FINE MOTOR SKILLS AND OCCUPATIONAL THERAPY:

Tips and Strategies You Can Use

Created by the Occupational Therapists at the George Jeffrey Children’s Centre

November 2014
Objectives

- What is occupational therapy
- Review the following topics:
  - Fine motor skills
  - Hand dominance
  - Pencil grasp
  - Pre-printing and printing skills
  - Scissor skills
  - Positioning
- Provide practical strategies that you can use at home
What is Occupational Therapy?

- Occupational therapy focuses on optimal performance in the following areas of everyday life:
  - Self-care – dressing, toileting, eating
  - Productivity – play, school, work
  - Leisure – recreation, recess, extra-curricular activities
What is Occupational Therapy?

Assessment:

- Skills and abilities
- The environment
- Components of the occupation they are required to complete

Treatment plans:

- Established to work towards goals identified by parents/guardians
- Treatment plans are collaborative, with input from parents/guardians, school staff, daycare staff, and other therapists involved
Occupational Therapy at the George Jeffrey Children’s Centre

- Services are provided for children from birth to 19 with programs divided by ages

- Referral sources include: family physicians, daycares, schools, and other health care professionals
Fine Motor Skills

- Fine motor skills are those requiring the use of the small muscles of the hands and fingers to work together to perform precise movements.

- The early years are typically a time of rapid gains in fine motor skill development.

- Many factors can contribute to this development including exposure and practice.
Fine Motor Skills

- The following areas are developed through play:
  - Hand and finger strength
  - Pincer skill development
  - In-hand manipulation
  - Use of two hands together
  - Hand dominance

- They lay the foundation required for higher level school-readiness skills such as printing, cutting, and creative projects
Hand Dominance

- Hand dominance is the consistent use of one hand over the other for an activity.

- Having a dominant hand is a developmental process that takes time and practice to become well established.

- Hand dominance usually starts to develop between the ages of 2 to 4 years with frequent hand switching still observed.
Hand Dominance

- Between the ages of 4 to 6 years hand dominance gradually becomes more established.

- It is important that the child decides which hand will be their “Working Hand” or dominant hand, and which hand will be their “Helping Hand”.

![Image of hands holding a string]
Strategies: Hand Dominance

- Present all items such as glue, markers, scissors, spoon and fork in mid-line (center) of the body. This will encourage the child to choose which hand he/she will use and not be influenced by the side that you put the items.
Label the hand that they use to pick up the item (pencil, scissors, fork) as the “Working Hand” and the other hand the “Helping Hand”

Encourage the child to use both hands for an activity; the “Helping Hand” holds the item, while the “Working Hand” is used to perform the activity
- If the child switches hands during an activity, encourage them to finish the activity with the hand they used to start.

- Provide the child with scissors that can be used for both right and left handedness.

- Do activities that provide your child opportunities to develop a Working Hand and Helper Hand (lacing cards, stencils, cutting, sticker sheets, pop up pirate, opening containers).
The way in which a child holds a pencil is called "pencil grasp". It includes the positioning of their fingers on the pencil and the position of the pencil in their hands.

An efficient pencil grasp does not happen naturally. It develops through practice and exposure to fine motor activities.

A child’s hands need to be ready to grasp a pencil with their fingers.
Pencil Grasp

- Early on, children use their fist and all fingers to hold a printing tool. The shoulder, elbow and wrist are involved in moving the tool.

- As a child’s skills develop, they begin to place their fingers on the tool in different ways.
Pencil Grasp

- Grasp patterns typically follow a predictable developmental sequence

- This progression is towards an efficient grasp where the tool is moved using coordinated finger movements
Fisted Grasp or Palmar Supinate Grasp

1-2 year olds
Digital Pronate (Overhand) Grasp

2-3 years old
Quadropod or 4 Finger Grasp

3-4 years old
Static Tripod Grasp

4-6 years old
Dynamic Tripod Grasp

6-7 years old
A functional grasp permits optimal control, ease of movement, and legible written output.

Some awkward grasps are functional. If movements are originating from the fingers and speed, legibility, and hand pain are not issues, there is no need to correct the grasp.
Strategies: Developing a Pencil Grasp

Fine motor activities:

- Lite-Brite and other small peg activities
- Marbles
- Stickers
- Stampers
- Beading
Lacing cards
- Clothespins

[Images of clothespins being used in various ways]
- **Rookie Stix**
- Play dough, clay, or putty
Strategies: Developing a Pencil Grasp

Use these tools to promote a more mature grasp:

- Primary pencils cut down
- Golf pencils
- Pieces of chalk
- Small markers with the cap off
- Triangular crayons
- Primary sized crayons
- Pudgy paint brushes
Teach children their finger names and finger jobs (thumb, pointer, and tall man)
Teach children Go Fingers and Stop Fingers

- Place 3 green filing dots on your child’s thumb, index, and 3rd finger
- Place 2 red filing dots on their 4th and 5th fingers
- Have them hold up their Go fingers
- Have them put their Go fingers on the pencil
- Have them put their Stop fingers in the palm of their hand
If the child has difficulty keeping their stop fingers in the palm of their hand, have them hold onto a cotton ball, sponge, or Kleenex with their 4\textsuperscript{th} and 5\textsuperscript{th} fingers.
- Encourage grasp of the printing tool near the tip, for increased control
- Their thumb and pointer finger should be together with their fingernails being tip to tip
- Wrap masking tape or an elastic near the end as a visual and tactile cue for finger placement
Strategies: Developing a Pencil Grasp

- Use of a vertical surface promotes proper wrist position, finger placement and use of helper hand
  - Blackboards
  - Easels
  - Paper, taped (or held) to walls
What About Pencil Grips?

- Commercially available grips are not often recommended for young children because the emphasis at that age is on hand skill development and teaching of how to hold a pencil.

- If a child continues to have difficulty with holding a pencil as they get older and it is impacting their written output (legibility or speed), and is causing them pain, grip use can be explored at that time.
Before a child will be successful with learning to print letters and numbers, time should be spent building the foundation for printing skills.

Certain strokes and geometric shapes which contain essential components of letters and numbers are learned prior to printing.
Pre-Printing Development

- The typical progression for pre-printing strokes is as follows:
Pre-Printing and Printing Skills

3 Basic Steps to Learning Strokes:

- **Imitating:**
  Child watches what a person’s hand does and then makes the same stroke

- **Copying:**
  The child sees an existing stroke and reproduces it without watching how it was made

- **Drawing/Independent Formation:**
  The child can make the stroke when asked or from memory
Strategies: Printing Skills

If your child is learning to print:

- Alphabetical order is not always easiest when learning to print
- A consistent approach is important
- Children should learn to print capital letters before lowercase
Strategies: Printing Skills

- Developmentally, capital letters are easier as they:
  - All start at the top
  - Are the same height
  - Occupy the same vertical space
  - Are easy to recognize and identify (compare A B D with a b d)
Strategies: Printing Skills

- Lowercase letters are more difficult as they:
  - Start in four different places (a b e f)
  - Are different sizes
  - Occupy three different vertical positions
  - Are more difficult to recognize due to subtle differences (b d g p)
Strategies: Pre-Printing and Printing Skills

Use a multi-sensory approach:

- Using multiple senses when learning helps us to remember how different shapes, letters and numbers are formed.
- Combining several senses will provide sensory experiences to help your child learn.
Strategies: Pre-Printing and Printing Skills

Visual activities:

- Model the formation of a shape for your child
- Use various tools e.g. paintbrush, chalk, crayons, markers, aqua doodles, magna doodles, grease pencils on transparencies
- Workbooks in which the colour appears when children paint with water or finger paint
Strategies:
Pre-Printing and Printing Skills

- Use a variety of different kinds of paper i.e., regular, coloured, raised lined, and construction
- Use placemats with images of shapes, letters, or numbers at dinner time
- Try forming shapes, letters, or numbers with eyes opened and closed
Strategies: 
Pre-Printing and Printing Skills

Verbal activities:

- Give verbal instructions as you model the shape, letter, or number formation. For example, a square is “line down, line across the bottom, line up, and line across the top”

- Ask the child to repeat the verbal instruction when he/she tries the shape, letter, or number
Strategies: Pre-Printing and Printing Skills

Tactile activities:

- Place paper on top of different textures (sandpaper, rubbing templates)
- Put cornmeal, flour, rice, salt, whipping cream, sugar, shaving cream, lotion, or pudding on a baking sheet
- Make shapes, letters, or numbers on your child’s back and have him/her name them
- Use liquorice to form shapes, letters, or numbers
Strategies: Pre-Printing and Printing Skills

- Practice formations in sand, paint, or gel in a Ziploc bag

- Practice forming shapes, letters or numbers out of different materials, such as plasticine, play-dough, pipe cleaners, Wikki stix, wooden blocks, and yarn
- Ipads (Letter School, Dexteria Jr, Bugs and Buttons, Ready to Print)
- Use a plastic page protector and wipe-off crayons, wax pencils, or dry-erase markers
- Use different tools (vibrating pen, toothbrush, paintbrush, finger, or sponge)
Pre-Printing and Printing Skills

Motor strategies:

- Draw large shapes, letters, or numbers with sidewalk chalk and walk the correct formation.
- Have your child form the shape, letter, or number on a piece of paper mounted to a vertical surface (i.e., taped to the fridge or on a wall), or flat on the ground with the child on their belly.
- Dip a sponge or paint brush in water and practice forming the shape, letter, or number on a black board

- Use a stick in the sand to form shapes, letters, or numbers

- Form the shape, letters, or numbers in the air using their whole arm (eyes open, then closed)

- Flashlight writing
Strategies: Pre-Printing and Printing Skills

Scent strategies:

- Scented markers
- Add scented flavours (vanilla, cherry, mint) to yogurt or pudding and practice formations
- Scented lotions on a baking sheet
- Form scented play-dough into shapes, letters or numbers
- Kool aid painting
# Stages of Scissor Development

<table>
<thead>
<tr>
<th>Age</th>
<th>Skill</th>
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<tbody>
<tr>
<td>1-2</td>
<td>Tearing paper with 2 hands</td>
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</table>
| 2-3 | Interested in scissors  
Gross opening and closing of the scissors  
Able to hold paper in one hand, cut with the other  
Snips at paper and progresses to cutting a small piece of paper in half |
| 3-4 | Cuts forward on a 6 inch line  
Cuts out a curved line  
Manipulates paper with assisting hand |
| 4-5 | More accuracy and control  
Cuts out simple shapes (circle, square) |
| 5-6 | Mature grasp of scissors  
Uses non-dominant hand to manipulate paper around curves, corners and complex shapes |
Strategies: Pre-Scissor Skills

The following activities target the skills needed for scissor use such as opening and closing, hand strength, and using two hands together:

- Pick up objects with tongs, tweezers, or rookie sticks
- Use turkey basters, water bottles, spray bottles, squirt toys, or medicine droppers
- Clothespins
- Wind up toys
- Single hole punches to make confetti
Strategies: Scissor Skills

- Use children’s blunt-ended scissors that work in the right or left hand (i.e., Fiskars)
- Ensure proper placement of thumbs and fingers to grasp the scissors and paper – thumbs up and elbows close to the body
Strategies: Scissor Skills

- Offer heavy/thick materials initially (craft foam, play dough, envelopes, construction paper, straws, bristol board)

- Encourage correct cutting direction with circles
  - Counter-clockwise for right-handed children
  - Clockwise for left-handed children
Strategies: Scissor Skills

- Keep cutting sheets small (less paper to handle and manipulate)
- Widen cutting lines using a marker, highlighter, or crayon
- Draw a square or other simple shape around the complex shape to be cut
- Use a sequence of stickers or paper punched holes as a guide for the child to cut along
Strategies: Scissor Skills

- Cutting at a vertical surface with the top corners of the paper taped to the surface facilitates proper wrist position when cutting forward.

- Tummy lying provides good trunk and elbow support.

- Grasp the paper for your child.
Other Scissors?

- There are many different types of scissors available. Some are specially designed for children who have difficulty using traditional scissors.

- A therapist or teacher may suggest alternate types of scissors to increase success while a child is still continuing to develop their scissor skills.
Positioning

Good positioning:

- Supports and balances the body so the arms and hands can move freely to perform a task
- Promotes learning, as the child is not distracted by how to remain seated and is able to focus on the task
Optimal seating at a table is:

- Feet flat on a surface with hips and knees at 90°
- Back supported against the back of a chair
- Arms supported on a table at 2 inches above bent elbows
Alternate Positions

Learning occurs in a variety of positions:

- Tummy Time
- Side Sitting
- Kneeling
- 4-pt kneeling
- Standing
Strategies: Positioning

- Set-up space at home for playing in alternate positions
- Provide footrests when feet do not touch the floor
  - Stepstool
  - Phone books bound with duct tape
  - Stacked books
  - Yoga blocks
  - Box turned upside down
Questions?

Let’s Play