



Clinical Considerations Related to the Behavioral Manifestations of Child Maltreatment

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Children who have suffered early abuse or neglect may later present with significant health and behavior problems that may persist long after the abusive or neglectful environment has been remediated. Neurobiological research suggests that early maltreatment may result in an altered psychological and physiologic response to stressful stimuli, a response that deleteriously affects the child's subsequent development. Pediatricians can assist caregivers by helping them recognize the abused or neglected child's emotional and behavioral responses associated with child maltreatment and guide them in the use of positive parenting strategies, referring the children and families to evidence-based therapeutic treatment and mobilizing available community resources.

abstract

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This brief listing of the 12 Core Concepts (with abbreviated accompanying commentaries) is derived for illustrative purposes only and is used with permission from the National Child Traumatic Stress Network, Core Curriculum on Childhood Trauma Task Force. The 12 Core Concepts: Concepts for Understanding Traumatic Stress Responses in Children and Families. Los Angeles, CA, and Durham, NC: UCLA-Duke University National Center for Child Traumatic Stress; 2012. Please use the official (complete) 12 Core Concepts and their full commentaries in training and other publications, available at www.nctsn.org/resources/audiences/parents-caregivers/what-is-cts/12-core-concepts. A PDF version is available from the NCTSN Learning Center for Child and Adolescent Trauma at <http://learn.nctsn.org>.

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INTRODUCTION

Abuse or neglect during early childhood (ages birth–6 years) can endanger a child's normal development and increase the risk for long-term physical and mental health problems. Recent population surveys of adults¹ and adolescents² report that more than a quarter of US children have experienced abuse or neglect. Comparison of this estimate with published incidence data drawn from child welfare systems³ suggests that most child maltreatment is undetected or unreported. Health care providers have a legal responsibility to report suspected abuse or neglect to state authorities. In addition, attention to the diagnosis of current or past maltreatment may lead to treatment decisions that will improve childhood and longer-term outcomes for children and their families.

Pediatricians and other pediatric health care providers have 2 important roles to play in helping children who have experienced maltreatment or neglect heal and achieve their developmental potential. First, pediatricians have the opportunity to ameliorate the adverse

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consequences in children who are known to have experienced traumatic events, including abuse and neglect. Second, when evaluating children with problematic behavior (or behavioral disorders), they may be able to provide more accurate and effective assessment and treatment by considering the possibility of past trauma as an etiological agent. A variety of terms are used to describe the child's experience of maltreatment and its consequences; Table 1 describes many of the commonly used terms.

This report updates the 2008 clinical report from the American Academy of Pediatrics (AAP), the American Academy of Child and Adolescent Psychiatry, and the National Center for Child Traumatic Stress.⁶ In the years since the original report, there have been additions to the substantial body of evidence that document the relationship between adverse experiences in early childhood and medical and psychological complications that manifest throughout childhood and adulthood. Much of the evidence concerning toxic stress and its effects is summarized in a 2012 AAP policy statement and technical report that describes the effects of early childhood stress^{5,7} and in summary information available from the National Child Traumatic Stress Network.⁸ This discussion of the pediatrician's approach to children who have been abused or neglected may also be best considered in the broader context of child mental health, as discussed in the forthcoming AAP policy statement and technical report "Addressing Early Childhood Emotional and Behavioral Problems."^{9,10}

This report further guides the pediatrician in recognizing and managing the behavioral and mental health symptoms exhibited by maltreated children and in seeking appropriate therapy to help affected children recover in ways that may

TABLE 1 Commonly Used Terms in Trauma-Informed Care

ACEs	Adverse childhood experiences that include emotional, physical, or sexual abuse; emotional or physical neglect; domestic violence; parental substance use; parental mental illness; parental separation or divorce; or incarceration of a household member. ¹
Trauma	Psychological trauma occurs when a child experiences an intense event that threatens or causes harm to his or her emotional and physical well-being. ⁴
Child traumatic stress	The intense fear and stress response occurring when children are exposed to traumatic events that overwhelm their ability to cope with what they have experienced. The 12 Core Concepts defined by the National Child Traumatic Stress Network in 2007 are key tenets for professionals to understand the impact of traumatic level adverse experiences on children (see Table 2) and provide a rationale for trauma-informed assessment and intervention.
Toxic stress	Term introduced by Garner and Shonkoff and the AAP. ⁵ Defined as excessive or prolonged activation of the physiologic stress response systems in the absence of the buffering protection afforded by stable, responsive relationships.
PTSD	Set of psychiatric symptoms meeting <i>Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition</i> , criteria for PTSD after a person has experienced, witnessed, or learned of a close family member experiencing an event involving actual or threatened death, serious injury, or sexual violation (see text).

mitigate the consequences of child maltreatment. The report begins with brief summaries of the consequences of maltreatment, continues with a discussion of a clinical approach oriented to the pediatrician taking a particular focus on behavioral presentations, and concludes with a discussion of currently available treatment approaches.

Effects of Maltreatment: Childhood Behavior and Mental Health

Research and practice have made it clear that being a victim of maltreatment has serious negative implications for a child's mental health. Although some children recover from adversity, traumatic experiences can result in significant disruption of a child's development. Symptoms of child traumatic stress and comorbid disruptions in the parent-child relationship can present to the pediatrician in a variety of ways.¹¹⁻¹³

The most trauma-specific psychiatric diagnosis associated with child maltreatment is posttraumatic stress disorder (PTSD).¹⁴ The diagnostic criteria for PTSD in children are

described in the fifth edition of *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* and may be summarized as follows: (1) a tendency to persistently reexperience the traumatic event through intrusive thoughts, feelings, dreams, and "flashback" recollections; (2) avoidance of stimuli associated with the event (ie, avoiding people, places, or other cues that remind the child of the traumatic event); (3) negative alterations in cognitions and mood (ie, negative beliefs and expectations about oneself or world; persistent emotions of fear, horror, anger, guilt, or shame; and detachment or estrangement); and (4) alterations in arousal and reactivity (ie, hypervigilance, exaggerated startle, and irritability or anger outbursts and reckless behavior as well as decreased attention, poor concentration, and sleep disturbance).¹⁵

Comorbidities with PTSD often include internalizing problems, such as depression and anxiety, and externalizing problems, including disruptive behavioral disorders (oppositional defiant and conduct

disorders) as well as substance abuse and suicidal behavior.^{16–21} Although maltreated children may fit the diagnostic criteria for attention-deficit/hyperactivity disorder (ADHD), a traumatic event may be the primary cause of the behavioral manifestations (including symptoms similar to ADHD) and lead to the diagnostic impression of ADHD.²² Child abuse is a risk factor for ADHD, particularly when maltreatment occurs early in life and with recurrence.²³

The clinical presentations of a child with a maltreatment history may include signs of intense emotional and physiologic distress, disturbed sleep, difficulty paying attention and concentrating, anger and irritability, withdrawal, repeated and intrusive thoughts, and extreme distress, particularly when confronted by experiences reminding them of the trauma.

Common examples of problematic behaviors that may be exhibited by children who have been abused, neglected, or otherwise exposed to violence include the following:

- An apparently minor stimulus may echo the previous abuse and produce a dramatic (and inappropriate) emotional reaction. Such reactions may be elicited by "trauma reminders" such as a sight, smell, sound, or other sensory input or by an action, place, or date reminiscent of the trauma. The brain becomes engaged in an exaggerated form of pattern recognition: similar patterns of stimuli call forth a similar neuroendocrine (and behavioral) response.^{24,25} In some ways, this response may echo the fight-or-flight response of the initial abuse or of the trauma associated with removal from the abusive home environment.
- Maltreated children are far more often identified as "problem children" than are their peers and

show higher rates of diagnoses of attention problems and violent and oppositional behaviors.^{26, 27} A child's hypervigilance and inability to regulate emotional states after maltreatment can result in challenging behaviors when interacting with others, often including peers.

- Behavioral responses can be exacerbated when caregivers and teachers respond to these behaviors with their own escalation; for example, warnings can become louder and brusquer and discipline may be more strict and punitive. When the child's exaggerated emotional response elicits an escalated response from an individual, the child may mistakenly assume that his or her initial reaction was warranted. Such responses inadvertently confirm the child's mistaken impression that the world is a high-threat environment. This is, in effect, positive reinforcement for the preceding behavior—behavior that has negative consequences for the child and those in his or her environment.

It is important to recognize that children may exhibit problematic behavior long after their abuse or neglect has ended. Signs and symptoms may be delayed, may linger, and if untreated, can evolve into more problematic presentations as children age into adolescence and adulthood. In addition, children with disabilities may have different behavioral presentations, particularly among those children with intellectual disabilities.^{28,29}

The exposure to trauma and other adverse childhood experiences (ACEs) that triggered these behavioral reinforcements may directly affect brain development, as described in a previous AAP technical report.⁷ Of note, continued exposure to abuse or neglect can be associated with changes in the child's

brain structure and physiology.³⁰ Such changes may be associated with impairment in the child's interactions with caregivers, whose response may further accelerate maladaptive behavioral responses.

Beyond the stress response, the effect on neurobiological factors via learning and modeling maladaptive behaviors is relevant. Children who see their primary caregivers model aggressive, violent behaviors (eg, physical abuse or domestic violence) and/or disregard others' needs (eg, neglect) often mimic these behaviors and come to believe that these are effective strategies for managing negative emotional states or for getting their own needs met.³¹ In the absence of more positive modeling, these behaviors are likely to persist.

The effects of child maltreatment extend to other aspects of child health. Maltreated children are more likely to experience physical injuries, conditions that result from neglect, and failure to attend to chronic health concerns. These effects result in increased health care expenditures; a recent economic model of the effects of abuse and neglect estimated that children who have been abused or neglected account for 9% of total Medicaid expenditures for children.³²

ACEs (Table 1) tend to cooccur, such that an individual exposed to 1 ACE is more likely to be exposed to ≥ 2 .³³ Putnam et al³⁴ noted that 7 of the originally described ACEs were significantly associated with complex adult psychopathology (meeting 2–4 comorbid *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* disorders). Sexual abuse proved the most "potent" childhood adversity in terms of synergistic multiplicative effects, especially for women. Parental psychopathology was synergistic with sexual abuse for both sexes and with physical abuse for men. Poverty, although not included in the original ACE study, was added to the analyses and proved the most potent adversity in

men and was critically synergistic with several childhood adversities in predicting adult psychopathology.³⁴ In addition, some young children and their families may experience stress related to the effects of racism.³⁵ Multiple adversities in childhood are often more than additive, and some adversities have higher potency in combination with others. The cumulative effects of ACEs will need attention in not only clinical application but directives at the policy level.³⁶

Understanding Behavioral Problems in Young Children Who Have Experienced Maltreatment

The child's sense of the parents' responsiveness to his or her needs is a building block of secure attachment³⁷ and a critical mediator of developmental success, especially under conditions of traumatic stress.³⁸ An attentive caregiver helps the child to build trust and learn the "give-and-take" nature of social communication. Early emotional development centers on the communication between mothers and their infants organized around face, voice, gesture, gaze, and a mutual and synergistic emotional and physiologic regulation.³⁹ This interactive communication also teaches the child to recognize and regulate his or her own emotions in a continuous "dance" of interaction.^{40,41} With such a benefactor, the infant is secure to learn and explore. When the parent is substantially inconsistent, frightening, neglectful, or abusive, the resultant attachment can be confused and disorganized, with research indicating high predictability for later psychopathology.³⁷ However, even lesser degrees of impairment in the parent-child relationship can affect attachment. A caregiver who is frequently absent, preoccupied, or inconsistent interferes with the ability of the infant to feel safe. As a result, neglected infants may be more demanding, anxious, and more difficult to console⁴² and evolve

into toddlers who lack enthusiasm and are easily frustrated and noncompliant.

Early brain development is sensitive to severe ongoing stress or "toxic stress." This term, coined by Garner and Shonkoff,⁵ intends to relay the impact on brain anatomy and function brought about when the young child experiences chronic stress in the absence of the buffering capacity of the caregiver. In the context of child maltreatment, the lifelong effects of early childhood stress may emerge in childhood or adolescence as stress-related changes in the neuroendocrine system. For example, analysis of the Nurses' Health Study demonstrated a strong association between child physical and sexual abuse and early menarche.⁴³

Effects of Maltreatment That Manifest During Adolescence

Although any of the associated impairments in childhood described previously can extend to adolescents, many of the most serious long-term effects of childhood maltreatment may become apparent as risk behaviors beginning in adolescence. In their analysis of 161 published studies, Norman and colleagues¹³ concluded that "there was robust evidence of a significant association between exposure to nonsexual child maltreatment and increased likelihood of suicide attempts, sexually transmitted infections, drug use, and risky sexual behavior." Adolescents are also more likely to present with complex trauma presentations resulting from chronic victimization and/or polyvictimization that include not only PTSD and trauma-related behavioral disorders but also cognitive and emotional dysregulation with feelings of rage and shame; the impact of disrupted attachments and unstable, sometimes chaotic relationships; and impaired self-efficacy and self-perception.⁴⁴

According to the National Survey of Adolescents,⁴⁵ neglect and emotional, physical, and sexual abuse are strong contributors to adolescent behavior disorders. Childhood neglect and emotional and sexual abuse were associated with adolescent substance abuse.⁴⁶ The investigators further noted a high rate of cooccurrence of childhood adversity in their sample: 97% of neglected respondents had at least 1 other childhood adversity, as did 96% of those who recalled physical abuse and 90% of those who recalled sexual abuse. Adolescent respondents who recalled any form of maltreatment had a mean of 4 to 5 other childhood adversities, further demonstrating the frequent cooccurrence of multiple forms of adversity.

Effects of Maltreatment Persist Into Adulthood

There is now a robust literature on the persistent effects of maltreatment on adult health; however, from the perspective of the pediatrician, the child and adolescent manifestations of trauma are most salient. Long-term follow-up of children who experienced child maltreatment demonstrated that children with ≥ 2 ACEs reported more somatic concerns, health problems, and poor health in general as adults.^{24,47} Child maltreatment is associated with both the onset⁴⁸ and persistence⁴⁹ of adult psychiatric disorders.

Not surprisingly, children who have been abused or neglected have high lifetime health care utilization. A 2013 report from the Centers for Disease Control and Prevention showed increased cost for psychiatric care, case management, inpatient care, outpatient (clinic) care, and home health.³² In summary, ACEs, especially child physical, sexual, and emotional abuse and neglect, lead to significantly increased risk of impairment in child development and subsequent adolescent and adult mental and physical health problems.

CLINICAL APPROACH

A child's primary care pediatrician plays an important role in identifying the psychological and biological signs and symptoms of child traumatic stress. The importance of being able to assess whether child maltreatment has occurred among children and adolescents presenting with behavioral and emotional problems cannot be overemphasized. Pediatricians who recognize the relationships of these common behavior problems to possible previous maltreatment may improve outcomes for affected children. When a previously maltreated infant or child exhibits behavior problems, especially when those problems are resistant to intervention, a confluence of emotional and maladaptive physiologic responses may be contributing to a child's presentation. The thorough evaluation of a child's behavioral symptoms includes a careful psychosocial history asking about children's exposure to early abuse, neglect, abandonment, or other traumas. In addition, histories that reveal exposure to intimate partner violence, parental substance use disorder, or parental mental health diagnoses may be relevant to understanding and treating the patient's behavioral issues. Maltreated children may benefit from a comprehensive mental health assessment, which may help determine whether further treatment would be helpful.

Although caregivers—be they birth parents, foster parents, or adoptive parents—are almost certain to face major challenges related to the child's mental and physical health needs, they may not initially realize the extent to which these problems result from the child's past experiences. Maladaptive physiologic responses to trauma and loss reminders ("triggers") are frequently misinterpreted by teachers and parents as disobedience. This misinterpretation

can result in punishment and lack of understanding and guidance for the child, which further reinforces the maladaptive physiologic response.

Primary care pediatricians can counsel parents or guardians and help them better understand that the child's maladaptive response to stress may have originated as a biologically based adaptation to ACEs and other forms of trauma the child experienced and that the persisting problem behaviors are a consequence of the adversity. Caregivers can be taught that children may not feel psychologically safe, even if they are physically safe from danger from the original perpetrator. Biological, foster, and adoptive parents can learn that traumatic reminders can elicit emotional and behavioral reactions in children. When an accentuated stress response is suspected, the physician can help caregivers understand that the child's problems are more than simple defiance or willful misbehavior. Caregivers will better understand a child's behavior when they learn that a child who has suffered maltreatment may respond differently from a child who has not suffered abuse.⁵⁰ Given that a child's development, self-image, and perception of the world are affected by maltreatment, pediatric guidance to parents can include discouraging aggressive responses to aggressive behaviors (eg, corporal punishment) and explaining how noise and anger can further aggravate the child's stress reaction and lack of psychological safety. Furthermore, parents can be taught to use positive parenting strategies and to coach a child to be prepared for triggers in their environment.

In addition to primary care counseling, children with persistent or severe behavioral problems resulting from maltreatment may benefit from referral for further trauma assessment or evidence-based treatment, particularly when accompanying a history of

trauma or maltreatment. Many of these behavioral symptoms can be addressed in trauma-focused psychotherapy. Whenever possible, pediatricians can help caregivers access evidence-based therapeutic treatments that can address children's emotional and behavioral problems and assist children in resuming a normal developmental trajectory. Previous reports discuss the importance of improving children's access to mental health services.⁵¹

Effective therapy involves reshaping the child's misperceptions, traumatic stress responses (which often include affect instability), and maladaptive coping. For example, some children may feel that they were at least partially responsible for the abuse or that their own misbehavior initiated it. Therapy may also help nonoffending caregivers examine their own behaviors, enhance parenting skills, and address worries about the child. Caregivers may have mental health symptoms that would benefit from assessment and referral for their own therapy. Adjunctive interventions often target social support and comorbidities, assist the relevant service systems to be trauma-informed, and identify and address developmental needs. Treatment of children's emotional and behavioral problems related to child maltreatment may reduce the risk of long-term consequences, including violent behavior, dangerous risk taking, and impaired interpersonal relationships,^{52,53} in addition to the negative physical and mental health consequences associated with ACEs.²⁴

EVIDENCE-BASED TREATMENT OF CHILDHOOD TRAUMA

Overview

Although the effects of traumatic experiences vary considerably and are often complex, trauma-specific mental health interventions have

been shown to be effective. Notably, cognitive behavioral therapy (CBT) has proven effective in the treatment of childhood PTSD.⁵⁴ Recent systematic reviews reported by the Cochrane Collaborative,⁵⁵ Silverman et al,⁵⁶ Dorsey et al,⁵⁷ and a federally funded evidence synthesis on interventions for nonrelational trauma⁵⁸ each concluded that although CBT appears effective overall, there is no agreement on which particular variants of CBT are most effective.

The National Child Traumatic Stress Network⁵⁹ recommends trauma-specific treatments, including those with cognitive-behavioral approaches, for children with PTSD and related mental health symptoms (eg, anxiety, behavioral difficulties, shame) who have experienced child abuse. These therapies typically include (1) educating children and their parents about child abuse and common (psychological and physiologic) reactions of children; (2) teaching safety skills, stress management, and coping techniques and emotional-regulation skills; (3) facilitating a coherent narrative of the traumatic event(s) done in a way to desensitize the child to the fear and anxiety about what happened; (4) emotional and cognitive processing (correcting untrue or distorted ideas about how and why the trauma occurred); and (5) providing parenting strategies to assist in promoting normal development and decreasing problem behaviors.

The knowledge of trauma's underlying concepts, the emergence of evidence-based practice, and the ability to apply these practices with clinical knowledge, reasoning, and judgment skills are important. The 12 Core Concepts of Childhood Trauma (summarized in Table 2), developed by the National Child Traumatic Stress Network Core Curriculum Task Force, provide a rationale for trauma-informed assessment and intervention. The Concepts cover

a broad range of topics that assist providers as they assess, understand, and assist trauma-exposed children, families, and communities.

Individual and Parent CBT for Sexual Abuse, Physical Abuse, and Other Traumas With PTSD Symptoms

Trauma-focused cognitive behavioral therapy⁶⁰ (TFCBT), developed initially for treating child sexual abuse, is the specific evidence-based treatment of child traumatic stress symptoms (including PTSD) that has the most documented research (>10 randomized controlled trials). Mental health clinicians earn TFCBT certification as a result of participation in formal online or in-person training programs. Cohen, Deblinger, and Mannarino⁶¹⁻⁶³ demonstrated that TFCBT for sexually abused children, many of whom had other cooccurring complex presentations of traumas, was superior to supportive psychotherapy in multiple domains 3 months and 1 year after treatment.

Other CBT trials focusing on physically abused youth demonstrated significant improvements.^{64,65} The TFCBT modality incorporates individual CBT and family therapy to reduce not only trauma symptoms but also the use of physical punishment and coercion.

Trauma Treatments for Young Children and Their Parents or Guardians

The approach to mental health treatment of young children is described in an AAP policy statement and technical report on this topic^{9,10}; this report discusses specific treatments in the context of child abuse and neglect.

A treatment model created for children between 0 and 6 years of age living in violent households, child-parent psychotherapy focuses on the importance of nurturing a secure, growth-promoting attachment and assists the child's caregivers in being

in tune with their own reactions and in tune with their child's signals and responses to traumatic reminders. The result is a heightened sense of ability for the caregiver and positive interactions with the child on a day-to-day basis that are critical to developmental progress, particularly regarding the early foundations for emotional regulation.^{31,66-68} Child-parent psychotherapy significantly improved psychiatric symptoms in both mother and child compared with other treatments.⁶⁹⁻⁷¹

Parent-child interaction therapy (PCIT) works with parents and children 2 to 7 years of age to both increase positive parenting skills and decrease serious child disruptive behavior. Although there are several other parent-focused behavior management programs with strong evidence,⁴⁴ PCIT has stronger effect sizes, has the most published studies, and has shown decreased recurrence of physical abuse reports compared with parenting groups in the community (19% vs 49%).⁷² One randomized controlled trial of PCIT tested individual CBT for preschoolers who had been exposed to trauma and demonstrated significant reductions in PTSD symptoms at 6 months' follow-up.⁷³

Trauma Treatments for Adolescents, Including Those With Complex Presentations

A selection of treatments in child trauma are also being evaluated as part of ongoing research, many addressing polyvictimization and chronic complex trauma presentations.⁴⁴ Some share similar core components with those listed previously but may emphasize different components altogether, targeting more marked psychopathology. Although traditional CBT focuses on managing stress, fear, and changing maladaptive thoughts, these treatments focus on extreme emotional instability and self-control

TABLE 2 National Child Traumatic Stress Network Core Concepts for Childhood Traumatic Stress

1. Traumatic experiences are inherently complex.
 - a. Every traumatic event is made up of different traumatic moments, each of which includes varying degrees of objective life threat, physical violation, and witnessing of injury, or death. Children's thoughts and actions (or inaction) during various moments may lead to feelings of conflict at the time and to feelings of confusion, guilt, regret, and/or anger afterward.
2. Trauma occurs within a broad context that includes children's personal characteristics, life experiences, and current circumstances.
 - a. The child's own experience, personality, and environment affect his or her own appraisal of traumatic events and may act exacerbate the adverse effects of trauma.
3. Traumatic events often generate secondary adversities, life changes, and distressing reminders in children's daily lives.
 - a. Children's exposure to trauma reminders can serve as additional sources of distress. Secondary adversities may significantly affect functioning in trauma survivors.
4. Children can exhibit a wide range of reactions to trauma and loss.
 - a. Posttraumatic stress and grief reactions can develop over time into psychiatric disorders (eg, PTSD, separation anxiety, and depression), may disrupt major domains of child development, and reduce children's level of functioning at home, at school, and in the community.
5. Danger and safety are core concerns in the lives of traumatized children.
 - a. Lack of physical and psychological safety can be magnified in a child's mind. Ensuring children's physical safety is foundational to restoring the sense of a protective shield.
6. Trauma experiences affect the family and broader caregiving systems.
 - a. Caregivers' own concerns may impair their ability to support traumatized children. The ability of caregiver systems to provide support is an important contributor to children's and families' adjustment.
7. Protective and promotive factors can reduce the adverse impact of trauma.
 - a. Protective factors buffer the adverse effects of trauma and its stressful aftermath, whereas promotive factors generally enhance children's positive adjustment regardless of whether risk factors are present. The presence of these factors (ie, positive attachment to a caregiver, reliable social support, environment) can enhance children's ability to resist, or to "bounce back" from adversities.
8. Trauma and posttrauma adversities can strongly influence development.
 - a. Trauma and posttrauma adversities can profoundly influence children's acquisition of developmental competencies and their capacity to reach important developmental milestones. Trauma and its aftermath can lead to developmental disruptions (regressive behavior, reluctance, or inability to participate in developmentally appropriate activities), and developmental accelerations such as leaving home at an early age and engagement in precocious sexual behavior.
9. Developmental neurobiology underlies children's reactions to traumatic experiences.
 - a. Children's capacities to appraise and respond to danger are linked to an evolving neurobiology of brain structures, neurophysiological pathways, and neuroendocrine systems. Traumatic experiences evoke strong biological responses that can persist and alter the normal course of neurobiological maturation. Exposure to multiple traumatic experiences carries a greater risk.
10. Culture is closely interwoven with traumatic experiences, response, and recovery.
 - a. Culture can profoundly affect the ways in which children and their families respond to traumatic events, including how they express distress and disclose personal information to others.
11. Challenges to the social contract, including legal and ethical issues, affect trauma response and recovery.
 - a. Traumatic experiences often constitute a violation of expectations of the child, family, community, and society. The perceived success or failure of these institutional responses may exert a profound influence on the course of children's posttrauma adjustment and on their evolving beliefs regarding family, work, and civic life.
12. Working with trauma-exposed children can evoke distress in providers that makes it more difficult for them to provide good care.
 - a. Health care providers often encounter personal and professional challenges as they confront details of children's traumatic experiences and life adversities. Proper self-care is an important part of providing quality care.

dysregulation, problems in interpersonal relationships, current functioning, and social problem solving.⁷⁴

Evidence-Based Treatments and Trauma-Informed Practices for Children in Foster Care

Attachment and Bio-behavioral Catchup (ABC intervention^{75,76}) is a home-based program for toddlers. Two randomized controlled trials found that among foster care and neglect groups, the children in the ABC intervention developed secure and organized attachments.⁷⁷ Another study showed significantly

lower cortisol levels and fewer behavior problems.⁷⁸

Two additional practices are worth noting in the context of behavioral sequelae to child maltreatment. In a randomized clinical trial, Farmer et al found evidence that case workers and foster families provided structured therapeutic environments to delinquent/emotionally troubled youth showing reduced problem behaviors, likelihood of committing felonies, delinquency, and days incarcerated while increasing placement permanency.⁷⁹ In addition, the National Child Traumatic Stress

Network has created a Resource Parenting Curriculum, cofacilitated by a mental health master trainer and foster parent, to groups of foster/adoptive/kinship caregivers, to educate how trauma affects children's behavior, feelings, and attitudes and to enhance caregiver skills and techniques.⁵⁸

Pharmacotherapy

Systematic reviews do not support the use of pharmacotherapy as a first-line treatment of pediatric PTSD. However, medications may be considered to assist children temporarily in regulating symptoms

of physiologic hyperarousal, such as nightmares, sleep difficulties, and high anxiety. Although medication often can ameliorate the stress response in youth, psychopharmacologic intervention should be considered an adjunct to, rather than a substitute for, psychotherapy. Because comorbidity is quite common with PTSD, symptoms of ADHD, anxiety, and depression may be present. In particular, distinguishing between true ADHD, symptoms of PTSD and a response to a chaotic posttrauma environment may require a referral for a mental health evaluation. Emphasis on the appropriate use of trauma-focused, evidence-based treatment and coordination across the system of care when a child's case interfaces with multiple agencies may help address the overuse of medication or other less effective types of therapy.

Cultural Considerations

Physicians caring for abused and neglected children may be able to access specialized, culturally aligned treatments. For example, Bigfoot and Schmidt report the integration of trauma-focused care with traditional American Indian practices.⁸⁰

CONCLUSIONS

In pediatric office practice, physicians and nurse practitioners are often asked to treat common behavioral problems. Children with a history of abuse, neglect, or abandonment may present to the pediatrician with symptoms including anger, aggressive behaviors, sexually reactive behaviors, depression, or difficulties sustaining attention. In many cases, the children are no longer exposed to the direct threat but present with residual behaviors that can be linked to neurophysiologic responses to their previous maltreatment. Even when the child is living in a protective

home, caregivers still may find typical parenting behavioral strategies unsuccessful. In many cases, the child's exaggerated reactions to stressful stimuli can cause the caregivers to act in ways that reinforce the child's misbehavior.

When attentive parenting appears ineffective, it is important to reflect on how early maltreatment (physical or sexual abuse, neglect, or exposure to violence and fear) can deprive the child of the tools needed to adapt to a larger social environment. In addition to denying the developing child necessary social interactions, early maltreatment can alter the normal child's neural physiology, significantly changing the expected responses to stress and affecting the child's ability to learn from experience.

The pediatrician can assist directly and in cooperation with other professionals. Pediatricians should continue to advocate for timely evaluation of children entering the foster care system, as recommended by the AAP.^{81,82} Given the risks posed by early neglect and abuse, these examinations should include mental health, developmental, and cognitive screening, in addition to the usual medical assessment.⁸³ Unfortunately, many foster children do not receive these comprehensive evaluations.⁸⁴ Ongoing education for caregivers of previously maltreated children, especially for foster parents, can be better guided by the results of a comprehensive evaluation.⁸⁵

Using their therapeutic relationship with the child and family, pediatricians can work to educate caregivers and help them to understand that their child's behavioral responses may differ from those of other children in the same situation. Such differences may reflect a triggered physiologic response rather than willful misbehavior or an egregious failure on the part of caregivers.⁸⁶ If such timely educational interventions

can change caregivers' perceptions, they can relieve stress and begin to stabilize the family or foster placement. Many patients with a significant history of trauma will need to be followed by mental health professionals, and the pediatrician plays an important role in referral and comanagement. By providing a medical home, the pediatrician can work longitudinally with caregivers and continue to treat symptoms that are obstructing therapy. Pediatricians can facilitate access to community resources, work closely with the child's school to address behavioral challenges to learning, and help coordinate care among specialists in other disciplines.⁸⁶

Clinical Considerations for the Pediatrician

1. Inquiries regarding past traumatic experiences, including child abuse and neglect, may be included in the social and family histories of patients. Awareness and understanding of a child's trauma history, including child abuse and neglect, and the frequent multiplicity of trauma exposures can make a dramatic difference in the evaluation of children with behavior problems because these problems commonly occur as a result of current or previous abuse, neglect, and/or other traumatic life experiences
2. Treatment of severe or persistent behavioral consequences of child maltreatment is indicated and effective; many mental health clinicians have the training and skills needed to use these evidence-based treatment approaches.
3. Pediatricians and other pediatric health care providers are a useful resource to parents and teachers of maltreated children and may be able to assist them to better understand the behavioral consequences of past maltreatment.

4. Similar considerations apply to advising foster families and child welfare agencies in understanding the behavioral consequences of past maltreatment and the assessment and treatment of resultant mental health disorders. Pediatricians can help advise social service agencies on the common behavioral problems exhibited by children who have been maltreated and advocate for prompt referral to effective therapies for these children.

RESOURCES

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ABBREVIATIONS

AAP: American Academy of Pediatrics
ABC intervention: attachment and bio-behavioral catchup
ACE: adverse childhood experiences
ADHD: attention-deficit/hyperactivity disorder
CBT: cognitive-behavioral therapy
PCIT: parent-child interaction therapy
PTSD: posttraumatic stress disorder
TFCBT: trauma-focused cognitive behavioral therapy

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Clinical Considerations Related to the Behavioral Manifestations of Child Maltreatment

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