

Forensic Evaluation of Trauma Syndromes in Children.

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INTRODUCTION

Alan Stone wrote that “No diagnosis in the history of American psychiatry has had a more dramatic and pervasive impact on law and social justice than post-traumatic stress disorder.” (Stone 1993) PTSD gives greater credibility to those alleging emotional damages following a traumatic incident, increases the size of damages awarded in these cases, reinforces the testimony of those who are sexually abused against those who say that the sexual activity either did not occur or was voluntary, and provides the hope of mitigating circumstances for those who violate the rights of others. As a result of the disorder’s frequency and importance in litigation, forensic psychiatrists frequently have opportunities to evaluate people for PTSD.

The forensic evaluation of PTSD requires professional expertise, especially in the context of litigation. In addition to being familiar with child development and the classic symptoms of PTSD, the evaluator needs to know the ways PTSD presents at various ages, the myriad of associated symptoms that may cause distress and disability, and the prognosis and treatment needs of children with the disorder (Quinn 1995). Moreover, forensic evaluations raise a host of issues that may be unfamiliar for the average clinician who treats PTSD, such as assessing malingering, assessing a child’s ability to provide an accurate history, and being able to convince a jury that the child’s testimony is valid. Forensic testimony requires the expert to speak in detail about the long term prognosis for problems which currently exist and about problems that might arise in the future as a result of trauma. The forensic expert may also want to be able to describe the neurophysiological changes that can occur in PTSD, since juries are more likely to compensate a physical disorder than simply a mental one. Finally, in light of the Daubert decision, the forensic expert needs to be well versed in the research literature that underlies opinions presented, both to convince the jury and to defend against attacks regarding admissibility by the opposing lawyer (Daubert 1993)

This paper will address these specialized issues, as well as the basics of PTSD in children. The paper aims to serve the needs of those with widely varying levels of training and experience with PTSD by addressing both basic and specialized issues, and by providing key references for research needed by the forensic expert.

History of PTSD

Descriptions of PTSD-like syndromes, and the lasting powerful emotional effect that traumatic events can have on people, have been noted for hundreds of years (Boehnlein 1989). Homer (Shay 1991) and Shakespeare wrote of the invasive memories which plagued people after trauma. The syndrome was alluded to in 1666 following the great London Fire (Daly 1983). During the 19th century, physicians noted that many who suffered railway accidents showed no physical injury, but suffered a variety of symptoms including headaches, sleeplessness, and emotional disturbance (Beveridge 1997, Clevenger 1889). World War I brought interest in the traumatic war neuroses (shell shock). The emotional consequences of the Vietnam War and the crime of rape markedly increased the psychiatric community’s sensitivity to the effects of trauma. Nevertheless, the salience of this disorder was not widely appreciated until the introduction of the term PTSD with the publication of the DSM-III in 1980. Furthermore, the frequency with which children are profoundly impacted by traumatic events has not been appreciated until even more recently. Early landmark publications include Bloch’s (1956) study of the effect of a tornado in Mississippi, Lacey’s (1972) study of the effects of an avalanche on a Welsh school, Newman’s (1976) work on the Buffalo Creek disaster, Terr’s (1979) research on the Chowchilla bus kidnapping, and Eth and Pynoos’ (1985) edited volume *Post-Traumatic Stress Disorder in Children*. It was only in 1987 that the DSM made reference to child specific symptoms of PTSD. There are now two journals focusing on the study of childhood trauma: *Child Abuse and Neglect*, and *Developmental Psychopathology*.

Moreover, *Journal of Trauma Studies* and *American Journal of Psychiatry* have had many important articles on PTSD in children.

Understanding of the psychological effects of trauma has grown considerably over the last century. In the 19th century, Briquet and Charcot argued that emotional trauma could lead to hysteria (van der Kolk 1996a), while Freud and Breuer (1895) explained that the symptoms of hysteria are due to the repressed memories of traumatic events. Breuer, presaging recent findings, asserted that traumatic events occurred during a dissociated state of consciousness (Breuer and Freud 1895, Bremner 1993a). Janet believed that the memories of traumatic events were sometimes split off from normal consciousness, resulting in unconscious fixed ideas and periodic intrusions of the memories into consciousness (Janet 1909, 1919). Janet also wrote of the combination of excessive responses to events and progressive weakening which followed traumatic events (Janet 1889, 1930). Freud (1926) defined trauma as the experience of having the ego rendered helpless by over-stimulation. He noted that psychic trauma led to two types of symptoms: fixation to the trauma with subsequent repetition compulsion and defensive reactions of avoidance, inhibition and phobia (Freud 1939/1962). Abram Kardiner believed that trauma could lead to a psychoneurosis in which there was biological dysregulation and enduring hypervigilance to threat (Kardiner 1941). Like Janet, Kardiner believed that crucial to the outcome of a trauma was the meaning of the trauma, the interplay of the event with the individual's coping mechanisms and the resulting alteration of the victim's adaptive processes (Van Der Kolk 1994a). For Winnicott, trauma was pathogenic for children because it catastrophically destroyed the child's illusion of omnipotence and the illusion that his parents would protect him. Trauma establishes a new possibility for the child of what can happen in the world and a preoccupation with danger and vulnerability. A traumatic experience may lead to traumatophobia, i.e., the anxious child feels continually on the verge of experiencing another trauma (Rado 1942). Lifton (1993) has described trauma as transforming the structure of the self. Horowitz (1986, 1990) argued that PTSD arises from an overwhelming and negative experience which is incongruent with existing schema. The individual repeatedly recollects the event in an attempt to integrate it and to accommodate existing cognitive schema to the new information. Meanwhile, numbing and withdrawal are attempts to cope with the pain of the memories. Finally, Van Der Kolk (1996) writes that PTSD involves a combination of a conditioned fear response to trauma-related stimuli, altered neurobiological processes leading to increased arousal, and altered cognitive schemata and social apprehension.

Prevalence and Causes of PTSD

There are innumerable causes of PTSD. Domestic violence is one of the most common. The National Committee to Prevent Child Abuse (1995) estimated that there were 370,000 cases of sexual and physical abuse in 1994. At least one million children suffer abuse or neglect every year, and a high percentage of these children are at risk for PTSD. In one study of foster care children, 64% who had experienced sexual abuse had PTSD, and 42% who had experienced physical abuse fulfilled the PTSD criterion. Moreover, 18% of the non-abused children also met PTSD criterion, presumably due to witnessing violence (Dubmer 1999). In war zones and certain inner-city neighborhoods, violence is endemic and large numbers of children are victims of, or witness to, violence (Apfel and Simon 1996). Studies of non-referred urban youths exposed to community violence give rates of 25 to 35 % for PTSD (Berman 1996; Breslau 1991). In addition, there are hundreds of thousands of children who suffer serious car and playground accidents. Some have estimated that 1/3 of children in car accidents suffer PTSD (Mirza 1998, Stallard 1998, de Vries 1999). Another area of significance concerns invasive and painful medical treatment, which may cause iatrogenic trauma (Stuber 1991, 1997). Bullying, an issue too long neglected, can also cause intense stress in victims (Tattum & Lane 1988, Olweus 1994). Two hundred and fifty thousand children are attacked in school each month (Garrity 1994). Natural disasters, plane crashes, collapse

of buildings and fires can all cause PTSD. McNally (1993), reviewing studies of PTSD found that PTSD was particularly likely to result following war, criminal violence, burns and serious accidents.

Several variables affect the likelihood of developing PTSD following a traumatic experience. The greater the magnitude of the stressor, and the greater one's exposure to it, the more likely that PTSD will develop (March 1990). The more protracted a trauma, the more likely that PTSD will develop (Terr 1990). Moreover, protracted trauma is more likely to lead to a variety of other serious emotional sequelae. Trauma is more likely to produce PTSD if it is the result of intentional human actions, rather than a chance act of nature or bad luck. Trauma is likely to be particularly problematic if it is caused by a trusted adult (McCloskey 2000). Other risk factors for the development of PTSD following a given trauma include lack of social supports, cognitive and intellectual limitations, the child's parents being markedly distressed by the trauma, a prior history of trauma, preexisting mental disorders, and a history of depression in first degree relatives (DSM-IV-TR; Foy et al 1996, Cohen 1998). Trauma is also more likely to lead to PTSD if the child experiences dissociation at the time of the event (Bremner 1983a).

DSM-IV-TR IS INADEQUATE FOR EVALUATING EMOTIONAL TRAUMA

Changing the Criterion for the Diagnosis of PTSD in Children

DSM-IV-TR specifically warns about its use for forensic purposes. Nevertheless, lawyers and courts continue to rely on it. All too often it is a straightjacket rather than a useful tool. The forensic psychiatrist needs to go well beyond the DSM-IV-TR in evaluating the emotional impact of a trauma on a child. Although being able to assert authoritatively that a patient fulfills the diagnostic criterion for PTSD is often helpful, it is neither necessary nor sufficient to focus solely on that goal. The issues for a forensic psychiatrist in a personal injury case are to evaluate whether a traumatic event has or has not led to substantial psychological damage and if it has, to define the nature and extent of that damage. The particular diagnosis is not crucial, although a diagnosis of PTSD may carry weight in court. In the words of Sparr and Boehnlein (1990), "too much preoccupation with precise diagnostic categories does not serve legal needs. It is important for the diagnostician to communicate to insurance carriers, attorneys, or other fact finders that the claimant is experiencing stress-related symptoms. The precise diagnosis is less important than a thorough description of these symptoms. PTSD should not be the only admission ticket to the ballpark." The forensic psychiatrist needs to be expert in all of the presentations of emotional problems that follow trauma.

Many individuals, particularly children, suffering from emotional trauma do not fulfill the criterion for a diagnosis of PTSD. Nevertheless, they have substantial problems, often equal to or greater than someone who did fulfill the criterion for PTSD (Stein 1997). In addition, individuals who fulfill the criterion for PTSD are likely to have other emotional problems resulting from the trauma that are very important in assessing functioning and damages. The forensic psychiatrist needs to have detailed knowledge of the different types of emotional problems that follow trauma, and must understand the literature so that he can convince the jury and fulfill the requirements of the Daubert decision. This section will discuss the various emotional problems that can arise from trauma, including the most common presentations in children.

PTSD begins with a stressor that either threatens or causes serious physical harm, or violation of physical integrity (sexual assault). One could be the direct victim of the event, witness an assault on another, or hear about the trauma of a close associate. For example, hearing about the sexual abuse, injury or near death experience of a close friend can lead to the symptoms of PTSD (Saigh 1991). The victim's response to exposure to the trauma entails intense fear, helplessness or horror. Some children may not be able to report these feelings, but will be observed to engage in disorganized or agitated behavior at the time of the trauma. Unlike prior versions of DSM, DSM-IV does not require that the trauma be outside of the range of normal human experience. Rape, child

abuse, domestic violence and community violence may actually be common or normative in some areas.

Following the trauma, usually within the first three months, but in some cases not until years later, the adult victim develops a syndrome of persistent re-experiencing of the event (criterion B), numbing of responsiveness and avoidance of stimuli associated with the trauma (criterion C), and increased arousal (criterion D).

DSM-IV-TR criterion for PTSD are not optimal for children, as they were designed for adults. Not only do children often lack the expressive skills needed to fulfill many of the criterion, particularly numbing and avoidance, but they sometimes respond to stress with different symptoms than adults do.

Criterion B, re-experiencing of the trauma, requires that the victim have one or more of the following symptoms: recurrent and intrusive distressing memories of the event, acting or feeling as if the trauma were recurring including reenactment of the trauma, intense distress and physiological reactivity at exposure to cues that symbolize or resemble an aspect of the trauma, and recurrent distressing dreams of the trauma. For children, reexperiencing of the event is likely to take the form of post traumatic play or nightmares. Post traumatic play involves joyless, repetitive play with traumatic themes. Children may also reenact what occurred, or draw pictures related to the event (Nader and Pynoos 1990, Terr 1988). Post-traumatic dreams in children are generally vaguely formed dreams that the child may not be able to describe.

Criterion C, requires there to be 3 persistent symptoms of numbing of general responsiveness, or avoidance of stimuli associated with the event that arise after the trauma. These may include efforts to avoid thoughts, feelings or conversations associated with the trauma; efforts to avoid reminders of the trauma; amnesia for an important aspect of the trauma; diminished interest or participation in normal activities; feeling detached or estranged from others; restricted range of affect; and a sense of a foreshortened future including the feeling that one may never reach adulthood. As a result of a foreshortened sense of the future, traumatized children may suddenly leave school and get married. For children, loss of interest may be expressed by the loss of recently acquired developmental skills such as speaking or toilet training. Children may also become passive and withdraw (Cohen 1998; DSM-IV-TR). Although to fulfill the DSM-IV-TR diagnosis one needs three Criterion C symptoms, some authors argue that elementary school age and younger children with PTSD may not demonstrate avoidance or numbing (Terr 1985). Others have noted that children may have long periods of reexperiencing alternating with long periods of avoidance and numbing, rather than both occurring at the same time, as is required by the DSM-IV-TR diagnostic criterion (Rigamer 1986, Schwarz and Kowalski 1991).

Criterion D, requires there to be 2 persistent symptoms of increased arousal which develop after the event. Characteristic symptoms include sleep difficulties, irritability or angry outbursts, difficulty concentrating, hypervigilance, and exaggerated startle response (Cohen 1998; DSM-IV-TR). Some argue that if criterion C symptoms of numbing are sufficiently effective, criterion D symptoms may not be apparent.

Scheeringa, et al (1995) recommend altering the criterion for PTSD when assessing very young children, in order to better fit both children's ability to report symptoms and the type of symptoms young children are likely to have. They would not require that the child be able to report fear, helplessness or horror in response to the trauma. They would require one of the following types of reexperiencing: posttraumatic play, play reenactment, recurrent recollections, nightmares, episodes with objective features of a flashback or dissociation, or distress at exposure to reminders of the event. They would also require only one symptom of numbing/avoidance instead of three: constriction of play, relative social withdrawal, restricted range of affect, loss of acquired developmental skills. Moreover, only one symptom of hyperarousal would be required: night terrors, difficulty going to sleep which is not related to being afraid of having nightmares or fear of the dark,

night-waking not related to nightmares or night terrors, decreased concentration, hypervigilance and exaggerated startle response. Scheeringa, et al would add an additional class of symptoms to replace the modified C and D criterion, i.e., symptoms of fear and aggression marked by one of the following: new aggression, new separation anxiety, fear of toileting alone, fear of the dark, new fears of things or situations not obviously related to the trauma (Scheeringa 1995)

For adolescents, the primary symptoms of PTSD are likely to include invasive images (which they may not talk about), restlessness and aggression, difficulty sleeping, and difficulty concentration. Other common symptoms include loss of interest in previously enjoyed activities, withdrawal from family and peers, and changes in significant life attitudes (Amaya-Jackson 1995). Adolescents with chronic PTSD arising from repeated or prolonged trauma may suffer primarily from dissociative symptoms, numbing, sadness, restricted affect, detachment, self injury, substance abuse, and aggressive outburst (Goodwin 1988, Hornstein 1996, Terr 1991, Famularo 1996a). When interpersonal abuse is the precipitant, there is a risk for the development of dissociative phenomena, somatic complaints, learned helplessness, loss of affect control, hostility, aggression, eating disorders, sexual acting out, personality change, change in belief system, self destructive and impulsive behavior, substance abuse, social withdrawal and impaired relationships (Pelcovitz et al 1994).

Trauma and Other Psychiatric Disorders

PTSD symptoms overlap with those of other disorders, such that the underlying PTSD syndrome may be missed. The hyperactivity, distractibility, impulsivity and interpersonal problems that often come with ADHD in children can lead to a diagnosis of ADHD (DeBellis 1994, Loeff 1995, McLeer 1994, Weinstein et al 2000). Loss of impulse control and aggression can lead to diagnoses of ODD or Conduct Disorder (Pelcovitz 1994, Steiner 1997, Stoddard 1989, Arroyo and Eth 1985, March 1993). In adults, the differential diagnosis between PTSD and borderline personality disorder can be difficult to make. Sixty to eighty percent of women with a diagnosis of borderline personality disorder present a history of childhood sexual abuse (Herman 1989). Of 19 children aged 7 to 14 who were diagnosed with borderline personality disorder 37% fit DICA-C-R criterion (Diagnostic Interview for Children and Adolescents) for PTSD and 79% reported significant traumatic experiences (Famularo et al 1991). Borderline personality disorder may be a severe, chronic manifestation of PTSD related character pathology (Goodwin 1985, Herman 1989, Lonie 1993, Van Der Kolk 1994b). Substance abuse is a common comorbidity that may represent a failed effort to relieve distress through self-medication. Of 297 adolescents in a residential drug treatment program, ¾ reported a significant history of emotional trauma and 30% met the diagnostic criterion for PTSD (Deykin 1997, Meissler 1996). Postconcussive syndrome (headaches, anxiety, emotional lability, concentration impairment, memory problems) and head injuries without loss of consciousness can be confused with PTSD (Lishman 1978, Trimble 1981, Cohen 1998). The aggression, difficulty concentrating, sleep problems, labile mood and risk taking of PTSD can lead a clinician to diagnose bipolar disorder. The loss of interest in previously enjoyed activities, withdrawal from family and peers, and sleep problems can lead to a diagnosis of depression. Somatization can be a prominent symptom in a child (Schwarz 1994) and can lead to a focus on finding a medical problem. It is very important when seeing the new onset of one of these symptom complexes to evaluate for the presence of PTSD.

Many traumatized individuals, instead of having the classic PTSD syndrome with reexperiencing, numbing/withdrawal and hyperarousal may instead develop another psychiatric disorder, in response to the trauma such as major depression, substance abuse, panic disorder, agoraphobia, an eating disorder, conduct disorder, oppositional defiant disorder, generalized anxiety disorder, social phobia, and specific phobia. These conditions may arise before, after, or at the same time as PTSD.

Course of PTSD

The incidence and course of PTSD are variable, and depend upon various factors including the type of trauma and the proximity to the stressor. Parental reaction and support are also crucial factors affecting the ability of a child to recover from trauma (Winje and Ulvik 1998, Laor et al 1997). The trauma which affected the child is likely to adversely affect the parents' coping mechanisms. The rate of development of PTSD may be over 90% after severe trauma such as being kidnapped, witnessing the death of a parent, or suffering domestic violence (Horowitz 1995, Kinzie 1986, Pynoos 1987, Schwartz 1991, Terr 1981). Following a sniper attack at their school, 40% of children suffered from moderate to severe PTSD (Pynoos et al 1987). As noted below, the rates are less for other traumas.

The symptoms of PTSD may fluctuate over time. Half of victims recover within 3 months, but many remain ill for a year or more. Symptoms may reemerge following a subsequent trauma, life stresses, or reminders of the original trauma. Particularly interesting, studies of adults who were sexually or physically abused as children show significantly higher rates of PTSD (72-100%) than studies of children who were abused (21-55%) (Lindberg 1985, Rodriguez 1997, Deblinger 1989, Kiser 1991). It appears that the full impact of abuse may not be experienced until child reaches adulthood and engages in adult relationships and responsibilities and develops more sophisticated cognitive capabilities (Beitchman 1992, Yehuda 2001, Veltkamp 1994). During adolescence or adulthood, a child who had been traumatized years before may suffer the onset of dissociation, disorganization, depression, suicidal behavior, aggression, hypersexual behavior and anxiety (Schwarz 1993, 1994)

Substantial numbers of individuals suffer for years after a traumatic event. In a group of severely maltreated children, 40% met criterion for PTSD upon removal from their parents home and 33% still met criterion 2 years later, a decrease of only 17.5% (Famularo 1996b). Two years after the Buffalo Creek Dam collapse 37% of children evaluated met "probable" DSM-III-R PTSD criterion and 17 years after the collapse 7% still met criterion (Green 1994). Following Hurricane Andrew, 86% of children met PTSD criterion at 3 months, 76% met criterion at 7 months and 69% met criterion at 10 months (La Greca 1996). All of the children in the Chowchilla bus hijacking had post traumatic symptoms four years later (Terr 1983a). In one study, 44% of referred sexually abused children had PTSD. The length of time since the last incident did not affect the likelihood of the diagnosis (McLeer 1992). Twenty seven percent of severely burned children met PTSD criterion years after the injury when readmitted for reconstructive surgery (Stoddard 1989). Fifteen years after being in Pol Pot's forced labor camps, 24% of youths aged 17-24 met PTSD criterion (Hubbard 1995). Fifty percent of adolescents had PTSD 4 years after being in camps (Kinzie 1986). Following the sinking of the Jupiter, 50% of children survivors had PTSD shortly after the disaster and 15% had PTSD 5 to 7 years later (Yule 2000). Seventeen years after a 16 hour kidnapping, in which 22 children were killed and many wounded, half of the survivors studied had five to eight of the 17 symptoms of PTSD (Desivilya 1996). Seven years after a bus train accident, those having relatively high levels of exposure had relatively high levels of somatization, depression, phobic anxiety, psychoticism, and PTSD symptoms (Tyano 1996).

Long Term Effects of Emotional Trauma

In addition to the classic PTSD symptoms of reexperiencing the trauma, numbing/avoidance and hyperarousal, young children often have problems with aggression and relationships (Osofsky 1995). The intense negative emotions generated by the traumatic experience interfere with the development of emotional regulation (Osofsky 1993). Shame, self blame and seeing oneself as ineffective can interfere with adaptive functioning (Lewis 1991). These problems can, in turn, interfere with the development of empathy and prosocial behavior (Osofsky 1995). Stress from the

trauma can interfere with both the parents' ability to take care of the child and the child's ability to form an attachment (Osofsky and Fenichel 1994)

In addition to the development of PTSD or another psychiatric disorder in direct response to a trauma, there is strong evidence that childhood trauma leads to psychological problems during adolescence and adult years (Mullen et al 1996, Malinsky-Rummel et al 1993, Kendall-Tackett et al 1993, Green 1993, Cahil 1991, Briere 1994, Beitchman 1992). Abused children grow up to have PTSD (Widom 1999, Triffleman 1995, Silverman 1996, Schaaf 1998, Rodriguez (1996) and 1997, Epstein 1997, Elliot 1995). Childhood trauma has also been shown to lead to problems with anxiety in adulthood, (Zlotnick 1996, Collings 1995, Briere and Runtz 1988, Greenwald 1990, Mancini 1995, McCauley 1997, Moeller 1993, Sedney 1984, Wenninger 1998), depression (Boudewyn 1995, Briere 1988, Briere and Runtz 1988, Bushnell 1992, Cloitre 1997, Collings 1995, Fromuth 1989, McCauley 1997, Moeller 1993, Roesler 1994, Sedney 1984, Silverman 1996, Stein 1988, Wenninger 1998), suicidality (Boudewyn 1995, Van Der Kolk 1991, Silverman 1996, McCauley 1997, Cloitre 1997, Brown 1991), dissociation (Chu 1990, Cloitre 1997, Dancu 1996, Nash 1993, Pribor 1993, Roesler 1994, Wenninger 1998, Zlotnick 1996, Zlotnick 1997); personality disorders (Brown 1991, Johnson 1999, Johnson 2000, Luntz 1994, Raczek 1992, Silverman 1996), substance abuse (Briere 1988, Brown 1991, Ellason 1996, Epstein 1998, Kunitz 1998, Moeller 1993, Muller 1996, Silverman 1996, Swett 1991, Triffelman 1995), interpersonal problems (Wyatt 1990), aggression (Egeland et al 1987, Lewis et al 1979, Livingston 1987), both somatization and medical problems (Pribor 1993, Shalev 1990, Felitti 1991), decreased ability to protect oneself from dangerous situations leading to re-victimization (Yehuda et al 2001, Boudewyn and Liem 1995, Briere and Runtz 1987, Briere et al 1997, Cloitre 1997, Follette 1996, Kunitz et al 1998, Merrill 1999, Moeller 1993, Schaaf and McCauley 1998, Widom 1999, Zlotnik 1996, Peterson & Seligman 1983), the development of emotional problems following victimization in adulthood (Pynoos 1993, Norris and Kaniasty 1994, Bremner et al 1993b, Zlotnik 1997), and impaired sexual functioning (Gold 1986, Stein 1988, Lindberg 1985, Tsai 1979).

Perhaps the two most destructive aspects of PTSD are the damage to the child's ability to engage in normal developmental experiences, and the markedly increased vulnerability to trauma in the future. The child's anxiety around people, withdrawal, regression and difficulty concentrating interfere with participation in normal developmental activities such as socializing with other children and succeeding in school. The impact of this can be greater than the direct impact of the symptoms of PTSD. The child is also much more likely to suffer trauma in the future than is a non traumatized child. Trauma leads to biopsychological dysfunction, including limbic kindling, lowering the threshold for retraumatization. At the same time, the excessive arousal and subsequent psychic numbing of traumatized individuals may lead to a state of learned helplessness making it harder for the individual to avoid dangerous situations.

Physical Changes from Trauma

Historically, courts have been more willing to award damages when physical injuries are involved than when a purely psychological injury is alleged (Stone 1993). Therefore, it can be helpful to speak about the neurophysiological changes which occur in PTSD. A number of important findings concerning changes in brain function have been identified in individuals with PTSD. Several researchers have found that hippocampal volume is smaller in individuals with PTSD (Stein 1997b, McEwen 1997, Bremner et al 1997b, Bremner et al 1995). It is not yet clear, however, whether this is a risk factor or consequence of trauma, PTSD and co-morbid conditions such as substance abuse (Yehuda 2001). Areas of the brain involved in threat perception, such as the amygdala, have altered metabolism in adult trauma survivors with PTSD (Bremner et al 1997b, Rauch et al 1996, 2000, Semple et al 1996, Yehuda 2001). Several studies have shown decreased activity of the anterior cingulate (an area of the brain which inhibits the amygdala and other brain

regions involved in the fear response) in people with PTSD (Bremner et al 1999, Shin et al 1999, De Bellis et al 2000). Kindling occurs (Post et al 1997). Studies of adrenocortical function both in adolescents and adults with PTSD following trauma, and in adults and adolescents with chronic PTSD, show low basal cortisol levels, increased cortisol response to dexamethasone, increased concentration of glucocorticoid receptors and possibly increased glucocorticoid receptor activity in the hippocampus (Yehuda et al 1993a, Baker et al 1999, Bremner et al 1997a, Mason et al 1986, Yehuda et al 1990, 1993ab, 1995a,c, Kellner et al 1997, Stein et al 1997a, Grossman et al 1999, Goenjian et al 1996). But, some studies have shown abused children to have elevated cortisol levels compared with controls and that adults with PTSD who had been abused as children had higher cortisol levels than those who were abused and did not develop PTSD (De Bellis et al 2000, Lemieux and Coe 1995). There is also research evidence of higher catecholamine activity in sexually abused girls (De Bellis 1994). Stress affects gene expression in the traumatized individual, and may affect future generations (Yehuda et al 2001). Early experiences can lead the hypothalamic pituitary axis and autonomic nervous system to either overreact or under-react (Yehuda et al 2001, McEwen and Magarinos 1997). Trauma survivors have pituitary adrenocortical hyperresponsivity to stress (Heim et al 2000). Individuals with PTSD have heightened physiological arousal when confronted with cues of the trauma (such as a script of what occurred) or a sudden loud noise (Keane 1998, Shalev 1992, 1993). One problem with the research is that studies have tended to show that changes in physiological measures, such as heart rate and skin conductance, appear to be the same in individuals with current or prior PTSD, indicating that the changes could represent either a predisposition or a permanent change resulting from PTSD, e.g., trait rather than state (Metzger et al 1999, Orr 1997, Yehuda 2001). The effect of trauma may well be greatest on those who are youngest, although they will not show the classic signs of PTSD or be able to fulfill the diagnostic criterion. Research indicates that trauma and violence affect neurodevelopment. In general, trauma activates the individual's stress-response system and this affects neurogenesis, migration, synaptogenesis and neurochemical differentiation (Lauder 1988, McAllister 1999). Moreover, neural systems which are repeatedly activated (as occurs in trauma and PTSD) undergo permanent changes in synaptic architecture and neurotransmitter receptors (Brown 1994, Courchesne 1994, McAllister 1999, Perry 1995, Perry and Pollard 1998, Perry 1999). Repeated stress affects hippocampal development and may be related to the problems in learning and memory seen in stress related syndromes (Perry and Azad 1999, Sapolsky and Uno et al 1990, Sapolsky and Plotsky et al 1990, McEwen 1999). None of these biological markers have achieved scientific acceptance for sensitivity and specificity to PTSD, and therefore should not be relied upon as dispositive evidence.

FORENSIC EVALUATION CHILDREN AND ADOLESCENTS FOR PTSD

The forensic evaluation of PTSD is a more complex matter than a clinical evaluation of PTSD. In particular, the forensic assessment requires considerable attention to evaluating the reliability of information. Attention is also needed concerning the likelihood that a particular event, or series of events, is the proximate cause of any particular symptoms.

Parent Interview

When doing a forensic evaluation for PTSD, it is essential to speak with the parents or legal guardians first. At this time, consent must be obtained in order to conduct the interview with the child. In addition, this session provides an opportunity to learn about the child's developmental history, the trauma and its aftermath, history of psychiatric treatment, and medical problems. This can be very important in preparing for the child interview, particularly if it is a young child and trauma-specific toys will be needed for the play interview. During the interview with the parents one should learn as much as possible about their history and how it might be affecting the data that they are providing, as well as the supportive environment they are providing for the child. As in all

forensic interviews, it is necessary to begin the interview with discussion of confidentiality and privilege issues (Quinn 1995).

The parent interview should elicit data about the child's pre-trauma functioning and any changes that followed the trauma. Parents are usually better than their children at providing information on externalizing symptoms. They are often less capable of reporting internalizing symptoms especially if these symptoms are in response to a trauma that the parents caused or feel guilty about. Parents may also be good sources of information regarding themes of traumatic play (Nadar & Pynoos 1991). In addition to conducting a thorough interview with the parents, clinicians may wish to have them complete rating scales to assess for any changes in behavior before and after the event(s) and an inventory of life events. The evaluator should remember that although parents tend to underreport PTSD symptoms in their children in a medical setting (Burke 1982, Handford 1986, Martinez 1993, Terr 1983), exaggeration is very possible in a forensic context.

Interviewing the Child or Adolescent

The forensic evaluation of a trauma is likely to be a difficult experience for a child. Investigative interviews force the child to discuss events that the child would wish to forget. Particularly if the trauma involved sexual abuse, the child is likely to be very reluctant to discuss what occurred. Everything possible must be done in order to avoid retraumatizing the child. First, it is important to spend more time than usual in building rapport and placing the child at ease. Second, it is important for the interviewer to express both empathy and regret for the distress the child may feel in discussing the material. Third, every effort should be made to minimize emotional discomfort and fatigue. Fourth, in order to preserve the child's ability to relate to therapists in the future, it is important to explain to the child the special nature of the session. If at all possible, investigative forensic interviews should be done by someone other than the child's therapist. Finally, the evaluator should leave time at the end of the interview for addressing the child's experiences of the interview and to resolve as much as possible distress or problematic perspectives or beliefs that might have arisen from the interview.

It is also important to set aside adequate time with the child for an in depth evaluation. When doing a clinical evaluation one and one half hours is usually sufficient. More time is needed for a forensic evaluation. In doing a clinical evaluation one does not need a final definitive assessment. One can modify their assessment over the following months during future contacts with the child. When a forensic evaluation is done, however, one needs a final opinion that one can testify to in court.

It is important to establish the child's ability to retrieve and communicate information. The interviewer should talk with the child about the difference between lies, fantasies and the truth to determine if the child understands the difference. In addition, one can tell the child something which the child knows is not true, in order to evaluate the child's potential suggestibility. Finally, one should explore what other interviews the child has had concerning the event, what people have said to the child about it, and what if anything people have prompted the child to say to you. Assessing the child's ability to accurately relay information is a central part of a forensic interview, unlike a clinical interview, although such determinations are often difficult and may be inconclusive.

For play interviews, one should have whatever toys and dolls available in the consultation room that the child will need to act out the alleged event. If the issue was a dog bite, one should have a toy dog available; if a shooting was involved there should be a toy gun and dolls to serve as victims.

In doing an evaluation of a child suspected of suffering trauma and having PTSD, it is important to understand how posttraumatic play differs from normal play. The play of a traumatized child tends to be repetitive and continues until they are told to stop, or come to understand the connection between the play and the trauma they suffered. The play tends to be simple and to lack

the elaborateness and imagination of children who were not traumatized. There may be undefended repetition of the trauma, identification with the aggressor, or undoing or denial in fantasy. Unlike ordinary play, post traumatic play fails to relieve anxiety. It is generally not enjoyable and its driven quality can lead the child to engage in acts dangerous to the child or to others (Terr 1981).

Clinicians often find it difficult to ask the child directly about the traumatic incident, either for fear of upsetting the child or because it is hard for the clinician to hear about it, or for fear of damaging later testimony. Nevertheless, experts are in general agreement that it is necessary to ask about the incident in order to adequately learn about the child's symptoms and assess the PTSD (Wolfe 1994, Pynoos and Eth 1986, Almqvist and Brandell-Forsberg 1997)

The most common error in evaluating a child, and an error which invalidates testimony, is to ask leading questions. Children are highly suggestible and tend to tell adults what they feel is expected of them. Asking leading questions will markedly interfere with obtaining accurate data, place results in jeopardy in court, and may contaminate the child's memory and make it harder or impossible for other interviewers to obtain accurate data in the future. Consequently, when evaluating a child for PTSD, it is important to know who has already spoken with the child about the incident and if the child's memory has been contaminated by the leading questions of prior interviewers, parents or other adults. When asked a leading question, children may endorse symptoms in order to complete the interview so as to play with the toys. Adolescents who are involved in forensic cases in which PTSD is alleged may be inclined to simply agree with all of the symptoms in order to amplify their distress and enhance chances of financial gain. Repeatedly asking a question is problematic, since a child may change a prior answer believing that you are not satisfied with what was first said. Conducting a "Clinician Administered PTSD Scale" rating by reading the list of PTSD symptoms and having the individual reply yes or no is contraindicated (Blake, et al 1995; Weathers, et al 2001). Rather than asking a series of questions about symptoms, open-ended questions about how the child has been doing should be asked, with specific questions about symptoms scattered throughout the interview. For example, the interviewer should ask the open ended question "Tell me what you are doing here"?; rather than "I heard someone touched you in a way they should not have". It is also important to ask follow up questions, such as "Tell me everything about that".

The issue of recording interviews is controversial. Transcripts of evaluations can be problematic, because they lack conversational cues and can give the wrong impression of what occurred. Videotaping is superior in that regard, although recording devices may inhibit the child and examiner.

The goal of the clinical interview is to determine the characteristics of the traumatic event, the child or adolescent's perception of this event(s) and how they may have been affected by from having experienced or witnessed the event (Quinn 1995). A thorough psychiatric interview conducted by a skilled clinician will yield information about the child's subjective experience of the event and its effects, as well as symptoms of other potentially trauma-related conditions, including depression, anxiety disorders and behavior disorders; changes in social functioning; perceptions of self and the world; and a sense of how the child or adolescent is processing the event and the reliability of this information. Considerable information is generated by observing the child or adolescent's behavior, affect and thought processes during the interview. The child's play and style of relating to the therapist are also important.

Structured Interview Protocols

There are a variety of structured interviews that can be helpful in eliciting information. One has to be careful in using them in order to avoid contaminating the data and teaching the patient what to repeat to you or to future evaluators. In general, it is best to use instruments after the general interview.

There are several self-report measures that assess emotional symptoms frequently related to trauma, such as depression, anxiety and dissociation. Among these are the Children's Depression Inventory (CDI; Kovacs 1992), the Reynolds Adolescent Depression Scale (Reynolds 1987), the Beck Depression Inventory and the Revised Children's Manifest Anxiety Scale (RCMAS; Reynolds & Richmond 1978), for which a Spanish version is also available. Measures such as the Adolescent Dissociative Experiences Scale (A-DES; Armstrong et al. 1997) and the Child Dissociative Checklist (CDC; Putnam 1994) assess for the presence of dissociative symptoms and should be considered for inclusion in any assessment battery for PTSD (Drake 2001).

The use of various behavioral rating scales can be useful, particularly since parents and children are less likely to be familiar with the behavioral problems which frequently arise following trauma than they are with the symptoms of PTSD. Scales include the Conners' Rating Scales (CRS; Conners 1990), Child Behavior Checklist (CBCL; Achenbach & Edelbrock 1986) and Personality Inventory for Children-Second Edition (PIC-2; Lachar & Gruber 2001). The Youth Self-Report (Achenbach 1991) is done by the child. Teachers can do a Teacher's Report Form (Achenbach 1991).

The Child and Adolescent Psychiatric Assessment: Life Events Section and PTSD Module (CAPA-PTSD; Costello et al 1998) help to lay out the timing of events and onset of symptoms. In doing so, it facilitates assessment of the causation of symptoms and the relationship of the trauma and various stress related disorders. The protocol inquires about the child's emotional and somatic responses to the trauma, including the specific nature of the child's reexperiencing, avoidance/numbing and hyperarousal symptoms. It also covers the child's functioning with family members, peers and important others (Drake 2001). It has been validated in children aged 8 to 17. Although quite brief when administered to a child who has not been traumatized, it takes up to one hour for a child who has had multiple traumas and is currently symptomatic. A significant drawback to the protocol is the need for computer scoring (Drake et al 2001)

The Clinician-Administered PTSD Scale for Children and Adolescents (CAPS-CA) rates the frequency and intensity of PTSD symptoms and symptoms of PTSD which are not part of the diagnostic criterion (Carlson 1997, Nader 1998). It makes use of pictorial scales and cartoons to assess frequency and intensity of symptoms. Symptoms are explored after doing a life events checklist which notes the history of traumatic events the child has suffered. A major problem with the CAPS-CA is that it provides leading questions. In particular, it helps a child who seeks to be seen as having symptoms to know exactly what to say. It has no validity measure other than asking the rater for their subjective assessment of the child's accuracy (Drake 2001)

The Children's PTSD Inventory (Saigh 2000) takes between 4 and 20 minutes to administer. It begins with questions about potential exposure to trauma and moves on to the child's reaction. The test then moves on to ask about reexperiencing, avoidance hyperarousal and finally degree of distress. It is designed for children 7 to 18.

Darryl, A Cartoon-Based Measure of Cardinal Posttraumatic Stress Symptoms in School-Age Children (Neugebauer 1999) is a clinician-administered measure that uses cartoons as a means of eliciting details regarding children's experiences and DSM-IV PTSD symptomatology. Darryl consists of 19 items assessing reexperiencing, avoidance/ affective blunting and hyperarousal, with each item featuring Darryl, a boy of 8 or 9 and indeterminate ethnicity, in a cartoon portraying a symptom of PTSD. The clinician reads the child a standard script describing each symptom, with the child reporting the frequency of that symptom (i.e. never, some of the time, a lot of the time). Darryl has been determined to be appropriate for children age 6 and older.

The Child Posttraumatic Stress Reaction Index (CPTS-RI; Frederick 1985; Frederick et al 1992) is the research instrument most commonly used in assessing PTSD in children. The CPTS-RI can take the form of a self-report instrument for older children (8 and over) and adolescents and a semistructured interview for younger children. Administration takes between 20 and 45 minutes.

The CPTS-RI has been criticized for not inquiring about all DSM-IV criterion, thus leaving an incomplete picture of symptom constellation with respect to DSM-IV.

The Schedule for Affective Disorders and Schizophrenia for School-Age Children-Present and Lifetime Version (K-SADS-PL; Kaufman et al. 1997) is an interview adapted from the original K-SADS (Chambers et al. 1985) that queries psychiatric history and PTSD symptomatology. This instrument requires extensive training of the clinician administering it.

Finally, the Trauma Symptom Checklist for Children (TSCC; Briere 1996a,b) is a self-report measure appropriate for use with children ages 8-16. It may be administered in two forms, the full 54-item TSCC which contains a section of questions assessing sexual symptoms, and a 44-item TSCC-A which makes no reference to symptoms of this nature.

To assess PTSD symptoms, self-report measures such as the Childhood Trauma Questionnaire (CTQ; Bernstein et al. 1994) can be administered. The CTQ was developed for adolescents who experienced traumatic events as children, and has proven to be particularly sensitive in identifying PTSD symptoms related to cases of physical and sexual abuse. As mentioned previously, the TSCC (Briere 1996a, 1996b) is useful for assessing PTSD and related symptoms because of its large normative sample and inclusion of validity scales. The Impact of Events Scale (IES; Horowitz et al. 1979) is one of the most commonly used measures, and although it was originally designed for use with adults, it has been adapted for use in the diagnosis of PTSD in children and adolescents (Yule & Udwin 1991; Yule & Williams 1990; Drake 2001).

Additional Collateral Information

Evaluators should seek information from a variety of other sources, including relatives who know the child, teachers, school transcripts, witnesses to the trauma, police reports and newspaper accounts. Documents obtained regarding school performance, medical and psychiatric treatment, and involvement of protective services should be thoroughly reviewed.

As with parents, teachers can provide important information regarding a child's or adolescent's behavior before and after the traumatic event(s). Eliciting this data can be accomplished with a formal interview and behavioral rating scales. Teachers may also note any changes in school work/performance, social activities or number of absences following the event(s) (Quinn, 1995). It is crucial to note that teachers have been found to underreport children's anxiety (Amaya-Jackson and March in press, Quinn 1995)

The goal of the clinical interview is to obtain a complete description of the child or adolescent both before and after exposure to the traumatic event(s). The clinician should not assume that current symptoms are the direct result of a specific trauma, without adequately exploring all aspects of past history and functioning (Quinn 1995).

ACCURACY OF CHILDREN'S TESTIMONY

The ability of children to provide an accurate account often becomes a crucial issue for the forensic evaluator. The evaluator needs to know how to conduct an interview in order to obtain the most information with the least chance of eliciting false information or contaminating the child's memory and future testimony, and needs to assess a child's ability to provide accurate testimony. The forensic evaluator also needs a sufficient understanding of the current literature to be able to convince a jury that the child's testimony should or should not be believed.

Research on children's memory shows that even relatively young children are able to recall salient events reliably, although they are more easily influenced than adults (Ash and Derdeyn 1997, Meyer 1997). Even children as young as three or four can remember an event they witnessed or participated in, and identify people from photographs (Flin and Spencer 1994). In general, research has shown that children perform as well as adults on general information and core issues, although less well on peripheral details, particularly if they are asked to give free recall of events without

props (Meyer 1997, Ratner 1986). A number of studies have shown that even young children can perform as well or better than adults on recall. Children as early as kindergarten age were found to perform as well as much older individuals on face recognition (Marin 1979). Moreover, Saywitz found that 8 year olds could remember as much about an audiotaped story about a robbery as 15 year olds could (Saywitz 1987). Preschoolers outperformed college students on recalling the name and hometown of a research confederate two days after a meeting (Ceci 1987b). Three and six year olds outperformed college students in remembering if a rug or telephone were in a room several days after an event (Goodman 1986). First graders significantly outperformed adults in remembering a woman walking across a basketball court during a game (Neisser 1979). Lindberg (1991) found third graders to outperform adults at remembering dialogue in a film that was not central to the plot.

Younger children may have difficulty with details of time, temporal order, and differentiating specific episodes of repeated events, but they can recall the crucial features of events, particularly if they are salient to them (Flin and Spencer 1994). Of particular importance, when children make errors, they are more likely to be errors of omission (failing to report something that did occur) than errors of commission (falsely claiming something occurred when it did not) (Flin and Spencer 1994). Studies of reports of sexual abuse show that outside of custody disputes rates of false allegations by children are very low. Rates of false allegations run from 2 to 6% for child abuse clinics, 6% for ER referrals and 36 to 55% when they come from a custody dispute. Rates are slightly higher with teenage children than with younger children. (Jones and McGraw 1987, Everson 1989, Mikkelsen 1992).

The primary difficulty obtaining accurate testimony from children is their tendency to be suggestible. Young children have been shown to be more susceptible to suggestion and misleading questions than older children, adolescents or adults (Ceci & Bruck 1995; Cohen & Harnick 1980; Terr 1979, 1980, Meyer 1997). There have been instances where suggestibility of the child or adolescent has led to false allegations of trauma and abuse (Bernet 1993). Children are particularly apt to be misled by questions when they are under stress or fatigued (Goodman and Redlich et al. 1999). Nevertheless, children are generally reliable witnesses. Four-year-old children are often very resistant to alleging abuse, even when prompted to do so by an interviewer (Rudy and Goodman 1991, Flin and Spencer 1994). In various studies, children who had undergone a routine medical procedure such as an inoculation, giving a blood sample, or an examination were asked leading questions such as--Did he kiss you?; She took your clothes off didn't she?; Did he ask you to keep a secret about your private parts?; and How many times did he spank you?--the children were unlikely to make false reports of abuse even following delays of a year (Goodman et al 1991a and b, Saywitz 1991). A study of 74 five year olds by another set of researchers also found that children were resistant to making false reports following a medical visit. But, a year later, some of the children gave inaccurate reports after being subjected to three interviews in which misleading and suggestive questions were used (Bruck 1995).

There are a number of interventions that can maximize the likelihood of obtaining accurate information. Most importantly, leading questions and giving clues as to how a question should be answered need to be avoided (Schetky 1998). Repeating questions already answered may lead to changes in answers, as the child may feel the adult is expecting a different answer. An interviewer should allow the child to describe the incident in the child's own words. The interviewer should avoid being judgmental when discussing the perpetrator or event, but can use props or even visit the scene to aid memory retrieval.

The interviewer should also be aware of potential influences on the child. Parents who are anxious, histrionic or fearful may misinterpret a child's innocent remark and inadvertently prompt the child to endorse a false allegation of trauma or abuse. Parents who are plaintiffs in a lawsuit may encourage a child to exaggerate or fabricate symptoms. Previous interviewers may have led the child or adolescent to adopt a specific statement or account inadvertently through errors in technique. In

addition, young children may confuse fantasy with reality or misinterpret a relatively benign event and alter its meaning into something traumatic (Bernet 1993). Distortions may arise from conflicting goals, such as avoiding punishment, keeping a promise, avoiding embarrassment or gaining attention, sympathy or revenge (Bernet 1993). These issues pertain both to false statements of abuse or trauma, as well as false denials of events (Summit, 1983). The possibility of a false or exaggerated allegation must be considered, particularly if the parent is making the allegations (and not the child), and if the reported trauma arises during a custody dispute (AACAP, 1990) or when monetary gain may accrue from a lawsuit. False denials are also common. Denial may be used to protect the wrongdoer (especially if it is a loved one), or from embarrassment or guilt over what occurred.

It is important to note that adults' testimony is also vulnerable to inaccuracies and suggestibility. A week after a simulated robbery, when asked about the tape recorder which had been allegedly taken, many described the pilfered item, although there had never been a tape recorder (Loftus 1979). Moreover, in some situations children may be more accurate historians than adults. Children are generally less motivated by the potential monetary rewards of a lawsuit to change their account. Moreover, children's memories are generally less subject to certain forms of prejudice than adults. Further strengthening the value of children as court witnesses, the ability to provide details on free recall is generally not essential to their testimony; while being able to provide the central outline of the event is. Second, the emotional impact of a traumatic event enables children to give more complete testimony than they would be about inconsequential events typical of laboratory studies. Third, a few years of age can make a major difference in the ability of a child to give detailed testimony. Finally, even across a given age range, children vary in their ability to provide accurate testimony. Evaluators should approach each child as unique.

There are a number of crucial issues to assess when evaluating if an interview was relatively reliable (Ceci and Bruck 1993, p. 434)

- How many times was the child questioned?
- What were the interviewers' hypotheses?
- What kinds of questions were asked?
- Were the child's reports consistent over time?
- Was the child coached?
- Was the child subject to repeated leading questions by anyone?.
-

Psychological Testing

Psychological testing can be helpful in a variety of ways. First, it adds legitimacy and a sense of objectivity to the evaluation in the eyes of a jury. This is particularly important when the child's accuracy of reporting comes in to question. Second, psychological testing can also help to assess the validity of the child's statements. Third, psychological testing can provide an assessment of the child's cognitive functioning. This can be particularly valuable when the child had psychological testing performed prior to an incident that can provide a comparison for current cognitive functioning with the baseline. PTSD frequently produces difficulties with memory, concentration and attention (Pelcovitz et al. 1996; Perrin et al. 2000; Pfefferbaum 1997). Finally, projective testing can help generate information on the child's reaction to the trauma which the child can not directly provide us.

PTSD measurement instruments generally do not contain measures for validity of symptom reporting and motivation of the reporter. One exception is the Trauma symptom Checklist for Children (Briere 1996a). Other tests assess validity, although they do not measure PTSD. These include the MMPI-A (Butcher et al 1992) and the Personality Inventory for Children (PIC) (Wiret et al 1990). Giving the parents an MMPI may help to assess the accuracy of the information that they

provide. Unfortunately, some of the best tests of validity of symptoms, i.e., the Test of Memory Malinger (TOMM), and the Structured Interview of Reported Symptoms (SIRS) are not yet standardized for children.

Assessment of emotional and personality functioning in the adolescent claimant should include the Minnesota Multiphasic Personality Inventory-Adolescent Version (MMPI-A; Butcher et al. 1992). The MMPI-A is a 468-item self-report inventory developed for use in those ages 14-18. It contains validity, content and supplementary scales that address a wide variety of affective symptoms and personality factors. A computerized scoring program is available to provide an interpretive report based on the adolescent's responses (Drake 2001).

Projective measures can be useful because children often have difficulty expressing feelings of distress (Pynoos & Eth 1986; Terr 1994). The unstructured nature of projective measures also allows for the assessment of both conscious and unconscious aspects of emotional functioning, and may reveal additional information about the child or adolescent's reaction to the traumatic event(s) and current emotional state. Projective tests can help assess a child's coping style, fears, and the themes of the trauma influencing the child's sense of self and relationship to others (Drake, Bush & van Gorp 2001).

The most well-known and popular projective test is the Rorschach Inkblot Test (Rorschach 1921/1942), which maintains a long history of use in children (Exner & Weiner 1995; Weiner 1996). In traumatized children specifically, it can address the developmental capacity for reality testing and level of affective integration (Holaday et al. 1992). The comprehensive scoring system developed by Exner (1993) represents the most standardized method of scoring and interpretation. The Children's Apperception Test (CAT; Bellak & Bellak 1998) is the most well-known projective measure for use in young children and is recommended for use in children 3-10. It features 10 drawings of animals in various, often tension-filled situations and the child is asked to tell a story about the picture with a beginning, middle and conclusion. The CAT-H is a version of the CAT published for use with older children that contains human figures instead of animals. The Roberts Apperception Test (RATC; Roberts & McArthur 1982) is a similar projective test for use with children 6-15, yet it has advantages of objective scoring parameters and normative data. The RATC contains pictures of children in various familial and social situations, with responses scored on the presence or absence of specific characteristics. It measures adaptive and maladaptive functioning and yields T-scores on several clinical scales (Drake, Bush & van Gorp 2001).

Sentence completion tests are another form of projective measure. These tests consist of between 40-50 sentence stems that the child or adolescent is encouraged to complete with his or her true feelings. Although manual-based scoring systems are available, interpretation of these measures is often qualitative. Well-known versions of this test are the Rotter Incomplete Sentence Blank (Rotter & Rafferty 1950) and the newer Sentence Completion Series (SCS; Brown & Unger 1992), which is also available for use in adolescents (Drake, Bush & van Gorp 2001).

The Wechsler Intelligence Scale for Children-Third Edition (Wechsler, 1991) is a standardized and widely used instrument in the assessment of intellectual functioning, yielding verbal, nonverbal and overall IQ scores. Achievement batteries such as the Woodcock Johnson Tests of Achievement-Third Edition (WJ-III; Woodcock & Mather 2000) provide a comprehensive assessment of both language and math abilities. The WISC-III taps into aspects of attention, language and visuospatial functioning, providing additional information in these areas. Given the reported impact of PTSD on memory, various aspects of memory (i.e. auditory, visual, working) may need to be assessed in addition to general memory functioning (Moradi et al. 1999). This may be accomplished via a complete memory battery, such as the Wide Range Assessment of Memory and Learning (WRAML; Adams & Sheslow 1990) or individual tests such as the California Verbal Learning Test-Children's Version (CVLT-C; Delis et al. 1994) suitable for ages 5-16 and the Rey-Oseterrieth Complex Figure Test (Rey 1941), a nonverbal memory task. Executive measures

focusing on working memory, cognitive flexibility, inductive reasoning and resistance to interference or distraction should be considered as well (Drake 2001).

Malingering

Few personal injury cases reach the courts without at least an implied allegation of malingering. Moreover, fears of malingering hold damages for psychological injuries below those of physical injuries.

Malingering is less likely to occur in children than in adults. Nevertheless, parents may coach a child to report symptoms of PTSD that the child does not have, or to exaggerate complaints. Moreover as the child enters adolescent years, he or she is will approach an adult's predisposition to fabricate information to gain personal advantage.

A variety of patient presentations should raise one's suspicion of malingering. Malingers may engage in sports, although claiming to be unable to function at school. Antisocial personality traits, a poor school record, prior incapacitation from alleged injuries, overidealized functioning before the trauma, evasiveness and inconsistency in symptom presentation are all warning signs. Malingers are not likely to volunteer information or details about nightmares unless they have been coached or read about PTSD. They tend to portray their symptoms in a dramatic manner, and have a greater desire to call attention to their symptoms than a real PTSD patient. There are certain symptoms which someone falsely alleging PTSD is especially likely to describe inaccurately. For example, posttraumatic nightmares are almost always accompanied by considerable movement (Van Der Kolk et al 1984). In addition, Garfield (1987) found that nightmares in sexually abused teenagers were generally variations on a theme, rather than repetitive reenactment of the same event. When inquiring about the symptoms of PTSD, the clinician should ask about issues which are not typically part of the disorder, such as increased talkativeness, increased self-esteem, or decreased need for sleep. One can also mention an atypical symptom while within earshot of the patient and see if he complains of the symptom (Resnick 1995). One can make a loud noise to see the patient's startle response.

It is important to differentiate malingering from the memory and affective distortions that often result from PTSD. The memory impairment of PTSD may lead a victim to provide inconsistent events, or even to not remember a crucial aspect of the trauma. An individual may at one point deny an event occurred that they had earlier reported, or report an event that they had earlier denied (Golier 1997; Williams 1994, 1995). Children may also exhibit "time skew", i.e., inaccurate duration and sequencing of the events of the trauma (Terr 1983b).

Essential Questions to Address in the Evaluation and the Report

There are a number of key question that should be addressed in the comprehensive evaluation of a child for PTSD:

1. Diagnosis-Does the child have PTSD? Does the child have another psychiatric disorder? Is it related to the trauma? Does the child have a subsyndromal or atypical presentation of PTSD?
2. Severity-How severe are the conditions? How much is functioning impaired? How much distress is involved?
3. Causation-Was the traumatic event in question the proximate cause of some or all of the child's psychiatric diagnoses and non diagnosable emotional and behavioral problems? Did the trauma lead to significant exacerbation of a preexisting problem? How large a role did the trauma play in the development or exacerbation of the psychiatric problems? What factors have been important in causing the severity of disorder seen? Is the level of disturbance common or uncommon following such a trauma?

4. Preexisting Conditions-What was the child's level of functioning prior to the trauma? Were there preexisting psychiatric problems? How are these preexisting problems affecting the current level of functioning?
5. Post Event Conditions-Have there been events after the trauma in question which caused or exacerbated the child's symptoms?
6. Prognosis-What is the short and long term prognosis, including likelihood of resolution of current symptoms, future development of symptoms, impact on general social/emotional/academic development, increased vulnerability to trauma in the future, likelihood of recurrence of trauma symptoms over time as a result of various life events?
7. Treatment Recommendations-What treatment is needed now? What treatment may be needed in the future? What effect will treatment have on the course of illness? What is the expected cost?.

Testifying in Court

The psychiatrist may be called to testify as to whether the event in question directly caused damages and, if so, what are the damages, how much treatment is needed, and how the individual is likely to respond to treatment. The legal term "directly causing damages" means that the incident is the proximate or immediate cause of the problem. The law considers the individual as he was prior to the injury. Whether an individual was more vulnerable than average because of biological vulnerability, prior trauma, lack of social supports and preexisting psychopathology is not of significance. However, a jury is likely to be interested in such factors and attorneys for the defense are likely to be very concerned about these findings.

The standard of proof is an issue relevant to the psychiatrist's testimony. The level of proof in criminal cases is "beyond a reasonable doubt", while in the civil law the standard of proof is "preponderance of the evidence." The standard of proof for a psychiatrist offering an opinion in court is "reasonable medical certainty", which varies in definition according to the jurisdiction. A forensic psychiatrist should always be informed about the prevailing statutes and case law before taking the witness stand as an expert.

Summary

There are significant differences between a clinical evaluation and a forensic evaluation (Appelbaum 1997, Greenberg 1997, Strasburger 1997). These differences must be kept solidly in mind in performing the evaluation.

The forensic evaluator needs to assess the validity of complaints, including the possibility of malingering and the child's ability to accurately describe symptoms, the connection between the symptoms and a given incident, and the potential long term sequelae of a trauma. The goal of the interview is not to treat, but to obtain information.

Assessing the validity of complaints is perhaps the greatest challenge. This requires obtaining and reconciling data from numerous sources, including interviews with the child and parents, information from other sources, as well as rating scales and validity testing. One must be very cautious in asking leading questions and using standardized PTSD protocols, lest they teach the parents and child about the symptoms of PTSD and thereby distorting the information they provide as a result.

The forensic interviewer should consider what will be needed when called to testify in court. What data will convince the jury? How might the opposing attorney challenge the assessment? What scientific studies support the findings and conclusions concerning the diagnosis, functional impairment and validity.

The precise DSM-IV-TR diagnosis is not always key in a forensic evaluation. What is essential is establishing the connection between the trauma and ensuing emotional problems. All of the symptoms the individual has as a result of the trauma become important, whether or not they

contribute to fulfillment of DSM-IV-TR criterion. This contrasts with a clinical evaluation in which one needs to demonstrate the existence of a DSM-IV-TR diagnosis for reimbursement purposes.

Finally, the forensic evaluator should be familiar with current practice guidelines for examination of children with PTSD. Any deviation may need to be explained in court (Perrin 2000, AACAP 1998, Newman 1996).

Appendix

DSM IV-TR criterion

DIAGNOSTIC CRITERION

- The individual experienced intense fear, helplessness or horror in response to exposure to a serious traumatic event that caused or threatened serious harm of injury or violation of bodily integrity. Children may experience disorganized or agitated behavior.
 - The traumatic event is reexperienced in one or more of the following ways
 - Distressing recurrent and intrusive recollections of the event. In young children there may be repetitive play of themes or aspects of the traumatic event.
 - Recurrent distressing dreams. In children the dreams will be frightening but may not have recognizable content.
 - Acting or feeling as if the traumatic event was recurring.
 - Intense psychological distress at exposure to cues that symbolize or resemble an aspect of the traumatic event.
 - Physiological reactivity on exposure to cues that symbolize or resemble an aspect of the traumatic event.
- Persistent avoidance of stimuli associated with the trauma and numbing of general responsiveness (not present before the trauma), as indicated by 3 (or more) of the following
 - Efforts to avoid thoughts, feelings, or conversations associated with the trauma
 - Efforts to avoid activities, places, or people that arouse recollections of the trauma
 - Inability to recall an important aspect of the trauma
 - Markedly diminished interest or participation in significant activities
 - Feeling of detachment or estrangement from others
 - Restricted range of affect (e.g. unable to have loving feelings)
 - Sense of a foreshortened future (e.g. does not expect to have a career, marriage, children, or a normal life span)
- Persistent symptoms of increased arousal (not present before the trauma), as indicated by two (or more) of the following
 - Difficulty falling or staying asleep
 - Irritability or outbursts of anger
 - Difficulty concentrating
 - Hypervigilance
 - Exaggerated startle response
- Symptoms of reexperiencing the trauma, avoidance, and persistent arousal last more than 1 month
- The disturbance causes clinically significant distress or impairment in social, occupational or other important areas of functioning.

(DSM IV-TR pp467-468)

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