and bashing,” “bumping and jumping,” impulsiveness, carelessness, restlessness, and over expression of affection. The actions of these people often are interpreted as demanding or attention-seeking behaviour.

Pattern 2: Sensory Discrimination Disorder (SDD)

SDD can be observed in any sensory modality. Most common types of SDD are tactile discrimination problems, proprioception problems, visual discrimination and auditory discrimination problems. These children have difficulty localizing stimuli, problems in stereognosis, appear clumsy, distracted and awkward and use too much or too little force while writing and in other fine motor activities a person with SDD may have different capacities in each modality (e.g., a visual or auditory discrimination disorder but good discrimination in all other modalities).

Pattern 3: Sensory-Based Motor Disorder (SBMD)

People with SBMD have poor postural or volitional movement as a result of sensory problems. The two subtypes of SBMD are detailed below:

SBMD Subtype 1: Postural Disorder

Postural disorder (PD) is difficulty stabilizing the body during movement or at rest to meet the demands of the environment or of a given motor task. PD is characterized by inappropriate muscle tension, hypotonic or hypertonic muscle tone, inadequate control of movement, or inadequate muscle contraction to achieve movement against resistance. They also may exhibit difficulty maintaining or automatically adjusting a position so that tasks can be performed efficiently. For example, when writing at a desk, they may need to bend far over the paper or lay their head on their arm as they write.

SBMD Subtype 2: Dyspraxia

Praxis is the ability to conceptualise, plan and execute a non-habitual motor act. Dyspraxia is the problem with praxis. They have difficulty learning new tasks, will be disorganised in their approach to tasks and have poor work habits. These children have low self-esteem, are easily frustrated, prefer talking to doing and are late and forgetful.

Assessment of Sensory Dysfunction

Assessment can be done through clinical observation, using sensory checklists and interviews and by using standardised assessment tools. This should be done by a qualified therapist with inputs from parents and class teachers.

A screening checklist which can be used in the classroom:

SCHOOL PERFORMANCE

Does the student ...

- Lose place when reading print or Braille
- Reverse letters or words when reading print or Braille
- Have difficulty labelling right and left
- Have difficulty remembering what he reads
- become distracted easily
- become disorganized if the routine is changed
- have problems in concentration or remembering directions
- have difficulty generalizing skills

TOUCH / TACTILE INPUT

Does the student ...

- dislike being touched and respond to touch as if it is painful or unpleasant
- dislike touching new and different textures
- dislike having hair washed and combed
- dislike having face washed
- avoid certain textures of food
- dislike going barefoot
- avoid using hands
- dislike having fingernails cut and cleaned
- dislike art materials – finger paint, sand, etc.
- dislike very light touch but may tolerate firm touch
- prefer to touch rather than be
- prefer long sleeve garments
- prefer tub baths over showers
- isolate himself from other students
- dislike being in crowds
- have trouble standing in line
- overreact when touched unexpectedly
- have trouble sleeping because he cannot get comfortable
- pinch, bite, or otherwise hurt himself or others
- bang his head on purpose
- toe walk
- often seem unaware of cuts, bruises, etc., until brought to his attention

- crave being touched and rough
- prefer certain fabrics or types of

- scratch a spot after being touched by someone else
- have difficult time identifying objects by touch

GRAVITATIONAL INSECURITY

Does the student ...

- become anxious or struggle to keep his feet on the ground during activities requiring his feet to leave the ground
- avoid jumping down from a higher surface to a lower one
- have an unnatural fear of falling or of heights
- move slowly and stiffly
- dislike having his head upside down
- shuffle feet when walking
- dislike walking on uneven surfaces

MUSCLE TONE

Does the student ...

- have poor standing or sitting posture
- feel heavier than he looks
- seem weaker than normal activities
- keep his mouth open during
- tire easily
- have flat feet

BILATERAL COORDINATION

Does the student ...

- avoid using one side of his body seem unaware of one side of his body
- have difficulty with rhythm or alternating patterns
- have trouble using both hands together
- not have a clearly dominant hand
- change hand preference for different activities
- avoid crossing the midline of his body with his arms.

MOTOR PLANNING

Does the student ...

- have difficulty knowing how to move his body in order to accomplish a given motor task methods to accomplish the task
- have a tendency to always try to accomplish a motor task in the same way, rather than trying different

GROSS MOTOR COORDINATION

Does the student ...

- seem accident – prone when falling
- seem clumsy
- frequently fall, trip, or bump into things
- dislike trying new movement activities
- have difficulty learning new movement activities
- avoid sport activities, even simple ones like walking or running
- have difficulty catching himself
- have difficulty dressing
- tire easily
- have trouble hopping, skipping
- move in a slow, plodding, deliberate manner
- have a wide-base gait

FINE MOTOR COORDINATION

Does the student ...

- have a weak grasp activities
- grasp objects too tightly
- manipulate small objects with difficulty
- have jerky hand motions
- have difficulty with pencil
- have trouble cutting with scissors
- move tongue or mouth when working with hands
- have difficulty fastening clothes when working

VISION

Does the student ...

- have a diagnosed visual disorder
- have difficulty keeping his eyes on tasks and objects.

- have difficulty eye tracking
- appear sensitive to light
- become excited when confronted with a variety of visual stimuli
- have difficulty using both eyes together
- resist having vision blocked

HEARING / AUDITORY

Does the student ...

- have a diagnosed hearing loss
- dislike loud noises
- need to have directions repeated: appear not to listen or pay attention to what is said to him
- become distracted by noises
- show confusion about the direction
- talk in a loud or soft voice
- like to make loud noises
- miss some sounds in conversation
- respond negatively to unexpected noises
- have a fear of any particular sounds
- become distracted by background noises, such as refrigeration's, fluorescent light bulbs, fans, heaters sound, etc
- have a delay in speech development

SMELL / OLFACTORY

Does the student ...

- strongly dislike certain odours
- use smell as a way of exploring new objects
- crave certain odours
- have difficulty discriminating odours
- ignore offensive or strong odours

TASTE

Does the student ...

- explore objects by putting them in his mouth
- crave certain foods
- dislike foods of a certain taste or texture

Classroom Management of Sensory Dysfunction

Sensory corner: Each school should have a sensory corner which is easily accessible by the child. It allows the child to have a sensory break from regular classrooms when the child is overwhelmed. A sensory corner should have swings, various lights, textures and sensory toys like auditory toys, fur toys etc for the child to expend his excess energy and to stimulate himself. Management of some of the common problems are as follows

Hyperactive - Difficulty staying in chair; high level of gross-motor activity (younger children); restlessness (adolescents); seeks sensory stimulation (chewing, tapping, leg swinging);

Providing acceptable opportunities for movement rather than attempting to restrict activity;

Therapy ball as a seat;

Providing a specific number of walking passes (e.g., sharpening pencil, drinks of water, access to books, wall charts);

Providing small manipulables to channel activity from gross to fine motor (e.g., clay, stress balls);

Establishing work centres as opportunity to move to choice activity;

Standing random-drills;

Restating rules before the opportunity for rule infraction;

Increasing proprioceptive feedback;

Instructional strategies that use tactile materials.

Impulsive - Shouts out answers without being called upon; exhibits risk taking behaviours; does not think about consequences of behaviour; difficulty following rules; difficulty taking turns

Teaching self-monitoring skills;

Teaching self-regulating skills;

Teaching the behaviour you want to see;

Giving positive feedback 5 to 8 Times more frequently than negative ones;

Teaching student verbal or motor Response to use while waiting (e.g., holding up a "help" card).

Distractible - Not responding when called upon; poor task completion; difficulty distinguishing important information/ main idea from less important; skipping from one

Preferential seating;
Instruction on appropriate academic level;
Assignments that are highly engaging;
Hands-on learning, based on interests and strength;
Reducing the number of items per assignment;
Alternating response modes;
Permitting students to work problems in an unusual order (bottom to top);
Using external non-verbal cues to prompt student to return to task;
Increasing the amount of immediate feedback (e.g., circulate during independent work and Correct some of each student's work to provide immediate feedback).

Difficulty Getting Started - Slow/unable to begin a new task

Provide written and oral directions;
Check that directions are clear;
Begin work with mentor;
Segment the work into small initial steps;
Fold student's paper in halves, quarters, accordion patterns and ask them to work on just the first space.

Disorganized - Poor time management skills; inability to plan ahead; difficulty with sequencing; messy desk/locker; failure to turn-in work although it is complete; misplaces books/materials; written work appears messy and lacks coherence.

External organizers (calendars, watch with alarm);
Instructional chart with sequence of steps articulated;
Instruction chart posted desk top on index cards or stickers;
Daily schedule, routines, rituals; study buddy.

Memory - inconsistent and/ or poor recall of previously learned information; reduced reading comprehension with long and/or complex sentences; forgetting assignments, social commitments

Segment study time into smaller units; structured breaks;
alternating subject matter;
Multi-sensory instruction;
Establish lesson context and links to prior knowledge;
Highlight most important features (colour coding, shapes, size emphasis);
Provide opportunity for novel repetitions until student achieves automaticity of basic skills/ fact.

Self-Monitoring and Evaluation -Lacks “internal voice, “ the internal dialogue to self-coach and/or guide thinking and behaviour; unaware that his/her behaviour is inappropriate, annoying to others; difficulty checking work once completed;

Role model by thinking out loud;
Provide non-judgmental feedback to establish sequence and causality of events;

Transition - Difficulty transitioning between activities, subjects, classes; repeats same idea, question after receiving a response; repeats same error even when told it is incorrect to others; difficulty checking work once completed;

Provide three-part transition cues (stopping, moving to, and starting);
Develop transition rituals;
Create transition songs, games, activities (primary grades)

SI Techniques to Improve Handwriting

Postural preparation to modulate muscle tone

- Activities to increase muscle tone
 - Jumping while sitting on a therapy ball
 - Spinning on a sit- and- spin
 - Jumping on a mini trampoline
 - Pushing down on the top of their heads with their hands

- Activities to reduce muscle tone
 - Slow rocking and rolling
- Activities to balance muscle tone
 - Activities requiring weight shifting
 - Smooth, repetitive, alternating movements
 - Bending laterally to the right and left while sitting
 - Weight shifting in half-kneeling
 - Shifting from side- sitting to kneeling with hands on hips

Improve proximal stability

- Animal walks such as crab walks, bear walks, inchworm creeps
- Push-ups on the floor or against the wall
- Resistive exercises with elastic tubing or theraband
- Yoga poses requiring weight bearing on the upper limb
- Cleaning chalkboards and table tops
- Pushing heavy external doors
- Moving classroom furniture.

Strengthening hand muscles

- Prewriting, handwriting and manipulative activities on vertical surfaces
- Moving writing equipment from the palm to the fingers of the hand
- Translation and shifting the shaft of the utensil within the hand for proper grasp
- Rotating pencil from the writing to the erasing position

Writing tools

The following provide additional proprioceptive input to children

- Felt-tip pens
- Crayons
- Paint brushes

- Weighted pens
- Wooden dowels
- Vibratory pens
- Chalks

Writing surfaces

- Vertical surfaces:
 - Chalk boards, painting easel, poster board, laminated paper attached to the wall
 - Inclined desk tops: provide a vertically angled plane and facilitate a more mature grasp of the writing tool by placing the child's wrist in extension
- Handwriting practice on horizontal surface:
 - Writing trays with baking sheets or Styrofoam sheets filled with various substances to provide children additional tactile and proprioceptive input when forming letters, numbers and words with isolated fingers or wooden dowels
 - Writing on a chalk board while writing in prone or in side lying

Seating devices

- Feet firmly planted on the floor
- Table surface should be two inches above the flexed elbows when seated in a chair

Paper position

- Slanted on the desktop so that it is parallel to the forearm of the writing hand when the child's forearms are resting on the desk with hands clasped
- Writing instrument should be held below the baseline
- Non preferred hand should hold the writing paper

Section 26: Positioning and Handling

Positioning refers to the use of appropriate body positions. Due to abnormal pull of muscles, children with cerebral palsy and MD spend a lot of time in abnormal positions. These abnormal positions can lead to increased tightness and other contractures and deformities and should be avoided whenever possible. Proper positioning should be used in all routines throughout the child's day. Try to encourage proper positioning appropriate to the child's motor development.

Handling refers to the techniques and methods that are used to move a child or assist a child to move as independently as possible from one position to the next. It relates to how the child is

picked up, put down, carried, held etc through movement transitions (e.g.: laying to sitting). Actually, handling is not done only with therapist's hands, but with his/her entire body. Specific handling, lifting and carrying techniques will vary according to the child's individual needs. Support can be gradually decreased as the child learns to support himself.

Positioning a Child with CP/ MD in Class room

When the child does not have adequate head control or trunk control

- In prone
 - Position the child on a wedge
 - Head and neck should be off the wedge
 - Child can weight bear on flexed or extended elbows
 - Place a roll between the legs
 - A small roll can be placed under the chest as well

Positioning a child in prone will help the child to develop head control and some amount of trunk control.

- Side lying
 - Place a small roll under the head such that the neck is slightly laterally flexed
 - Long roll in front extending from chest to legs
 - One leg to be kept on the top of the roll
 - Position the child on both sides

Seating

- Corner sitting: lap boards to be provided, so that the child can engage in activities
- Corner stools: Can be used when the child has some amount of head control. It provides trunk support to the child. Lap boards to be provided.



■ C.P Chair



- Make sure that, the hips, knees and ankle are at 90°.
- The feet should always rest on the floor. If not, provide a small foot rest.
- The hips should always be kept apart. This can be done by keeping a roll between the legs.
- If a child slips off from the chair, use modify the seat as shown in the picture
- If the child cannot keep her back straight, modify the seat like this
- Height of the back should depend on the child's trunk control.
- If the child does not have head control, provide support for that also.
- A lap board should be provided, so that the child can do activities on it.
- If the child bends his trunk to one side while sitting, it will lead to deformities. Trunk blocks can be added to prevent this.
- If the child is not mobile, wheels can be attached to the chair, so that it will be easier for the parents to move the child around the house.

Standing

- On a Standing frame. Helps in the reduction of tone throughout the body. Child Can also see what is happening in the class room as well and engage in activities

Carrying Techniques

While carrying the child or shifting the child from one position to another the following techniques can be used

- Carry across the teacher's hips with the child's hips and knees bent and knees separate and not over the shoulders



- Carrying the child with the child facing forwards, with bent hips and knees and knees separate
- Using a wheel chair.

Section 27: Social Skills Training

A social skill is any skill facilitating interaction and communication with others. Social rules and relations are created, communicated and changed in verbal and nonverbal ways.

1. **Interaction:** Interaction is a process of exchanging thoughts on common issues between two or more persons. Children with multiple disabilities often lack this social skill, leading to isolation from social circumstances.
2. **Socializing:** Socialization is the act of meeting for social purpose.
3. **Sharing:** Sharing is joint use of space or resources. This space could be out home, a room, land, school ground etc. Resources could be defined as play materials, books, toys, writing pads, classroom bench, etc.
4. **Playing:** Play is behaviour that is freely chosen, self-directed for which a child is self-motivated. Play is a basic and dominant activity in the child's initial age of life. This act promotes the bonding, sharing, caring, communication, motor development, cognitive development etc.
5. Due to the various limitations in result of multiple disabilities, children often get deprived from getting into different social skills development process along with their family members, friends, neighbours and others significant from their community.
6. Being a special educator, we need to create or modify the environment in such a way that children with multiple disabilities get ample opportunity to interact for their day-to-day needs.

Section 28: Parents' involvement in Education of MD under SSA

Role of Parents and their Involvement Benefit in the Education of MD Children and the SSA

Role of parents' involvement in Education of MD under SSA is very crucial for the success of any training programme in children. Parents have a greater investment in their children, both in terms of time and emotions. They have valuable information about their child's behaviour, interest, likes and dislikes, temperament, abilities, etc, they share a greater physical and psychological proximity with the child. They spend more time with the child as compared to professionals. Therefore parents are the source of correct information about the diagnostic conditions of the child's associated conditions. The parents' involvement may help in the planning and implementing of the training programme of a child.

Section 29: Overview of Vocational Training and Possibilities of Higher Education of Children with MD

There is now a law that is giving a structure to education, employment and all related areas for disabled persons and yet does not specify about transition period. To achieve the goals stated for

education and employment, the need of the hour is to develop a model transition plan that is effective in bridging the gap between education and employment and leading towards self-sufficiency. This could perhaps lead to the inclusion in the holistic approach.

Who are responsible for it?

1. The Student himself / herself
2. The family members
3. The educators or the school staff members
4. The placement officer is the link between the school and the training agency and the community that has the potential of offering jobs.
5. The Employers and the co-workers are also involved in the transition team in a significant way at a later stage.

Assessment is again important to understand the systematic collection of various kinds of information from different types of people that will help in the smooth transition of the students from the school to the community.

Personal Futures Planning

The personal futures planning is an ongoing process that focuses on the strengths and capabilities of an individual with disabilities called the focus person. Personal futures planning are person centered planning approach seeking to identify and mobilize formal and informal supports on the needs of an individual with severe involvement. The process is characterized by planning that describes the capacities and opportunities in people and environment. It does this by providing an ongoing means to creatively problem solving difficulties encountered along the way.

Assistive Devices

Section 30: Adapted Furniture

Adapted chair, CP chair, corner stools, lap boards and standing frame: mentioned in positioning a child with CP.

Mobility Aids

Mobility aids are appliances used to help people who have difficulty in walking. They enable some of the body weight to be supported by the upper limbs.

Selection of a specific type of a mobility device depends on several factors:

- The purpose of using the mobility device
- The indoor and outdoor environments in which it will be used
- The effort required by the individual to use the device
- Positioning needs
- Optimal use in functional activities such as eating, transfers, augmentative communication, personal hygiene, and school activities

Types of mobility devices

1. Scooters

a. Prone scooters

Require the use of the arms and the ability to lift the head while moving



■ Advantages

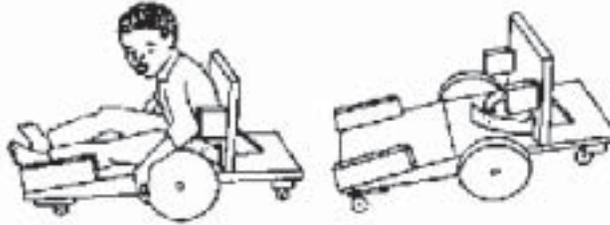
- Child has greater access for playing on the floor
- Some children might be able to get on and off independently
- Turning is easier than other types of mobility devices

■ Disadvantages

- Fatigue from maintaining neck and back extension
- Head is more vulnerable to hitting objects
- Hands may get caught in the casters or rubbed on rough surfaces
- Difficult for the child to view the environment above the ground level

b. Caster carts

Offer children with upper-extremity function, such as those with spina bifida, another means of mobility



- Advantages
 - Can be used either indoors or on flat outdoor surfaces, such as playgrounds
 - Some may be able to transfer on and off independently because of the close proximity to the floor
- Disadvantages
 - Requires a considerable amount of energy expenditure for propelling long distances because of small diameter of the wheels
 - Children with lower extremity muscle contractures or tightness may find it difficult to sit comfortably in long leg sitting

c. Aeroplane mobility device

Designed for children with cerebral palsy who can move their legs but needs support of the upper body

- Advantages
 - Developmentally appropriate positioning: hip abduction and extension, knees flexion and the upper extremities in a weight bearing position
 - Ease of viewing the environment
 - Device can be hand made

d. Mobile stander

When the child has upper-extremity function to push and manoeuvre wheels. These devices allow for lower extremity weight bearing in a standing position. Indoor mobility is achieved using large hand held wheels for self- propulsion



2. Parallel bars

Parallel bars are used when the patient is unstable, or to correct a gait pattern. They are rigid and support the child right through the length of the bars.



3. Walkers

Children who have the ability to pull to a standing position and maintain a grip may be able to use a hand held walker. These walkers are designed for use either in front of or behind the child. One disadvantage is that it is difficult to climb stairs with the help of a walker.



4. Crutches

Crutches are used to give additional support where strength is inadequate and balance is imperfect. The three basic types of crutches are auxiliary crutches, elbow crutches and gutter crutches



5. Wheel chairs

Wheel chairs are either manual or powered. Manual wheel chairs depend on the user or an assistant for propulsion whereas powered devices depend on a motorized unit that the individual accesses using a switch or a joystick



Parts of a wheelchair

- Frames
- Wheels
- Wheel locks
- Casters
- Push rims
- Foot rests
- Tilt bars
- Backrests
- Armrests
- Head rest

Measurements

- Seat width: 1 inch wider than the width of the widest part of the buttocks
- Seat height: 2 inches higher than the distance from the bottom of the heel to the popliteal area
- Seat depth: 1 to 2 inches less than the distance from the popliteal area to the back of the buttocks
- Back rest height: 2 inches less (may vary) than the distance from the inferior angle of the scapulae to the sitting surface
- Armrest height: 1 inch higher than the distance from the bottom of the buttocks to the sitting surface.

Section 31: Orthosis

An orthosis is a mechanical device fitted to the body to maintain it in an anatomical or functional position.

Purposes of orthosis

- Support a painful joint
- Immobilize for healing
- Protect tissues

- Provide stability
- Restrict unwanted motion
- Restore mobility
- Substitute for weak or absent muscles
- Prevent contractures
- Modify tone

Callipers

Lower limb orthoses are called as callipers. Various types of callipers are as follows:

1. Foot orthosis: modifications made in the foot wear. Usual modifications are medial arch support for a flat foot and heel elevation for limb length discrepancy.

2. Ankle- Foot Orthosis (AFO)

AFO is prescribed for-

- Muscle weakness affecting the ankle
- Prevention or correction of deformities of the foot and ankle
- Reduction of inappropriate weight bearing forces



3. Knee- Ankle- Foot Orthosis (KAFO)

It provides stability to knee, ankle and foot. Used when the child walks with bent knees



4. Hip- Knee- Ankle- Foot Orthosis (HKAFO)

The HKAFO is prescribed whenever the muscles controlling the hip and its stability are strained or weak. It provides support to the hip in addition to knee, ankle and foot.



Splints

An upper limb orthosis is called as a splint. Children who have one or more of the following problems may benefit most:

- Deformities
- Sustained abnormal posturing
- Increased tone
- Limited movement of the hand
- Limitations in functional skills secondary to problems with hand functions.

Splints can be static or dynamic. Static splints have no moving parts, prevent motion and are used to rest or rigidly support the splinted part. These are also used to stretch joint contractures progressively. Dynamic splints have moving parts to permit, control or restore movement.

Some common types of splints used in children with MD are as follows:

- Cock-up splint

Immobilises or stabilises wrist in extension with volar or dorsal support.



- Opponens splint

Used when the child cannot bring his thumb out and against other fingers.



- Resting hand splints

Keeps the forearm, wrist, thumb and fingers in functional position. Worn during night and rest to reduce tone and to prevent deformity.



Orthotic precautions

Parents and teachers must carefully monitor and report any of these problems related to orthotic use to a therapist

- Impaired skin integrity (pressure areas, blisters)
- Pain
- Swelling
- Stiffness
- Increased stress on unsplinted joints
- Functional limitations.

Commode Chair or Toilet Stool

Commode chair or toilet stool is needed for a child who cannot squat and use Indian toilets. It can be made by cutting a hole over the seat of a plastic chair for children. Other options are to place a tyre over the toilet on which the child can sit comfortably.

Other modifications in the toilet

- Side bars near the toilet will help a child with poor sitting balance to maintain his balance.
- Hose pipe for a child who cannot hold a mug with water and clean himself.

Section 32: Tricycle

Importance of Tricycle for Mobility for the Physically Handicapped People

The main advantage of the tricycle are that its large front wheel , large size and hand power mechanism (whether by crank or pump) permit easier , faster, safer travel over rough terrain.

1. The Tricycle is most useful for disabled people with specific needs, such as persons, who travel a long distance to school or work or rough roads or in heavy traffic.
2. Persons with only one hand strong enough to push a wheelchair – such as those with one – side paralysis.
3. People, who can walk short distance with or without crutches, but need wheels for going longer distances.

Section 33: Teaching Learning Material

Teaching Learning Material (TLM) is a tool available to the teachers/ parents/ CBR workers to achieve learning outcome. It is not just a set of teacher-made or purchased material, but a well designed tool for the child's needs.

The teacher decides at what level the child is and what activities within the level he/she wants to give. Once the decision is made, the teacher looks for appropriate teaching learning materials so that the teaching becomes effective and goal-oriented.

E.g. TLM for Object Calendar

Over view: The students learn the 'start' and 'end' of an activity. They also learn the schedule of the day in relation to time.

Materials needed: Any object used as a symbol, when used in calendar as a sequence is object calendar.

- Cassette
- Tumbler
- Clay
- Coloured stones
- Tiffin carrier

Check Your Progress

True or False

1. The word deafblind means the person is completely deaf and blind.
2. A deafblind child/ adult will be dependent throughout his life.
3. Rewarding a child is not good for the child as the child will become dependent on rewards throughout his life.
4. Classroom for children with multiple disabilities should preferably be on the ground floor.
5. Reward should be given before the child finishes an activity to encourage him.
6. While teaching a deafblind child, the activity should be broken down into small steps and taught one at a time.

Fill in the blanks

7. _____ is the ability to locate oneself in one's environment
8. _____ approach uses all remaining sensory abilities of the child
9. Tactile lip reading is called as _____
10. Learning takes place best in
 - a) Classroom setting
 - b) Natural settings
11. On what is Functional curriculum approach based?
12. What is Individualised Educational Planning (IEP)?

Choose the best answer

13. What are the causes for deafblindness?
 - a) Genetic disorders
 - b) Maternal illness during pregnancy
 - c) Hypoxia during birth
 - d) All of the above
14. Which of the following is true?
 - a) While talking to a deafblind person, shout to him near his ears
 - b) All deafblind people lead isolated and socially impoverished life
 - c) Children with deafblindness can be trained to become independent in life

- d) All people with deafblindness are mentally retarded as well.
15. Classroom setting should
- a) Have adequate lighting with good colour contrast on the floor
 - b) Have too many corners and narrow spaces
 - c) Change the placement of furniture
 - d) Have too many things on the floor
16. What are the common communication methods that deafblind people use?
- a) Tactile sign language
 - b) Print on palm
 - c) Tactile finger spelling
 - d) All of the above

Answer Key

- 1. False
- 2. False
- 3. False
- 4. True
- 5. False
- 6. True
- 7. Orientation
- 8. Multisensory
- 9. Tadoma
- 10. b
- 11. Based on the current and future needs of the child
- 12. It is a complete programme for an individual child implemented for a specific period of time to provided appropriate education and training
- 13. d
- 14. c
- 15. a
- 16. d



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