

## Occupational Therapy & CDKL5

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## Overview

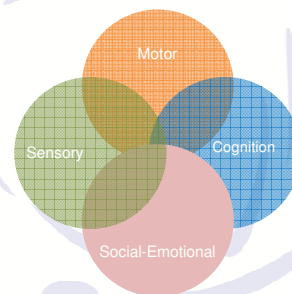
- Explanation of OT and areas covered in treatment
- Sensory integration concepts and how the systems are addressed in treatment
- Activities of daily living
- Motor skill development (fine, oral)
- All discussed using a specific case study with child with CDKL5

## What is Occupational Therapy?

Occupational therapy helps people **achieve maximum performance** in their occupations. When we are treating the **pediatric population**, we are focused on helping children with **basic activities of daily living**, play, function in school, and interaction with family and peers.

*Jessica Hunt, 2012*

## System Interaction



## Challenges OT May Face

- Profound disabilities
  - Decreased communication
  - Decreased motor abilities
  - Decreased motor planning skills and apraxia
    - Example: mounting/dismounting equipment
  - Medically fragile: can impact regulation, readiness to participate in challenges
  - Engage at the level and work up
  - Task analysis
  - Celebrate all achievements!

## Where to Begin...

- Begin with **sensory** to support regulation, engagement, and interaction with others, environment, and task
- Proximal to distal strengthening
- More intense treatment sessions → better progress
- Expert in the field, parents expert on child
- Every child is unique!
  - Base treatment upon individual profile, modify as necessary!

## Areas of Treatment

- Sensory processing
- Strengthening
- Activities of daily living
- Fine motor skills
- Oral motor skills



## What is Sensory Processing?

Our ability to **take** information in from the environment, **organize** that information, and **interact and adjust** to the environment.



Jessica Hunt, 2012

## The Seven Systems

- Visual system
- Auditory system
- Tactile system
- Gustatory system
- Olfactory system
- Proprioceptive system
- Vestibular system

## Regulation

- We use our sensory systems to support a state of regulation, one in which we are calm, attentive, organized, and able to meet environmental and social demands
- Regulation is the goal!



## Goals of Using Sensory Strategies

- Increase engagement and interaction
- Increased ability to hold still and pay attention
- Increased ability to tolerate change
- Increased ability to generalize skills
- Increased social language
- Increased fine motor skills
- Increased praxis
- Increased organization
- Increased quality of life for family

## Vestibular System

- Responds to acceleration and deceleration as well as angular and linear movement
- Detects change in direction and rate of movement
- Orients us to gravity, up and down
- Tells us where we are in space
- Maintains tone
- Stabilizes our visual field
- Produces postural control
- For all these things to take place, both receptive systems in the inner ear must be working
- Can be alerting or disorganizing



## Kiera's Vestibular Processing



- Used to alert her overall arousal level
- Enjoys swinging
- Slow, rotary supports engagement in tasks and with therapist
- Also used to address postural control strengthening

## Proprioceptive System

- Unconscious awareness of body positions
- Relationship of body parts to each other
- Relationship of our bodies to other people and objects
- Tells us how much force to use
- Gradation of movement
- Provides conscious awareness of our bodies



Jessica Hunt, 2012

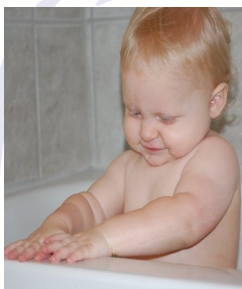
## Kiera's Proprioceptive Processing

- Proprioceptive work is used to improve her overall body awareness
- Completion of obstacle courses
- Activate muscles and joints through resistance, thereby increasing overall strength
  - Can include AROM or PROM activities
- Began simple- worked to more complex

## Example of Proprioceptive Work



## Tactile System



- Sense of touch
- Skin covers most of our bodies
- One of the first modes of communication with the environment

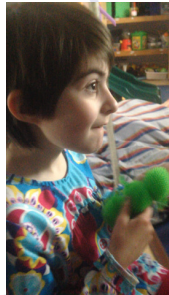
Jessica Hunt, 2012

## Kiera's Tactile Processing

- Primary regulatory system
- Used for calming and engagement
- Dry tactile stimuli
- Fidgets



## Tactile Processing



## Visual System

- Visual system important for task engagement
- Cortical blindness- vision therapy for individual treatment
- Field of vision
- Flashlights, tracking, Lite Brit
- Paired with organizing sensory activities
- Calming lights



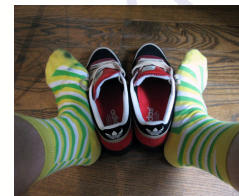
## Activities of Daily Living

- Increased work with improving independence in a variety of ADLs
- Shoes/socks
- Grooming work
- Feeding

## Kiera's Activities of Daily Living

### Shoes/socks- donning and doffing

- Increased adaptive strategies, such as visual cues, extended socks
- Seating and positioning
- Increased trials and repetitions



## Kiera's Activities of Daily Living



### Grooming tasks

- Example: Hair brushing
- Task Analysis
- Preparatory work with range of motion, strength, motor planning
- Make adaptations as necessary

## Fine Motor Skills

- Promotes independence with activities of daily living
- Supports academic performance
- Strengthening work





## Kiera's Fine Motor Work

### Strengthening work

- Theraputty, play dough, squish balls, tennis ball
- Started here!

### Engagement in pre-handwriting tasks

- Coloring pages, horizontal and vertical strokes, loops/circles
- Increased work on grasp of utensils

### Dexterity tasks

- Lacing beads, coins in a slot, bilateral tasks

## Fine Motor Tasks



## Oral Motor Skills

- Oral motor desensitization/readiness
- Feeding work (oral motor strengthening)



## Oral Motor Skills

### Desensitization/ readiness to engage in oral motor work

- Vibration
- Cold
- Beckman stretches
- All facilitated with Kiera

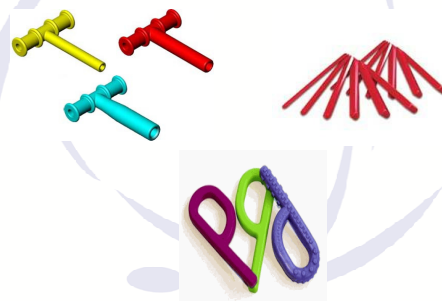


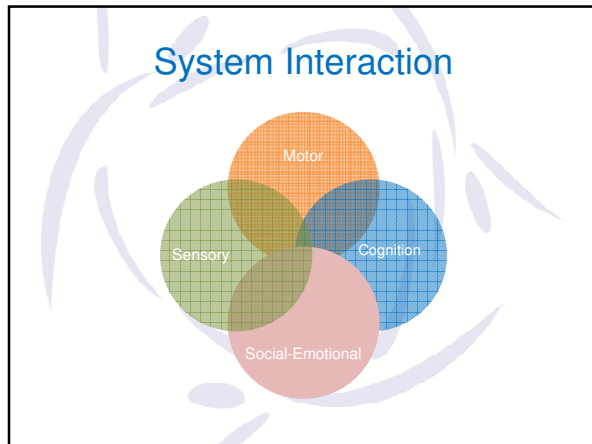
## Oral Motor Skills

### Feeding

- Began with strengthening and endurance work  
*Chewy tubes, Theratubing, Ark Grabbers*
- TalkTools Oral Motor Protocol  
*Bite Blocks, Horns and Straws*
- Feeding  
*Slow chew, cube feed, straw work*

## Oral Motor Skills





### Important to Involve Other Disciplines

- Holistic approach
- Physical therapy
- Speech-language therapy
- Cranial sacral therapy
- Intensity of treatment sessions
- Every discipline works together for improved performance and increased gains!

### Questions?



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