The Epidemiology of Adoption and Common Developmental & Behavioral Issues Encountered in Adopted Children

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Epidemiology

• ~2% of the US population
• 3 categories
  – Domestic private agency, kinship, tribal adoption (>50%)
  – Domestic public adoption (~40%)
  – International adoption (<10%)

Source: The Zuckerman Parker Handbook of Developmental and Behavioral Pediatrics for Primary Care, 2011
The Process: Adoption through Foster Care

• Multi-step process
  – Select an agency licensed in the adoptive parents’ state of residency
  – Complete a homestudy [up to 6 months]
    • Documents, interviews, home visits
  – Begin to search for a child and exchange information

Sources: http://adopt.org/ten-step-overview
http://www.adoptuskids.org/for-families/how-to-adopt
The Process:
Adoption through Foster Care

• Multi-step process, continued
  – Selection
  – Meeting the child
  – Receiving an adoptive placement
  – Legalizing the adoption (“intent to adopt” petition)

Sources: http://adopt.org/ten-step-overview
http://www.adoptuskids.org/for-families/how-to-adopt
Common Myths About Adoption

• You have to be wealthy and own a house.
• You can’t adopt a child that you know professionally.
• If you’re the relative of a child in foster care, you have a lower chance of being successful in adoption.
• A birth parent or another relative can take an adopted child back.

Source:  
http://www.adoptuskids.org/for-families/how-to-adopt/common-myths-about-adoption#birth-parents
The primary care clinician’s role

• Preadoption
  – Obtain medical records through the adoption agency including family history
  – Obtain details about birth parents including education, work, interests and reasons for placing child for adoption

Source: The Zuckerman Parker Handbook of Developmental and Behavioral Pediatrics for Primary Care, 2011
The primary care clinician’s role

• Post-adoption
  – Schedule follow-up visit soon after newly adopted child joins the family
  – Continue to work with parents to address concerns about child’s behavior and adjustment

Source: The Zuckerman Parker Handbook of Developmental and Behavioral Pediatrics for Primary Care, 2011
When is the right time to tell a child that he/she is adopted?

• Open discussion about adoptive and birth history as soon as a child joins the family
  – Adopted children should learn about their adoptive history from adoptive parents rather than someone else

Source: The Zuckerman Parker Handbook of Developmental and Behavioral Pediatrics for Primary Care, 2011
How to tell a child he/she is adopted

• A discussion involving a “history of adoption”
• Several times, over a timespan of years
• Topics to include
  – Role of birth parents
  – Motivation of adoptive parents to adopt
  – Reiterate that it is not child’s fault that he/she was placed for adoption
  – Emphasize adoptive parents’ love for child

Source: The Zuckerman Parker Handbook of Developmental and Behavioral Pediatrics for Primary Care, 2011
Understanding Adoption Across Stages of Development

• Preschool
  – Where did I come from?
  – Concrete aspects of adoption
  – Interest in their “birth story”

Strategies:
  – story books

Sources: The Zuckerman Parker Handbook of Developmental and Behavioral Pediatrics for Primary Care, 2011; Jones et al. The pediatrician’s role in supporting adoptive families, 2012
Understanding Adoption Across Stages of Development

• Age 7-11 years
  – Better understanding that they are unique in being adopted
  – Self-esteem issues, comparison to others

Strategies:
  – Reassure parents
  – Coach parents to give honest answers
  – Okay to share photos or letters

Source: The Zuckerman Parker Handbook of Developmental and Behavioral Pediatrics for Primary Care, 2011; Jones et al. The pediatrician’s role in supporting adoptive families, 2012
Understanding Adoption Across Stages of Development

• Early adolescence
  – Information seekers
  – Trying to define own identity and individuality

Strategies:
  – Honest discussions to avoid idealizing birth parents

Source: The Zuckerman Parker Handbook of Developmental and Behavioral Pediatrics for Primary Care, 2011
Understanding Adoption Across Stages of Development

• Late adolescence
  – Thinking about own relationships
  – Thinking about own health concerns
  – Increased interest in family history (of birth parents)

• Strategies:
  – Honest discussions
  – Full disclosure
  – Difficult topics can be facilitated by therapist

Source: The Zuckerman Parker Handbook of Developmental and Behavioral Pediatrics for Primary Care, 2011
Why did my birth mother give me up for adoption?

• Not the child’s fault!
• Honest, plausible explanations
• Supportive statements if known history of birth parent mental health issues or substance abuse

Source: The Zuckerman Parker Handbook of Developmental and Behavioral Pediatrics for Primary Care, 2011
Addressing Nosy Neighbors & Chatty Children

• Outsiders’ questions
  – Give honest answers, but respect child’s privacy

• Responding to teasing
  – Positive statements

• Children over-sharing information
  – Give bits and pieces of info appropriate to child’s developmental age

Source: The Zuckerman Parker Handbook of Developmental and Behavioral Pediatrics for Primary Care, 2011
“The Search”

• Common occurrence
• No consensus on optimal time to reunite
• Generally leads to positive outcomes with adoptive family

Source: The Zuckerman Parker Handbook of Developmental and Behavioral Pediatrics for Primary Care, 2011
The Well-Child Check

• Immunizations
• Growth
• Screenings

Sources: [http://www.healthychildren.org](http://www.healthychildren.org); Jones et al. *The pediatrician’s role in supporting adoptive families*, 2012
Developmental and Behavioral Issues

• Transitional issues
  – Anxiety, depression, misbehaving
• Discipline
• Sibling Rivalry
• ADHD & learning issues
• Risky adolescent behavior

Sources: http://www.healthychildren.org; Jones et al. *The pediatrician’s role in supporting adoptive families*, 2012
Effect of Nurture on Nature

- The anatomic brain structures that govern personality traits, learning processes, emotional regulation, and reactions to stress are established and strengthened during the first few years of life.

- The formation of these neural networks is influenced by negative environmental conditions, including lack of stimulation, abuse, and violence within the family.
Children in Foster Care

• Many children in foster care have been the victims of abuse and neglect during the early years of life, when brain growth and development are most active.

• Intrauterine alcohol and drug exposures also leave many in the foster care system with cognitive, sensory, and emotional impairments.

• As a result, children in foster care suffer a high incidence of developmental delays (up to 25% in some age groups), PTSD (up to 25%), and other psychiatric diagnoses (up to 80% of children aging out of foster care).
Pathophysiology: Toxic Stress

**CHILD / INDIVIDUAL STRESSORS**
- Abuse, neglect, chronic fear state
- Other traumas
  - natural disasters
  - accidents and illness
  - exposure to violence
- Disabilities / chronic disease

**PARENTAL / FAMILY STRESSORS**
- Parental dysfunction
  - substance abuse
  - domestic violence
  - mental illness
- Divorce / single parenting
- Poverty

**SOURCES OF RESILIENCE***
Temperament, social-emotional supports, and learned social-emotional skills

**OTHER VULNERABILITIES***
Temperament, delays in development, and limited social-emotional supports

<table>
<thead>
<tr>
<th>Physiologic STRESS in Childhood</th>
<th>Stress Response</th>
<th>Duration</th>
<th>Severity</th>
<th>Social-Emotional Buffering</th>
<th>Long-Term Effect on Stress Response System</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>STRESS RESPONSE</strong></td>
<td>Positive</td>
<td>Brief</td>
<td>Mild/moderate</td>
<td>Sufficient</td>
<td>Return to baseline</td>
</tr>
<tr>
<td><strong>DURATION</strong></td>
<td>Tolerable</td>
<td>Sustained</td>
<td>Moderate/severe</td>
<td>Sufficient</td>
<td>Return to baseline</td>
</tr>
<tr>
<td><strong>SEVERITY</strong></td>
<td>Toxic</td>
<td>Sustained</td>
<td>Severe</td>
<td>Insufficient</td>
<td>Changes to baseline</td>
</tr>
<tr>
<td><strong>SOCIAL-EMOTIONAL BUFFERING</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>LONG-TERM EFFECT ON STRESS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>RESPONSE SYSTEM</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TRAUMATIC ALTERATIONS**
- Epigenetic modifications
- Changes in brain structure and function
- Behavioral attempts to cope
  - May be maladaptive in other contexts

AAP: Helping Foster and Adoptive Families Cope with Trauma. 2013.
### Signs and Symptoms

#### Response to Trauma: Bodily Functions

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>CENTRAL CAUSE</th>
<th>SYMPTOM(S)</th>
</tr>
</thead>
</table>
| Sleep     | Stimulation of reticular activating system | 1. Difficulty falling asleep  
2. Difficulty staying asleep  
3. Nightmares                        |
| Eating    | Inhibition of satiety center, anxiety  | 1. Rapid eating  
2. Lack of satiety  
3. Food hoarding  
4. Loss of appetite               |
| Toileting | Increased sympathetic tone, increased catecholamines | 1. Constipation  
2. Encopresis  
3. Enuresis  
4. Regression of toileting skills |

#### Response to Trauma: Behaviors

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>MORE COMMON WITH</th>
<th>RESPONSE</th>
<th>MISIDENTIFIED AS AND/OR COMORBID WITH</th>
</tr>
</thead>
</table>
| Dissociation  
(Dopaminergic)  | • Females  
• Young children  
• Ongoing trauma/pain  
• Inability to defend self | • Detachment  
• Numbing  
• Compliance  
• Fantasy | • Depression  
• ADHD  
inattentive type  
• Developmental delay |
| Arousal  
(Adrenergic)   | • Males  
• Older children  
• Witness to violence  
• Inability to fight or flee | • Hypervigilance  
• Aggression  
• Anxiety  
• Exaggerated response | • ADHD  
• ODD  
• Conduct disorder  
• Bipolar disorder  
• Anger management difficulties |

AAP: Helping Foster and Adoptive Families Cope with Trauma. 2013.
<table>
<thead>
<tr>
<th>AGE</th>
<th>IMPACT ON WORKING MEMORY</th>
<th>IMPACT ON INHIBITORY CONTROL</th>
<th>IMPACT ON COGNITIVE FLEXIBILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infant / toddler / pre-schooler</td>
<td>Difficulty acquiring developmental milestones</td>
<td>Frequent severe tantrums</td>
<td>Easily frustrated</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Aggressive with other children</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Attachment may be impacted</td>
<td></td>
</tr>
<tr>
<td>School-aged child</td>
<td>Difficulty with school skill acquisition</td>
<td>Frequently in trouble at school and with peers for fighting and disrupting</td>
<td>Organizational difficulties</td>
</tr>
<tr>
<td></td>
<td>Losing details can lead to confabulation, viewed by others as lying</td>
<td></td>
<td>Can look like learning problems or ADHD</td>
</tr>
<tr>
<td>Adolescent</td>
<td>Difficulty keeping up with material as academics advance</td>
<td>Impulsive actions which can threaten health and well-being</td>
<td>Difficulty assuming tasks of young adulthood which require rapid interpretation of information: ie, driving, functioning in workforce</td>
</tr>
<tr>
<td></td>
<td>Trouble keeping school work and home life organized</td>
<td>Actions can lead to involvement with law enforcement and increasingly serious consequences</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Confabulation increasingly interpreted by others as integrity issue</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Foster Care Clinic (FCC) Increases Detection of Developmental Delay

### TABLE 4. Number and Types of Problems Identified, Referrals and Services Received (n = 120)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Intervention From FCC (n = 62)</th>
<th>Comparison From Community Provider (n = 58)</th>
<th>χ² (P Value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of problem identified by foster mother</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical</td>
<td>23 (37.1%)</td>
<td>21 (36.2%)</td>
<td>.010 (.919)</td>
</tr>
<tr>
<td>Educational</td>
<td>21 (33.9%)</td>
<td>25 (44.8%)</td>
<td>1.510 (.219)</td>
</tr>
<tr>
<td>Developmental</td>
<td>14 (22.6%)</td>
<td>10 (17.2%)</td>
<td>.534 (.465)</td>
</tr>
<tr>
<td>Mental health</td>
<td>18 (29.0%)</td>
<td>18 (31.0%)</td>
<td>.057 (.811)</td>
</tr>
<tr>
<td>Type of problem identified by provider</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical</td>
<td>19/62 (30.7%)</td>
<td>22/58 (37.9%)</td>
<td>.707 (.400)</td>
</tr>
<tr>
<td>Educational</td>
<td>19/60 (31.7%)</td>
<td>14/57 (24.6%)</td>
<td>.729 (.393)</td>
</tr>
<tr>
<td>Developmental</td>
<td>35/62 (56.5%)</td>
<td>5/58 (8.6%)</td>
<td>30.851 (.001)</td>
</tr>
<tr>
<td>Mental health/DCF</td>
<td>23/62 (37.1%)</td>
<td>8/58 (13.8%)</td>
<td>8.494 (.004)</td>
</tr>
<tr>
<td>Referral for problem by provider</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical</td>
<td>5/19 (26.3%)</td>
<td>9/22 (40.9%)</td>
<td>.966 (.326)</td>
</tr>
<tr>
<td>Educational</td>
<td>4/19 (21.0%)</td>
<td>1/14 (7.1%)</td>
<td>1.213 (.270)</td>
</tr>
<tr>
<td>Developmental (OT/PT/speech)</td>
<td>15/35 (42.9%)</td>
<td>0/5 (0.0%)</td>
<td>3.429 (.064)</td>
</tr>
<tr>
<td>Mental health/DCF</td>
<td>10/23 (43.5%)</td>
<td>3/8 (37.5%)</td>
<td>.087 (.768)</td>
</tr>
<tr>
<td>Children with at least 1 service recommended at baseline</td>
<td>44 (71.0%)</td>
<td>25 (43.1%)</td>
<td>9.521 (.002)</td>
</tr>
<tr>
<td>Children with at least 1 service recommended at baseline who received services at 6-mo follow-up</td>
<td>30/44 (68.2%)</td>
<td>11/25 (44.0%)</td>
<td>3.866 (.049)</td>
</tr>
<tr>
<td>Children with at least 1 service recommended at baseline who received services at 12-mo follow-up</td>
<td>34/44 (77.3%)</td>
<td>15/25 (60.0%)</td>
<td>2.311 (.128)</td>
</tr>
</tbody>
</table>

DCF indicates Department of Children and Families; OT, occupational therapy; PT, physical therapy.

Targeted Screening Increases Detection of Developmental Delays

FIGURE 1
Percentage of children who were NFC and identified with possible DDs compared by clinical assessment in the baseline period versus the ASQ in the screening period. a P ≤ .001 for all comparisons of baseline to screening cohorts according to age groups (χ² test).

FIGURE 2
Percentage of children who were NFC with detected DD according to domain, compared by clinical assessment in the baseline phase versus the ASQ in the screening phase. a P < .01 for all comparisons of baseline to screening cohorts according to domain (χ² test).

# Trauma Surveillance/Screening Tools

<table>
<thead>
<tr>
<th>TOOL</th>
<th>DESCRIPTION</th>
<th>NUMBER OF ITEMS AND FORMAT</th>
<th>AGE GROUP</th>
<th>ADMIN AND SCORING TIME</th>
<th>CULTURAL CONSIDERATIONS</th>
<th>COST AND DEVELOPER</th>
</tr>
</thead>
<tbody>
<tr>
<td>UCLA PTSD - RI: Post Traumatic Stress Disorder Reaction Index*</td>
<td>Assesses exposure to trauma and impact of events</td>
<td>20-22 items depending on child, parent, or youth version</td>
<td>Child and Parent: 7-12 years; Youth 13+</td>
<td>20-30 min to administer 5-10 min to score</td>
<td>English, Spanish</td>
<td>Available to International Society for Traumatic Stress Studies members</td>
</tr>
<tr>
<td>Abbreviated UCLA PTSD RI</td>
<td>Elicits trauma-related symptoms</td>
<td>9 items for child 6 items for adult</td>
<td>8-16 years 3-12 years</td>
<td>2-5 min</td>
<td>English, Spanish</td>
<td>Available to International Society for Traumatic Stress Studies members</td>
</tr>
<tr>
<td>TSC-C Trauma Symptom Checklist for Children</td>
<td>Elicits trauma-related symptoms</td>
<td>TSC-C: 54 items TSC-YC: 90 items, caregiver report for young children</td>
<td>8-16 years 3-12 years</td>
<td>15-20 min</td>
<td>English, Spanish</td>
<td>Proprietary ($172-$230 per kit)</td>
</tr>
</tbody>
</table>


## Table 5. Therapies for the Traumatized Child

<table>
<thead>
<tr>
<th>AGE</th>
<th>THERAPY</th>
<th>GOALS^a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Younger child</td>
<td>• Parent-Child Interaction Therapy (PCIT) (appropriate for children 2–12 y)</td>
<td>• PCIT works with caregivers and children to align appropriate parental response to child behaviors.</td>
</tr>
<tr>
<td></td>
<td>• Child-Parent Psychotherapy (CPP) (appropriate for newborns, infants, and children 0–6 y)</td>
<td>• CPP is a dyadic intervention that targets the effect of trauma on the child-parent relationship and how the parent can provide emotional safety for the child.</td>
</tr>
<tr>
<td>Older children</td>
<td>• PCIT (appropriate for children 2–12 y)</td>
<td>• PCIT works with caregivers and children to align appropriate parental response to child behaviors.</td>
</tr>
</tbody>
</table>
|                              | • Trauma-Focused Cognitive-Behavioral Therapy (TF-CBT) (for children ≥5 y) | • TF-CBT trains children and families in  
  • Relaxation techniques  
  • Skills and language to access emotion  
  • Creating a trauma narrative  
  • Then child is guided to create a trauma narrative. Child develops/writes a story about what happened to him/her.  
  • When child is able to tell or read this story to caregiver, it indicates trauma no longer defines child but is instead a story of what happened to child, having lost its power to continue to harm. |
| Complex trauma or poly-victimization | • Attachment, Self-Regulation, and Competency (ARC) (appropriate for children and adolescents 2–21 y) | • ARC can include individual, group, and family treatment; parent workshops; milieu/systems intervention; and home-based prevention programs. Specifically targets the child’s surrounding system (eg, family, services, communities). |
|                              | • Integrative Treatment of Complex Trauma for Children and Adolescents (ITCT-C, ITCT-A) (appropriate for children and adolescents 2–21 y) | • ITCT-C is particularly adapted for families who are economically disadvantaged and culturally diverse. Can include multiple modalities (eg, individual, family, play). |
|                              | • Trauma Systems Therapy (TST) (appropriate for children and adolescents 6–19 y) | • TST is focused on children and adolescents who are having difficulty regulating their emotions. Can be used for children who have a wide range of traumatic experiences and for a variety of cultures. |
|                              | • Trauma Affect Regulation: Guide for Education and Therapy (TARGET) (appropriate for children and adolescents ≥10 y) | • TARGET is focused on children and caregivers who are experiencing traumatic stress, particularly those involved with justice or child welfare systems. |

^Adapted from the National Child Traumatic Stress Network materials found at [www.nctsn.org/resources/topics/treatments-that-work/promising-practices](http://www.nctsn.org/resources/topics/treatments-that-work/promising-practices)
Conclusions

• Emotional and cognitive disruptions early in life have the potential to impair brain development

• Children in foster care have disproportionately high rates of physical, developmental, and mental health problems

• Pediatricians have a special responsibility, as advocates for these children and their families, to help evaluate and help address these needs
References

- [http://adopt.org/](http://adopt.org/)
References


• Committee on Early Childhood, Adoption and Dependent Care. “Developmental Issues for Young Children in Foster Care.” *Pediatrics*. 2000; 106; 1145


• Jee SH et al. “Improved Detection of Developmental Delays Among Young Children in Foster Care.” *Pediatrics*. 2010; 125; 282.

• AAP. *The Medical Home Approach to Identifying and Responding to Exposure to Trauma*. 2014. [www.aap.org/traumaguide](http://www.aap.org/traumaguide)