Intersection of Unresolved Trauma & Teen Pregnancy / Parenting

Neurobiological & Neurodevelopmental Impact of Traumatic Stress & Prenatal Alcohol Exposure in Children & Adolescents:

Moving Toward Solutions Conference

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Today’s Schedule

- Trauma impact on teen pregnancy
- Trauma impact on young children
- Trauma impact on resiliency / infant-parent dyad
- Brain-Behavior review
- Prenatal Drug/alcohol exposure
- Traumatic Stress and the Brain
- Intervention / Treatment overview
The Real Game of Life: Cumulative Risk Version

Prenatal Exposure to Alcohol and Drugs; Maternal Stress

Infancy: Unresponsive Caregiver Insecure attachment

Toddler: Physical Maltreatment

Aggressive Child Behavior

Child: DSM Label ODD, RAD, Bipolar

Child as Bully Child being Bullied

Child: Emotional Dysregulation

Child: Exposure to Domestic Violence

Child: Academic Failure

Child enters Juvenile Justice system
The Real Game of Life: Adult Trauma Risk

- Need to be loved
- Seeking out risky relationships
- Seeking out adult relationships to mitigate stress
- Getting Pregnant
- Expect child will meet my needs
- Child born—Adult frustration begins
- Child continues to escalate in aggression and dysregulated
- Ongoing unconscious triggering by child of adults past trauma
- Adult reactivity resulting in disengagement or aggression
- Demands of child overwhelm caregiver
- Adult reactivity increases risk of harm to child
- Finding adult relationships that increase helplessness & high risk for aggression
Status Quo Woes

• True or False:

Current diagnostic/treatment systems are inadequate to optimally describe / assist infants, toddlers, and preschool children with neurodevelopmental / neurobehavioral challenges
Status Quo Woes

- Our “Operator Manuals” are narrow yet cumbersome, overwhelming yet inadequate, overlapping yet disconnected:
  - DSM-IV/V
  - DSM-PC (Primary Care)
  - DC:0-3 (Zero-to-Three)
  - ICDL-DMIC (Greenspan)
Numerous groups of tireless and dedicated professionals are working feverishly with frustrated and overwhelmed caregivers to help these challenging youngsters...yet, often it seems...
Status Quo Woes

- The faster we go...the farther away the goal seems to be...
Status Quo Woes:
Smoke & Mirrors Collaboration

“The appearance of collaboration does not equal collaboration”

Greene 2009
How do we collaborate effectively???
Embracing a Paradigm Shift

“An entirely different way is being developed of viewing all kinds of individual and social misbehaviors and maladaptations, moving from viewing as “sick” or “bad” or (or both) to *injured*. (Bloom, 1997)
Embracing a Paradigm Shift

“We must *move* from viewing the *individual* as *failing* if s/he does not do well in a program to viewing the *program* as *not providing* what the individual needs in order to succeed.”

*Dubovsky, 2000*
I Don't Have An Attitude Problem.....
...You have a PERCEPTION problem!
False Separation

Parent and Young Child as One

What the parent has experienced in her own past is likely to be *reenacted* with their own child.
What is trauma?

A. Overwhelming event or events that render a child helpless, powerless, creating a threat of harm and/or loss.

B. Internalization of the experience that continues to impact perception of self, others, world, and development.
Child’s View
Adult View
It's all my fault
I should have
I'm bad
I could have
I did it
I deserved to be beaten
I let them rape me
Guilt
What is complex trauma?


- Traumatic exposure: experiences of multiple traumatic events that occur within relational system
  - Sequential occurrences of child maltreatment
  - Often chronic and early in childhood
SYMPTOMS OF CHILD ABUSE

LOSS OF MEMORY

BLOCKAGE

LIPS ARE SEALED

HELPLESS

PENT UP ANGER

DEAD ZONE

LOSS OF MOBILITY
ATTACHMENT

AFFECT

REGULATION

BEHAVIOR

CONTROL

COGNITION

SELF

CONCEPT

BIOLGY

DISSOCIATION

COGNITION
Complex Trauma

Attachment

- 80% have insecure attachment
- Negative internal working model of the world
- Relational trauma
- Continuous impact on relationships
New Research: The Trauma Factor

- Parent trauma symptoms account for 90% of the association between a parental history of child physical abuse and current parent risk to abuse their children in the USN sample;
  - 79% in the college sample

(Millner et al., 2010)
Unresolved Parental Trauma

- Mothers who were neglected as children:
  - Very rarely succeed in establishing positive interactions with their child (Zurawin, 1987)
  - Had attachment issues
  - Were not very empathetic
    (Connell-Carrick & Scannapieco, 2006; Gaudin, Polansky, Kilpatrick, & Shilton, 1996)
Unresolved Parental Trauma

Mothers, with neglect history, were more prone than others:

• to use arbitrary, inconsistent and punitive discipline, and...
• had unrealistic expectations towards their child

Connell-Carrick & Scannapieco (2006)
Dong, et al. (2004)
Unresolved Parental Trauma

- Among parents who were physically abused as children, individuals high in “Avoidance of Past Traumas” were at heightened risk of physically abusing their own children relative to those low in Avoidance.
Findings revealed that maternal maltreatment risk was associated with lower levels of children’s regulation, which in turn significantly predicted pre-academic skills and behavior problems (Schatz, 2008).
So... **how** can we really work together to make an *impact* to help traumatized pregnant teens and their young children
Neurobehavioral Complexities: Many trauma pieces to integrate!

- Prevention
- Surveillance
- Screening
- Triage / referral
- Assessment
- Treatment / Management
- Ongoing case management / progress monitoring
Overarching Brain-Behavior Goal: 
*Total Systems Integration*

- Individual child *(integrated brain function)*
- Committed caregivers *(integrated family function)*
- Individual professionals *(vertical integration)*
- Individual “silos” *(vertical integration)*
- Creative collaboration between silos *(horizontal integration)*
How can we achieve integration?

One kid at a time...
One family at a time...
One professional at a time...
One agency (silo) at a time...
Our Next Challenge:
The Brain-Behavior Connection
Let’s talk about the brain!!

Because the brain is clearly the common language needed to enhance communication / facilitate creative collaboration between all parties and... we need it for “true integration”
And.............

Brain knowledge helps us *really understand* our challenging teens (pregnant or not) and young children!...
Thinking about the brain: A 3-D Jigsaw Puzzle

- Upstairs vs Downstairs
- Back meets front
- Left meets Right
Let’s get practical!!!
Brain – Behavior Functional Model: Building integration one level at a time

Neurodevelopmental Core Base
(IQ, Language, Learning Style, Attachment Potential, etc)

Sensory Processing / MSI

Brakes-Accelerator Balance

Complex Affect Regulation

Social Communication

Behavioral Choice / Free Will
Neurodevelopmental Core Base
(IQ, Language, Learning Style, Attachment potential, etc)

Sensory Processing / MSI

Brakes-Accelerator Balance

Complex Affect Regulation

Social Communication

Behavioral Choice / Free Will
Brain-Behavior-Resiliency Model

Wave of the Future

- Mastery / Efficacy
- Relatedness
- Complex Affect Regulation
Brain – Behavior Functional Model: Building integration one level at a time

Neurodevelopmental Core Base
(IQ, Language, Learning Style, Attachment potential, etc)

Sensory Processing / MSI

Brakes vs Accelerator

Complex Affect Regulation

Social Communication

Behavioral Resiliency Protection

Free Will
Brain – Behavior Functional Model: Building integration one level at a time

- Neurodevelopmental Core Base (IQ, Language, Learning Style, Attachment Potential, etc)
- Brakes-Accelerator Balance
- Complex Affect Regulation
- Social Communication
- Behavioral Choice / Free Will
- Neurodevelopmental Core Base (IQ, Language, Learning Style, Attachment Potential, etc)
Inspecting the Foundation: 
Core Neurodevelopmental Building Blocks

("Hard wiring" of the Brain)
- Cognition / IQ
- Learning Preferences / Differences / Disability
- Language
- Memory
- Neuromotor processing / control
- Visual-Spatial Processing
- Tempero-sequential processing
- Temperament / Personality
- Attachment Potential
Brain – Behavior Functional Model: Building integration one level at a time

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Neurodevelopmental Core Base (IQ, Language, Learning Style, Attachment Potential, etc)
Upstairs Brain vs Downstairs Brain

Brakes – Accelerator Balance
The Human Brain

**Brakes** (Upstairs)

**Accelerator** (Downstairs)

- Neocortex
- Limbic
- Diencephalon
- Brainstem

B. Perry, MD
Master Controller Level: Accelerator vs Brakes

• This level is where the *action* is!
• Huge impact on all behavior
• Assessment at this level is critical
• Many physiological treatments impact here:
  – Medication
  – Physical exercise / complex movement
  – Occupational therapy
  – Expressive therapies (music, art, dance)
• Let’s examine this level in some detail...
Floorin’ it: 0 to 60 in 4.3 seconds!

Importance of the *accelerator*

- RPM of the brain
- Intrinsic Energy Levels
- Circadian Variations
Arousal Genesis / Regulation

Way too wound-up / “wild” (“Tigger - on crack”)

Too wound-up (Tigger)

Bored / Low energy / Tired & sleepy (Ee-yore)

Total shut-down (via parasympathetics) “Ee-yore on Quaaludes”
Accelerator: ("RPM" of the brain) **Increasing** Brain Energy

- Physical activity (mind-brain-body connection)
- Risk-taking behavior (auto pilot teen function)
- Motivation (Intrinsic / Extrinsic)
- Sensory inputs (vestibular, auditory, tactile)
- Anxiety / Panic (remote control to the accel.)
- Anger / Explosiveness (redline tachometer)
- Drugs (legal / illicit) (stimulants)
- Mania / Hypomania (stuck fast accelerator)
Accelerator: ("RPM" of the brain) Decreasing Brain Energy

- Depression / sadness / grief
- Conscious effort (relaxation, meditation)
- Drugs (legal / illicit) (opiates, cannabis, sedatives, anesthesia)
- Sensory input / strategies
Remote Control of the Accelerator

The Confusing Picture of Anxiety

Fight-Flight-Freeze in the JJ / CMH / DHS system

- Anxiety / Panic as source for reactive anger ➔ aggression
- Anxiety – Attention – Language interplay in kids/teens w/ aggression
- False machismo in anxious teen boys
Anger / Explosiveness: Critical Link to Reactive Aggression

- Anger as coping skill
- (“Just” anger as clinical progress!)
- Reactive / emotive aggression = Anger plus “bad” brakes
The Prefrontal Cortex: The home of Executive Function

Executive Function: The *"brakes"* of the brain

- Working memory / memory recall
- Focusing (locking, shifting & sustaining)
- Planning / organizing
- Self-monitoring of behavior/action
  - Impulse control
  - Key role in interoception
- Major role in *Regulation*
Brain – Behavior Functional Model: Building integration one level at a time

Neurodevelopmental Core Base
(IQ, Language, Learning Style, Attachment Potential, etc)

Sensory Processing / MSI

Brakes-Accelerator Balance

Complex Affect Regulation

Social Communication

Behavioral Choice / Free Will
Delicate Balance of Arousal / Behavioral Regulation:
Control of brain energy / behavior

Top-Down “Brakes” (Prefrontal Cortex)

Bottom-Up “Accelerator” (Brainstem/Limbic System)
The Case for Complex Affect Regulation
Fine Tuning Energy, Emotions, & Behavior

- Arousal Regulation
- Behavior Regulation
- Emotion Regulation
Complex Affect Regulation: Clinical Realities

- Arousal Regulation can be critical 1st step
- Arousal regulation translates to behavior regulation / clinical “traction”
- Emotion regulation can be the most difficult to achieve in traumatized kids / adults
- Complex affect regulation → true brain integration → ?neuroplasticity?
- Link to social communication
Brain – Behavior Functional Model: Building integration one level at a time

Neurodevelopmental Core Base
(IQ, Language, Learning Style, Attachment Potential, etc)

Sensory Processing / MSI

Brakes-Accelerator Balance

Complex Affect Regulation

Social Communication

Behavioral Choice / Free Will
Hyter Model of Social Communication (Sloane Revision)
Hyter Model of Social Communication (Sloane Revision)

All components are impacted by prenatal alcohol exposure and traumatic stress.

- Pragmatic Language
- Working Memory
- Social Cognition
- Complex Affect Regulation
Brain – Behavior Functional Model:
Building integration one level at a time

- Neurodevelopmental Core Base (IQ, Language, Learning Style, Attachment Potential, etc)
- Brakes-Accelerator Balance
- Complex Affect Regulation
- Social Communication
- Behavioral Choice / Free Will
- Sensory Processing / MSI
- Neurodevelopmental Core Base (IQ, Language, Learning Style, Attachment Potential, etc)
Free Will / Choice / Behavior
Don’t Forget About the Steering

- Conscious control of behavior
- Importance of **tight structure** for optimal behavior management
- Willfulness misconceptions
  - It’s not *all* willful!
  - But some *is* willful!
  - And some *looks* willful!
- Behavioral “curve balls” in homes, schools, detention...
Final Thoughts re Regulation:  
Power Steering vs Manual Steering

- **Regulated** steering = *power* steering!  
  - Easier to make appropriate motor / behavioral decisions while regulated

- **Dysregulated** steering = *manual* steering  
  - Tougher to keep the behavioral “car” on the road
Searching for Goldilocks
When regulation turns into integration

**Optimal** Complex Regulation =

**Optimal** Learning, Behavior, Attention, Memory
Challenging Behavior is *intimately connected* with Child Development
Nature dancing with Nurture
Neurobiology of Development

- Brain "sculpts" itself in response to the environment **AT THE SAME TIME** it is developing (via genetic blueprints)
Experience alters brain structure: Power of epigenetics

- These sculpted *structural changes* allow the child’s brain to become the *best brain* for the given surroundings
  - Implications for traumatic stress
  - Implications for foster care placements
  - Externalizing behaviors frequently seen when moving from “chaos” to “quiet”
  - Placation turns into anger / aggression after the meth bust
Streams of Development: Importance of Connectedness
Moral Development
Impact of trauma / FASD

• Babies, Toddlers & “hard-wired” fairness
• Psychological Science (Feb 2012)
• Sloane, Baillargeon, & Premack
• (Proud papa moment!!!)
• Future research possibilities at CTAC
End of Part 1
The Brain-Behavior connection: 3 major & intertwined components

• **Genetics / Epigenetics**
  – What you inherit from both parents

• **Intrauterine environment**
  – During pregnancy

• **Extraterine environment**
  – After pregnancy
The Brain-Behavior Connection: Complexities & Realities

- Genetics / Epigenetics

  - Neurodevelopmental strengths / weaknesses
  - Temperament / Personality
  - Family history of:
    - Attentional disorders (ADHD)
    - Learning disorders (e.g., Dyslexia)
    - Mood disorders (Depression / Bipolar)
    - Anxiety Disorders
    - Neuropsychiatric disorders (Tourette Disorder)
Behavioral Epigenetics: The future is now!

- Epigenetics: chemical alterations to DNA after conception
- Epigenetics is the *ultimate link* between nature & nature
- Some evidence that (on occasion) these epigenetic alterations may be passed on to the next generation
- Remains (somewhat) controversial (among “pure” neuroscientists)
The Brain-Behavior Connection: Complexities & Realities

• **Intrauterine environment**
  
  - Exposure to drugs (legal / illegal)
  - Maternal stress
  - Maternal nutrition
  - Exposure to alcohol
The Brain-Behavior Connection: Complexities & Realities

- Intrauterine Drug Exposure:
  - The “Myth” of Meth (& crack / cocaine)
  - “Mixing and matching” drugs while pregnant
  - Multiple drug use in pregnancy overwhelms even ultra-fast research computers!
  - Nicotine use **increases** ADHD risk 4-fold
  - Cannabis use remains a mystery
  - The need for animal models to **clarify**
  - Slowly accumulating data base of **prescription drugs** and their effects on fetal development
The Brain-Behavior Connection: Complexities & Realities

• Chronic and Severe Prenatal Stress:
  – Growing appreciation of negative impact on fetus
  – What level of stress is damaging to fetus?
  – Some placental stress buffering is protective
  – By 12 weeks of gestation, the limbic system and PFC are susceptible to chronic stress (via cortisol)
  – Prenatal stress can lower birth weight
  – Prenatal stress can impact adult health (think ACE)
  – Solid early life parenting / attachment can be protective (and even reverse deleterious effects)
Prenatal Nutrition

• Fetus is not the “perfect (nutritional) parasite”

• Dutch WW II prenatal stress study:
  – Fetal Programming: Preparing the baby for the life outside the womb
  – Prenatal maternal starvation: message to fetus: prepare for more of the same after birth
  – Life-long risk of obesity / heart disease due to no ongoing starvation (after WW II ended)

• Overlap with prenatal alcohol exposure
Fetal Alcohol Syndrome

FAS is among the most common of the known causes of cognitive impairment.
FAS: not the whole story

Fetal Alcohol Spectrum Disorders (FASD)

- Fetal Alcohol Syndrome
- Partial FAS
- Alcohol-related Neurodevelopmental Disorder (ARND) (“mild-moderate” FAS)
- Prenatal Exposure to Alcohol (clinically suspected to have FAS but appear physically normal)

Adapted from Streissguth
Fetal Alcohol Spectrum Disorder: Affects Multiple Body Systems

- Growth problems (including failure to thrive)
- Brain / CNS damage
- Cardiac defects
- Skeletal abnormalities
- Cranio-facial anomalies
- Kidney and other internal organs
- Respiratory problems
- Hearing / Vision problems
Fetal Alcohol Spectrum Disorder

• “Mild – Moderate” FASD is still very problematic
• It is all about \textit{when} the drinking occurred (during the pregnancy) and \textit{how much} alcohol was consumed on each occasion
• Binge drinking vs chronic drinking
• Mom blood alcohol level = fetal blood alcohol
• “Swiss cheese brain” issues
• Confusion over why \textit{all} fetal ETOH exposure is not created equal (SES & other risk factors)
Recognition / Screening / Assessment of FASD
FASD: Critical Facial Abnormalities

- Palpebral fissure (small eyes)
- Thin upper lip
- Smooth philtrum
Fetal Alcohol Syndrome:
It doesn’t always look like this
...It can look like this!...clinical examples of FAS: transcending race
…and even this!!!…

Facial features of FAS in a mouse

Normal (control) mouse  FAS mouse

Small eyes  Flat philtrum

Adapted from Sulik & Johnston, 1982
Diagnostic Assessment for FASD
FASD Diagnostic Assessment

- Ongoing controversy of best practices
- Primary Care Providers are typically out of the loop (but need to be on the front line!)
- University of Washington FASD system first to validate importance of mild-moderate FASD
- “The Big 4” categories: Growth, Face, Brain, Alcohol Exposure
- FASD screening is gaining momentum
FASD Facial Abnormalities

↓ palpebral fissure (small eyes)

Thin upper lip

Smooth philtrum
Lip-philtrum guides

Measurement of palpebral fissures

Measuring palpebral fissure length
FASD:
Impact on Brain Structure
Severe brain damage caused by prenatal alcohol exposure

5-day old infants

Severe FAS

Normal Brain

Photo: Clarren, 1986
Corpus Callosum

- 100 million neurons!!! (largest brain structure)
- Connects the two brain hemispheres
- Allows the left side to communicate with the right side
- Assists the individual child to calm down during / after “meltdown”
- Is often damaged by prenatal alcohol exposure / traumatic stress
Corpus Callosum
Gross structural abnormalities in FAS (12 year old male subjects)
Star Trek Medicine: Diffusion Tensor Imaging

Inter-hemispheric Fiber Tractography through Corpus Callosum

Fractional anisotropy maps

FASD

Control

Anatomical images
FASD: “real-world” impact on functional neurodevelopment:

- Animal & human studies clearly show:
  - Microcephaly / cognitive deficits
  - Multiple neurodevelopmental insults:
    - Executive function
    - Language
    - Memory
    - Visual-spatial processing
  - Sensory processing dysfunction
  - Adaptive function / self-regulation
  - Psychopathology

Reynolds 2011
FASD impact on neurodevelopment: The CTAC experience

• CTAC: evaluated 2600 children since Feb 2000
• 37% of CTAC traumatized child welfare sample (6-15 y/o) has been diagnosed with FASD
• CTAC first to describe *additive impact* of trauma + FASD on neurodevelopment (Henry, Sloane, & Black-Pond 2007)
• CTAC has not had much experience with *non-traumatized* FASD children
  – This FASD population: a *critical* research group
FASD Secondary Disabilities: Recent research findings

- A recent L/T study of individuals with FASD:
  - Mean age: 14 yrs (range 6-51 yrs)
  - N = 415
  - Mean IQ = 86 (Range 29-126)
  - 80% of the sample *not* raised by biological parents
  - 60% had trouble with the law
  - 50% were in confinement
  - 49% had repeated inappropriate sexual behavior
  - 35% had drug / alcohol problems
  - Early diagnosis 2-4 times more likely to *prevent* or *lessen* impact of these secondary disabilities

Streissguth 2004
The Brain-Behavior Connection: Complexities & Realities

• **Extrauterine environment**
  - Parental attachment / nurturing
  - Parental style / psychopathology
  - Nutritional status
  - Exposure to violence, natural disasters
  - Exposure to neglect
  - Exposure to abuse (verbal / emotional / physical / sexual)
Building the Brain: Using Mirrors

• **Mirror Neurons** “smart brain cells” that explain how we connect and relate to each other
The Brain-Behavior Connection: Complexities & Realities

• The 2-way street of attachment
  – Traumatized / FASD infants may have mirror neuron damage
    • Similar pattern may be seen in some ASD infants
  – Optimal attachment depends on *both* parent and infant having intact “mirror equipment”
  – Neurotypical parents adopting infants at birth can experience vague sense of unease & ineptness due to infant’s brain damage (similar to ASD parents)
  – “Double (attachment) whammy” of FASD & trauma
The Science of Attachment

• *Parenting From the Inside Out* by Daniel Siegel, MD (2004)
• *The Developing Brain* by Dan Siegel, MD (2nd Edition – March 2012)
• *Mirroring People* by Marco Iacoboni, MD (2009)
Child Traumatic Stress & the Developing Brain
Classifying Stress

Positive Stress

– Moderate / brief exposures to stressful events
– Important / necessary for healthy development
Classifying Stress

Tolerable Stress

- Significant (and often severe) stress exposure
- Potentially damaging
- Buffeted by **supportive** adult relationships
Toxic Stress

- Strong, frequent, prolonged exposure
- No (or inadequate) adult buffering & support
- Can directly damage the developing brain
“Trauma Trumps Everything!!!”

Sandra Bloom, MD
Types of Traumatic Stress

- Neglect
- Physical Abuse
- Verbal Abuse
- Emotional Abuse
- Sexual Abuse
- Exposure to Domestic Violence
- Exposure to Catastrophic Event
Traumatic Stress & the Child’s Developing Brain

• Research reveals a **strong link** between all types of **child abuse /neglect** and the subsequent development of **psychiatric illness in adulthood**

• New findings (ACE study) link child traumatic stress with variety of **adult medical illness**

VJ Felitti, MD 2009
Traumatic Stress & the Child’s Developing Brain

- Early childhood traumatic stress to the developing brain results in:
  - Physical neuroplastic brain changes that:
    - Cause abnormal functioning (including memory)
    - Contribute to problematic behaviors
    - Contribute to developmental delays
    - Result in child being unable to realize potential
So...what about neglect???
But...this case *only* involves neglect!
Neglect: The **Worst** Offender
Romanian Orphanage Neglect
Developmental Impact of Neglect

- Physical growth delays ("failure to thrive")
- Language delays
- Cognitive / learning delays
- Regulatory (arousal / emotional / behavioral) issues
- Social communication problems
- Attachment dysfunction
- Immune dysfunction

De Bellis 2005
Early Neglect and Brain Development

- Excessive amygdala activity ("stuck accelerator")
- Diminished prefrontal cortex function ("bad brakes")
- Mirror neuron system dysfunction ("broken mirrors")
  - Attachment issues
  - Social communication problems (including ASD)

Iacoboni 2008
Neglect and the Corpus Callosum

• Myelinated areas of the brain are particularly susceptible to effects of **early neglect**

• Corpus callosum is **largest** myelinated structure in the brain
  – **Connects** the two brain hemispheres & allows the left side to communicate with the right side

• Corpus callosum is **smaller in boys** with neglect

Teicher 1997
When parent involved in trauma

- Parent becomes source of protection and also represent harm
  - “fear without solution”
  - “caught between approach and avoidance”
  - “intractable emotional dilemma”
  - “source of solution and source of alarm”
  - “parent as traumatic reminder”
Attachment Continuum

Healthy
Secure

Insecure

Disorganized
RAD
Assessing Adult Attachment

- Research: Best Predictor of Child’s Security of Attachment is not what happened to the child’s parents but how the parents made sense of their childhood experiences.
Assessing Adult Attachment

- Securely attached:
  - Most often acknowledged both positive and negative aspects of their family experiences
  - Show how their experiences related to their later development
  - Had a *coherent account* of their past and who they were
Adult Style

- **Dismissing Mind (Avoidant as Child)**
  - Left side dominant (factual) versus Right side autobiographical details (relationships)
  - Minimization of the need for others
  - Left adaptation so as not to feel the pain of missed connections
  - Integration of right hemisphere. Feelings become more available
Adult Style

• Preoccupied: Confused state of self
  – Inability (due to ambivalent attachment) to develop sense of self (fears of abandonment)
  – I need others but I cannot depend on them
  – Inability to become differentiated from parent affects adult relatedness of not being able to see the other as separate (Hyperarousal of A.S.)
  – Understanding the origins to integrate left side of the brain with the dominant right side
Adult Style

• **Disorganized:** Fear without solution
  – Child self becomes fragmented
  – Often result of unresolved trauma and dissociation and betrayal
  – Specific triggers create an exaggerated survival response
  – Bringing terrified right hemisphere images into relationship with left brain ability to understand them; Developing a narrative
Urgency of Assessment
Screening and Assessment

- Need to assess for traumatic experiences directly affecting infant as well as traumatic experiences of parent’s recent experience as well as cumulative traumatic effects from their own childhood
Intervention Example

Most prevention and early intervention programs promote and target an increase in the quantity and quality of *language stimulation* offered to the child.
Intervention Example

- Results suggest that particular attention should be given to other environmental factors, specifically the mother’s psychological availability and her sensitivity towards the child, not specific language skill building.
Building parental relatedness

- Our parents can learn new parenting skills that translate into “activities,” but the parent’s ability to *relate, nurture, and empathize*, which are foundations of parenting, are often absent or impaired due to early traumatic experiences.

– EXAMPLES
If we are trying to *teach relatedness* with parents... we must *model relatedness* with them.

Sounds Great! Is this reality?
Intervention Keys

• *Psychoeducation* about attachment, trauma, and its impact on not only to the child but to them as well.

• Teaching caregivers *attunement skills* to respond not to the behaviors, but what is underneath that behavior
Moving away from asking questions to identifying child’s behaviors verbally.

Teaching parents how to play.
Intervention Models

- Child Parent Psychotherapy
- ARC
- Theraplay
Child Parent Psychotherapy

- Attachment system: main organizer of children’s response to danger and safety
- Early mental health problems addressed in context of primary attachment relationship
- Child outcomes emerge in context of transactions between child and caregiver
CPP

- Interpersonal violence is a traumatic stressor with harmful relational and behavioral repercussions to those who witness or who are recipients.
- Therapeutic relationship is a key factor in treatment.
ARC Treatment Goals

1) Build/Rebuild healthy attachments between children and their traumatized parents

2) Creating a safe environment for the child that facilitates healthy recovery
Four Basic Principles of ARC

1) Creating a safe and predictable environment by establishing rituals and routines.
   1) Adults being in Control
   2) Rules are defined for keeping everyone safe
   3) Bedtime rituals
   4) Objects of Affection
   5) Daily Schedules
• Basic safety and security a child is provided and is the key to all developmental competencies including regulation of emotion, behavior, and relationships.
2. Increasing caregivers ability to manage the child’s intense affect
Self Regulation: Identification

• Ability to identify what one is feeling
• Ability to connect these feelings to experience
• Ability to read emotional cues of others
Self Regulation: Expression

• Build capacity to safely express emotions and emotional experiences
Self Regulation: Modulation

- Ability to recognize and shift from emotional experiences
- Ability to return to a comfortable state of arousal
3) Improve caregiver attunement so as the caregiver is responding to the child’s underlying affect and not behavioral manifestations

- Teaching parents not to personalize
- Teaching parents how to recognize their own triggers
- Teaching parents how to absorb affect
Trauma Symptoms in young children

• Mood shifts
• Traumatic Play
• Nightmares
• Developmental regression
• Constricted play
• Increased interest in objects
Trauma Symptoms in young children

• Tantrums
• Difficulties sleeping
• Paying attention
• Maintaining concentration
• New Fears
• Aggression
Resiliency

Relatedness

STOP

Adverse Child Experience
Resolving Parental Trauma: The Key to Healthy Child Development

- To stop the intergenerational neglect transmission cycle, a nurturing and supportive cycle must be established, not only for the children, but also for the mothers who were themselves neglected as young children

Lombardo & Polonko (2004)
Polonko (2006)
Resiliency

Mastery/Efficacy

- Intelligence
- Sports
- Art
- Music
Resiliency

Affect/Regulation

- Ability to calm
- Ability to regulate
- Ability to contain affect
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Harry: “I just feel so angry all the time . . . What if after everything I’ve been through, something’s gone wrong inside me? What if I’m becoming bad?”

Sirius: “I want you to listen to me very carefully, Harry. You’re not a bad person. You’re a very good person who bad things have happened to.”

From *Harry Potter and the Order of the Phoenix* (Warner Brothers, 2007)
Adverse Childhood Experiences

(Felitti, et al, 1998)

- Recurrent and severe physical abuse
- Recurrent and severe emotional abuse
- Sexual abuse

• Growing up in household with:
  - Alcohol or drug user
  - Family member being imprisoned
  - Mentally ill, chronically depressed, or institutionalized family member
  - Mother being treated violently
  - Both biological parents absent
  - Emotional or physical abuse
Preschoolers & Witnessed Violence

- Both Rossman (1998) & Huth-Bocks, Levendosky, and Semel (2001) posit that preschoolers who witness violence have more:
  - behavioral problems
  - social problems
  - post-traumatic stress symptoms
  - greater difficulty developing empathy
  - poorer self-esteem... than non-witnesses.
Preschoolers & Witnessed Violence

• The effects of domestic violence are amplified for these young children, who are completely dependent on parents for all aspects of their care and may therefore witness greater amounts of violence than older children

(Huth-Bocks et al., 2001)
Preschoolers & Witnessed Violence

- Their developmentally-limited ability to verbalize the powerful emotions they are experiencing may manifest itself in:
  - Temper tantrums & aggression
  - Crying and resisting comfort
  - Despondency and anxiety

(Cunningham & Baker, 2004)
Preschoolers & Witnessed Violence

- While Lundy & Grossman’s study (2005) found that aggressive behavior and possessiveness were particular problems for this age group, Martin (2002) surmised that extreme fear may result in psychosomatic problems:
  - Headaches
  - Stomach aches
  - Asthma
  - Insomnia, nightmares, sleepwalking, & enuresis
Domestic Violence: Link to Bullying and Aggression

• The first US study to examine the relationship between domestic violence exposure and bullying corroborated this finding that children exposed to violence engaged in *higher levels of generalized aggression* (Bauer et al., 2006)
Domestic Violence:
Bearing Witness to this Destructive Force

- Kilpatrick and Williams (1998) concluded from their research that exposure to domestic violence “has the potential to induce catastrophic and long-term trauma in the child witness.”
A secure attachment to a non-violent parent or other significant caregiver has been cited consistently in the literature as an important protective factor in mitigating trauma and distress.

(Graham-Bermann, DeVoe, Mattis, Lynch, & Thomas, 2006; Mullender et al., 2002)
Indeed Osofsky (1999) concluded from her review of the literature that:

the *relationship* with a parent or another familiar and caring adult is the trauma-exposed child’s *greatest protective resource*.
Resilience & Relationships

- Resilience is also associated with having positive peer and sibling relationships and friendships that can:
  - Buffer the effects of stress
  - Prevent and mediate stress
  - Provide support and nurturance
  - Provide information as to how to deal with stress

(Guille, 2004; Mullender et al., 2002)
Self-Esteem: Building Block of Resilience

- Self-esteem, one of the building blocks of resilience (Daniel & Wassell, 2002; Martin, 2002), emerges as a critical element:
  - underlying children’s ability to develop successful **coping strategies**
  - and as a significant distinguishing factor between résilient and non-résilient adolescents

(Kashani & Allan, 1998).
The literature reviewed advocates for a holistic and child-centered approach to service delivery, derived from an informed assessment of all of the issues outlined above and designed to capture a picture of the individual child’s experience.

(Calder & Hackett, 2003; Hester et al., 2000; Kelly & Humphreys, 2001)
Resiliency: Relatedness

• A secure relationship with a caregiver is the most significant protective factor to assist a child in overcoming trauma

(Perry, 2010)
Five Concrete Steps: Building Relatedness between caregiver & child

• During assessment stage: Ask questions about the caregivers' traumatic history to address unresolved childhood trauma.

• Screen for child trauma.

• Provide psychoeducation to caregiver about the impact of trauma to child (including exposure to domestic violence on neurodevelopment).
Five Concrete Steps: Building Relatedness between caregiver and child

- Depersonalize child’s behaviors to reframe behaviors from manipulative and attention seeking to seeking relatedness

- Teach attunement skills by having caregiver provide feeling words to what the child is experiencing
Five Concrete Steps
Building self worth/mastery in child by caregiver

- Constant reminders to the parents of the **5 to 1 ratio** in wiring the brain
- **Praise the effort** more than the outcomes
- Communicate when bad things happen they are **not the child’s fault**
- **Physical nurturing** through touch communicates the **child is valuable**
- Be available to **sit with the child** when she fails
Five Concrete Steps: Building Affect Regulation in child by caregiver

- Be an *emotional container* for child’s emotions
- Utilize non-verbals (touch, voice, eye contact) to provide *calming presence* when the child dysregulates
- Provide *consistent structure* to build predictability to reduce anxiety and stress
- Be *proactive*: When child is beginning to show signs of dysregulation is the time to intervene
Dysregulation Strategies

• Encourage *caregiver awareness* of the times of increased dysregulation to provide support to the child prior to potential explosiveness

• When the child is triggered... *avoid power struggles* because they only increase dysregulation and explosiveness
Effective Trauma/FASD Treatment: Creative Collaboration by the totally integrated “Dream Team”
Effective Trauma/FASD Treatment:

- Comprehensive Assessment (1\textsuperscript{st} step of treatment)
- Psychoeducation / Demystification
- Creative / collaborative case management
- Trauma-informed Psychotherapies
- Sensory-focused Occupational Therapy
- Expressive Therapies (Music, Art, Dance therapy)
- Optimized nutrition
- Exercise / complex movement (Yoga / Tai Chi)
- Trauma / FASD-informed medication treatment
Effective Trauma/FASD Treatment

- Classroom accommodations / special education
- Tutoring / coaching / mentoring
- Speech-Language Therapy
- Social skills treatment / enhancement
- Wraparound protocols
- Behavioral management
- Parent behavioral management training (PMTO)
- Multi-systemic Therapy (MST)
How to decide what to do when: Who wants to be quarterback?

- Overwhelming list of choices!
- Many barriers to coordinated care
  - Access to quality care
  - Insurance issues
  - Transportation / Time issues
  - Lack of creative case management
- Case for primary care provider tx:
  - Trauma-informed patient / family-centered medical home treatment model
Psychopharmacologic Treatment in Children / Adolescents
Changing Landscape of Psychotropic Medication

• Since 2000, many new medications have been introduced
• It is difficult for primary care physicians to keep pace with new meds
• Especially tough for JJ/MH professionals to get useful information on medication
• New choices = new treatment opportunities
• These are exciting times!!
Psychopharmacologic Treatment

- Psychopharmacology as part of multi-modal Tx
- Critical questions:
  - *When* to do meds!
  - *Which med* to do first?
- Adequate *follow-up* essential (the *details* matter!)
- For *optimal* medication treatment:
  - Need effective *collaboration / communication*
    - With parents / teachers / MH professionals / other supervisory adults (tutors / coaches / case managers / direct care staff/ OT’s / SLP’s)
Psychopharmacologic Treatment

- **Important points in using medications:**
  - Target Symptoms vs DSM-IV Diagnoses
  - “Deconstructing the DSM”
  - *Brain-based* meds (stay tuned!)
  - Impairment of function requirement:
    - Starting medications
    - Changing medication doses
    - Changing type of medication
Psychopharmacologic Treatment

Important points in using medications:

– Emphasize that the **GOAL** of med Tx is to **restore normal (as possible) brain function**

– Remember the **“COMFORT ZONE”**

– Optimal med Tx **allows** other treatment modalities (CBT, OT, DBT) to be more effective

– Impact of substance use / abuse
Remember, its all about...

Leveling the playing field !!!
Specifics of optimized brain-based medication treatment
Optimized Brain-based Medication Treatment

- **Major target area:**
  - **Brakes:**
    - Focus / concentration
    - Arousal dysregulation
    - Executive dysfunction
      - Working memory
      - Impulse control
      - Hyperactivity
    - Mood dysregulation

- **Major target area:**
  - **Accelerator:**
    - Sleep / arousal
    - Limbic irritability
      - Anger / explosiveness
      - Mood lability
    - Callosal dysfunction
    - Anxiety / OCD
    - Panic / Fight-Flight
    - Depression
Psychotropic Medication
Proposed Algorithm (Sloane 2011)

Key Clinical Questions:

1) Sleep Issues? Y or N
2) Mood Issues? Y or N
3) Executive Function:
   3a) Regulation Issues? Y or N
   3b) Impulse Control Issues? Y or N

Revisit regulation until stable ➜ ➜
Psychotropic Medication
Proposed Algorithm

• If regulation is solid:

5) Low motivation / low arousal? Y or N
6) ↓ focus / attention? Y or N
7) Depression? / Anxiety? Y or N
Psychotropic Medication
Proposed Algorithm

• Are medications now optimized?  Y or N
• Is the playing field now level?  Y or N

• If not, use other physiologic treatments:
  – Sensory-focused occupational therapy
  – Exercise / Complex Movement (Yoga, Tai Chi)
  – Optimized nutrition
  – Expressive Therapies (Music, Art, Dance)
A level playing field allows other treatment modalities to be more effective

- Psychotherapy
- Case management
- Wraparound protocols
- Behavioral management
- Social skills training
- Parent training
- MST
- Tutoring
Remember...
Medication is the *beginning* of the journey (not the end)
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