



In Hand Manipulation

In-hand manipulation refers to the fine adjustments made within the hand after grasping an object. The child needs to develop these skills to have effective and efficient fine motor skills.

Translation

this describes the movement of an object from the finger tips to the palm of the hand, e.g. collecting coins into the palm of the hand, and from the palm back to the finger tips, e.g. bringing coins forward to the finger tips to place in slot machine.

Shift

this is used to make the final adjustment of an object between the fingers and thumb ready for use, e.g. positioning of a pencil before use.

Rotation

this is movement of an object in more than one plane. It can be **simple** by making alternating movements between the thumb and the fingers or **complex** involving more independent movements between the thumb and fingers.

Stabilisation is the ability to maintain an object within the palm whilst carrying out manipulation of another part, or another object, e.g. stabilizing one coin in the palm of the hand whilst putting another into the slot machine.

Development of in-hand manipulation skills takes place during the first seven years of life.

In order to develop in-hand manipulation skills the following activities can be used but it is best to do them in the order they are described because the later activities rely on earlier skills:

Translation: Fingers to palm

collecting pieces of a toy, e.g. counters in one hand before placing them back into the box.

games of pretend play which involve taking money from a purse.

small peg games, e.g. ask the child to make a pattern using different coloured pegs.

collage work, tearing small pieces of paper from a large piece.

taking the lid off a small pot and holding it in the hand while retrieving the contents.

placing items inside the holes of egg boxes will encourage transfer to the palm.

Translation: Fingers to palm with stabilisation

all the above activities can be continued but encourage the child to hold one or two pieces in the palm while collecting others, gradually increasing the number to be held. The number will depend on the size of the object, but do not expect more than four or five.

picking up two or three small crayons at a time will increase the need for stabilization.

picking up small items like paper clips, coloured paper clips can be used as counters for games, etc.

Translation: Palm to fingers

moving penny / counter from the palm to fingers.

moving object from palm to fingers to put into small container.

moving rubber to finger tips to rub out pencil marks.

putting coins into a piggy bank.

Translation: Palm to finger with stabilisation

all the above but using several pieces, moving one at a time and retaining the others in the hand.

holding several pieces of a game in the hand until needed.

Shift

turning pages of a book.

picking up sheets of paper, e.g. tissue paper, paper money during games.

flattening small balls of Play-Doh between the tips of two fingers.

shifting the position of the pencil or crayon when writing.

moving paper in the assistive hand when cutting.

buttoning clothes.

rubbing paint, glue, etc. off hands.

Shift with stabilisation

holding pen and pushing the top off with the same hand.

holding keys in hand while shifting one to place in the lock.

pushing toy through small tube of material using only one hand.

Rotation

removing and putting back lid to small jars.
games with nut and bolt type mechanism
two-ended crayons, child has to rotate the crayon when they want to use the colour on the other end.

positioning a pen to put the top back on after use.

playing with small toys

orientation of puzzle pieces to fit the board.

identification of object through touch alone.

pipe cleaner play / paper straw modelling.

Rotation with stabilisation

the above activities whilst retaining something in the hand, e.g. positioning one Lego brick whilst holding another in the hand.

Additional activities

Playdoh - roll dough in to tiny balls using the tips of the fingers.

Roll dough into larger balls using cupped hands together

Flatten playdoh on to table or hold vertically on easel and with small dowel make designs in it.

Lacing activities - lacing cards with small holes, cut up straws to string into necklace, Cheerios, hula hoops etc... Large beads often present more of a challenge even to older children as the thread has to be manipulated more to get it through.

Eye droppers - can be used to fill with coloured water and make dribble pictures.

Tear thin strips of tissue paper holding with finger tips, and then roll into small balls (again using finger tips) and stick onto card to produce a picture.

Encourage child to tear newspaper by using the thumb, index and middle fingers. After tearing crumple into small balls. This can be graded by increasing number of sheets torn at one time.

Plant sprayers can be filled with different coloured water and used to create non permanent designs on play ground, sheets or large sheets of paper.

Oversized and normal sized tweezers can be used to pick up small objects to glue on to designs or pictures.

Dice games- cupping hands to shake dice encourages development of the palmar arches

Coins and buttons can be used for a variety of games including posting, turning over without bringing them to the edge of the table

Finger puppet games -especially those that use index finger for the head and thumb and middle finger for the arms. Individual finger puppets also have uses for finger isolation skills.