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# UNIT 10 PHYSICAL AND MOTOR DEVELOPMENT—PART III: ACTIVITIES FOR FINE MOTOR DEVELOPMENT

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## 10.1 INTRODUCTION

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**As you have already studied, fine motor activities are those activities which require the use of small (fine) muscles of the body.** Fine motor development refers primarily to the use of hands. Gross motor development precedes fine motor development - i.e., the child learns to use the large muscles of the body before he learns to use the fine muscles. Besides this, motor development follows two directions — from head-to-toe; and from center-to-periphery.

Thus, the child is able to control his shoulder movements (which are nearer to the center of the body) before he can control the movements of his elbow; then he moves on to being able to control the movement of his hand and then that of his fingers. As a result of this, at first the infant will swipe at objects (this means moving the whole arm to reach the object). Gradually, he will develop the ability to pick-up the object using his whole hand, and only later will he be able to pick up the object using the thumb and forefinger.

Children tend to develop fine motor skills like holding, grasping and picking-up objects, releasing objects, and transferring objects from one hand to the other, in the natural course of development, without any real effort or training on the part of the family members and others. **However, some children with cerebral palsy, might show a delay in gross as well as fine motor development.** They may not develop fine motor skills on their own. **In this case, systematic efforts are needed to enhance the child's fine motor skills.**

**It is important to foster the development of the child's fine motor skills** such as reaching for, grasping, holding and transferring objects **because these skills are used in all our daily activities** such as eating; brushing; washing; bathing; dressing; playing; opening doors; turning on/off lights; operating the television; opening packets; sorting out objects; putting objects in a container; folding clothes; art and craft activities; turning the pages of a book; using a crayon/pencil/pen to scribble/draw/write; and so on!

A child with cerebral palsy could face difficulty in using his hands due to stiffness in the upper or lower arm, uncontrolled movements, lack of enough muscle strength or muscle tone, poor posture and poor positioning of the child. A child may also face problems in hand functioning due to problems in the joints of the shoulder, elbow, wrist or small joints of fingers. These joints control stretching and bending of various muscles, thereby controlling hand function.

**In this Unit, we shall read how to foster the fine motor skills of a child with cerebral palsy.**

### Objectives

#### **How will this Unit help you?**

This Unit will help you to understand and become familiar with

- the importance of fostering the child's fine motor skills;
- ways of developing the child's visual and auditory awareness;
- common difficulties that prevent the child from grasping and how to overcome these;
- activities for fostering the child's grasping skills;
- activities for enabling the child to use both hands simultaneously;
- ways of developing the child's ability to release and transfer objects;
- the types of toys suitable for the child; and
- points to be kept in mind while carrying out activities for fine motor development.

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## **10.2 DEVELOPMENT OF HAND FUNCTION**

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It is important to remember that in order to have good hand function — in other words, to be able to hold something — one must have

- 1) a stable positioning
- 2) see and hear the object (visual and auditory awareness);
- 3) then reach for the object where the eyes see it (eye-hand coordination);
- 4) and then grasp it.

Let us read about how to develop these abilities in the child.

### 10.2.1 Seating the Child

Seating the child in your lap or using a supportive chair or putting a table in front of the child, so that he can support his body against it, while playing with the toy placed on it— these are some ways through which you can provide support to the child in the sitting position. You have read various ways of positioning the child appropriately in Units 8 and 9.

### 10.2.2 Developing Visual and Auditory Awareness

- One of the first things to do is to **encourage the baby to make eye contact with you** and look at you for some time. This is also called **visual fixation** – in other words, looking at something for some time. The following activity will be helpful in this regard:

#### Activity 1

Fig. 1 illustrates a position that is good for developing eye contact, as the lap provides a slight incline and you can use your knees to keep the baby's head in mid-line, leaving your hands free to hold and play with the baby.



**Fig. 1: This position helps the baby to make eye contact with you, as your lap provides stable support.**

Alternatively, you may find handling easier if you have the child lying beside you on your bed, with his back supported by a firm pillow. A good way of stimulating the baby to listen and maintain eye contact is by singing or humming to him.

During the early months, the child finds your face the most stimulating, versatile and interesting toy to gaze at, intently. Gradually, he will focus on your individual features. Later, he will react to changes in your expression – raised eyebrows, a frown, an expression of marked surprise and, at around eight months, finds your face fun to poke at!

Besides your face, toys that move usually fascinate a baby and are an excellent way for stimulating visual fixation.

### Other ideas

Apart from specifically playing with the baby in the positions described above, the activities of daily routine such as bathing, feeding and changing clothes give you a good opportunity to encourage eye contact.

- Once visual fixation has been established, visual tracking starts to develop. **‘Visual tracking’ means following a moving object with one’s eyes.** Once the baby can make good eye contact, start to encourage him to follow a moving object with his eyes, as described in the following activities:

#### Activity 2

You can begin by holding the child in your lap and moving your head up and down, as shown in Fig. 2. The child should follow the movement of your head with his eyes. To attract his attention, you can wear a bright bindi or earrings.

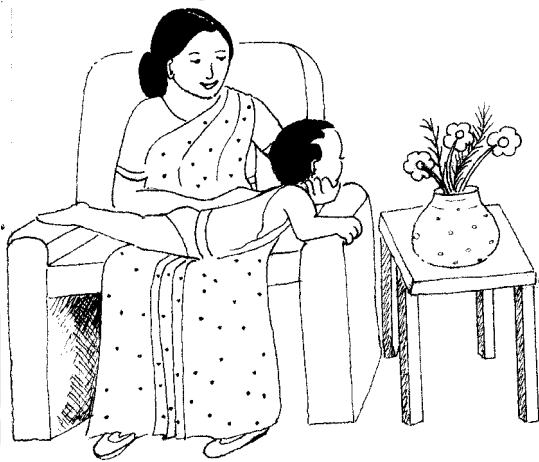


Fig. 2: Encouraging the baby to follow the movement of your head

#### Activity 3

You can use a rattle to encourage the baby, while he lies in his cot, to listen and follow a moving object. Shake the rattle gently until he looks at it, then move it slowly from side to side. If the baby has poor head control, he may find it easier to follow if a shawl or light blanket is wrapped around his shoulders, giving him a feeling of stability. Once he can manage to follow the rattle, moving his head as he does so, try to encourage him to follow the rattle with his eyes while you hold his head steady in midline.

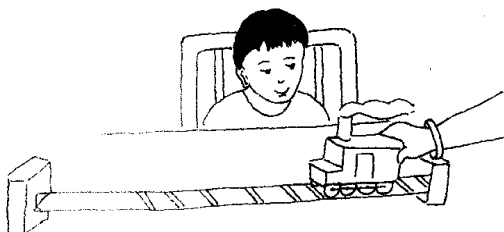
You can play with a baby in a similar way when he lies on his tummy or sits supported on your lap, as shown in Figs. 3 & 4. If the child has sitting balance, he can sit at a table, as shown in Fig. 5. In all these positions, the child maintains good posture and also develops visual skills.



**Fig. 3 :** In this position, the child learns to take his weight on his arms, his trunk is extended, he develops head control and visual skills. However, this position should not be used with children with severe extension



**Fig. 4 :** The baby's back is supported by the wedge, the mother holds his hands forward which prevents him from pushing back, and he learns to follow the moving object with his eyes.



(a)



(b)

**Fig. 5:** Sitting at the table, the child develops the skill of following a moving object—from left to right and right to left

#### Activity 4

Hanging mobiles (i.e., toys that move) over the baby's bed or cot also helps in the development of visual skills. When putting up a mobile or attaching anything to the sides or across a cot, always see that the object is near enough to be within the baby's line of vision – about 8" from the baby's face is a good distance.

Mobiles can be made from household objects. Examples of things you could suspend over a cot are objects that are shiny, make a sound and reflect — such as coloured ribbons, bells, empty boxes wrapped with shining paper, empty boxes with pebbles inside. Be careful that you hang only safe objects— not small and sharp ones.

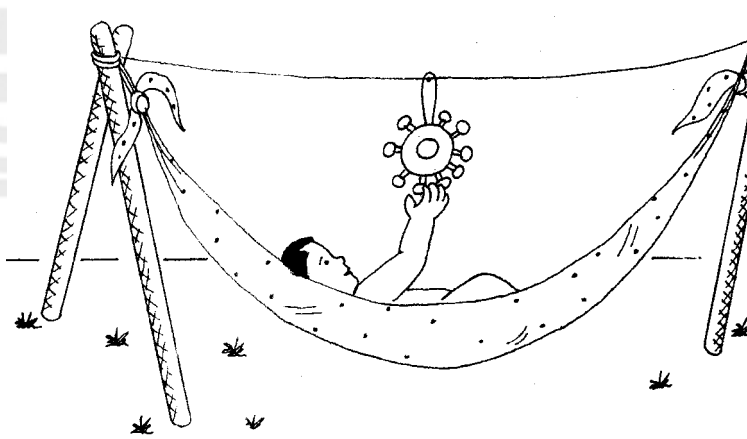


Fig. 6 : Hanging mobiles from the child's bed fosters visual awareness

- Once the child develops the skill of visual following, **encourage visual awareness inside and outside the house**, through the following activities:

### Activity 5

When you are carrying the baby around the house, make use of this opportunity to encourage visual awareness and encourage him to look at familiar objects. Draw his attention to the rain on the window pane, the shiny objects displayed on the shelf, the ticking clock, the different utensils in the kitchen, as shown in Fig. 7. If you have pets, such as fish in a tank, a cat or a dog, they will hold the child's interest. As he grows older, draw his attention to familiar household sounds, such as the door bell ringing, the telephone, the water coming out of the tap, clicking on and off an electric light switch and so forth—in other words, sounds of the objects you will later be helping him to use.

Remember that it will take the baby some time before he can focus from a distance.



Fig. 7: Encouraging visual awareness skills inside the house

### Activity 6

It is equally important to stimulate visual awareness skills outside the house. Let the baby spend some time in the garden or the neighbourhood park. The sun reflecting light and shade; the wind causing spontaneous movements of flowers and branches; the birds and insects and leaves on the trees will attract his attention. All you need to do is to see that he is placed in a good position to look at what is going on around him, as shown in Fig. 8.



Fig. 8: Encouraging visual awareness skills outside the house

**If, in spite of your efforts, you find that the child is not able to focus on objects, track objects or shows any other difficulty with respect to vision, consult a doctor for specific advice.**

### 10.2.3 Common Difficulties that Prevent the Child from Grasping and How to Overcome Them

A child without disability naturally begins to reach for objects by the time he is 4-5 months of age and can grasp them by 6-7 months of age. **To be independent in daily living activities, the child needs be able to use his hands for grasp, release, support and manipulation. However, the child's ability to reach for and grasp objects, as well as release objects could be affected due to cerebral palsy.** Often the hand remains clenched totally or partially and there may be loss of sensation. Lack of balance, stability and abnormal patterns of posture can also affect development of hand functions.

Let us read about some of the common difficulties that come in the way of developing hand skills and how you can help the child to overcome these. After that, we shall describe specific activities that you can carry out with the child to help him to learn how to grasp objects.

- **The Child whose Fist is Clenched (Getting the child to open his hand)**

As long as the baby's/child's hand closes immediately as he touches anything, or his hand remains fisted with the thumb lying across the palm, he will be unable to grasp or release objects appropriately. **It is, therefore, important, before encouraging hand activities, to help the child to keep his hand open with the fingers straight, thumb out and wrist extended.**

The following are some ways through which you can help the child to open his hands:

1. One way is to turn the child's arm out at the shoulder with the elbow straight, forearm and palm facing up. Start by doing this with both arms out sideways (horizontally), then later with the arms forward.
2. Another way you might try opening the child's hand is by stroking the outside of the hand towards the little finger or, with an older child, by pressing the heel (base) of the hand on a firm surface, keeping the elbow straight, then pulling the fingers and thumb out from the base.
3. Once the child's hand is open, get him to take weight on the open hand, applying gentle pressure through his shoulders.

When the child's hand begins to open, you can begin to teach him how to grasp, as described later in this Unit.

- **The Child who is Hypersensitive to Touch**

When a child is hypersensitive to touch stimulation, he will be abnormally responsive to being touched – he might experience tickling sensation, start crying or withdraw his hand and arm, when given a toy, and have problems in touching different textures.

**The following are some ways you through which can make the child familiar with the sensation of touch and reduce his abnormal reaction:**

However, remember to introduce these activities gradually, so that the child has time to adjust and respond.

1. Hold the baby by his shoulder or upper arms and encourage him to look at his hands as you rub, clap and press them together. Hold his wrists to shake his hands and wave goodbye.
2. Rub his hands over his face, his head and his tummy. Take both his hands and rub them over your face. Blow kisses, tickle and use your



fingers to 'walk over' the palms and back of his hands and up the back and front of his forearms.

3. Place familiar things in his hands that are rough, smooth, wet, dry, warm, cold and sticky. In this way, he will get introduced to various textures. If he has reached the stage of putting everything in his mouth, remember that the size and safety of the objects you give him is important. Introduce one thing at a time. Do not overstimulate. Verbalize along side, so that the child develops the related concepts and language.
4. Finger and glove puppets are simple to make and stimulate the baby to look, touch and get hold of them. You can also add an element of surprise by hiding a finger and then suddenly getting it to reappear.
5. Place a toy between his palms that squeaks as you press his hands together. Place his hands around familiar objects, such as his bottle.
6. Draw the baby's attention to his hands and feet when you wash and soap them, swishing them in the water.
7. Bend and stretch his arm, hands and fingers as you dry them. Do the same with his toes.

#### 10.2.4 Fostering Grasping Skills

After getting the child to open his fist or reducing his sensitivity to touch (whatever the child's difficulty may be), the next step is to train the child to grasp. Remember that the child will be able to bring his shoulders and arms forward and his hands towards midline (center of the body) to grasp, only if he is in a position in which he can maintain a symmetrical stable body posture with his head in the midline. (This will enable him to look at the toy in his hands). **Therefore, first help the child to lie or sit in a symmetrical posture before training him to use his hands for reaching and grasping.** As stated in the beginning of this Unit, to get the child in a stable posture, you can seat him in your lap and support him against your body, or use a corner seat or put a table in front of him, so that he can support his body against it while playing with the toy kept on it.

Start by giving the child toys and objects that are familiar to him. Check for effect of grasping on the posture of the child, as sometimes grasping can cause an abnormal posture or increased tone or stiffness in the rest of his body.

- **Early Grasp**

**Some babies with cerebral palsy grasp objects by excessive bending of their arms,** their shoulder turning in and coming forward (this posture is incorrect) and **tend to hold the object so tightly that it is difficult to get it out of their hand.** If this happens, keep the child's arm straight and turned out the shoulder, forearm and hand facing up, before putting the

object into his hand to hold. You may have to continue providing the support at the shoulder. Give him a rattle with a larger ring/handle, as it is easier to hold.

**If the child finds it difficult to maintain his grasp when holding a rattle**, hold your hand over his hand, keeping his arm straight and the wrist extended. Place the child's hand over the object and bend his fingers around it; making it sure that the thumb is opposite the fingers. Gradually, let go of his hand and pull the object up against his fingers or twist it from side to side. When it seems that the child has a firm grip, let go. Repeat several times in each of the child's hands.

**Once the child is aware that he has something in his hand, guide his arm by moving it gently in different directions**, occasionally stopping and shaking his wrist, so that he associates the movement of his arm with the sound of the rattle. Playing with the child in this way helps him to look at and notice the rattle (in other words, develop visual awareness and visual following), as well as gets him to pay attention to what he is doing.

### **Toys that can be used to foster early grasping**

The best toys that encourage early grasp are rattles, teething rings, or teethers, which have large projections of different colours. They should be the correct size for the baby to hold – not too small so that there is a danger of him swallowing them, and not too heavy.

Choose toys for holding and mouthing that can be safely chewed and which make a pleasant noise when squeezed. For two-handed reach and grasp, the best type of rattles are those that have two handles that make different sounds and move in different ways when shaken. If in doubt which toys to choose, always ask the therapist for advice.

Toys should be chosen that make a sound or movement at a light touch, so that the child feels rewarded by his efforts and enjoys playing with them.

#### **• Encouraging Voluntary Grasp**

As most children with cerebral palsy find it easier to reach, grasp and move their toys when supporting themselves on one arm, therefore, at least some of the time, **play with the child sitting on your lap, with a table in front of him, on which a toy has been placed. In this way, both the child's hands are free for playing with and exploring the toy and he also has the support that he needs.**

The following activities will help the child to develop grasping skills:

#### **Activity 7**

A good game to play with a baby about 4 to 5 month old is to put a favourite toy on a soft piece of cloth just out of reach, so that his finger tips just touch it, as shown in Fig.9. Then, encourage him to grasp it and pull it towards himself. At first, he will just grasp the toy; but in time he will realize that his hands are pulling the toy towards him. In this way, he will

learn to grasp and learn how to get something he wants. Gradually, increase the distance of the toy from his hand. You can carry out this activity with the baby in different positions – sitting up, or lying on his stomach.

Initially, if the child does not extend his hand towards the toy, you yourself may hold his hand and bring it towards the toy.

As the child gains competence, increase the distance gradually; however, the toy should be within the child's reach. Change objects, if necessary, to sustain the child's interest.

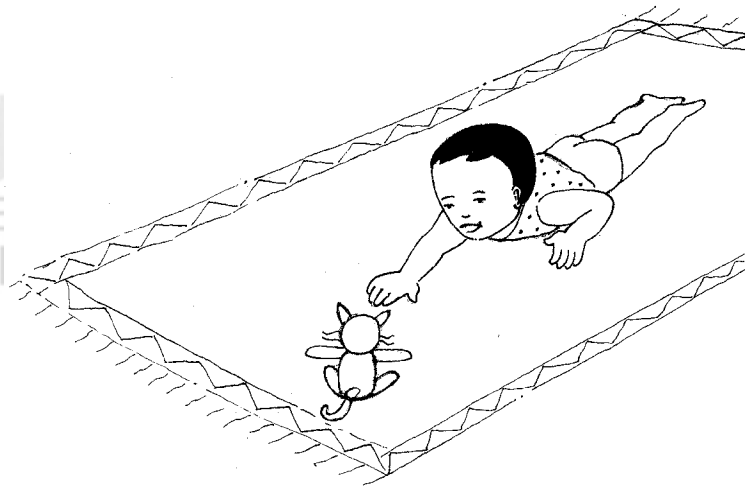


Fig. 9: As the child reaches for the toy, he learns to grasp it.

### Activity 8

Another way to encourage the child to reach for objects is to suspend them over his cot in the form of mobiles (you have read about this earlier).

### Activity 9

Before the child can voluntarily reach for and grasp objects, he has to learn the gross motor skill of taking his weight on his extended arms with a open hand and extended wrist, in a variety of positions – while lying on the stomach, while sitting, while crawling. Fig. 10 shows how the grandmother helps her grandson to learn to support himself by providing support at his pelvis. The child balances himself using extended arms and open palm.

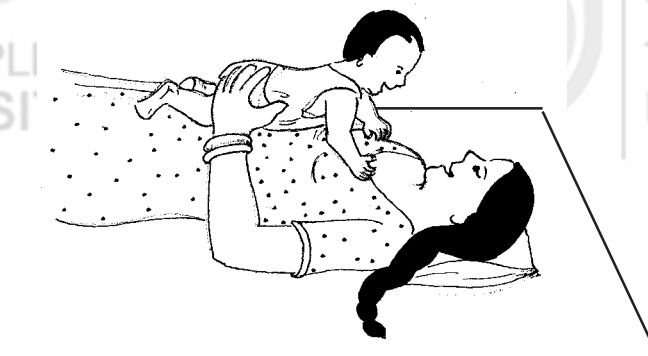


Fig. 10: Teaching the child to take his weight on his extended arms with an open hand and extended wrist.

### Activity 10

Fig. 11 shows another way of encouraging voluntary grasp. The baby's aunt has a string of red beads around her neck. She carries her nephew on her hip, supporting him so that he can bring both arms forward and they can be face-to-face as he plays with the beads. Little balls, small squares of foam can also be used, gradually increasing their number on the string.



**Fig. 11: In this position, the child grasps the beads around the aunt's neck**

### Activity 11

Routine activities give a lot of opportunity to facilitate reaching and grasping. Fig. 12 shows how the child may be encouraged to reach for and grasp your finger when you are changing his diaper or during undressing.



**Fig. 12: Encouraging the child to grasp during routine activities**

To take another example, if you are working in the kitchen, you may have the child in the vicinity, exploring various items in the kitchen such as cups, spoons, tumblers and utensils, under your watchful eye, as shown in in Fig. 13.



Fig. 13: Keep the child involved in an activity as you carry on with your work.

It is better to use naturally occurring situations in daily life to give the child opportunities to reach for objects, such as reaching for eatables, toys that he wants to play with, receiving objects being offered, and so on, rather than creating these situations specially.

### Activity 12

As the child grows older, we must **continue to provide him opportunities to reach for objects** – by placing objects and toys, that interest the child, in front of him when he is sitting, standing, learning to creep/crawl or walk.

Fig. 14 shows how a teenager sister is playing with her brother. The child has developed sitting balance, and with a slight support provided at the lower back by the sister's leg, he can sit for a longer duration.



Fig. 14: Involve the older sibling to play with the child - this helps to develop a bond between them.

### Activity 13

Fig. 15 shows how by using a round cushion, the child can enjoy exploring the contents of a cupboard. This gives him many opportunities to grasp.



**Fig. 15:** A round cushion provides support to the chest, helps the child to lift his head and use his hands for exploration.

#### Activity 14

Sitting the a child in an inflated rubber ring or a tyre, as shown in Fig.16, or a similar shape in foam, helps the child who has just acquired sitting balance to feel more secure when he plays with both hands.



**Fig. 16:** In this way, the child's trunk gets support - now he does not have to use his hands to support himself and can use them to play.

#### Activity 15

Fig.17 shows that while sitting astride his mother's knee, the child first grasps the apple with extended arms. As he takes the apple to this mouth, his mother stops the child's arms from pressing down and turning in, by supporting him under his elbows keeping his arms away from his body.



**Fig. 17 :** The mother helps the child to grasp the apple and bring it to his mouth.

### Activity 16

A position you might use with an older child is shown in Fig. 18. Later sitting at a table, get the child to support himself on his elbows, as he takes the apple to his mouth.



Fig. 18 : This position helps the child to grasp the object using the correct posture.

### Activity 17

Before a child can use both hands for holding and manipulating objects in the sitting position, he must have good trunk control, pelvic stability and balance. We have described activities for developing sitting balance in Unit 8. We are repeating two of these activities here.

Fig. 19 shows a child with poor head and trunk control sitting astride his mother's abdomen—he is supported at the back by the mother's legs. The mother is also holding his hands. The mother moves her legs sideways, teaching her son to make the necessary adjustments in order to maintain his sitting balance. As the child learns to balance his body, the mother holds him only by one hand. This will help him to develop sitting balance.

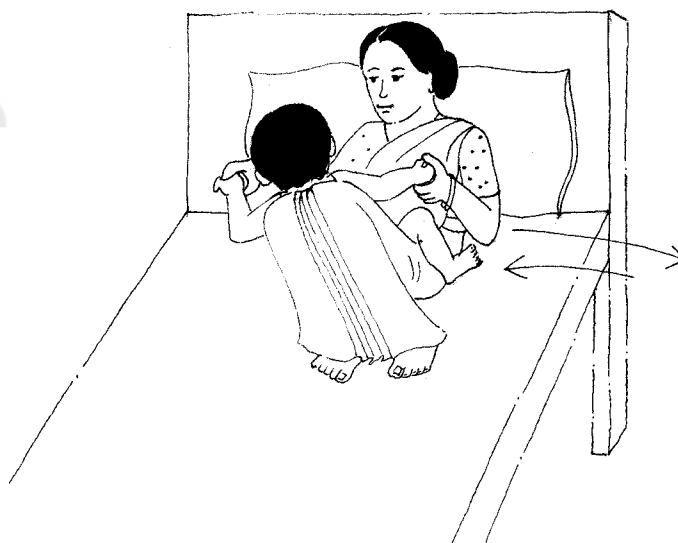


Fig. 19: Helping the child to develop sitting balance so that he can use his hands freely to hold objects

You can teach a moderately affected child to learn to balance himself by placing a square of foam on the base of a chair, as illustrated in Fig. 20. Tip the child slowly to one side and wait a second before moving him back to the mid-line. This helps the child to develop sitting balance.



Fig. 20 : Another way to help the child to develop sitting balance

### Activity 18

Provide the child with a variety of play materials to improve his grasp. In the beginning, the object should be big enough, yet light, for the child to hold. This is because children learn to pick up objects with the whole hand first and then learn to pick them up with the tips of fingers and thumb. Also, these large objects are safe, as the child will not swallow them when he puts them in his mouth. You can give fruits, vegetables, plastic ball and toys, steel bowl or tumbler to the child.

Subsequently, train the child to use his fingers for grasping by asking him to pick up small objects like beads, seeds, coins, raisins and shiny buttons, pebbles and so on, but only under supervision. Make sure the child does not put these in his mouth or nose. Also ensure that all materials are clean and hygienic. Wash them regularly to maintain cleanliness. Use only unbreakable and non-toxic materials and items.

### Activity 19

As the child learns to hold/grasp, he can be trained in **holding things tightly**, that is, with pressure. To train him on this task, give him a ring or any object big enough, so that it can be held by both of you. Using it, play the 'tug of war' game with the child. Ask the child to hold the object tightly and pull it with his full strength, while you pull in the opposite direction.

### Activity 20

Once the child has learnt to hold an object in his hand, try to get him to **hold two objects—one in each hand**. For instance, encourage him to carry, or hold, two toys or two fruits or two tumblers.



## 10.2.5 Activities for Releasing and Transferring Objects

### Activity 21

Help the child to practice grasping and releasing objects by playing a simple *game of 'take' (grasp the object) and 'give'* (give me, that is, release the object) with him. Remember to hold out the object to the child as you say 'take', and extend your hands as you say 'give' to the child. Do this activity with a number of objects.

If the child continues to hold a toy because he likes it and does not want to release it, do not force him!

### Activity 22

Put a piece of sponge in water (at bath time, or as a group activity with several children). Give the child the sponge dipped in water, and ask him to hold it and press it as hard as he can with his hand. Make it a game saying, "Let's see who takes out more water."

This activity has been found to be particularly helpful with children who have problem in releasing objects.

### Activity 23

Encourage the child to play with clay or play dough, pressing it with his hands in the process.

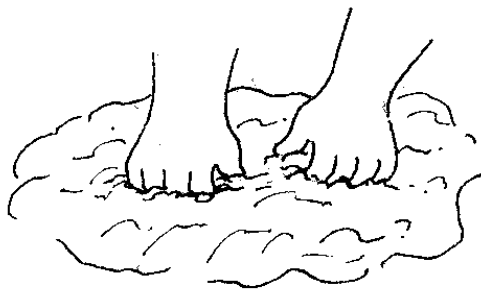


Fig. 22 : Playing with clay helps to develop good hand function

### Activity 24

Ask the child to put things in a container, one by one, or take them out – for example, raisins or wooden blocks, depending upon his ability, as shown in Fig. 23. You could also ask the child to *pick up an object* from one place *and put it down* somewhere else. This will not only help in eye-hand coordination but also improve his skill of concentrating and paying attention.



**Fig. 23 :** Putting things in and taking them out of a container helps the child to develop the skill of releasing and transferring objects.

### Activity 25

Ask the child to sit in a circle with other children. Select a game like *passing the parcel*, wherein an object has to be *taken* from the child sitting on one side, then transferred from one hand to the other, and then *passed on* (released) to the child sitting on the other side.

### Activity 26

In the course of any day-to-day situation, if the child is holding an object in his right hand and you want to give him another, tell him to *transfer the object from his right hand to the left hand*, and take the object from you in his right hand.

## 10.2.6 Activities for Using Both Hands Simultaneously

Gradually, as the child develops and gains competence, give him opportunities to practice using both hands simultaneously. Such activities could be of the following nature:

### Activity 27

Ask the child to tear paper, play with a big ball and stack empty cardboard boxes or books – these activities require the use of both hands.

### Activity 28

Involve the child in activities that involve holding an object with one hand, while doing something to a part of it with the other hand – for example, peeling a banana or an orange; holding a toy with one hand and moving or exploring a part of it with the other.

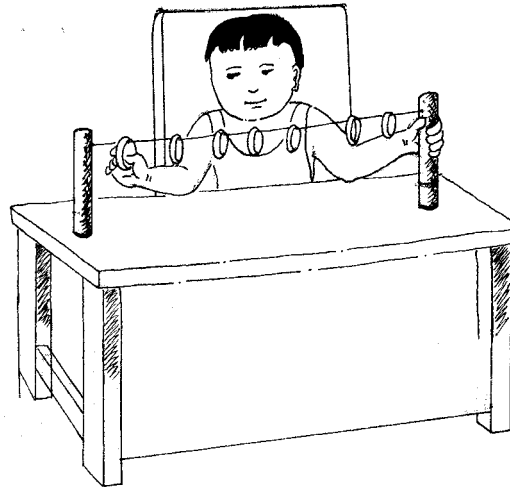
### Activity 29

Take a wooden board with rods. Ask the child to *fit rings of plastic/wood/clay in these rods*. The child may miss the rod initially due to poor eye-hand coordination; in that case, provide support to the child's hand from his elbow. Remove the help as the child learns to do the activity.

### Activity 30

Fix a wooden rod at each end of a table. Tie a rope, a thick thread or a thick wire horizontally between these rods. Hang small beads, blocks or animal

moulds along the wire and ask the child to *move the items from one end to the other*, one by one, as shown in Fig. 24.



**Fig. 24 :** Moving beads on a rope—the child is holding on to the wooden rod with the left hand to support himself.

### Activity 31

Create opportunities that require the child to reach and *place his hand on objects at varying distances*. For instance, have the child point to his eyes, nose and mouth, on his image in a mirror. Let him poke at bubbles blown in the air. Hold rings, toys, or other objects that the child finds interesting, at different positions – in front, to the side, and above the child, and encourage him to reach for them and take them.

In the case of an older child, you could even have him *aim and throw a ball or ring at targets*. As his skill improves, move the targets further away or make them smaller.

### Activity 32

Provide the child with beads or a bunch of leaves and a thread or string. Teach him how to *string the beads/leaves* using the thread to form a necklace.



**Fig. 25 :** Stringing and threading activities

### Other ideas

You can also make a hole in bottle caps and give the child a ribbon, thread or lace to string the bottle caps.

Provide the child with plastic bangles and ask him to string a pattern with them.

Punch holes at some distance from each other in a sheet of cardboard and ask the child to string a ribbon through the holes to form a pattern.

### Activity 33

Provide different kinds of paper to the child – thick, thin, smooth, rough, shiny and dull. You can use newspapers, postcards and greeting cards for this purpose. Ask the child to tear these into small pieces. Now draw the outline of an object, such as an apple or a tree, on a sheet of paper. Ask the child to *make a collage* by sticking the torn pieces of paper inside the outline.

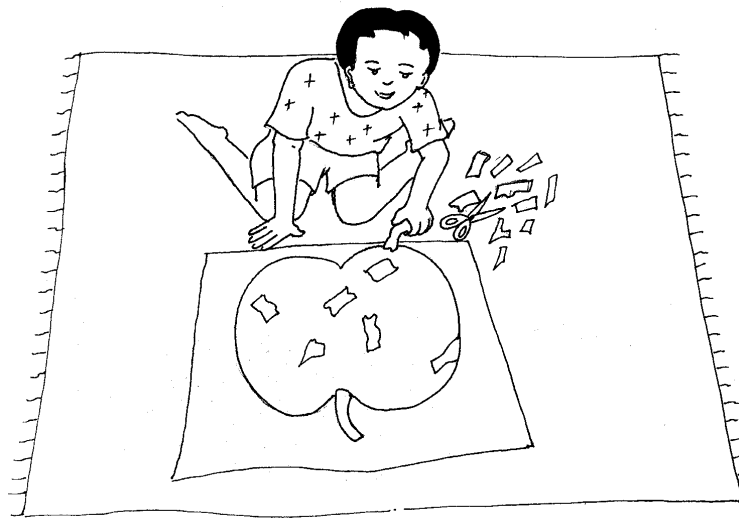


Fig. 26 : Tearing and sticking small pieces of paper helps to develop control over the muscles of the fingers.

### Activity 34

You may organize activities using materials like pebbles, beads, cereals etc. For example, you may:

- Give the child some *pebbles, seeds or grains* mixed together, and ask him to sort them, that is, separate them into different piles. This will help the child to develop the concept of classification, in addition to helping him develop control over the finger muscles.
- Take a long sheet of paper. Draw some shapes on it. Provide the child with beads, leaves, marbles, bottle caps and seeds. Ask him to *place these on the various outlines*. He may use a different material for each shape. This activity, apart from strengthening fine motor skills, also helps to develop the concept of shapes.
- Draw a shape on the floor and ask the child to put pebbles along its boundary, as shown in Fig. 27. Ask the child to name the shape. You could also encourage the child to create shapes on his own by using the pebbles.

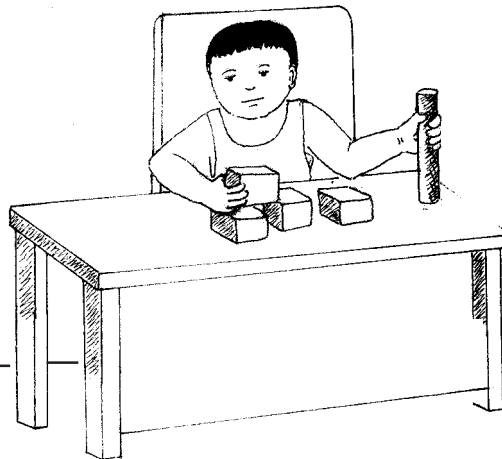


**Fig. 27 :** Putting pebbles along the boundary helps to improve the ability of grasping as well as releasing and transferring objects—the child is using the left hand to support herself using the floor.

### Activity 35

**Involve the child in a construction activity**, wherein the child builds or makes something using materials such as wooden/plastic blocks, match boxes, and cardboard boxes. **This kind of an activity fosters development in many areas.** Control over finger muscles is strengthened. As children construct something, it fosters their imagination and creativity. When children are involved in these activities as a group, it also helps to develop social skills. A couple of examples of construction activities are as follows:

- Give children wooden blocks and ask them to arrange them one after the other like a toy train, on top of each other like a tower or in the form of steps, as shown in Fig. 28. Initially, you may have to show the children how to do so and give them some ideas. Later, they will begin to create structures like a house and a train, as well as a variety of patterns,



**Fig. 28 :** Constructing a structure using blocks and he uses the left hand to hold on to a rod, fixed to a table, for stability.

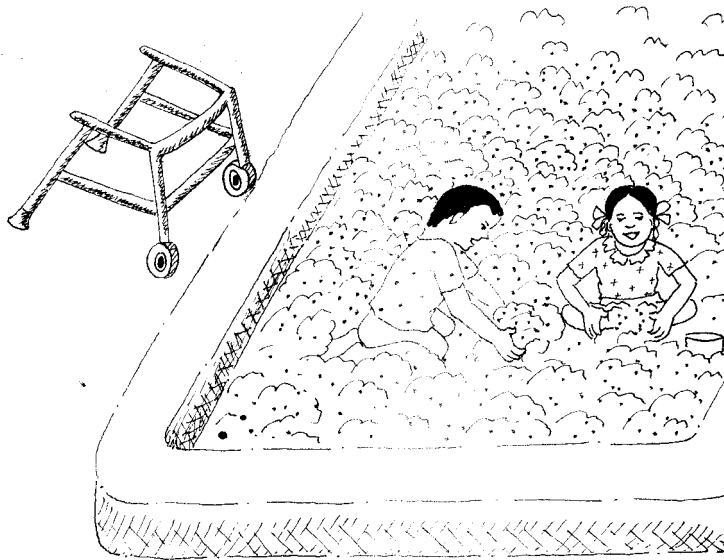
- Give the child cardboard boxes of different sizes that fit into each other. Show him how to fit one box into another and then place them separately again. Give the child any help that is needed. Initially, you may begin with two boxes. Gradually, the number of boxes can be increased.

### Activity 36

**Sand play is a very useful and enjoyable activity for the child.** You can dig a sand pit in an open playground or improvise one indoors. Besides

fostering fine motor coordination, sand play is also an effective medium for nurturing the child's imagination. It stimulates role play and spurs children to enact roles and to express emotions.

- Give the child a large tin bucket and a few small tins. Teach the child how to put sand into the tins and to pour the sand from one tin into another. Let the child play with the sand.



#### ny areas

- Ask the child to take some amount of wet sand and close his fingers around it to form a fist. This will help in binding the sand. Teach the child how he could make 'laddos' with the wet sand.
- Similarly, ask the child to take some wet sand and pat it to make a cake. Sand moulds can also be used. Teach the child how to fill the sand in the mould, press it down with the fingers and remove the mould.
- Bury objects in sand and help the child find them. During the process of finding, the child will have to dig sand and take out the object.

It is likely to be more interesting for the child if you organize sand play as a group activity (under the supervision of an adult; to prevent fights and accidents as well as to provide any help that may be required).

#### Activity 37

Provide opportunities for children to 'play' with water. Through **water play**, they will have fun as well as learn many concepts at the same time. Use a plastic or metal container, which is wide and shallow. Let children fill the container with water themselves, using items of different sizes such as small buckets, mugs, jugs, coconut shells, lids of cans etc. Let them pour, fill, splash and float different objects. If possible, provide a few rubber toys, paper boats, twigs, stones etc. and ask them to see whether they float or sink. Initially, you will have to assist the children. These kinds of water play activities not only foster the development of gross and fine motor skills, but also help the child to learn about concepts such as

‘up and down’, ‘heavy and light’, ‘high and low’ and also about shapes, sizes and weights of different materials.

### 10.3 RECAPITULATION OF SOME PRACTICAL TIPS

- **Think of creative/innovative games** to help the child develop various skills.
- **Use the routine daily situations to help the child practice motor skills.** Involve the child as much as possible in activities of daily life, depending on the age and abilities of the child.
- As the child becomes older and gains competence, **encourage him to participate more and more in self-help activities** such as feeding, toileting, bathing, dressing and grooming; household tasks like sorting vegetables, watering plants, sweeping, mopping, dusting, washing clothes and utensils, fixing clothes pegs, removing clothes pegs and picking up clothes when they are dry; folding and stacking clothes; as also other activities like drawing, colouring, painting, pasting, paper folding, stringing beads, clay modeling, playing with sand and water, flying kites etc. All these activities foster the child’s development in many areas.

**Rather than teaching each individual skill in an isolated manner, it is better to help the child develop and practice skills in the course of an activity, in an integrated manner, as the opportunity presents itself.**

- **Encourage the child to play and interact with non-disabled children, and vice-versa.**

Give the child the opportunity to observe other children in the family and neighbourhood, playing and doing activities, and participate in the same. Encourage the peer group and the child to interact. You would need to sensitize the other children about the needs and abilities of the child with disabilities. Do not force them, but give them time to accept each other. You could allow the child to share a special toy or an item of interest with other children in the neighbourhood. To create an opportunity for the children to interact, you could arrange for a picnic or special outing and invite a few other children. Initially, it would be a good idea for you to be around, and in fact, **organize games and activities involving all the children**, for the necessary rapport and friendship to develop. Arrange activities where the children will feel comfortable playing together. Action songs, such as ‘Ring-a-ring-a-roses’ or the regional equivalent allow all children to participate. As the children begin to feel comfortable with each other, reduce your assistance and presence.

- **Encourage older siblings to take the child** along when they go to play in the neighbourhood. The older sibling will be familiar with any special care or precautions that may need to be taken.

- Do remember to **involve the child in the various customs and activities** performed during festivals, such as making '*rangoli*', playing holi using '*pichkaris*' (squeeze bottles), decorating the house or a Christmas tree. Such experiences are not only enjoyable for the child, but also help in fostering his overall development, including gross and fine motor development.
- **To encourage motor development and motivate the child to play, keep the following points in mind:**
  - ☞ When handing him a toy, get him to reach out for it, instead of simply giving it to him.
  - ☞ When he starts to develop sitting balance, place his toys out of reach so that he has to support himself on one hand while picking them up with the other hand.
  - ☞ When he is sitting on your knee, encourage balance while he plays, by moving your knees, so that he starts to make adjustments as his sitting base shifts while using his hands.
  - ☞ If your baby/child refuses to play, always ask yourself why – are the toys you have given him too difficult for him to handle, too easy and he is bored?

Playing with his toys is, of course, only one of the ways in which a child learns to use his hands. He also does so as he explores objects both inside and outside the home. Practising and using hand skills in all activities is the only way a child will eventually learn to be independent.

- **The activities mentioned in the Unit are only some examples. A lot will depend on the individual difficulties that a child is facing and the therapist can help you by giving specific advice. Therefore, interact with the therapist at regular intervals to know what needs to be done.**

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## 10.4 LET US SUM UP

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- Fine motor development refers to the development of control over the small muscles of the body.
- Before the child can learn to grasp, we need to strengthen his visual skills. Through everyday activities you can develop the abilities of visual fixation and visual following.
- If the child has a clenched fist or is hypersensitive to touch, you will have to help him to overcome these difficulties.
- Playing with blocks, sand, clay, toys and household objects provides many opportunities for grasping, releasing, transferring and using both hands simultaneously.
- Involving the child in self-care activities gives many opportunities for practising fine motor skills.
- Encourage the child to interact with others and make activities fun.



## ACKNOWLEDGEMENTS

**1 (a) Details of art work used and adapted with permission from the book ‘*Handling the Young Child with Cerebral Palsy at Home*’ by Nancy Finnie, published by Elsevier Inc., 1997**

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10	101	20	Chapter 7	93	7.16(b)
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9	57	27	Chapter 7	87	7.8(b)

**1 (b) Concepts and ideas for the text related to the above -mentioned illustrations have been used and adapted with permission from the following chapters of the book by Nancy Finnie**

— Chapter 5 (Understanding Movement and Development)

— Chapter 7 (Early Stages of Hand Function)

— Chapter 14 (Sleeping)

— Chapter 19 (Carrying)

(acknowledgements cont.....)

2 (a) Details of art work used and adapted with permission from the book *'Disabled Village Children'* by David Werner, Published by the Hesperian Foundation, 1999, 2nd Internet Edition.

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**2 (b) Concepts and ideas for the text related to the above-mentioned illustrations have been used and adapted with permission from the following chapter of the book by David Werner**

— Chapter 35 (Early Stimulation and Development Activities)

(acknowledgements cont.....)

3. **Details of art work used and adapted with permission from the manual ‘Basic Physical and Functional Management for People with Primary Motor Impairments’ (for community workers), prepared by Action for Ability, Development and Inclusion (AADI), New Delhi, 2005.**

— Figs. 29-52 of Unit 8 and concepts related to these illustrations have been used and adapted from the sections ‘Sitting on the Floor’, ‘Sitting on the Chair’ and ‘Standing’ of the above manual.

