

**Tailoring Therapeutic Interactions  
to  
Support & Integrate  
the  
Child's Individual Profile to  
Promote  
Functional Developmental Growth**

**Rosemary White, OTR/L**  
Profectum DIR Faculty



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**International.....  
Go Australia !!!!**





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Seattle  
Home of the 12<sup>th</sup> Man.....Go Seahawks!!!!!!



WE ARE  
SEATTLE WARRIORS

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Seattle  
“Futbal” Capitol of the US....Go Sounders!!!!



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Sensory Experiences  
Reframing Emotional Tags  
with  
Mom’s Affect.....

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Profectum DIR Faculty



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**Sensory Experiences**  
**Reframing Emotional Tags with Mom's Affect.....**



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**DIR**

**A**  
**Developmental Approach**  
**that Considers**  
**the Child and the Caregiver**

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**EXPERIENCE BUILDS BRAIN**  
**ARCHITECTURE**

Three Core Concepts in Early Development

**1** Experiences Build Brain Architecture

NATIONAL SCIENTIFIC COUNCIL ON THE DEVELOPING CHILD  
Center on the Developing Child HARVARD UNIVERSITY



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### Children Develop Through Relationships.....

- How does the child develop the miraculous ability to attend, to be calm & interested in the world, to desire to interact with others & to "woo" those around them to interact with them?
- How does the child learn to read other's gestures, & indicate their needs, initially through gesture & then through the use of language?
- How does the child develop the ability to think & plan how to interact with their world & to solve physical problems to achieve their goals?
- How do they develop the ability to become a social beings, to think, to communicate as well as have compassion for others?



Stanley Greenspan, MD (Building Healthy Minds)

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### A Developmental Approach to Treatment.....

Supports a child's ability to **share attention, to be engaged with others in co-regulated interactions in the rhythm of a back & forth flow.**

Supports **social & emotional development** in individualized treatment sessions & in everyday life, including home & school

Emphasizes **understanding the child's unique individual strengths & challenges.....**

**"Tailor" interactions that are sensitive to the individual child & the caregiver.**




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### Developmental Approach to Treatment

■ **"D" – The Functional Emotional Development**

■ **"I" – The Unique Individual Profile**

■ **"R" – Relationships**




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## FUNCTIONAL EMOTIONAL DEVELOPMENT

### The "D" of DIR

- Co-regulation supporting the development of shared attention & self regulation.
- Engagement
- Purposeful Interactions, Affect conveying Intent
- Sense of Self (physiologically & emotionally), Shared Social Problem Solving with the Capacity to Stay in a Long Continuous Flow of Interaction, Behavioral Organization
- Representational & Symbolic Thinking
- Building Bridges between Ideas & Emotional Thinking




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## FUNCTIONAL CAPACITIES Bottom Up

Level 1. Getting Calm (Green Zone) Together (by 3 months)

**THE FOLLOWING DEVELOPMENTAL LEVELS  
ARE BUILT UPON THE CAPACITY TO BE CALM TOGETHER**

Level 2. When *calm*, able to make eye contact & look at faces (by 3 months)

Level 3. When making *eye contact*, able to share joy & fall in love (by 5 months)

Level 4. When sharing *joy*, able to create a continuous back and forth flow of communication ("circles") (by 9 months)

Level 5. When in a *flow*, able to expand and read non-verbal emotional & gestural cues (by 13 to 18 months)




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## DIR® SESSION SUPPORTING FUNCTIONAL EMOTIONAL DEVELOPMENT CAPACITY DIR 1-3 (LILLAS LEVEL 1-4)




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## FUNCTIONAL CAPACITIES Top Down

**Level 6. When *reading cues*, able to share feelings with others through pretend play and/or by talking (by 24 to 36 months)**

**Level 7. When *sharing feelings*, able to make-sense and solve problems together (by 36 to 48 months)**

DIRB Institute adapted from the DMIC, ICDDL Press Original functional levels from ICDDL's FEDL; adapted language & organization by Connie Lillas

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## THE UNIQUE INDIVIDUAL PROFILE The "I" of DIR


■ **Synchrony of Sensory processing:** Sensory Processing; Modulation; Interconnectivity, Sensory Association & Perception.....

■ **Regulatory capacities**

- Physiological & Emotional.....
- Bottom Up & Top Down....

■ **Postural control for function;** Muscle tone; Righting Reactions; Equilibrium; Gross & Fine Motor Function.....

■ **Praxis** – Ideation; Planning & Sequencing, Execution & adaptation.....

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## THE UNIQUE INDIVIDUAL PROFILE The "I" of DIR

■ **Communication (Gerber 2012):**

- Capacity for Shared Attention and Engagement
  - Response to sound, and later, gesture and verbal communication
  - Engage in fun, playful, interpersonal interactions
- Intentionality
- Shared Meaning
  - Understanding and creating new ideas and meanings
- Comprehension
- Production
  - Use of vocalizations, and later, gestures, words and language for communication

■ **Response to visual environment**

- Visual Attention
- Visual Tracking
- Visual Figure Ground

■ **Spatial Capacities**

- Visual, Auditory, Somatosensory

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## RELATIONSHIPS

### The "R" of DIR

The foundation for life is built on the ability to attain & sustain a co-regulated interaction.

Relationships are the vehicle for creating multiple opportunities for learning & understanding people & the world...

Thus creating every individual's unique & meaningful perceptions.....




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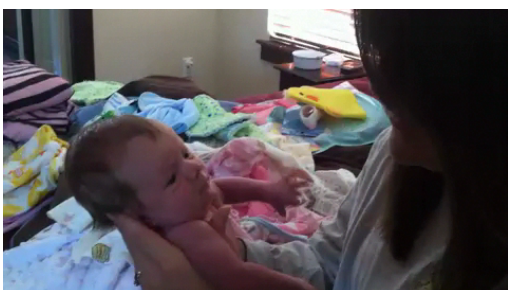
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### Mother Infant Interaction – Sensory Support Level 1: Getting Calm Together\_3mths



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## CO-REGULATION

■ Co-regulation has been defined as the social process by which individuals dynamically alter their actions with respect to the ongoing and anticipated actions of their partner. (Fogel, 1993)

■ When both partner's actions are successfully anticipated and the altered actions of the individual produce continued interaction, communication about the relationship is interpreted by both. (Cortney A. Evans, Christin L. Porter, 2008)




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Level 1: Getting Calm Together\_3mths

Level 2. When *calm*, able to make eye contact & look at faces\_3mths

Level 3. When making eye *contact*, able to share joy & fall in love\_5mths



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**WHEN WE THINK CLINICALLY .....**

**“DIR”**

- Fosters Relationships.....
- That are **Tailored to the Individual Child & the Caregiver...**
- To Promote the **Functional Emotional Development** of the Child.....
- To Support the **Back & Forth Flow of Interactions.....**

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**What Occurs in Both Parties in the Rhythm of a Relationship?**

- Arousal
- Attention
- Affect
- Action

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Williamson and Anzalone, 2001

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**Arousal**  
 ■Ability to maintain alertness & transition between states

**Attention**  
 ■Ability to focus selectively on desired stimulus or task

**Affect**  
 ■Emotional component of behavior  
 ■Sensation elicits emotion

**Action**  
 ■Ability to engage in goal directed behavior – ideas, plan & sequence, execution & adaptation

 Williamson and Anzalone, 2001

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**Co-Regulation.....**  
 Attune & respond to the child's affective state...





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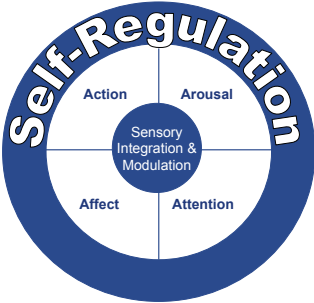
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**The Four “A’s” of Infancy**



Lester, Freier, & LaGasse, 1995; Williamson & Anzalone, 2001; Papoušek, M., Scheich, M., Wurmser, H., 2008

 **Beth Osten, M.S., OTR/L, 2012**

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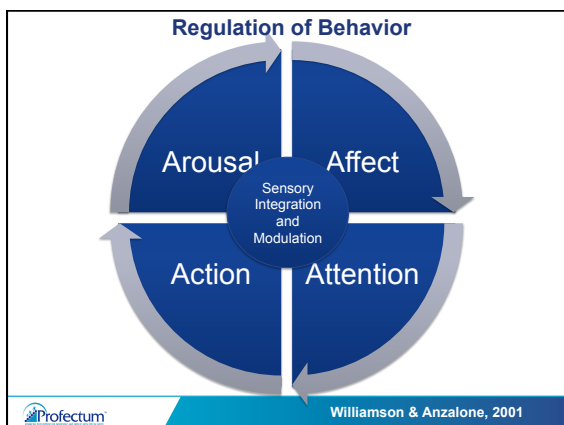
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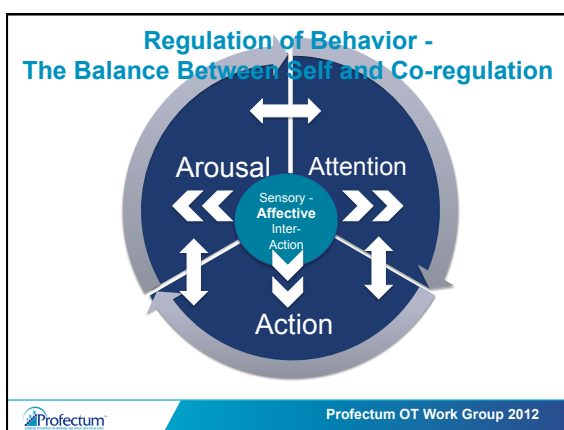
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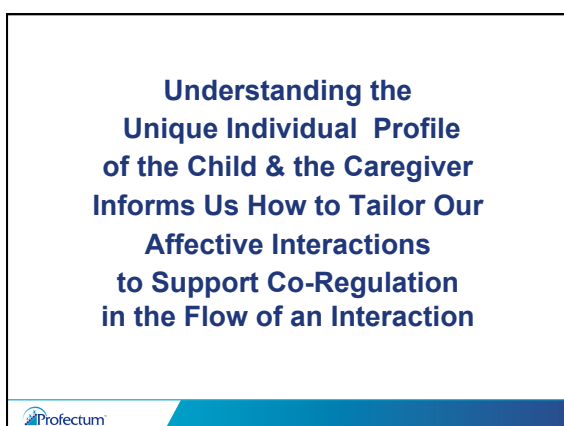
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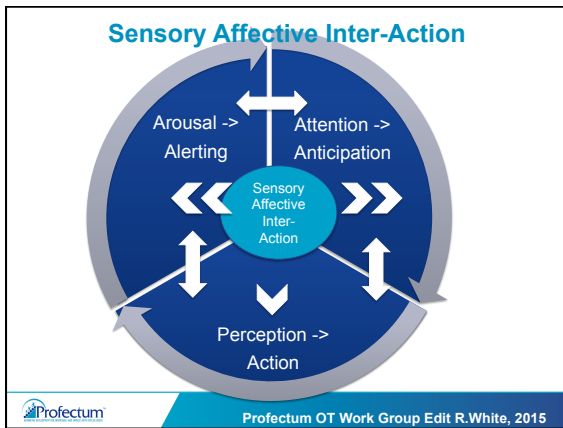
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## DIR®/Floortime

### The "I" of DIR

The unique skills of the OT in understanding the underlying neurobiology of the child's sensory processing, postural control, visual spatial, praxis and related motor planning capacities is essential as it informs us how to **tailor affective interactions** and to coach the parent or "play partner" to engage in a manner that will support the child to strengthen their developmental capacities.

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**Key Considerations**  
*It is not just what you do*  
**But**  
*How you do it*




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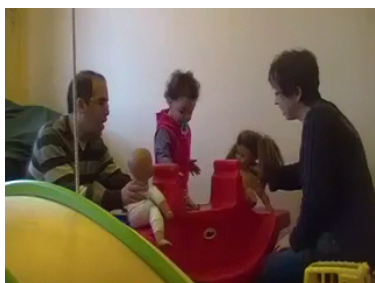
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**Supporting Engagement .....**




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**Sensory Processing &  
 Parent Child Relationships**

- Think about how your child takes in sensations from their own body and the environment
- How are we going to interact to support the relationships..
- Our voice – volume, tone, frequency, speed, sounds or words....
- Our actions – movement & gestures.....
- Our touch – light, firm, gentle, supporting.....
- Where we are in the relation to our child– close, in front of or beside or behind our child, across the room, below, above, still or moving




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### Relationships Begin to Thrive.....



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# DIR

## Case Presentation 1 by Rosemary ....

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### Early Concerns....



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### Mom & Infant Being with One Another...



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### Tapping.... Finding Mom.....



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### SUPPORTING THE THE FLOW OF INTERACTIONS

- **Observe**
- **Add a mirrored sensory layer** (sound, gesture, breathing, visual attention, action)
- **Add an sensory affective layer that says "I am with your and love what your are doing"** (sound, gesture, breathing, visual attention, action)
- **Feel the rhythm**
- **Add a sensory affective emotional layer** that reflects the child's experience – (Joy with a warm , a shrug if it is hard or frustrating)
- **Feel the Back and forth Flow**

**THEN ADD THE LANGUAGE**

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### The Dance.....



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### GIOVANINI SHINES



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### Tailoring the Interaction to the "I"

Presented by: Rosemary White, OTR/L



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## SENSORY SYSTEMS

### The What & the Where....

- Auditory – sound
- Visual – vision
- Proprioceptive - muscles & joints,
- Tactile - sense of touch, the body's ear,
- Vestibular - movement in space & relationship to gravity,
- Gustatory – taste
- Olfactory - smell
- Interoceptors – visceral sensations

**Think about**  
**How all these Sensory Systems Communicate**

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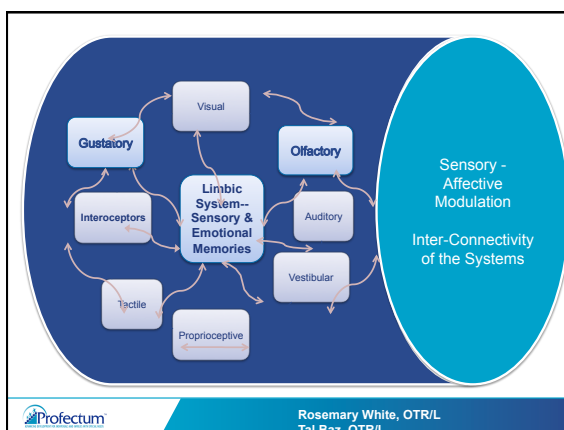
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## Synchrony of Sensory Processing

**No Sensory System Functions Alone**  
**Sensory Input Occurs Simultaneously**

**Sensory Systems Communicate**  
**&**  
**Contribute to Perceptions**  
**&**  
**Actions**

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### Think About Your Own Sensory Processing

■ Think about your own body & think of a sensation coming in & then think of the journey that that sensation travels in the world of your body to your brain.....

■ Think of sensations that you experience from all the sensory systems, moment to moment, & how this affects you & your body & your emotions.




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### Think About Your Own Sensory Processing

■ Think of how these sensations build up .....

■ Or do not build up but fade into the background .....

■ However if there is a change in that background then you become aware.....

■ As you sit here today think about what is in the foreground of your sensations and what is in the background and does it change???




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### Think About Your Own Sensory Processing

Think about how sensory input  
from your own body and from the environment  
affects you .....  
physically.....  
in your ability to attend.....  
& how sensations affect you emotionally ....




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### Thinking About Sensory Processing....



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### WHEN THERE ARE CONSTRICTIONS IN A CHILD'S FUNCTIONAL EMOTIONAL DEVELOPMENT THE "D" OF DIR

#### ■ Observe the Rhythms of Interaction

- Co-Regulation and Engagement
- The "R" of DIR

#### ■ Reflect on the Individual Profile of the child and the caregiver

- Co-Regulation and Engagement
- Sensory, Motor, Communication, Visual Spatial, Praxis
- The "I" of DIR

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### Finding One Another.....



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## Synchrony of Sensory Processing

**Sensations are Connected in Meaningful Ways in Concert with the Emotional Texture & Affective Tone that Occurs with the Sensory Experience**

**THE OUTCOME OF THIS IS UNIQUE TO EACH INDIVIDUAL'S EXPERIENCE & NEUROBIOLOGICAL PROFILE**

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## Finding the Joy of Sharing the Moments Together.....




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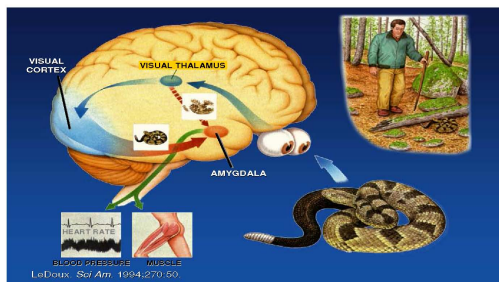
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## Healthy Response to Sensory Input.....



**Is it more than Vision???**




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**The Journey ....  
Receptor to Perception & Action**

- Every sensory receptor in the body has a threshold that leads to electrophysiological action.....
- From the receptors of touch, proprioception, vestibular, auditory, olfactory, visual, auditory & interoceptors the electrophysiological action travels in dedicated sensory pathways to the spinal cord, or directly to the brainstem.

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**The Journey ...  
Receptor to Perception & Action**

**ON THIS JOURNEY, BEFORE YOU ARE EVEN  
AWARE OF A SENSATION, ALL THE SENSORY  
SYSTEMS COMMUNICATE TO ONE ANOTHER...**

- Some sensory input does not go further than the brainstem, but the contribution of that sensory input is carried on to the cortex, by the same type of sensory system & by other systems in the pathways that enter the gateway to the cortex.....

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**The Journey.....  
Receptor to Perception & Action**

**ON THIS JOURNEY, BEFORE YOU ARE EVEN  
AWARE OF A SENSATION, ALL THE SENSORY  
SYSTEMS COMMUNICATE TO ONE ANOTHER...**

- As sensory input travels up the spinal cord touch & proprioception from receptors of one part of the body communicate with other touch & proprioception receptors, from other parts of the body gaining information about the body & the environment.
- Touch & proprioception passes through the cerebellum, then to the vestibular nuclei (brain stem) communicating with the vestibular & the visual system. This communication is crucial to visual & motor function (body scheme, tone, balance, stabilizing the head & eyes during movement.)

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**The Journey...**  
**Receptor to Perception & Action**

**ON THIS JOURNEY, BEFORE YOU ARE EVEN  
 AWARE OF A SENSATION, ALL THE SENSORY  
 SYSTEMS COMMUNICATE TO ONE ANOTHER...**

- Auditory input comes from the right & left auditory receptors in the cochlear to the brainstem. Communication then supports the individual to detect where a sound has come from, the left or right side. There is also communication with the somatosensory system (touch & proprioception) that contributes to where to turn our head to find the source of the sound.
- Visual input also communicates with the auditory & the somatosensory system in the brainstem influencing the co-ordination of posture & eye movements.

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**The Journey Continues**  
**– Receptor to Perception & Action**

**ON THIS JOURNEY, BEFORE YOU ARE EVEN AWARE  
 OF A SENSATION, ALL THE SENSORY SYSTEMS  
 COMMUNICATE TO ONE ANOTHER...**

- When input goes to the sensory cortices the input reflects the communication/interconnectivity with other sensory systems that has occurred earlier .....
- In the cortex, after sensory input goes to its dedicated cortices, the information continues to communicate going to the limbic system & to sensory association areas & connects with other sensory input & with the more detail to the limbic system again.....

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**THIS PROCESS OF  
 SENSORY COMMUNICATION, THE  
 INTERCONNECTIVITY OF SENSORY INPUT**

**OCCURS IN A MILLISECOND!!!!!!**

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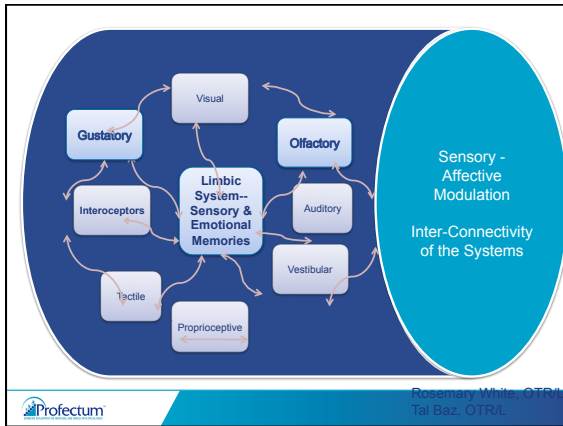
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**“Your Individual Profile”  
Sensory Processing**

**Sensory Modulation – The Balance**

**Interconnectivity – The Brain’s Communication  
of Sensations before you are aware.....**

**Sensory Association – the Communication  
between Sensations in the moment.....**

**Perception – the Communication based on  
your history and in the moment**

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**“Your Individual Profile”  
Regulatory Capacities**

**Physical – What Happens to Your Body in  
the Moment**

**Emotional – What Happens to you  
Emotionally in the Moment**

**The Thinking – How do you balance the  
thinking part with the body and the  
emotional part .....**

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### **“The Child’s Profile” Sensory Processing**

**Sensory Modulation – The Balance**

**Interconnectivity – The Brain’s Communication  
of Sensations before he/she is aware.....**

**Sensory Association – the Communication  
between Sensations in the moment.....**

**Perception – the Communication based on  
your child’s history and in the moment**




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### **“The Child’s Profile” Regulatory Capacities**

**Physical – What Happens to his/her Body in  
the Moment**

**Emotional – What Happens to him/her  
Emotionally in the Moment**

**The Thinking – How do he/she balance the  
thinking part with the body and the emotion  
part .....**



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### **Synchrony of Sensory Processing**

- When reflecting on a child's sensory processing you have to consider "is there harmony??"
- Does one sensory system lead & the other systems harmonize with it, or are present but in a resting state?
- Or is one, or more, sensory systems out of sync with other sensory input being a millisecond behind the other sensory systems?
- Does the child's behavioral response reflect this lack of synchrony?
- Does the lack of synchrony contribute to anxiety?




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### Joining One Another & Making it Meaningful to One Another



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### How to Make Boundaries A Positive Part of the Relationship .....



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### Tactile & Proprioception

- Major source of information about the environment
- Important for psychosocial development
- Provides a continual bombardment of sensory impulses necessary to maintain stabilization of the nervous system
- Closely linked with visual channels of input.
- Has a strong relationship with the motor system.
- Contributes to perception of other types of sensation

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### Tactile & Proprioception

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### Tactile Explorations..... An More.....




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### Hannah Rose Explores Touch .....



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### Sensory Systems Harmonize The Orchestra....



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### Touch Explored in Play with Dad....



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### \*\*\*Vestibular System & the Body

#### In Concert with Other Sensory Systems the Vestibular System Regulates.....

- Antigravity musculature to maintain upright posture
- Muscle tone in the neck
- Orientation of the head within space
- Postural responses concerning necks relationship to the body
- Inter-relationship of body parts to one another, (alignment of the body parts to one another.)

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**Ari Explores Her Somatosensory System & Movement.....**



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**Infant Stands.....**



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**Rich Sensory Support & Mom's Support to Develop Motor Control.....**



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**First Meeting.....**



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**Rhythm of the Relationship.....**



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**Early Coaching Using Visual Motor  
Action to Support the Body.....**



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## Visual System

**Vision helps us to navigate in the world to:**

- Respond to dim light (night vision) & changes in light (day vision) & color vision.
- Judge the speed & distance of objects,
- Identify food,
- Identify members of other species, & familiar or unfamiliar members of our own species.



(Zigmond et al 1999) 85

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**:Video 10:**

**Visual Tracking the Balloon**



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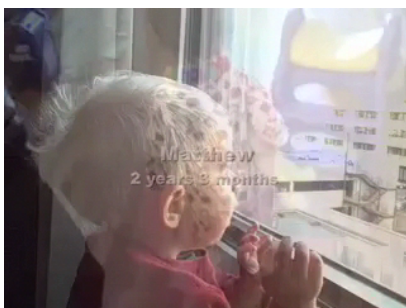
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**Matthew Shares What He Sees.....**



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**Challenges Synchronizing Visual Input with Body ....  
Impacts Co-Regulation Supporting Shared Attention**



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**Supporting Co-Regulation  
-> Shared Attention & Engagement**



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**Wooing to Stay & Take in the Sights & Sounds.....**



Profectum

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### Wooing to Stay & Take in the Sights & Sounds... MOM Brings this to Life.....



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### Challenges in Synchrony and Interconnectivity of Visual with other Sensory Systems.....



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### The Human Auditory Experience

- There is more neural space in the CNS dedicated to human speech than any other sounds.
- Sound is a personal subjective experience – humans are meaning making organisms so the whole purpose of the auditory cortex & the higher order areas is to make sense of sounds that are coming in to the brain with greatest areas (tonotopic map) devoted to the processing of pitches that are found in human language.
- As we develop, the sounds that we hear in language become mapped to meaning in our brains.
- When you hear a language we do not speak it sounds like noise because we do not have meaning for the sounds. Being able to make meaning of what we hear is a construction of the brain.

Profectum

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**Soren Explores Auditory and Connects with Visual, Somatosensory and Emotions....**



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**Joining with the Rhythm.....**



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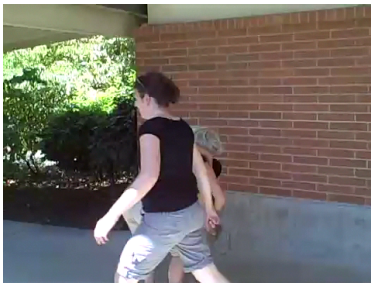
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**Challenges in Synchrony and Interconnectivity of Auditory with other Sensory Systems.....**



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**Supporting Challenges in Synchrony & Interconnectivity of Auditory with other Sensory Systems.....**



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**Other Sensory Systems...**

- **Olfactory... The Sense of Smell**
- **Gustatory... The Sense of Taste**
- **Interoceptors.. The Sense of Awareness of Internal Organs**

**All important in early & later development**

- Physical
- Social
- Emotional

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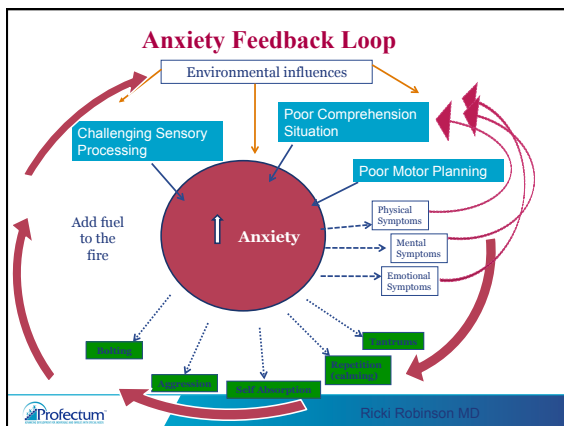
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**Cole Challenged with the Changing Visual World.....**



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**Video #13:  
Too Much Visual & Auditory**



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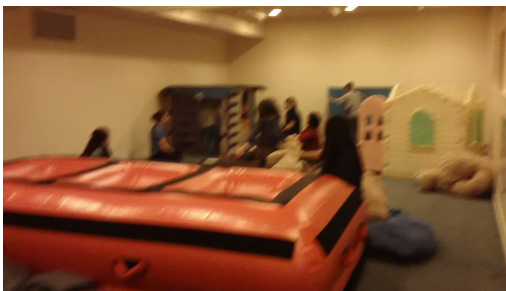
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**Video 14:  
The Visual & Auditory Change...**



Profectum

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## Sensory Processing & Interaction

- When there is an understanding of the relationship of the sensory systems & the arousal, attention, action of the child it inform caregivers how to tailor their “sensory affective inter-action” to enable those systems to join & harmonize with the leading sensory system.
- The conscious tailoring of sensory affective inter-action in the course of treatment supports co-regulation, to develop a back & forth flow in the relationship & gives meaning to events.




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**DIR**

## Case Presentation 2 by Rosemary ....




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## Understanding Multisensory Processing..... “Interconnectivity, Multi Modal Processing”



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## Video # 4: Case A

## Sensitivity to Multisensory Processing.....



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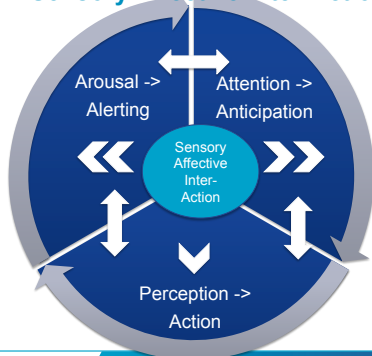
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## Sensory Affective Inter-Action



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**The Dynamic Flow of the Emerging Joint Attention –  
Sensory Affective Emotional Engagement**

**Levels 1, 2 & 3**

The child is responsive to -

As the caregiver joins the child affectively showing interest in the child's focus of interest. (eg. The caregiver uses sound, vocalization, verbal comment, body gesture, body movement toward the object with a affective tone indicating interest)

-> Shared Gaze to the object of interest

As the flow continues the infant begins to anticipate the caregiver's affective gestures as they focus on an object of interest such as a rattle or toy. The infant is processing & responding to the sensory affective & emotional environment

-> change in tone indicating that the infant senses something is going to happen

Profectum

Rosemary White, OTR/L\_2009

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### The Dynamic Flow of the Emerging Joint Attention – Sensory Affective Emotional Engagement

As the flow continues over time the infant begins to anticipate what is going to happen as the caregiver joins

-> anticipatory change in tone indicating the child is predicting what is going to happen

-> Facial Gaze to the Play Partner, with a "Gleam in their Eye"

#### Shared Social Referencing with Shared Focus of Attention

The child initiates joint attention with a play partner to invite them to share attention around their focus of interest with an.....

- Alternating Gaze
- Gesture (eg, facial expression, sound, point
- Verbal Cuing



Rosemary White, OTR/L\_2009

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### Video # 5: Case A

#### Sensitivity to Multisensory Processing.....



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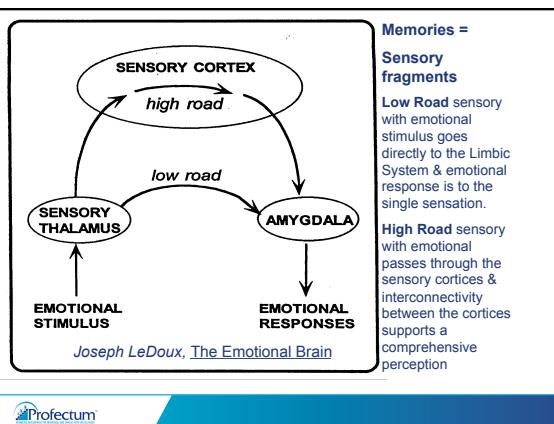
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Video: Case A  
Trumpet Power




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Sensory Modulation Continuum - Synchrony of Sensory Processing




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## AROUSAL & SENSORY MODULATION

- Sensory Processing
- Sensory Modulation
- Salient Landscape and Emotional Response

How do we bring our understanding of this individual difference into our affective interaction?

Is it more than sensory diet?




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### **SYNCHRONY OF SENSORY PROCESSING**

**No Sensory System Functions Alone  
Sensory Input Occurs Simultaneously**

**Sensory Systems Communicate & Contribute to  
Perceptions**

**Sensations are Connected in Meaningful Ways in  
Concert with the Emotional Texture and Affective Tone  
that Occurs with the Sensory Experience**

**THE OUTCOME OF THIS IS UNIQUE TO EACH  
INDIVIDUAL'S EXPERIENCE & NEUROBIOLOGICAL  
PROFILE**




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**In DIR® Interactions are Tailored to  
the Child's Unique Individual Profile  
to Support the Child's  
Synchrony of Sensory Processing  
& to  
Create Meaningful Perceptions of  
Interactions with Others  
& their  
Environment**




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### **HOMEOSTASIS**

■ Organizing & processing of sensory information from the different sensory channels & the ability to relate input from one channel to that of another in order to emit an adaptive.

■ Homeostasis leads to focused attention to salient stimuli with attention to other stimuli is at a "resting" or "ready" state. However, the individual has the ability to have dynamic shifts of attention if the environment, the interaction or the task changes.....

**Synchrony of the Orchestra of Sensory Processing**




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**Video #17:  
When the Orchestra is Out of Sync....**




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**THIS IS A DYNAMIC PROCESS FOR ALL OF US.....**

**“Observation of behavior  
in response to the sensory environment”  
guides us, parents & clinicians,  
to understand an individual’s sensory profile.**

**As a human being, it is important to  
“KNOW HOW TO READ EACH INDIVIDUAL”  
As we interact with the children & families.....**

**The understanding of their UNIQUE INDIVIDUAL PROFILE  
will inform us.....**

**How to tailor our interactions to support the relationship....  
& their functional emotional development**

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**Video #: 18  
The Orchestra...**




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## Case Presentation 3 by Rosemary ....




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### Key Concepts from OT/PT Intervention

- **Address the elements of Co-regulation** which gives rise to the emergence of **self regulation**.
  - Over the course of treatment this in turn gives rise to dynamic and adaptive co-regulation within complex social, emotional interactions throughout life.
- **Affect cueing has sensory motor and underpinnings and has to be considered as a essential component of treatment.**
  - It is a foundation for communication, regulation, and early motor planning
  - Support the emerging capacities for **joint attention** as a foundation for the higher levels




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## AFFECT Central to all learning!

Affective reciprocity allows children to find meaning and symbolize experience




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### Affect is.....

- The sensation that conveys to others the emotional tone and intent in an interaction




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### Affect is....

**Affect** is a physical change that occurs in the face of arousing stimuli.

–Affect has a **physiological root**

- The relationship between sensory and emotional regulation both have a physiological core.

(Foley 2012)




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### **Affect comes from a variety of avenues from each and every individual...**

- It is the **tone of voice**
- The **gesture** that you use
- The **rhythm and pacing** of your voice and action
- The **sigh** that conveys frustration
- The **jump** or squeal that conveys “joy”, “fear”, “surprise”, “excitement”.....




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- Sensory experiences are dual coded for Affect
- Affective experiences are perceived as sensations
- Neither experience occurs without the other
- Affect impacts the child's ability to draw meaning from sensory experiences
- Affect underlies Intentionality, Orientation, & Perception

**Sensory -  
Affective  
Modulation;**

**Why Affect  
belongs at  
the Core**

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**How Does This Video Clip Affect You?**



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**Lets View it Again.....**



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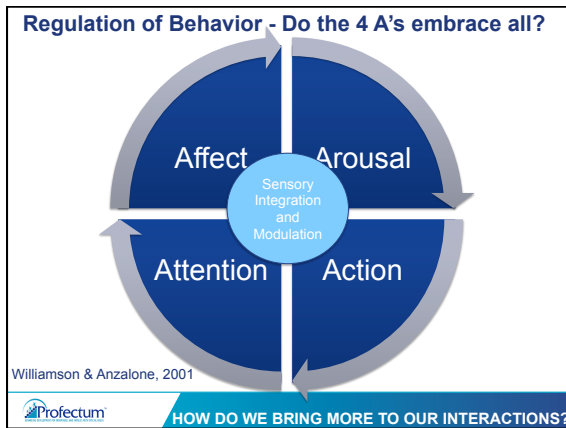
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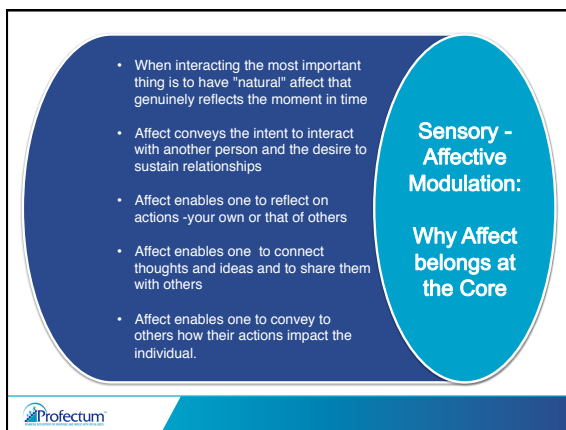
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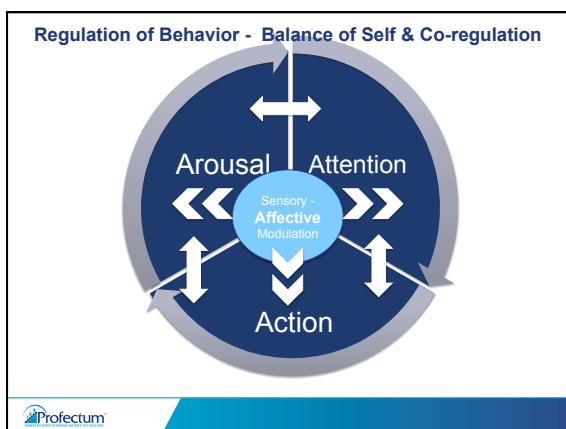
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When affect is tailored to the child's individual processing we create learning interactions and thereby enable child to progressively master the Functional Developmental Levels.

Relationships rich with  
**"sensitive, sensory affective modulation"**

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AFFECT, FEELING, EMOTION ARE RELATED  
BUT DIFFERENT & THEY ARE AN EXPANDING CIRCLE.

- **Affect** is a physical change that occurs in the face of arousing stimuli. Physiological root, one of the rationales – The relationship between sensory and emotional regulation both have a physiological core.
- **Feeling** is when the physiological response becomes aware in consciousness, and we have a subjective experience of a mood and a particular state.
- **Emotion** is the broadest concept as we have the physiological response, we have the trigger of awareness in consciousness and then we have the association of past experiences and memories.

One builds on the other

In DIR Affect is the glue that holds the pieces of development together.

Foley, 2012)

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Damien – Rhythms with Mom

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## SOCIAL RELATEDNESS AND AFFECT

### Social relatedness:

- Reciprocity
- Anticipation

### Affect cueing system:

- The ability to express, through subtle vocal and motor acts, what ones intentions are, and simultaneously to read the vocal and motor cues given by the other as to his/her state and intentionality
- Social referencing
- Joint attention

REFERENCES: Mirror Neurons (Rizzolatti), Immaturity of Cell development in Limbic System and Cerebellum (Bauman); Joint Attention (Mundy, Dawson, Courschasne)




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## Tailoring Affect to Support Synchrony

- When there is a lack of synchrony in the processing of sensory stimuli the individual's arousal, attention and action will be affected.
- As you consider the lack of synchrony think about
  - What sensory system is the leader and what sensory systems "lag" behind.
  - This will inform you how to tailor your "sensory affective inter-action" to enable those systems to "join or harmonize" with one another.
- This conscious tailoring of "sensory affective inter-action" in the course of interactions supports co-regulation, facilitates the develop a back and forth flow in the relationship and gives meaning to events.




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## Characteristics of Sensation & Co-Regulation

- Amount (a little – a lot)
- Intensity (weak – strong)
- Duration (how long)
- Frequency (how often)
- Speed/Pacing (slow – fast)
- Rhythm (rhythmic – random)
- Symmetry (unilateral – bilateral)
- Location in Space (close – far)
- Focus (specific – diffuse)




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## Lack of Synchrony

- When we reflect on our clients we have to question

“Do I see that harmony...

or

Do I see the dominance of one sensory system and it is out of synchrony with the other sensory systems which are a millisecond behind the dominant leader.”




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## Tailoring Affect to Support Synchrony

- When there is a lack of synchrony in the processing of the sensory the individual's arousal, attention, action will be affected.
- As you consider the lack of synchrony & what is the leader and what lags behind this will inform you how to tailor your “sensory affective inter-action” to enable those systems to “join or harmonize” with the dominant one.
- This conscious tailoring of sensory affective inter-action in the course of treatment supports co-regulation, to develop a back and forth flow in the relationship and gives meaning to events.




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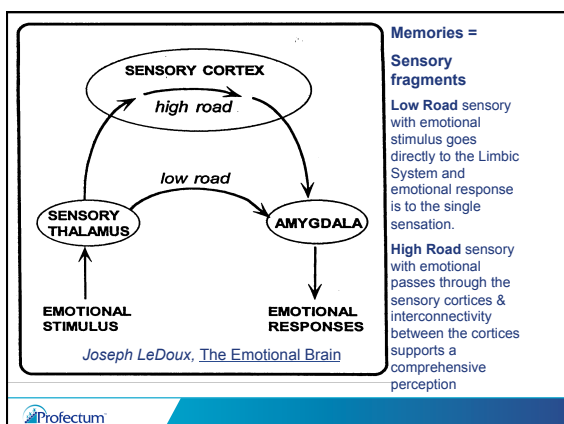
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## Supporting Regulation

- Also when a child is dys-regulated we have to ask  
“Does the child need caregiver support to regulate (min, mod, max), to return to a regulated state.”

OR

- “Can he return to homeostasis independently - self regulation?”

The sensory modulation continuum provides a guide for observing the behaviors that reflect returning to a regulated state, homeostasis.




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# DIR

## Case Presentation 4 by Rosemary ....




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## Righting Reactions “Harmony in Motion”

- Develop in response to the handling of the infant, toddler and child in an interaction.
- Develop when the handling is sensitive to the infant, toddler and child's need for support & then in response to their developing intent.
- Righting reactions work harmoniously to set the foundation for the emergence of the motor milestones (lifting the head, rolling, sitting, crawl, walk, run & negotiate space.)
- The ability to transition from one position to another & to maintain balance for stability & during mobility.




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## Righting Reactions “Harmony in Motion” The postural evidence of .....

- **“Sensory integration”** reflects the inter-connectivity of the visual, auditory, somatosensory (tactile & proprioceptive), vestibular, olfactory & gustatory aspects of a sensory experience in concert with affect (limbic) supports meaningful and comprehensive perceptions.
- **Motor control** develops in the rhythm of a co-regulated interaction & then as the infant, toddler & child become an agent of their own action these reactions develop in response to the individual's own intent.




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## Postural Control for Function

- Over the course of the first few years of life the infant, toddler & child develop motor control that is evident in the ability to attain and maintain postural control in a somewhat predictable sequence.
- Motor control reflects the emergence of the inter-relationship of the body parts to one another.
- Motor control is the the outcome of the inter-relationship between :
  - *The Individual*
  - *The Task and/or The Intent*
  - *The Environment*




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## Spatial Processing (Visual, Auditory, Movement, Touch)

- The infant and developing child develop a “map” as sense of the physical self that reflects how they perceive me related to “you” and “the environment”
- This reflects interconnectivity of all the sensory systems in the context of social and physical interactions.
- The infant and developing child begins to negotiate how “I” interact with “you” and “the environment”
- As the child matures this progresses from the concrete of how do “I” negotiate my world to the abstract representation of my world encompassing both people, objects and space.



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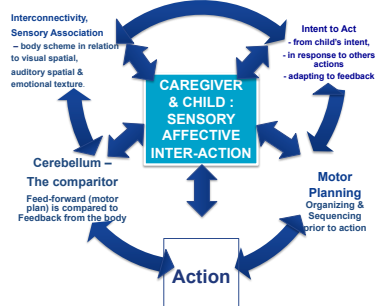
## Praxis

- IDEATION
  - Initiates ideas in play with clear goals and purpose.
- ORGANIZATION AND SEQUENCING – MOTOR PLANNING
  - Is able to associate sensory perceptions from the body, visual system, auditory system to develop a plan.
  - Develop the steps of the sequence with organization taking task, environment and self into account
- MOTOR EXECUTION
  - Execute the steps in an organized sequence and persist
- ADAPTATION
  - Adapt plan if it does not work or is interfered with by another's action.



## Sensory Affective Inter-action

Rosemary White, OTR/L 2012



Rosemary White, OTR/L

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## DIR®/Floortime

### Embracing & Guiding Work with children with Sensory Processing Challenges

In essence as an Occupational Therapist DIR® has deepened the work that I do and as such has given a direction in which to integrate the many frames of reference that are core to the profession.

This guides me in my work as a therapist as my understanding of sensory processing has a clearer direction to facilitate meaningful functional relationships that support the development of the child who has challenges in sensory processing.

Of equal importance I have learned to support the parent in their vital role with their child and to put that relationship in the forefront.



## Development of the Social Brain

■The beauty of development of the social brain is that it can be approached from so many different angles, and the richer and more varied the experiences, the stronger the neural connections will become.

■The social brain is not a single entity found in any one place. Rather it comprises of a combination of different structures and systems working together in harmony.




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■A better understanding of how the brain works will give us a better way to get a handle on who we are and how we can take an active hand in shaping our lives, without having to place all our hopes on a single, often imaginary, miracle cure.

■Every brain is different, and no brain is perfect; it is our responsibility to learn about ourselves and about what gives us a unique way to seeing the world.

“A Users Guide to the Brain” by John Ratey



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**Interactions that are Tailored to  
the Child's Unique Individual  
Profile**

**Promote Relationships**

**Thus Enabling the Child  
To Progressively Master their  
Functional Emotional  
Development**



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## Key Considerations for Treatment from the OT/PT Perspective

*It is not just what you do*

***But  
How you do it!!!!***




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Think About the Child & Caregiver  
as you “Play Together” .....

We can Learn from the Caregiver...

The Power Comes from  
Knowing one Another .....




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Behavior is an indicator of the child & the  
caregiver's sensory processing & provides  
information about sensory processing—  
registration, arousal & sensory threshold.

■ What sensory input is he/she.....

- Attending to ?
- Over responsive to ?
- Under responsive to ?



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**Behavior is an indicator of sensory processing & provides information about sensory processing— registration, arousal & sensory threshold.**

■What behaviors /activities does the child do.....

- Organize himself in environments or interactions?
- This should be viewed as  
“SELF ORGANIZING” .....  
“NOT SELF STIMULATING.”

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**Think About the Child as you “Play”.....**

■What does the caregiver do to.....

- Help him when he is attending to a task, to get and hold his attention ?
- To increase her attention when she is under-attentive to task ?
- To calm him when he is overwhelmed by a stimulus or an environment ?
- During interactions &/or during times when your child is over or under responsive ?
- To help her shift attention when she is over-attentive to a stimulus ?

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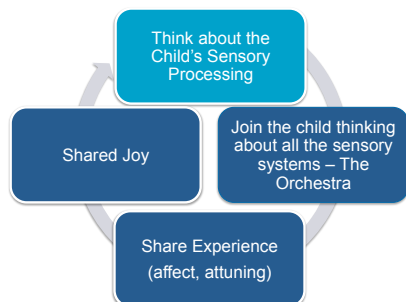
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### Negotiations...



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### Joining Your Child's Interest



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### The Orchestra...



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### Having Fun Together



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### Key Considerations for Interacting with Your Child OT/PT Perspective

*It is not just what you do  
**But**  
**How you do it!!!!***

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**ABOVE ALL .....**

**HAVE FUN!!!**

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- With many thanks to the families with whom I have the privilege to work with and join them in the journey with their child.
- With many thanks to Profectum, Serena Wieder, PhD and the amazing Faculty who have taught me so much and made me better therapist.

Rosemary White, OTR/L  
Pediatric PT and OT Services  
www.pedptot.com


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### Appendix:



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### PARENT-CHILD RELATIONSHIP MILESTONES

Place an X in the box that matches the milestone and achievement levels	1 Age appropriate under all conditions, including stress, with a full range of emotions	2 Age appropriate but vulnerable to stress and/or constricted range of emotions	3 Has capacity but not at age appropriate level	4 Inconsistent/needs support and structure to function at this capacity	5 Barely evidences capacity even with support	6 Has not reached this level
<b>Functional Capacities</b>						
<b>Level 1: Getting Calm (Green Zone) Together (by 18 months)</b>	<b>BOTTOM-UP</b>					
Level 2: When calm, able to make eye contact & look at face (by 18 months)	These functions are built upon the capacity to be calm together					
Level 3: When making eye contact, able to share joy & bid to look (by 24 months)						
Level 4: When sharing joy, able to create a continuous back and forth flow of communication ("bubbles") (by 30 months)						
Level 5: When in a flow, able to expand and read non-verbal emotional & general cues (by 36 to 48 months)						
<b>TOP-DOWN</b>						
Level 6: When reading cues, able to share feelings with others through pretend play and/or by talking (by 36 to 48 months)						
Level 7: When sharing feelings, able to make sense and solve problems together (by 54 to 60 months)						

ICDL® Functionals adapted from the TIRAC™ (©2014) (www.tirac.com). Detailed functional levels from MFM™ (©2014) (www.mfm.com) & organization by Pamela L. Blue



Adapted from DIR Institute, ©MIC ICDL Press –Original Functional Levels From ICDL's FEDL  
Adapted Language & Organization by Connie Lillas

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FUNCTIONAL EMOTIONAL DEVELOPMENTAL LEVELS – THE RANGE.....						
THE FUNCTIONAL EMOTIONAL LEVELS SCORED ON A SCALE OF 1-7						
1-4 INDICATES CHILD NEEDS CAREGIVE SUPPORT						
5-6 INDICATES CHILD ATTAINS DEVELOPMENTAL LEVEL WITH CONSTRICTIONS						
1. Not reached	2. Barely even with support- very intermittent (very in and out)	3. With an attuned caregiver with persistent and/or predictable support has islands of this capacity	4. With structure & scaffolding giving appropriate affect, gestural, language, sensory support sensitive to child's individual profile he can expand	5. Not at age- expected level, immature- fragmented ; may be cyclical but comes back for more	6. Age- appropriate level but vulnerable to stress and/or with constricted range of affects	7. Age- appropriate level with full range of affect states.

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