The Impact of Trauma: A Developmental Framework for Infancy and Early Childhood

Alicia F. Lieberman; PhD; and Kathleen Knorr, LICSW

There is a steady accumulation of research and clinical evidence documenting the effect of traumatic events on the development of infants and young children. Trauma involves the impact of extreme physical or psychological stressors that overwhelm a child’s ability to cope. Traumatic events threaten serious injury, death, or the psychological integrity of a child or another person. Young children are frequently exposed to a range of traumatic stressors, including hurricanes, near drownings, car accidents, and shootings, as well as physical and sexual abuse, domestic violence, war, and terrorism. Because young children have limited coping skills, they are particularly at risk for negative outcomes associated with traumatic events.

Victimization by violence stands out as a particularly pervasive and insidious source of trauma for children. The United States ranks third among 27 industrialized countries in the number of child deaths caused by maltreatment. Young children are at particular risk. Abuse is among the leading causes of death in the first year of life after the perinatal period, and 85% of abuse fatalities occur in children younger than 6. In addition, half of all child victims of maltreatment are younger than 7. Domestic violence represents a significant source of traumatic stress for young children. Surveys estimate that 3 million couples per year engage in severe violence towards each other involving punching, kicking, or stabbing of the partner. This violence occurs in homes where very young children are disproportionately present. The experience of violence, either as a

CME EDUCATIONAL OBJECTIVES

1. Describe the functions of attachment and exploration as primary motivations in early childhood development.
2. Describe three common behaviors young children manifest following traumatic stress.
3. List, in order, the four basic steps physicians can take to help treat traumatic stress in children.

Alicia F. Lieberman, PhD, is Irving B. Harris Professor of Infant Mental Health, Vice Chair for Academic Affairs, University of California at San Francisco Department of Psychiatry, and Director, Child Trauma Research Project San Francisco General Hospital. Kathleen Knorr, LICSW, is with Developmental Behavioral Pediatrics, Madigan Army Medical Center, Tacoma, Washington.

Address correspondence to: Alicia F. Lieberman, PhD, CTRP SFGH, 1001 Potrero Avenue, Suite 2100, San Francisco, CA 94110; or fax: 415-206-5328.

Dr. Lieberman and Ms. Knorr have disclosed no relevant financial relationships.
direct victim or as a witness to violence directed towards others, constitutes the most dramatic paradigm for understanding children’s response to trauma.

When episodes of violence overlap, children experience traumatic stressors from multiple sources. For example, children who witnessed domestic violence in their homes are themselves 15 times more likely to be abused, compared to the national average. This vulnerable population is also at serious risk for sexual abuse. There is a 30% to 70% overlap between domestic violence and child physical or sexual abuse, depending on the sample. Exposures to different types of violence are particularly worrisome, because as the numbers of adverse life events accumulate, the risk of psychiatric disorders among children increases significantly. In addition, traumatic stressors tend to generate secondary stresses, including family disruption, economic hardship, and relocation – factors that can further compromise the child’s ability to rely on protective environmental supports to weather the developmental impact of the traumatic events.

Experiencing violence disrupts typical developmental processes in infants, toddlers, and preschoolers, as well as older children. Children exposed to violence have higher levels of mood and behavioral problems when compared with control groups, including increased difficulty coping with frustration, bouts of intense fear, uncontrolled crying, prolonged temper tantrums, sleep disturbances, heightened aggression, regression in developmental achievements, social withdrawal, and posttraumatic play. Given the empirical and clinical evidence for the pervasive and enduring negative effects of exposure to violence, the long-standing belief that young children “will not remember” the traumatic event or “will outgrow it” has been discarded by researchers and clinicians alike. It is no longer tenable to argue that children’s innate resilience will protect them from the long-term negative repercussions of exposure to violence, abuse, neglect, or other adversities. Pediatricians are in a prime position for early identification of the effects of traumatic events and referral to treatment resources because of their important position as primary health providers and their legitimacy as protectors of the child’s health and wellbeing in the parents’ eyes. It is imperative that pediatric care providers and mental health providers collaborate across their respective areas of expertise for early identification, referral, and appropriate intervention for children and families who have been victimized by trauma. This article provides a developmental framework for understanding the role of trauma and traumatic stress in young children.
than at abstract objects. These innate voices, and gaze longer at human faces than at abstract objects. Newborns preferentially turn their heads towards familiar sights, smells, and sounds. Infants and young children respond to familiarization with their caregiver, experiences over time that provide the foundation for a sense of security and trust as well as for the development of skills necessary for regulating negative emotions throughout life.

Two primary motivations shape how infants and young children respond to their environment from the first year of life: attachment and exploration. Each of these motives has a distinct function.

- The attachment motive protects the child in situations of uncertainty and danger, prompting proximity and contact with the parent or primary caregiver as a means of increasing physical safety and emotional security.
- The exploration motive has the complementary function of equipping the child to learn about the environment and to become progressively more competent and self-sufficient. Attachment is expressed through behaviors that increase proximity and contact as a means of seeking protection from the caregiver: the baby in arms turns and strains towards the parent, smiles or cries in response to the parent’s comings and goings, and is soothed by being held, while the mobile child crawls or walks towards the parents, clambers up, clings and cries in refusal to separate, searches for them when they return, and holds on to them when they return. In contrast, the impulse to explore is expressed through behaviors that often take the child away from the parent’s protective sphere: crawling, walking or running away, climbing, seeking out novelty, and lack of awareness of the parent’s presence while mouthing or manipulating objects and engaging in pleasurable interactions with others.

From an early age, babies and young children monitor their parents’ whereabouts and are able to show them what they need. When hungry, uncomfortable, uncertain, or frightened, the attachment motive takes priority, and the child turns to the parent for reassurance and protection. If feeling at ease in familiar or enticing settings, the child takes the initiative to move off in order to learn about the world. A relatively smooth balance between attachment and exploration prevails if the child feels reasonably sure that the parent is available and willing to help when the need arises. In these conditions, the parent becomes a “secure base,” serving the child as a point of departure for explorations and as a safe haven for rest and reassurance (R&R), to renew energies before setting off yet again to discover the world. Just as there are basic motivations to love and learn in operation from early infancy, there are also typical anxieties that all children manifest from the first year of life. These early anxieties emerge in a predictable timetable and become increasingly manageable as the child develops more mature coping skills and understanding of the world. Young infants become overwhelmed and fearful of internal collapse because of distressful sensations associated with conditions such as hunger, teething, and gas pains. Separation anxiety, that is, fear of loss of the parent, is a familiar emotional milestone in later infancy, which declines as the toddler learns that people and objects exist and, even when out of sight, the beloved parent will return after an absence.
the demands and pressures of socialization, (toilet training, the expectation to share love and toys, injunctions to curb their aggression towards siblings and peers), 2- and 3-year-old children experience anxieties related to not measuring up to parents’ expectations and the fear of losing parental love. As young children are exquisitely skilled at monitoring and interpreting parents’ emotional states, this fear is most notable when parents appear angry, distracted, or aloof, which are parental emotional states that children invariably blame on their own behavior. Fear of body damage is manifested, for example, through avoidance of physical risks or the demonstration of intense distress when a toy is broken or hands are dirty. Finally, fear of being “bad,” which is salient beginning at about 4 years, indicates that a child is internalizing a sense of right and wrong, as well as the resulting emotions of shame, guilt and self-blame. We often hear children at this age seeking reassurance from parents with questions such as, “Am I a good boy, mommy?” or “Did I do good today?”

Although there are major individual differences in how intensely and persistently different children experience and express these normative anxieties, each fear assumes center stage in the child’s emotional life for some period of time, recedes as the child’s coping mechanism is mature enough to manage it, and may emerge again as a reaction to external events or internal stresses. In the absence of sensitive and responsive support, however, these fears may persist throughout life and contribute to an increased risk for future mental health problems. 13

Sigmund Freud famously defined mental health as the capacity to love well and to work well. These capacities have their earliest origins in the child’s trust that he or she will be loved and protected by the parent, a trust that in turns frees the child’s attention from self-directed concerns to interest in the world, the deployment of effort in learning, and joy in mastering age-appropriate milestones. Conversely, the foundations of early mental health are damaged when the child cannot rely on the parents’ willingness and competence to protect. The severity of the damage ranges along a continuum, depending on the availability and responsiveness of the caregiver and the child’s sense of security. The milder end of the spectrum involves the developmentally expected stresses that occur as a matter of course throughout childhood, when there is a mismatch between the parent’s and the child’s individual priorities and needs. These expectable mismatches, although unpleasant, have the growth-promoting role of teaching the child that the parent has her own individuality and is not merely an extension of the child’s inner world. In the moderate range of the severity of risk continuum, the child’s developmental momentum toward health is impaired in lasting ways by consistent failures in the parent’s ability to identify and respond supportively to the child’s developmental needs and temperament. The child may then resort to rigid and habitual self-protective mechanisms that interfere with emotional closeness and readiness to learn, such as decreased emotional expressiveness, avoidance, withdrawal, controlling behavior, anger, and aggression. At the more extreme end of the continuum, the child’s trust in the parent as a reliable source of protection is broken by intense or repeated traumatic experiences that lead to a collapse in the child’s coping strategies and result in a stunting of the child’s capacity to love and learn. We have observed these disastrous developmental consequences in institutionalized children who have been victimized by extreme physical and emotional deprivation or in children living in our own communities who have been victims of profound neglect or repeated abuse.

**DEVELOPMENTAL IMPACT OF VIOLENCE IN INFANCY AND EARLY CHILDHOOD**

A child who is exposed to a traumatic event in the environment will experience and respond to it in her own way. 2 The type of traumatic event, the child’s unique characteristics, the availability of supports, and the meaning that the child ascribes to the event will influence the child’s response (see Sidebar 1). The specific symptoms of distress that children experience bear

---

When hungry, uncomfortable, uncertain, or frightened, the attachment motive takes priority, and the child turns to the parent for reassurance and protection.
ness, inhibition of exploration, and precocious competence in self-care, which are all behaviors that highlight the disruption of a secure base. Toddlers and preschoolers also make increasing use of language and symbolic play in their efforts to understand traumatic events. However, their cognitive immaturity and self-oriented perception of cause-effect relations lead them to misunderstand the causality of events and to blame themselves when they are frightened by an experience they do not understand. For example, a 36 month old who saw her father stab her mother with a knife re-enacted the event with a doll during treatment. When asked to describe what was happening, she said: “I was bad, and he got mad.” She believed that her misbehavior had triggered the attack on her mother, and thus, she carried a sense of responsibility and guilt for her mother’s injuries and her father’s imprisonment. This example illustrates young children’s remarkable capacity to assume that they are at the center of events in the lives of the adults that are closest to them and that their thoughts, feelings, and actions can cause events to occur.

Traumatic external events often exacerbate the intensity and duration of typical developmental fears discussed earlier in this article. In the case of children in the first years of life, cognitive misconceptions about how events occur and the intense fear of losing the parent compound the impact of an unexpected traumatic event. From the perspective of small children, there are no accidents. Their view of the world is organized by a set of self-centered beliefs which lead them to assume that things happen as a result of their own actions, thoughts, and desires. For this reason, young children routinely blame themselves for their parents’ failure to protect them or for violent behavior directed towards them, and they tend to assume that accidents or other catastrophic events are punishment for their own misbehavior or forbidden thoughts and wishes or words. Another major consequence of exposure to a traumatic stressor is that the child may lose trust in the parent’s competence as a protector. The emotional quality of the child’s attachments is a key factor in predicting how a child may respond to a traumatic event. Children’s self-blame is alleviated when they perceive that their parents make efforts to protect them. Unfortunately, parents who are traumatized may not be physically or emotionally available to comfort and protect their children. When the parent is the perpetrator of abuse the child’s loss of trust may be profound. More serious mental health consequences are likely to emerge and persist when a child feels alone with the terror generated by traumatic events.

The manifestations of traumatic stress in young children can be organized in three major symptom clusters: re-experiencing the trauma, avoidance of reminders of the trauma, and hyperarousal. These symptom clusters resemble the Diagnostic and Statistical Manual of Mental Disorders, fourth edition, diagnosis of post-traumatic stress disorder in older children and adults but are expressed in younger children as age-specific behaviors.

Re-experiencing the trauma

Young children engage in posttraumatic play that has an anxious and repetitive quality. For example, a young trauma victim may crash his toy cars over and over again, repeating the accident he was involved in. Characteristic of traumatic play is a child who plays or tells the story of the event over and over again. Young children may respond with extreme distress in response to sights, sounds, or smells associated with the traumatic event. The child may re-experience the trauma in frightening nightmares (see Sidebar 3, page 421).

Avoidance

Traumatized children may try to avoid any exposure to things, situations, or people that remind them of the traumatic event. Children may appear withdrawn and may lose interest in play and other activities. They may appear emotionally restricted and numb.

Increased arousal

The traumatized child may appear anxious, irritable, and impulsive. Sleep may be quite disturbed. The child may be hyperaroused and in a constant state of alertness to danger and may have great difficulty concentrating or sitting still. Chronic aggression may be a sign that children are experiencing trauma in their environment. Sexualized behavior may be a sign that the child has been abused or has been exposed to over-stimulating adult behavior. Although a single traumatic event, such as a car accident, a dog bite, or a near drowning can have serious effects on a child’s wellbeing, the most devastating effects of trauma stem from repeated, chronic situations that involve the child’s parents as the perpetrators, such as domestic violence and child abuse. The more
repeated and pervasive the trauma exposure, particularly when such experiences begin early in life, the more likely it is that the child will show generalized and chronic disturbances in cognitive, social, and emotional functioning and that these disturbances will become entrenched, eventually taking the form of severe adult psychopathology. This is particularly the case when, in addition to the specific impact of the traumatic event, the child is negatively affected by the compounded impact of additional risk factors, such as poverty, community violence, and lack of access to resources such as safe neighborhoods, adequate housing, and educational opportunities.

TREATMENT OF EARLY CHILDHOOD TRAUMA: EVIDENCE-BASED INTERVENTION

A number of evidence-based treatments exist for children exposed to diverse types of trauma, including sexual abuse, domestic violence, and maltreatment. Effective treatments universally emphasize involvement of the parents in the treatment, tailoring the treatment to the child’s developmental stage and helping the child develop a coherent narrative of the trauma in order to give it meaning and place it within the larger perspective of developmental interests and concerns. The narrative helps the child to “make sense of the trauma,” thereby correcting the child’s misunderstanding and distortions about the event. Successful treatment must result in alleviating the child’s sense of guilt or self-blame, repairing the child’s trust in the parent’s capacity to provide protection, and restoring the child’s developmental momentum. In the case of a single traumatic event that occurs in the context of a well-functioning family with loving and supportive parent-child relationships, treatment is geared at correcting the child’s misperceptions, enabling the parent to understand the meaning of the child’s symptoms as expressions of anxiety and fear, and fostering parent-child activities and interactions that assuage the child’s fears and encourage a return to age-appropriate pursuits. In more severe cases, where the mother and/or father may be agents of the trauma through involvement in domestic violence or child maltreatment, the interventional treatment aims at creating a safe family framework by transforming the parent’s violent lifestyle and unpredictable, harsh, and punitive caregiving practices. Parents will need help in dealing with the child’s symptoms in the home environment. Having to deal with a child’s intense posttraumatic symptoms, often in the context of their own emotional turmoil, can place exceptional demands on parents. Behavioral disturbances are an inevitable manifestation of trauma in young children. Helping parents to respond empathically and to develop effective behavioral management techniques is an essential piece of the child’s treatment. Helping parents to understand the child’s disturbing symptoms in the context of the trauma may prevent frustrated parents from making negative attributions regarding the behavior or blaming the child.

Pediatricians are often the first professionals who parents contact regarding medical and behavioral symptoms in their child. As a trusted

---

SIDEBAR 2.

**Signs of and Symptoms from a Traumatic Event**

1. Re-experiencing the traumatic event through:
   - Posttraumatic play
   - Preoccupation with the traumatic event
   - Triggers that remind the child of the trauma
   - Nightmares and sleep disturbances
2. Hyperarousal.
3. The child shows withdrawn behavior, avoidant behavior, or both.
4. The child may exhibit sexualized or aggressive behaviors.
5. The child is fearful.
6. The child may regress or fall behind in development and behavior.
7. The child may develop physical symptoms.
8. The child’s relationship with parents or other caregivers may suffer.

SIDEBAR 3.

**Behaviors Resulting from Traumatic Events**

- Increased clinginess, crying, and whining
- Greater fear of separation from parents or primary guardian
- Increase in aggressive behavior
- More withdrawn and harder to engage
- Play that acts out scary events
- Changes in sleeping and eating patterns
- More easily frustrated and harder to comfort
- A return to earlier behaviors, like frequent nighttime awakenings and thumb sucking
- New fears not present before the trauma

*Copyright 2005. Zero to Three. Reproduced with permission of the copyright holder: Rice KE, Groves BM. Hope and Healing. Zero to Three; 2005:15. Further reproduction requires express permission from Zero to Three (www.zerotothree.org).*
partner in the child’s healthcare management, the pediatrician must work collaboratively with parents, mental health professionals, and caregivers to protect children from the destructive impact of trauma.

- The first step is to recognize the possible traumatic origins of children’s behavioral problems and to ask the parents about the possible occurrence of violence or other trauma in their life.
- The second step is to adopt an attitude of hope and support toward parents who disclose violence and trauma. Treating parents with empathy and respect will go a long way in engaging parents in even the most difficult of conversations. Specific recommendations on helping children to cope with traumatic events can be most helpful to parents, especially if they are also struggling.
- The third step is to provide appropriate referrals to mental health professionals and other community sources of support.
- The fourth step is to provide effective treatment and to embed the therapeutic intervention within the context of the child and family environment.

CONCLUSION
The reward for such efforts is the knowledge that one may have prevented life-long suffering and offered hope for a better future for the child and the family.

REFERENCES
9. Pynoos RS, Steinberg AM, Piacentini JC. A developmental psychopathology model of childhood traumatic stress and intersec-