

Introduction :-

One important step towards independence is the ability to move about freely in the environment. For deafblind children this is sometime difficult and they may need special instruction in this area. This booklet covers definitions of Orientation and Mobility, Importance of it and techniques suitable to Indian culture, which is simple and easily understood. It also describes concepts and skills in O&M that deafblind child need to learn and understand. This booklet is a compilation of information materials / literature which is already available. We hope this booklet will answer some questions about orientation and mobility and useful for parents and care takers of deafblind children.

This booklet is a small contribution from Sense International (India) to deafblind field.

For easy accessibility of information for people with sensory impairments this booklet is also available in Braille, Tape and Large Print on request.

Orientation and Mobility for Deafblind People

Orientation and Mobility (O&M) instruction provides students who are deafblind with a set of foundation skills to use residual visual, auditory and other sensory information to understand his or her environment. For the deafblind child, movement is an opportunity to gather sensory information, to communicate, and to make choices. O&M instruction provides opportunities and skills that can broaden the student's awareness of the environment, resulting in increased motivation, independence and safety.

Orientation and Mobility training teaches individuals who are visually impaired, blind, or deafblind to travel safely and independently in a familiar or unfamiliar environment. Orientation and Mobility training sometimes involves the use of canes, walkers, or wheelchairs. Orientation and Mobility training provides an individual with a selection of travel techniques to be employed indoors and outdoors. Students learn the most basic self-protective techniques using the natural extension of their arms and hands.

It is essential that children who are deafblind receive learning opportunities and instruction that facilitate purposeful movement. For the child who is deafblind, movement is an opportunity to gather sensory information, to communicate and make choices. O&M instruction provides a set of foundational skills that can broaden the student's awareness of the environment, resulting in increased motivation, independence and safety.

Definitions :-

Orientation :- Orientation is the ability to locate oneself in one's environment. It is a skill that is related to the use of the remaining senses to establish one's position in, and in relation to significant objects in the environment.

The process of using the available environmental information to select and follow the correct path is called orientation. It has been established that when vision or hearing of a person is completely or partially impaired, he has to depend upon his remaining senses to be able to move around freely. The senses of touch, smell and taste can all be used to help him to recognize his position in relation to the obstacles and landmarks around him in the environment.

Mobility :- Mobility is defined as "movement" not just a particular technique or device. It includes obtaining freedom of movement, safety in travelling as well as minimizing the level of stress placed. A well-developed mobility facilitates independent movement.

Mobility refers to total bodily movement which involves a change in spatial location accomplished in an upright position under one's own power. It describes all situations ranging from moving around within a single room, in a house through to travelling from one town to another or even between countries.

It is the action of travelling, of going from one place to another. To be mobile, the deafblind person should be able to gather and use sufficient information from the environment to avoid hazards and to reach his destination safely. Thus it is the ability to move in the environment in relation to oneself from one place to another.

Importance of Orientation and Mobility :-

1. It is an important pre-requisite for the integration of the deafblind person into the community and working life.
2. Being able to travel freely is very important for the sense of independence.
3. O&M training is not just the overcoming of practical difficulties, but also, a step towards developing and maintaining one's own character.
4. Safety of the individual and his fellow men is enhanced.
5. It enables him to learn to become more independent in indoor as well as outdoor mobility.
6. The success of the vocational training programmes also pre-supposes the importance and necessity of independent travel.
7. It allows a person more freedom and makes him/her less dependent on family and friends.
8. It also educates the public for changing attitude.
9. Proper O&M is a step toward comprehensive rehabilitation, self confidence and liberation from solitary home confinement.
10. A person with excellent and graceful O&M skills is said to have attained independence and is easily acceptable by the sighted community
11. It is essential for correcting gait and postures

Using other senses for orientation :-

The deafblind person attains independence in travel if trained in effective and proper use of remaining senses. Sensory stimuli termed as 'Clues' generally enable him to determine his position or direction in respect of the environment. Sensory training should be provided in the following areas:

Touch :- The deafblind person can orient himself by his sense of touch. It is essential for concept clarity and determination of exactness of the object. He can use hands or foot to explore the environment in the following ways:

1. Hands can be used to:
 - ✓ Understand spatial quality, surface texture, temperature, movement and weight
 - ✓ Establish the position and identify of objects
 - ✓ Trail along any object for maintaining contact for mobility
 - ✓ Avail information about the layout of the environment through object symbols, landmarks, tactile maps, models, embossed diagrams and relief maps.
 - ✓ Understand the variety of objects available.
2. Foot can be used to:
 - ✓ Understand position of various landmarks on the pathways etc.
 - ✓ Understand the relative position of buildings and the direction and lengths of connecting roads
 - ✓ Feel changes in surface texture, slope etc.
 - ✓ Understand differences in geographical conditions.

The touch has its limitation as large objects and the environment in general is invariably beyond tactile exploration.

3. Smell is useful for orientation both in house and outside in the following ways:
 - ✓ Particular shops, factories or establishments can be identified by odour.
 - ✓ Smell from kitchen, store, puja room or dining room can be useful as a cue for direction.
 - ✓ Through smell, one can establish presence of particular animals in the proximity
 - ✓ Typical odour from the sewerage or open drains in the rural areas can be used as landmarks.

- ✓ Senses of smell is useful for understanding one's relative position in an agricultural or a dairy farm or a garden
- ✓ To relate or associate different items from their smell.

4. Temperature: Changes of temperature on the face or body can be used to provide orientation information. For example, it is possible to recognize position of the sun by part of the face which feels hot. The relative position can be understood by a change from shade to sun.

The response of the body to external stimuli, termed as kinaesthetic sense enables a person to avail environmental information like heat, cold, rain, breeze, sharp turn etc.

5. Kinaesthetic Sense: The receptors in the joints and muscles are giving information to the brain about the physical position of the individual in the environment. This mode of information is termed as kinaesthetic sense. With this information, the deafblind person comes to know on what type of ground or surface i.e. grass, road, mud he is walking.

It is possible to remember and repeat particular body movements. Taking meals involves a number of sequential body activities which can be remembered and repeated when required. With practice, particular muscular movement can be produced automatically in a similar situation. It is possible to replicate the extensive body movements involved in walking from one place to another. Getting into a bus, going up the stairs or opening the door generally involves particular muscular movement which can be repeated time and again in a similar manner.

It is a misunderstanding that lack of vision is compensated by extraordinary development of other senses. In reality, acquired blindness or deafness results into shattered confidence in other senses. However, through appropriate training and practice, one can develop skill of understanding the environment through the cumulative use of other senses.

6. Sense of Taste: It has less utility for sensory training in orientation and mobility as it does not provide any information about the relative environment. This senses needs to be provoked for its utility. It helps the deafblind person to associate names of the particular substances with their particular taste:
 - ✓ Sweet with sugar, candy, sweets
 - ✓ Sour with citrus fruits, juices
 - ✓ Bitter with medicines, herbs, plants
 - ✓ Hot with tea, coffee, milk
 - ✓ Cold with ice-cream, ice, cold water etc.

The sense of taste is particularly useful for identifying the ingredients of food items, dietary substances and like items.

Adaptation of techniques to suit Indian conditions :-

More disabled persons in India reside in the rural areas. The road conditions in India, particularly in the rural areas are unsafe. The approach roads to most of the villages and streets in the villages are not well planned and are unmetalled. At the same time, education as well as training opportunities for the disabled, particularly those who acquire visual handicap and hearing handicap at later age are grossly inadequate. The mobility aids are not easily available.

Whatsoever aids are available, these have not been suitably adapted to suit the local conditions.

While adapting the mobility techniques for the rural deafblind, the following factors should be kept in mind:

- ✓ Easy to perform with the least possible physical strain
- ✓ Cost within the reach of everyone
- ✓ Maximum safety in local conditions
- ✓ Appearance in consonance with the surroundings
- ✓ Easy to repair and maintain
- ✓ Easy availability

Information for Parents :-

Should I arrange my home in a certain way for my child?

It is helpful for your child to move around the house, if it is arranged in a certain way, for some time at least. The three points to keep in mind when you think about how to arrange your home are access, function, and consistency. Your child should have access to his toys, clothes, and personal belongings and to stairs, chairs, and other essential or important objects in his life. If something is too high for him to reach, a stool might come in handy. Your child should also be involved in the daily routine of your house as much as possible. For example, he can learn that when it is time to get undresses at night, he should take his dirty clothes to the laundry box. In addition, your home should be set up so that all family members are comfortable and the function of rooms and placement of furniture make sense. For example, although it might be easier for your child to keep his toys in the living room, this might disrupt his sibling's activities, so he should learn to keep his toys in the bedroom. Last, it is important to keep things in a designated place and to be consistent. This will help your child start to distinguish among rooms and allow your child to be able to find things himself. Children, just as adults do, find comfort in consistency. If you do rearrange items or furniture, involve your child in the activity or have him nearby while the things are being moved and show him the new location of objects or furniture. It is absolutely important to let your child know if you have made any changes in the arrangements of your house, be it furniture or his own toys and clothes.

Another factor to consider is the amount and type of information available to your child. If your child has some vision, try to find out what type and amount of lighting is best for him, and make your home visually interesting. If your child puts his head down, squints, or closes his eyes in bright sunlight, then he probably should sit at a place with his back to the window instead of facing the sun, and he should wear a hat or visor when he plays in the garden. Hang colourful mobiles and use brightly coloured sheets and blankets in your baby's cradle, choose fluorescent toys or toys that reflect light, and use brightly coloured bowls and cups. Pay attention to the colour contrast in your home. Colour contrast means the relative brightness of and difference between the background and the object being viewed. For example, it probably would be harder for your child to see her milk in a white glass rather than a dark brown glass, or to see a black toy on a dark carpet instead of a white blanket.

At what age should my child receive O&M training?

This is an individual decision that should be made by you and a mobility instructor. There is not a set age at which O&M training should begin. Remember, many things can be done to enhance O&M skills before a child begins walking.

Who should provide O&M training to my child?

Mobility instructor is trained to teach travel concepts and techniques to enhance the independent travel skills of persons who are deafblind. Although a mobility instructor will provide suggestions, information, and ideas on a child's development and O&M needs, family members are the child's best teachers. You, the child's family, have the most love, concern for the child's best interest, and time to teach and reinforce O&M skills. A partnership between yourself and the child's O&M instructor will greatly help your child learn and grow. Also, a mobility instructor can help your child's day care provider or preschool teacher learn how to work best with a deafblind child.

If your child is enrolled in an educational program, in some instances the mobility instructor may not work directly with your child. Instead, he or she will work with your child's primary teacher. After determining your child's O&M needs, the instructor will consult with the teacher and they will determine how to incorporate O&M instruction into the child's program.

Role of the Orientation and Mobility Instructor and others :-

The mobility instructor has the primary role in providing mobility instruction in the traditional sense. However, others also have major responsibilities in helping the student to learn and use these skills. Parents of children with deafblindness, especially those of very young children, play a direct and influential role in helping their infants and toddlers acquire basic mobility skills because they are with their children most of the time. Since they must be knowledgeable about the skills that need to be reinforced and taught, the O & M instructor shows them how and what to teach by ounsel the process with the children. With older children, the instructor becomes the primary teacher and the parents monitor some techniques and provide encouragement, support, and follow-up training. Other significant family members and friends also follow up on mobility instruction after they have met with and been ounseled by the O & M instructor on a regular basis.

In the schools, the classroom teacher, consultant, assistant teacher, and even a student's peers all reinforce the skills the student has acquired. Sometimes the teacher and assistant provide primary instruction of basic mobility skills.

Many educational set ups may not have designated mobility instructors. The teachers may provide the O an M instructions in these set ups

Motivate your child to explore his or her home, school, school yard, playground, and neighbourhood :-

Movement and exploration increase children's opportunities for learning. Children need a reason to move. Sighted infants may pick their heads up to look at someone's face and crawl across the room to get an appealing, colourful toy. Deafblind child may not be aware of all the exciting objects they would find if they moved about. If your child has limited hearing use sounds your baby likes, such as your voice or a musical toy, to encourage him to move across the room.

Instead of bringing a rattle and placing it in your child's hand, shake it to one side of her and help her reach for it. Stand a few feet from your baby and have him roll or crawl to you when you approach him. Have your preschooler play in the cupboard, card board boxes, crawl up and down the steps, and get up on a stool to see what is higher than his reach. Family members may help a child explore and learn by providing a safe and stimulating home environment. Promote mobility in your child that is similar to other children the same age.

Most infants are allowed to crawl about on the floor, so be sure not to keep your child confined to a corner alone. Leaving a “good” baby content for a long period of time in the cradle where he seems happiest is not always the best thing for him. If the children in the neighbourhood are riding tricycles, help your child learn how to do this, too. He may need some extra help. You can select a smooth surface for him to ride on or fasten his feet to the pedals with straps. If he does not know how to ride a tricycle, ask his teachers for suggestions on how to teach him. Like all children, your child will fall, bump into things, and cry. These situations are a normal part of growing up, and your child should be allowed to experience them.

What can I expect from O&M training when my child is older?

Children in primary school will learn how to travel will learn how to move around their school building, playground, and neighbourhood by themselves. Primary school children should also learn about more complex environmental and positional concepts. At this time, you can best help your child by observing him in O&M lessons and showing confidence in his travel abilities. As he gets older, allow him to go places by himself or with friends and encourage him to use his O&M skills.

Orientation and Mobility Checklist

This check list can be used in assessing the present level of the child’s O&M skills. It will also give leads to determine the priority O&M goals to teach your deafblind child.

Orientation of self to Immediate Environment

- Holds head up while in sitting position
- Moves arms and legs
- Rolls over
- Rolls over objects, e.g. pillows, bed covers, soft toys
- Sits without support
- Crawls
- Stands with support
- Localizes to sound
- Reaches towards objects

Moving in the Home Environment

- Demonstrates good balance
- Stands without support
- Walks with support
- Walks without support
- Demonstrates good postural control
- Explores immediate environment through tactile and olfactory senses
- Climbs steps with support
- Climbs without support
- Kicks a ball
- Jumps with both feet
- Moves limbs in water
- Moves towards sound and smell
- Runs
- Manoeuvres around obstacles
- Explores environment beyond the immediate

- Uses play equipment

Body Awareness

- Touches own major body parts upon request (e.g. head, arms, legs)
- Touches minor body parts on self upon request (e.g. fingers, shoulder, ankle)
- Names own major body parts
- Names own minor body parts
- Locates body parts on a model or another person
- Moves named body parts upon request

Basic Concepts

- Demonstrates an understanding of :
 - Up / Down
 - In /out
 - Front / Back
 - Top / Bottom
 - Forward / Backward
 - Left / right
 - Sideways
 - Above / under
 - Before / after
 - Behind / in front
 - Now / Afterwards
- Identifies different textures
- Identifies own belongings

Travel Skills

- Trails a surface
- Holds cane
- Uses upper and lower protective techniques
- Uses sighted guide technique
- Uses appropriate diagonal cane technique
- Explores outside environment
- Climbs in and out of public transport, finding a seat with support
- Uses public transport with support
- Uses public transport with increasing independence
- Shops with assistance
- Travels independently within the neighbourhood
- Demonstrates awareness of safety hazards, such as traffic, fire, emergency vehicles
- Crosses roads with support
- Demonstrates awareness of road hazards, such as potholes
- Asks passers by for help
- Uses communication cards as a support
- Demonstrates a concept of buildings
- Creates mental maps of immediate environment

Reference:

- 1) Learning through Doing a manual by Blind People's Association, Ahmedabad and National Institute for the Visually Handicapped, Dehradun
- 2) An Orientation and Mobility Primer for Families and Young children by Bonnie Dodson – Burk and Everett W. Hill published by American Foundation for the Blind, new York.
- 3) The Art and Science of teaching Orientation and Mobility by William Jacobson published by American Foundation for the Blind, New York
- 4) The Importance of Orientation And Mobility Skills For Students Who Are Deaf-Blind, D. Jay Gense, Ed.S., Marilyn Gense, M.A., DB Link
- 5) www.education.gsu.edu/georgiadeafblindproj/index.htm