If you are viewing this course as a recorded course after the live webinar, you can use the scroll bar at the bottom of the player window to pause and navigate the course.

This handout is for reference only. It may not include content identical to the powerpoint. Any links included in the handout are current at the time of the live webinar, but are subject to change and may not be current at a later date.
Early Intervention
A Fine Motor Review

Presented by Marina Calarco
MS, OTR/L

Learning Outcomes

• Describe an occupational therapists role in early intervention.

• Explain the importance of research, and at least one outcome of research that has already been conducted.

• List at least two strategies an occupational therapist can use with his/her clients.
Introduction
A Brief Overview

• Early Intervention—what does it mean?
• How does it apply to occupational therapy?
• Research
• Fine motor milestones

Introduction
A Brief Overview

• Getting started
• Fine motor and sensory
• Observation and setting goals
• Ideas
Early Intervention

• Early Intervention is Part C of IDEA (established in 1986)

• The purpose of EI is to “lessen the effects of the disability or delay”
  (www.wrightslaw.com)

Early Intervention

• Services focus on 5 developmental areas
  1. Physical development
  2. Cognitive development
  3. Communication
  4. Social or emotional development
  5. Adaptive development
Early Intervention

• Services can occur in many different places, but there is a heavy emphasis on delivering services in “natural environments” (this is a legal requirement).

• Evaluations and assessments are provided at no cost to the parent.

• Eligibility for EI services is determined at a state level.

Occupational Therapist’s Role in Early Intervention

• Occupational therapist’s “recommend strategies for adapting the environment or daily routines to accommodate the child’s special needs and activities to promote the child’s functional performance” (Edwards, Millard, Praskac, & Wisniewski, 2003).
Occupational Therapist’s Role in Early Intervention

• When the child is close to reaching school age (age 4) the role of the Occupational Therapist is to “improve fine motor skills, with particular emphasis on eye-hand coordination and manipulation; to enhance play skills; and to increase self-care function.” (Case-Smith 1994)

Common Concerns in Early Intervention

• Feeding
• Sleeping
• Movement and play
• Sensory processing
• Speech
• Self-help (in older children)
Common Assessments Used

• The Mullen Scales of Early Learning
• Battelle Developmental Inventory
• Developmental Assessment of Young Children (DAYC)

Common Assessments Used

• Carolina Curriculum for Infants and Toddlers
• Infant and Toddler Sensory Profile
• Alberta Infant Motor Scale
Developing Goals

• Use the assessments as a guide, but do not use them to develop goals.

• What is important to the family?

• What are the areas of strength?

• What are the areas of concern?

What Does the Research Say?

• Over the past few years, there has been a strong push for evidence based practice.

• Many studies and research are being conducted, but the studies and research at this point in time are limited (do not examine the long term benefits).
What Does the Research Say?

AJOT Review
American Journal of Occupational Therapy July/August 2013 article:
Systematic Review of Interventions Used in Occupational Therapy To Promote Motor Performance for Children Ages Birth-5 Years

Evidence Based Theories

What does the research say?

AJOT Review

- The children in this study all had Cerebral Palsy

- NDT (Neurodevelopmental Treatment) - children improved in quality of movement, but not in motor function – findings are inconclusive

- Constraint induced Movement Therapy - child’s less affected arm is constrained.
  - Children whose less affected arm was casted had improved fine motor skills as compared with the control group
  - CIMT interventions "improve the quality and frequency of hand use"
Evidence Based Theories

What does the research say?

AJOT Review

• Visual motor interventions for preschoolers with developmental delays
  o Children with therapist directed interventions improved in functional skills, but children with child centered interventions improved with fine motor skills. (DeGangi et al., 1993)
  o Similar results between individual therapy and consultative therapy

• Children with 1 year occupational therapy services improved significantly with visual motor integration skills and well as manipulation, motor accuracy, fine and visual motor skills (Dankert et al., 2003).

• “Occupational therapy models demonstrated positive effects on fine and visual motor performance in preschool children with mild to moderate disabilities." (Case-Smith 2000)
What does the research say?

• Research continues to be limited. There are 2 reasons why:
  1. Lack of valid and reliable instruments
  2. Hard to establish a control group due to ethical considerations (Campbell, 1991; Palisano, 1991)

Evidence Based Theories

What does the research say?

• Interested in more research and evidence?

• Jane Case-Smith, EdD, OTR/L, FAOTA
  o Did a lot of research in this area as well as published a lot of articles.
Fine Motor Milestones in a Typical Child

0-3 months old
- Hands are in a fisted position
- Arms movements are random and not controlled
- Will watch the movement of their hands and brings hands to their mouth
- Will swing at targets (toys, person) using their whole arm
- Will follow a person’s movements with their eyes
- Will begin to hold objects in their hands

3-6 months
- Reaches for toys using both arms
- Begins to transfer objects from one hand to another
- Will hold their hands together
- Begins to notice objects a few feet away from them
Fine Motor Milestones in a Typical Child

6-9 months old
• Begins to grasp & hold onto objects
• Uses a raking grasp to move objects with fingers
• Looking for one object while holding another
• Pokes at objects using their index finger

6-9 months continued
• Take objects to their mouth
• Explore textures and sensory input with their mouths
• Begin to hold their bottle
• Squeezes objects with their fist
• Play with their own hands
Fine Motor Milestones in a Typical Child

9-12 months old
- Begins to feed themselves finger foods
- Will turn pages in a book a few pages at a time
- Begins to put small objects in a cup or container
- Pincer grasp develops (using index finger and thumb to grasp objects)

9-12 months old continued
- Transfers objects between hands (beginning of crossing midline skills)
- Grabs crayons with a fisted grasp
- Can hold two small objects in one hand
- Begins to show a preference for one hand over the other (beginning development of right-handed vs. left-handed)
Fine Motor Milestones in a Typical Child

**12-18 months old**
- Can build a tower of 2 blocks high
- Claps hands together (beginning of bilateral coordination!)
- Waves goodbye
- Can scoop objects with a spoon or small shovel
- Bangs objects together using both hands (beginning of bilateral coordination!)
- Puts small objects into a container
- Scribbles with crayons on paper

**18 Months – 2 years old**
- Puts rings on pegs
- Begins holding a crayon with finger tips and thumb
- Removes pegs from a pegboard
- Marks or scribbles with a crayon or pencil
- Can build a tower 3-4 blocks high
- Can open loosely wrapped packages or containers
- Begins to start cutting paper with scissors (closer to 2 years old)
- Can turn pages in a book one page at a time
Fine Motor Milestones in a Typical Child

2 Years old
• Manipulates clay or play dough
• Can stack a block tower 9 blocks high
• Can turn doorknobs
• Can pick up small objects with pincer grasp (index finger and thumb)
• Can complete 3 piece puzzles

2 Years old, continued
• Scribbles
• Make snips on paper with scissors
• Will wash hands independently
• Can screw lids on containers on and off
• Can string large beads
• Zips and unzips large zippers
• Can use a spoon correctly
3 Years old
- Can draw a circle after being shown model
- Cuts a piece of paper in half
- Copies prewriting lines of vertical, horizontal, and circle shapes
- Laces a card
- Can unbutton large buttons

3 Years old, continued
- Can cut a long a wide line with 1/2" accuracy
- Will string 1/2 inch beads
- Cuts along a line with no more than 1/8-1/4 inch deviation from the inch
- Sorts objects
- Will fasten and unfasten large buttons
**Strategies, Ideas and Activities**

- Make sure to use toys and objects already in the child’s environment.
- Try to avoid bringing specialized items with you unless absolutely necessary.
- Give parents ideas of fine motor toys available.
- Give ideas on how to make or use homemade items instead of buying items.
- When giving suggestions, think about the child’s daily routine and how the suggestions can be incorporated into the routine instead of creating something new.

**Fine Motor and Sensory**

- It’s always important to assess if there is a sensory component to decreased fine motor skills.
Fine Motor and Sensory

• Observation is important!
  o What is the child doing and how are they doing it? (Are they using their whole hand or fingertips?)
  o Do they show signs of distress? (Withdrawing, crying, refusing etc.)

• Observation is important!
  o How does the child do at meal times? (finger feeding, holding his/her bottle)
  o How does the child do with messy activities? (Glue, shaving cream, playdoh)
  o How does the child do at bath time?
Strategies, Ideas and Activities

• Positioning/ seating
  o Make sure the child is positioned in a way they can use their arms and hands. Provide support if needed. (High chair, stroller, sitting on floor propped with pillows, at a table that allows their feet to touch the floor)

Strategies, Ideas, and Activities

Activities for younger children 0-9 months
• Rattles (easy to grasp, colorful, various textures, makes sounds)
• Nesting cups
• Blocks
• Spoons (hard plastic)
• Tools-drum sticks, hammer
• Food exploration
• Cars, trains, busses
• Pull toys
• Containers (taking out, putting in)
• Self feeding (finger feeding)
Strategies, Ideas, and Activities

Activities for 9 months-3 years

• Stringing beads
• Playdoh (This is a great go-to activity)
• Coloring (use an easel)
• Painting (finger painting and using a paintbrush)
• Cooking activities
• Sticker activities
• Blocks/Legos/Duplos
• Piggy banks

Activities for 9 months-3 years cont.

• Self help (buttons, snaps, zips, shoes, coats, hats)
• Self feeding (finger feeding and using utensils)
• Puzzles
• Peg boards
• Arts and crafts
• Gluing
• Snipping/cutting
• Tearing or crumpling paper
Review

• Occupational therapist’s role in early intervention is to help children in their natural environments with skills such as fine motor, visual motor, self-help and feeding.
• The research is limited, more studies need to be done with diverse populations.
• There are many strategies to help children with their fine motor skills. At a young age, skill development should come through play. Playdoh, rattles, and arts and crafts can be good ways to address fine motor skills.

Review

• Observation is key. It is a good way to assess a child’s fine motor skills.
• Sensory and fine motor can go together (or they may not). Observation is a good way to help determine this.
• Treatment should be play based and fun for the child.
Questions

?

Resources


Resources

  http://dx.doi.org/10.5014/ajot.47.9.777

  http://dx.doi.org/10.1002/oti.188


Thank you!
marinacalarco@gmail.com