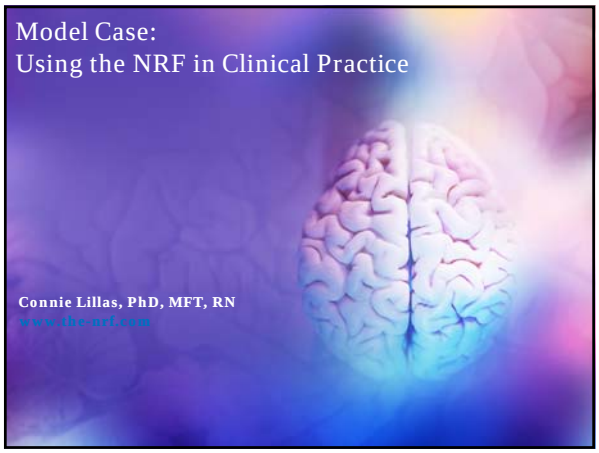


Outline

- Step #1, practice mapping pattern of toxic stress
- Step #2, practice mapping Levels of Engagement
- Step #3, walking you through the functional capacities for each brain system
- Practice mapping the Symptoms and Diagnosis onto 4 brain systems, micro and macro levels
- NRF Guiding Principles Review

Confidentiality Pledge

- We are honored to share a family's struggles
- We respect the journey
- We commit to keeping privacy to this day, in this room, for these families
- We use the descriptive terms such as "the baby in the Blue Zone and the toddler in the Red Zone" to keep a collegial conversation alive

Connie Lillas, PhD, MFT, RN
infantmentalhealth@earthlink.net
www.the-nrf.com

NRF takes "what matters" in early brain development, & translates 3 core concepts into 3 key clinical steps

What Matters:

- Adaptive Stress/ Resilience versus Toxic Stress
- "Serve & return" levels of high quality engagement
- Healthy development of brain networks and circuits (architecture)

What to assess -3 steps to NRF:

- *Step 1:* Assess & intervene to improve stress and stress recovery patterns in child and parent
- *Step 2:* Assess & intervene to improve the level(s) in the quality of engagement in relationships
- *Step 3:* Assess & intervene to improve individual sources of vulnerability (triggers) & resilience (toolkits) in brain networks

The NRF's Three Steps

Organizing a Case

- Step #1

How deep or shallow are the roots to the tree?

- What is the sleep-awake cycle like for the baby/parent?
- Is there a toxic stress pattern?

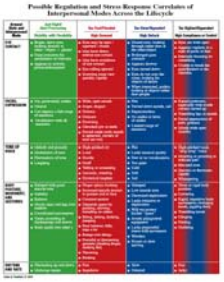
Guiding Principles

- *Always start at the earliest point in the breakdown*
- If sleep is disrupted, we start with sleep
- If sleep is ok, we start with improving green zone

Connie Lillas, PhD, MFT, RN
infantmentalhealth@earthlink.net
www.the-nrf.com

Colors & HHH

Body States



Relational Styles

Assessment Principle

- Assess the Dimensions of Baseline Health Behavior According to:
  - **D**uration: the long and the short of the behavior
  - **I**ntensity: the high and the low of the behavior
  - **R**hythm: the fast and the slow of the behavior

This is critical to establish at the beginning of your intake and early phase of treatment so you know if you are making any gains!

Lillas & Turnbull, 2009, page 160

Organizing a Case

- Step #2

How thick or thin is the trunk of the tree?

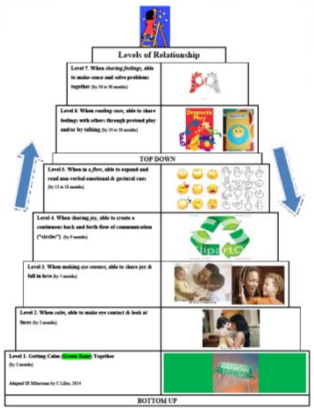
- How far up the relational ladder can each dyad get?
- How much support does each dyad need?

Guiding Principle

- *Always start at the earliest point in the breakdown*
- *Always start with developmental age, not the chronological age*

Connie Lillas, PhD, MFT, RN
infantmentalhealth@earthlink.net
www.the-nrf.com

Step 2: Levels of Engagement



Case #2

PARENT-CHILD RELATIONSHIP MILESTONES

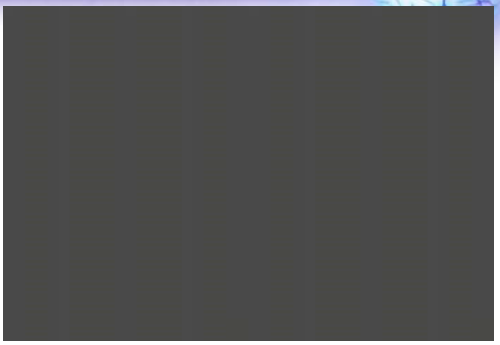
Child: _____ Caregiver: _____ Examiner: _____ Date: _____ Diagnosis: _____

e an X in the box that ches the milestone and evement levels	1	2	3	4	5	6
	Age appropriate under all conditions, including stress, with a full range of emotions	Age appropriate but vulnerable to stress and/or constricted range of emotions	Has capacity but not at age appropriate level	Inconsistent/needs sensorimotor support and structure to function at this capacity	Barely evidences capacity even with support	Has not reached this level
unctional Capacities						
		BOTTOM-UP				
1. Getting Calm (Green) Together (by 3 months)						
	These functions are built upon the capacity to be calm together					
2. When *calm*, able to e eye contact & look at months)						
3. When *making eye* act, able to share joy & u love (by 5 months)						
4. When *sharing joy*, to create a continuous and forth flow of unication ("circles") months)						
5. When in *a flow*, able pand and read non- al emotional & gestural (by 13 to 18 months)						
		TOP-DOWN				
6. When *reading cues*, to share feelings with rs through pretend play or by talking (by 24 to 36 s)						
7. When *sharing* gs, able to make-sense solve problems together to 48 months)						

DIR® Institute adapted from the DMIC, ICDL Press

Original functional levels from ICDL's FEDL; adapted language & organization by Connie Lillas

Hypoalert at 4 months



Connie Lillas, PhD, MFT, RN
infantmentalhealth@earthlink.net
www.the-nrf.com

Step #1C:
How do we identify toxic stress patterns?

Recognize stress responses that are
too frequent, too quick / intense, too long

4 Toxic Stress Patterns

1. Stress responses that occur too frequently and too quickly
2. Inability to adapt to "normal" challenges and transitions
3. Prolonged stress responses that take too long to recover (more than 10 to 20 mins)
4. Inability to recover from stress response back to baseline health (healthy sleep cycle, healthy awake state)

McEwen

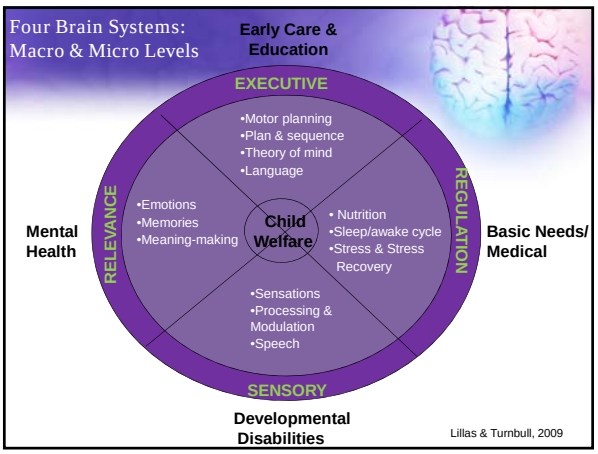
Organizing a Case

- Step #3

How strong or weak are the branches to the tree?

- Assess for Individual Differences & Multiple Causes
- Map out all of the needs across systems of care on a "macro" level
- Map out the individual differences in all the functional capacities from each brain system on a "micro" level

Four Brain Systems:
Macro & Micro Levels



Lillas & Turnbull, 2009

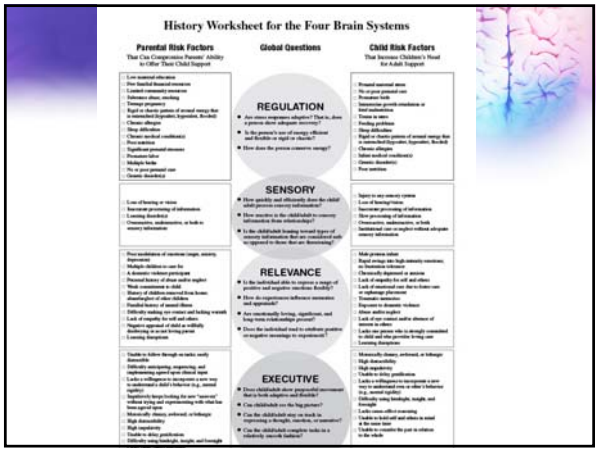
Connie Lillas, PhD, MFT, RN
infantmentalhealth@earthlink.net
www.the-nrf.com

Assessment Questions

- ***Regulation System #1****:* Does the infant, child, adult (parent) have a physical home and a medical home? Are there acute or chronic *medical issues* that need to be addressed?
- ***Sensory System #2****:* Does the infant, child, or adult (parent) show signs of any *developmental delays or disabilities* that requires further assessment or intervention?
- ***Relevance System #3****:* Does the infant, child, or adult (parent) show any signs of *relationship difficulties or mental health* concerns that need to be addressed?
- ***Executive System #4****:* Does the infant, child, or adult (parent) evidence any *motor* coordination problems, *learning disabilities*, or problems with planning, sequencing, and *executing* meaningful plans, along with *problem-solving* skills, which point to educational and learning needs?

Double Jeopardy Risk Factors

Anthony	Erika
Drug exposure in utero	Substance Abuse
VLBW & pre-maturity	Pre-term labor
NICU - forced separation from mom	Pre-teem mom
Invasive medical procedures	Victim of violence
Exposure to violence	Acculturation/Poverty
Chase and Dodge Pattern	Relationship Disorder



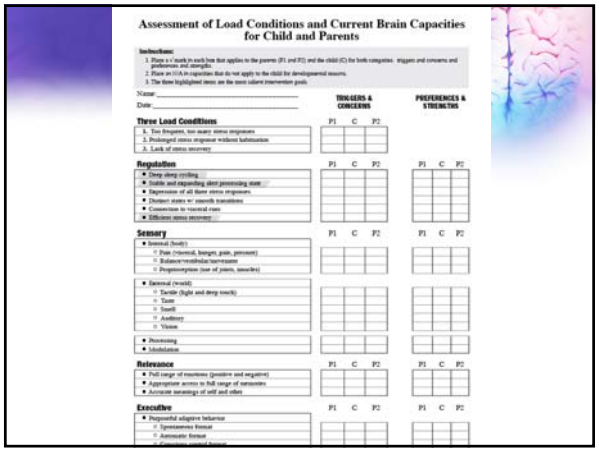
Connie Lillas, PhD, MFT, RN
infantmentalhealth@earthlink.net
www.the-nrf.com

The "developmental" story

- Life prior to pregnancy?
- Pregnancy context?
- Prenatal care?
- In utero development
- Labor and delivery
- Post partum
- Breast or bottle?
- Feeding difficulties?
- Bathing difficulties?
- Sleeping difficulties?

Assessment Questions

- ***Regulation System #1****:* Does the infant, child, adult (parent) have a physical home and a medical home? Are there acute or chronic *medical issues* that need to be addressed?



Assessment of Load Conditions and Current Brain Capacities for Child and Parents

Instructions:

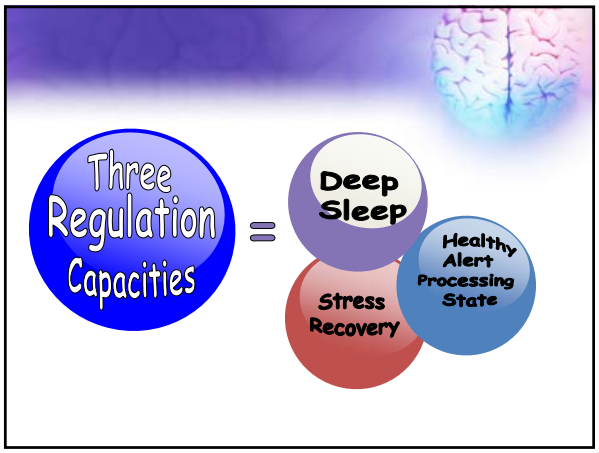
1. Place a √ mark in each box that applies to the parents (P1 and P2) and the child (C) for both categories: triggers and concerns and preferences and strengths.
2. Place an N/A in capacities that do not apply to the child for developmental reasons.
3. The three highlighted areas are the most salient intervention goals.

Name: _____

Date: _____

	TRIGGERS & CONCERNS			PREFERENCES & STRENGTHS		
Three Load Conditions	P1	C	P2			
1. Too frequent, too many stress responses						
2. Prolonged stress response without habituation						
3. Lack of stress recovery						
Regulation	P1	C	P2	P1	C	P2
• Deep sleep cycling						
• Stable and expanding alert processing state						
• Expression of all three stress responses						
• Distinct states w/ smooth transitions						
• Connection to visceral cues						
• Efficient stress recovery						
Sensory	P1	C	P2	P1	C	P2
• Internal (body)						
○ Pain (visceral, hunger, pain, pressure)						
○ Balance/vestibular/movement						
○ Proprioception (use of joints, muscles)						
• External (world)						
○ Tactile (light and deep touch)						
○ Taste						
○ Smell						
○ Auditory						
○ Vision						
• Processing						
• Modulation						
Relevance	P1	C	P2	P1	C	P2
• Full range of emotions (positive and negative)						
• Appropriate access to full range of memories						
• Accurate meanings of self and others						
Executive	P1	C	P2	P1	C	P2
• Purposeful adaptive behavior						
○ Spontaneous format						
○ Automatic format						
○ Conscious mental format						

Connie Lillas, PhD, MFT, RN
infantmentalhealth@earthlink.net
www.the-nrf.com



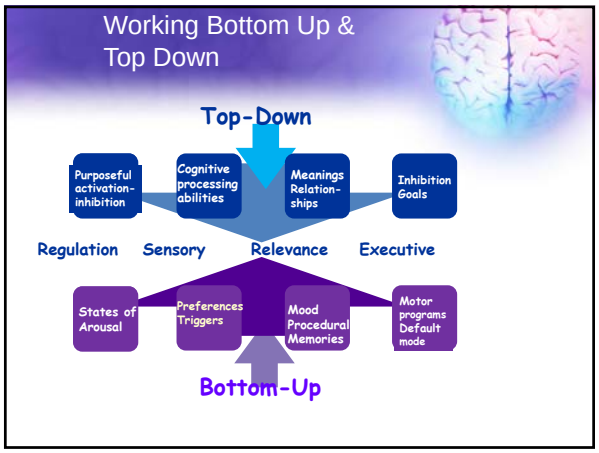
Functional Capacities of the Regulation System

1. *The capacity for deep sleep cycling*
2. *The capacity for alert processing*
3. The capacity for the adaptive expression of all stress responses
4. The capacity for distinct states of arousal and smooth transitions between them
5. The capacity for connection to visceral cues
6. *The capacity for efficient stress recovery*

Bi-directional Feedback of Visceral Cues

- Handout
- Good/poor cue sender?
- Good/poor cue reader?

Connie Lillas, PhD, MFT, RN
infantmentalhealth@earthlink.net
www.the-nrf.com



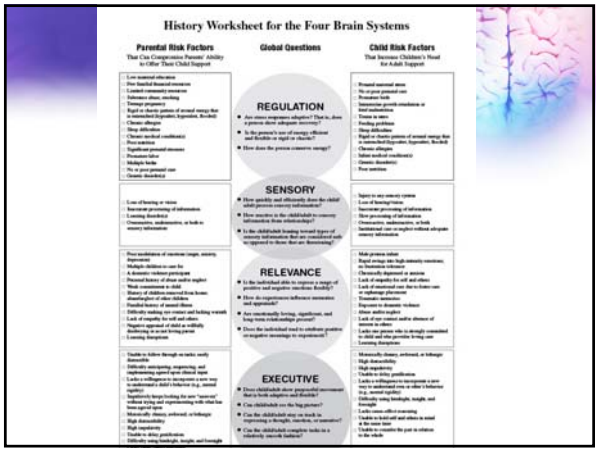
Sensory System

Typical sensations

- Visual
- Sounds
- Touch
- Smells
- Tastes

Less familiar sensations

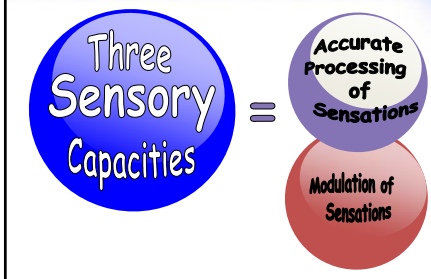
- Movement
- Deep touch pressure
- Active pressure on joints & muscles (proprioception)



Connie Lillas, PhD, MFT, RN
infantmentalhealth@earthlink.net
www.the-nrf.com

Assessment Questions

- ***Sensory System #2***: Does the infant, child, or adult (parent) show signs of any *developmental delays or disabilities* that requires further assessment or intervention?



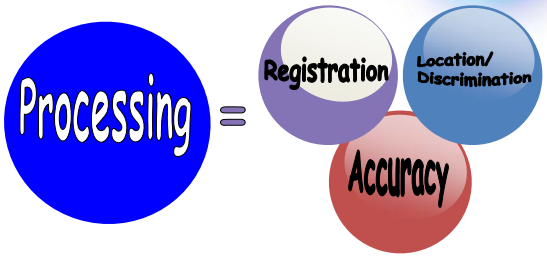
Functional Capacities of the Sensory System

1. The capacity to receive, translate, associate, and elaborate sensory signals within and across sensory modalities in a developmentally appropriate way (*sensory processing*)
2. The capacity to balance the flow of sensory signals in a way that is appropriate to context (*sensory modulation*)

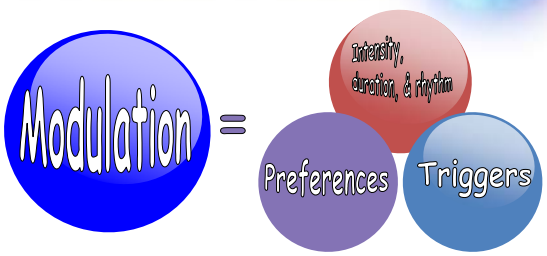
Processing Variables

- Is the infant, child, adult *orienting* and *registering* the sensory information?
- Is the infant, child, adult accurately *identifying* the source of the sensory information?
- Is the infant, child, adult accurately *discriminating* the sensory information?
- Is the infant, child, adult accurately *following* and *tracking* the sensory information?

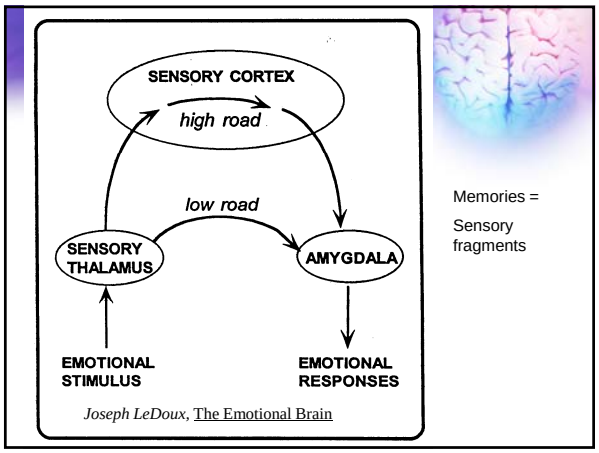
Capacity One…



Capacity Two…



Connie Lillas, PhD, MFT, RN
infantmentalhealth@earthlink.net
www.the-nrf.com



Memories =

Sensory fragments

Sensory Preferences & Triggers

Preferences

- Support down-regulation to sleep
- Support calm, alertness for engagement
- Support stress recovery

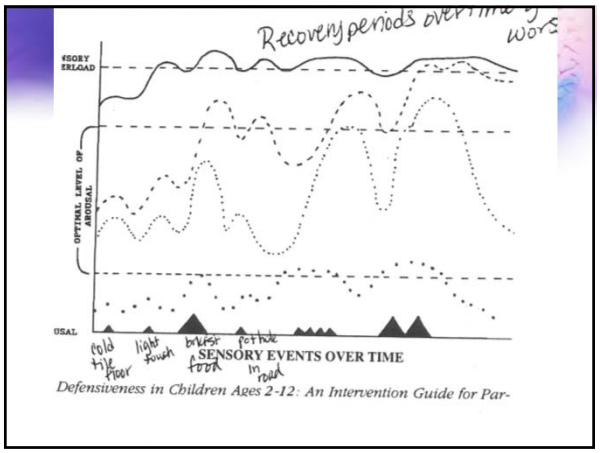
Triggers

- Stimulate a stress or load response...
- Because memories are "sensory" fragments
- Most often, are procedurally based and "automatic"

Intervention Principle

- By finding sensory preferences and the optimal duration, intensity, and rhythm of the these sensory preferences, one can recover, maintain, and enhance the window of the alert processing state, support the sleep cycle, and promote stress recovery:
  - **Duration: long/mid-range/short of sensory preference**
  - **Intensity: high/mid-range/low of sensory preference**
  - **Rhythm: fast/mid-range/slow of sensory preference**
- Match or counter these dimensions to achieve optimal baseline health? Page 172-4, Table 5.3

Connie Lillas, PhD, MFT, RN
infantmentalhealth@earthlink.net
www.the-nrf.com



Defensiveness in Children Ages 2-12: An Intervention Guide for Par-

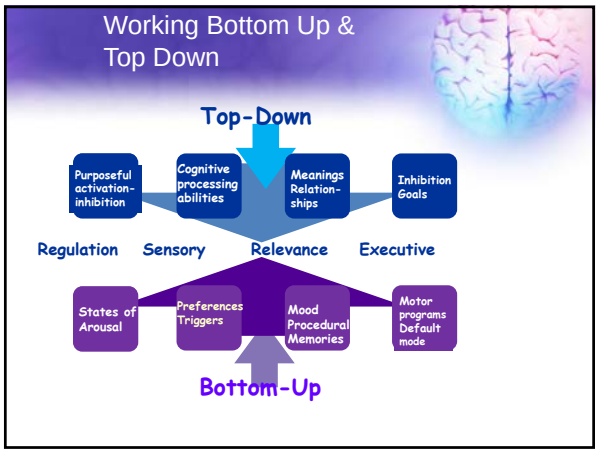
Matching or Countering the Sensory Modality

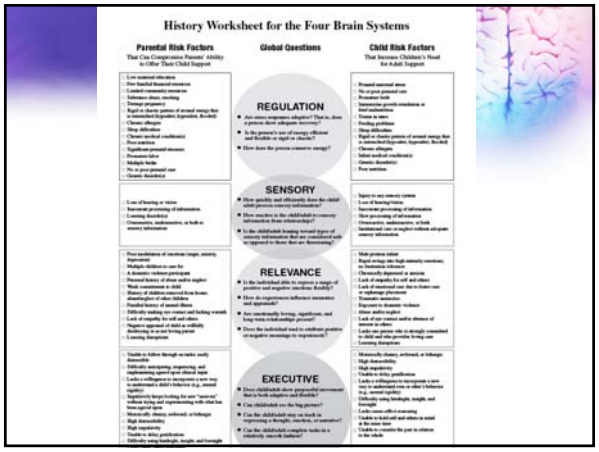
Low Intensity, Slow Rhythm	High Intensity, Fast Rhythm
Match	*Match*
Lower lights and sounds	Increase lights and sounds
Lower tone of voice	High pitched tone of voice
Slow down vocal rhythm	Rapid vocal rhythms
Slow down facial expression	Bright facial expressions
Slow movement	Fast movement
Counter	*Counter*
Increase lights and sounds	Lower lights and sounds
High pitched tone of voice	Lower tone of voice
Rapid vocal rhythms	Slow down vocal rhythm
Bright facial expressions	Slow down facial expression
Fast movement	Slow movement

Organizing a Case, Treatment

- Step #3
- With "bottom-up" challenges, a good rule of thumb is to start with organizing individual sensory preferences & triggers
- Sensory preferences are used for sleep regulation, getting to - and staying - green, and for stress recovery

Connie Lillas, PhD, MFT, RN
infantmentalhealth@earthlink.net
www.the-nrf.com





Assessment Questions

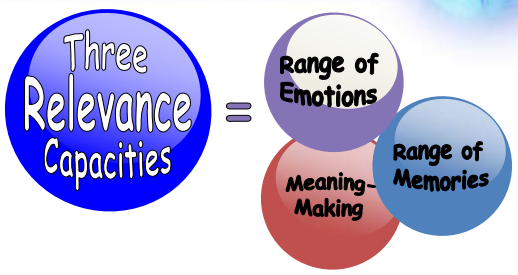
- ***Relevance System #3****:* Does the infant, child, or adult (parent) show any signs of *relationship difficulties or mental health* concerns that need to be addressed?

Connie Lillas, PhD, MFT, RN
infantmentalhealth@earthlink.net
www.the-nrf.com

Adverse Childhood Experiences Scale

CA's ACE List

1. Recurrent physical abuse
2. Recurrent emotional abuse
3. Contact sexual abuse
4. An alcohol and/or drug abuser in the household
5. An incarcerated household member
6. Someone who is chronically depressed, mentally ill, institutionalized, or suicidal
7. Violence between adults in the home
8. Parental separation or divorce
9. Emotional or physical neglect



Functional Capacities of the Relevance System

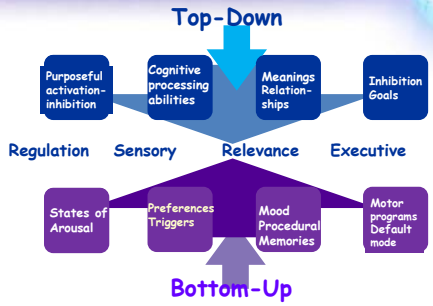
1. The capacity to flexibly experience, express, and modulate a full range of emotions in ways that are appropriate to context
2. The capacity to learn from experience by scanning and accessing a full range of memories that are appropriate to the context
3. The capacity to create meanings that accurately reflect self and others

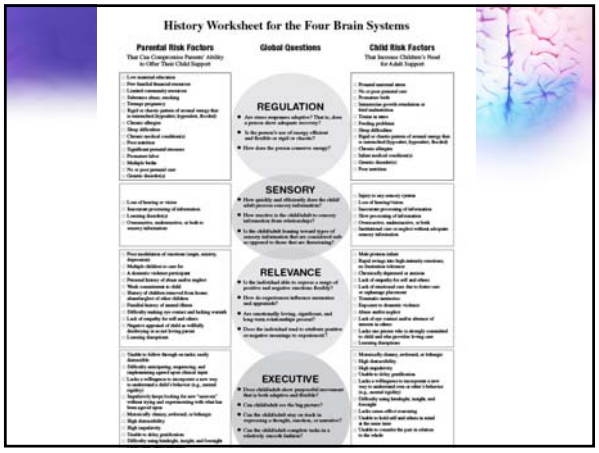
Connie Lillas, PhD, MFT, RN
infantmentalhealth@earthlink.net
www.the-nrf.com

Relevance System

- Emotions (full range of pos/neg), memories, and meaning-making
- *Bottom-up Procedural Memories and Procedural Enactments*
- Top-down Declarative Memories

Working Bottom Up & Top Down

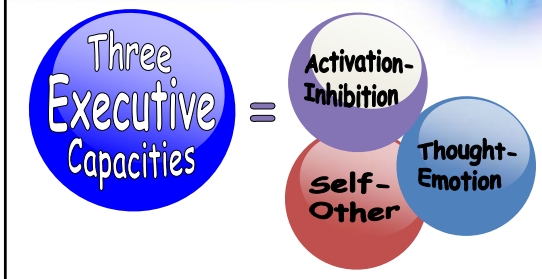




Connie Lillas, PhD, MFT, RN
infantmentalhealth@earthlink.net
www.the-nrf.com

Assessment Questions

- ***Executive System #4****:* Does the infant, child, or adult (parent) evidence any *motor* coordination problems, *learning disabilities*, or problems with planning, sequencing, and *executing* meaningful plans, along with *problem-solving* skills, which point to educational and learning needs?



Functional Capacities of the Executive System

1. The capacity to express spontaneous, automatic, and consciously controlled behaviors in a flexible and purposeful manner
2. The capacity to integrate the bottom-up influences of emotions with the top-down control of thoughts
3. The capacity to assess, integrate, and prioritize one's own internal (self) needs in relation to external (context/other) needs

DIAGNOSTIC CLASSIFICATION

0-3R TRIAGE SYSTEM:

1. TRAUMA
2. GRIEF & LOSS
3. REGULATORY DISORDERS
4. ADJUSTMENT DISORDER
5. MOOD & AFFECT DISORDERS
6. MULTIPLE DELAYS (MDD) (genetics)
7. RELATIONSHIP DISORDER (AXIS II)
8. REACTIVE ATTACHMENT DISORDER
9. FEEDING & SLEEPING DISORDERS

How would you organize this list of symptoms & diagnoses?

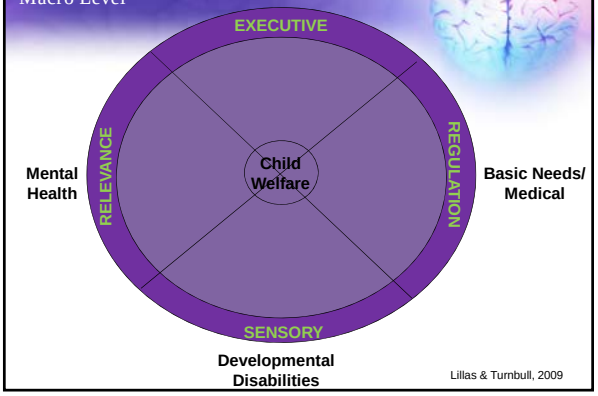
Symptoms

- Lack of joyful exchanges
- Poor head control
- No eye contact
- Limited cooing
- Chronic avoidance/aversion to sensory input
- Primary blue zone state
- No signs of learning
- Sleeping too much
- Lack of orienting to sights and sounds
- Lack of engagement
- Lack of movement of reaching, rolling, turning eyes or head
- Chase and dodge relational pattern

Diagnoses

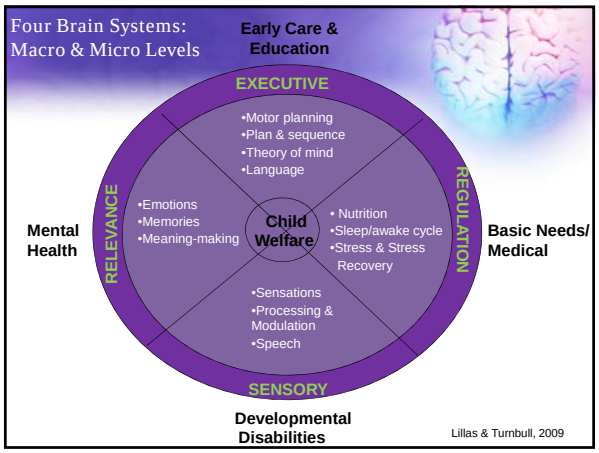
- Relationship Disorder
- R/O Mood Disorder
- Trauma
- Regulatory Disorder
- Speech Delay
- Motor Delay

Four Brain Systems: Macro Level



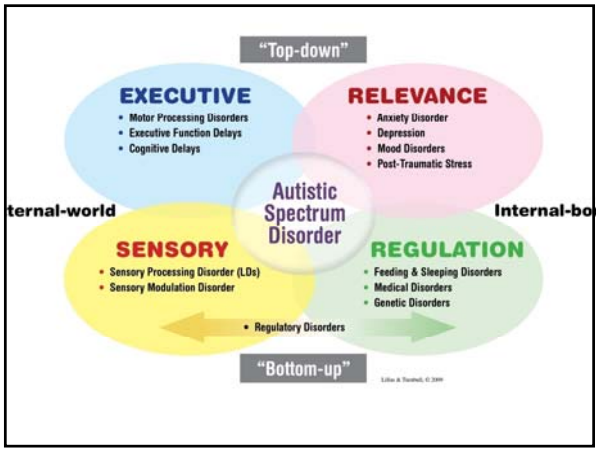
Lillas & Turnbull, 2009

Connie Lillas, PhD, MFT, RN
infantmentalhealth@earthlink.net
www.the-nrf.com



What does "load" look like in the context of challenge or threat at 4 months?

- **Regulation:**
  - Sleeping too much
  - Glazed eyes, hypoalert state
  - No signs of learning (executive, too)
- **Sensory:**
  - Non-responsive to sensory information
  - Chronic avoidance/aversion to sensory input (modulation)
  - Lack of orienting to sights and sounds (processing)
  - Limited cooing , no babbling (speech delay)
- **Relevance:**
  - Lack of engagement
  - Lack of joyful exchanges (facilitates a 'weak' commitment)
  - Lack of back and forth relational rhythm (chase and dodge pattern)
- **Executive:**
  - Lack of head stability
  - Lack of movement of reaching, rolling, turning eyes or head to sights and sounds
  - No signs of learning



Connie Lillas, PhD, MFT, RN
infantmentalhealth@earthlink.net
www.the-nrf.com

Growing healthy cross-sectored communities

EXECUTIVE

- Educational Therapists
- Neuropsychologists
- Occupational Therapists
- Physical Therapists
- Psychologists
- Speech & Language Therapists
- Teachers

RELEVANCE

- Infant & Adult Mental Health—Child Development Specialists / Marriage, Family, and Child Therapists / Psychologists / Psychiatrists / Psychiatric Nurses / Social Workers
- Occupational Therapists

SENSORY

- Audiologists
- Developmental Optometrists
- Educational Therapists
- Neuropsychologists
- Occupational Therapists
- Speech & Language Therapists

REGULATION

- Feeding Specialists
- Infant Mental Health Specialists
- Medical—Neonatologists / Neurologists / OB/GYN / Pediatricians / Psychiatrists
- Nutritionists
- Occupational Therapists
- Registered Nurses

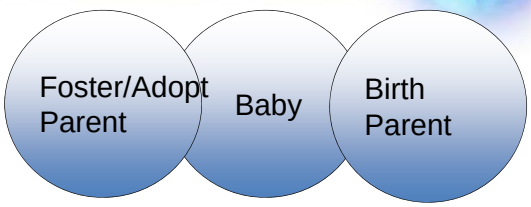
Anthony and Erika from Load to Coordination

- Regulation:
  - Optimal state of arousal – calm and attentive
  - Bright shiny eyes
  - Signs of learning and relating
- Sensory:
  - Tolerating sensations
  - Orienting to sounds, sights, and touch
  - Cooing begun; sign of beginning speech & language
- Relevance:
  - Mutual pleasure and joy
  - Back and forth rhythm
  - Falling in love facilitating a strong commitment and increases chances of permanency and a nurturing relationship
- Executive:
  - Motor system at midline
  - Motor movement increased with looking, reaching, and kissing

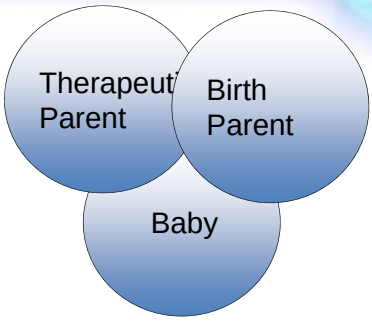
Connie Lillas, PhD, MFT, RN
infantmentalhealth@earthlink.net
www.the-nrf.com

Joy Lights up the Tree!

Old System

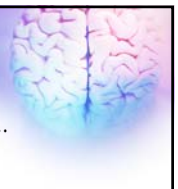


Shared Parenting



Connie Lillas, PhD, MFT, RN
infantmentalhealth@earthlink.net
www.the-nrf.com

Current Clinical Context & Culture



Conflation of the Use of Terms...

- Evidence Based Treatments &
- Evidence Based Practice

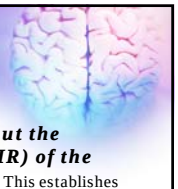
Different Definitions everything from...

- Stating there is no accepted definition
- Equating EBT with EBP
- Institute of Medicine, 2001

EB-Treatments are being equated with EB-Practice

- Evidence-Based Practice is:
  - **A decision making *process* that holds the tension between:**
    - The best available clinical research (EBTs)
    - Professional wisdom based in sound theory and practice
    - Cultural and family values (with informed choice)
      - » Buysee and Wesley, 2006

NRF Guiding Principles



- ***During assessment in Step #1, map out the Duration, Intensity, and Rhythm (DIR) of the stress zones during the awake cycle.*** This establishes your baseline so that you know if you are making any progress or not. Revisit your baseline parameters at least every three months.
- ***Always start at the earliest point in the breakdown***. If sleep is disrupted, begin with addressing this aspect. If green zone is disrupted, begin with this goal as well. This principle applies to all three steps. Step #1 is the First Level of Engagement and the First Brain System, Regulation.

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infantmentalhealth@earthlink.net
www.the-nrf.com

NRF Guiding Principles

- ***When working "bottom-up" for zone (arousal) regulation begin with finding the child's individual sensory preferences and triggers.***
- ***For treatment, match the sensory preference with the Duration, Intensity, and Rhythm (DIR) for the child's nervous system that promotes sleep, the green zone, and stress recovery.***

NRF Guiding Principles

- ***Sensory thresholds vary with each child and with each context.*** Matching or countering the child's zones of arousal are guided over time, with experimentation, and by watching the effect on the child's ability to regulate to sleep and to the green zone.
- The child's arousal patterns and procedural history are your guide, not the particular "treatment" or EBT you are using. ***Individual neurodevelopment that is trauma informed trumps the EBT. Practice flexibility with stability.***
- ***Change does not occur in a straight line. Always leave the door open for a family to return to you.***

Ports of Entry in Treatment

Bottom up treatment

- Reading and working with non-verbal cues
- Regulation of arousal
- Using sensory preferences to calm, engage, and relax
- Using sensory triggers to understand procedural memories
- 'Working through' trauma with procedural enactments
- Coaching & mentoring in real-time

Top down treatment

- Use of words & to interpret
- Telling the story/narrative
- Meaning-making
  - Linking past experiences with present
  - Reframing or narrating for the baby/child or parent
  - Interpreting a parallel process
- Reflective practice
- Making choices & Changing beliefs

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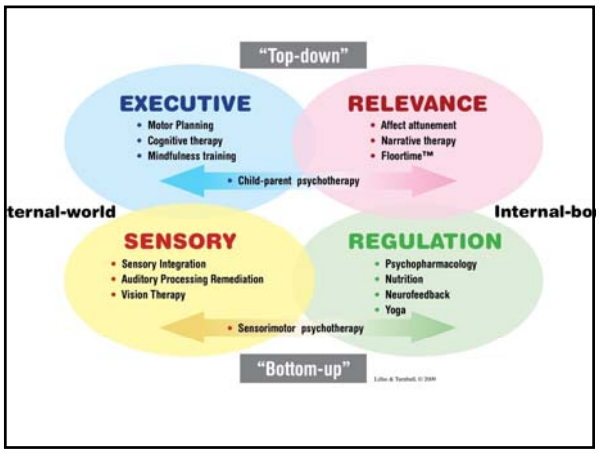

"Finding" Bottom-Up & Top-Down aspects to EBTs

Bottom-up aspects to EBTs

- Trauma-Focused CBT
  - Recognition of trauma
  - Deep breathing
  - Calming measures
  - *Individualized* relaxation & stress management
- Child-Parent Psychotherapy
  - Sensor motor disorganization & disruption of biological rhythms
- DIR/Floortime
  - Sensorimotor support for engagement, intentionality, & complex cue reading

Top-down aspects to EBTs

- Psycho-education
  - Triple P
- Use of narratives
  - Use of mood & emotions for meaning-making (CPP)
  - Beliefs for meaning- making (TFCBT)
  - Symbolic play with emotional themes (DIR)
- Reflective skills
  - Mindfulness parenting skills

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