



THE ADVISOR

AMERICAN PROFESSIONAL SOCIETY ON THE ABUSE OF CHILDREN

MEDICINE AND PSYCHOTHERAPY

Neurodevelopment and the Neurophysiology of Trauma II: Clinical Work Along the Alarm-Fear-Terror Continuum

—by Bruce D. Perry

INTRODUCTION

This is the second of two articles by Dr. Bruce Perry about emerging medical research into the neurological effects of trauma and their clinical implications for both physicians and psychotherapists. The first article was published in The Advisor, V.6, n.1 (Spring, 1993). References for both parts are published with this article.

This article describes some of the important therapeutic principles which may prove of use to clinicians working with traumatized children. These principles arise from understanding the underlying core pathophysiology and psychology of the acute, immediate and persisting 'alarm' reaction in the developing child (see Part I). The key neurodevelopmental issues discussed are that 1) traumatized children function along an alarm-fear-terror continuum involving developmental equivalents of the 'freeze, flight and fight' response, 2) traumatic experiences during development can shift this continuum by altering brain regions involved in the fear response, 3) therapeutic approaches must appreciate that traumatized children are in a persisting fear state and, finally, 4) these therapeutic approaches must be directed at specific brain areas which mediate this alarm-fear-terror continuum.

The following discussions are intended to illuminate, organize and focus clinical work with traumatized children. They are not intended to be comprehensive or to exclude other clinical perspectives.

The Lingering Fear State: Persistence of the "Freeze, Flight or Fight" Response

1. The sensitized fear response: When a child experiences a traumatic event, the immediate reaction is a primitive and deeply ingrained 'freeze, flight or fight' reaction. This total body response to threat has been described in detail in Part I of this series. During the 'freeze, flight, or fight' response, key areas of the human brain are activated. Following the acute fear response, these parts of the brain will be *reactivated* when the child is exposed to a reminder of the traumatic event. Furthermore, these parts of the brain can be reactivated when the child simply thinks or dreams about the event. In other words, despite being away from threat and the original trauma, these key parts of the child's brain are reactivated again and again as the child re-experiences the trauma.

The 'freeze, flight or fight' response is a primitive adaptive response and is, therefore, mediated in large part by primitive parts of the human brain. The brain stem, midbrain, limbic areas and, to a lesser degree, the cortex are involved in modulating the hypervigilance, startle response, anxiety, mood dysregulation, behavioral impulsivity, and physiological hyper-reactivity seen in the acute post-traumatic syndrome. Frequent reactivations of the fear response can result in altered sensitivity of these parts of the

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NEWS

Future Colloquium Planning Begun; APSAC SWAT Team Swings Into Gear; Board Election Ballot to Be Enclosed in Next Issue

—by Theresa Reid

Future Colloquium Planning Begun

At the time of this writing, all indications are that we will have a sell-out crowd for APSAC's First National Colloquium, to be held in Chicago June 24-26, 1993. If you will be attending the Colloquium, we look forward to seeing you there. If you can't make it this year, we hope you will be able to attend in future years, and will continue to give APSAC's Program Committee your feedback on such crucial issues as program content, location, speakers, and size. APSAC's Second National Colloquium has been scheduled for **May 4-7, 1994, at the Hyatt Regency in Cambridge, Massachusetts**. The Committee's goal is to schedule all future Colloquia for one of the first two weekends in May.

Among the questions the Program Committee is currently discussing are these:

- The Colloquium is unique in featuring all-day, intensive seminars instead of 1.5- or 3-hour workshops. Is this the format we want to keep for the annual APSAC Colloquium?

- Do we want to continue to gear the Colloquium to advanced professionals, and keep it relatively small, or do we want to try to meet the needs of a greater number of APSAC members, and sponsor one of the larger annual conferences in the field?
- What are the topics of most concern to APSAC members now, which need to be addressed at the APSAC Colloquium?
- Should we add a day for field-initiated research presentations?

The Program Committee seeks your input on these questions, and on other aspects of program planning that occur to you. Please write your responses to Linda Williams, PhD, Chair, APSAC Program Committee, University of New Hampshire, Family Research Laboratory, 126 Horton Social Science Center, Durham NH 03824. APSAC's Program Committee is determined to design a Colloquium that is responsive to members' concerns.

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brain: that is, the same emotional and behavioral response can be elicited from a much smaller provocative stimulus. After sensitization, a full-blown fear response may be evoked with a minor stressor. This, of course, is very often observed in traumatized children.

The same brain areas involved in the acute stress response also mediate motor behavior, affect regulation, anxiety, arousal, sleep, the startle response, cardiovascular and respiratory function and so forth. Sensitization of these systems by repetitive re-experiencing of a traumatic event leads to dysregulation in these various functions. It is not surprising then, that a traumatized child may, over time, exhibit motor hyperactivity, anxiety, mood 'swings', behavioral impulsivity, sleep problems, tachycardia and hypertension, among other dysfunctions (see Part I).

The traumatized child is walking around in a persisting fear state. Everyday stressors which previously may not have elicited any response are now able to elicit an exaggerated reactivity—these children are hyperreactive and overly 'sensitive'. Furthermore, the child will very easily be moved along the alarm/fear continuum—from being mildly anxious to feeling threatened to being terrorized. What we are observing in these children is a set of *maladaptive* emotional, behavioral and cognitive problems which are rooted in the original *adaptive* response to a traumatic event.

2. Freezing and "oppositional-defiant" behaviors: One of the first responses in the initial stages of the alarm reaction initiated by a potential threat is freezing. The adaptive advantage of this is

clear. Freezing allows one to hear more clearly and observe more keenly, scanning your environment for a potential threat. In addition, lack of movement makes one harder to 'find' (camouflage, of a kind) and a less likely target for a predator. The psychological equivalent of freezing is indecision or ambivalence.

Each of us has had times when we have too much 'going on': we are swimming in information yet cannot organize it and make a decision. This makes us anxious, and the anxiety makes it harder to think clearly, making it more difficult to organize and decide. "When I have too much to do, I do nothing," is a complaint familiar to many busy people. Typically, we will "freeze." This temporary freezing allows us to slowly begin to process and re-evaluate the available information to us in order to make an appropriate decision. The more anxious we get, the less likely we are to be decisive or make a wise decision.

Children who have been traumatized often use this freezing mechanism when they feel anxious. This is often labeled "oppositional-defiant" behavior. Typically, what will happen is that the child will feel anxious due to an evocative stimulus to which their sensitized fear response is reacting (e.g., a family visit). They are often not aware of the evocative nature of a given event, but what they do perceive is anxiety. At this point, they tend to feel somewhat out of control and will psychologically and often, physically, freeze. When adults around them ask them to comply with some directive, they are 'frozen' and refuse. This forces the adult—a teacher, a parent, a counselor—to give the child another set of directives. Typically, these directives involve more threat. The adult will

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TOLL-FREE HELP: Nationwide Numbers for Child Abuse and Neglect Services

800-227-5242	American Association for Protecting Children
800-448-3000	Boystown National Hotline
800-I-AM-LOST	Child Find Hotline
800-422-4453	Child Help USA
800-999-9999	Covenant House Hotline
800-221-2681	Family Services of America
800-A-WAY-OUT	Hotline for parents considering abducting their children
800-272-0012	Kevin Collins' Foundation for Missing Children
800-872-5437	Missing Children Help Center
800-843-5678	National Center for Missing and Exploited Children
800-222-1464	National Child Safety Council
800-222-2000	National Council on Child Abuse
800-333-SAFE	National Domestic Violence Hotline
800-999-5599	National Information Center for Children and Youth with Handicaps

800-KIDS-006	National Resource Center on Child Sexual Abuse
800-231-6946	National Runaway Hotline
800-621-4000	National Runaway Switchboard
800-442-HOPE	National Youth Crisis Hotline
800-782-SEEK	Operation Lookout, National Center for Missing Youth
800-421-0353	Parents Anonymous (except in California)
800-352-0386	Parents Anonymous (in California)
800-627-3675	Red Flag/Green Flag Resources (sexual abuse prevention materials for children and young women)
800-333-1069	Tough Love (problem teens)
800-236-1222	Tri-County Council on Domestic Violence and Sexual Assault
800-HIT-HOME	Youth Crisis Hotline (child abuse, runaways)

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Each of us has had times when we have too much "going on": we are swimming in information yet cannot organize it and make a decision. This makes us anxious, and the anxiety makes it harder to think clearly, making it more difficult to organize and decide. . . . Typically, we will "freeze." This temporary freezing allows us to slowly begin to process and re-evaluate the available information in order to make an appropriate decision Children who have been traumatized often use this freezing mechanism when they feel anxious. This is often labeled "oppositional-defiant" behavior.

say, "If you don't do this, I will . . ." The nonverbal and verbal character of this 'threat' make the child feel more anxious, threatened and out of control.

The more anxious children feel, the more quickly they will move from being wary to being threatened and, ultimately, to being terrorized. Typically, as the child feels more threatened and terrorized, the 'freezing' adaptation no longer works and the primitive adaptations to threat are enlisted—moving along the alarm-fear-terror continuum, the child utilizes 'flight or fight' responses.

3. Dissociation: The child's 'flight' reaction:

The reaction to threat was coined the 'flight or flight' reaction following clinical research and observations in adults under threat. The adaptive responses to the threat involved fighting or running away. For a child, running away is not a realistic adaptive response in most cases. There are, however, childhood equivalents of running away. The most common childhood equivalent of running away is dissociation. When a newborn infant or a toddler is under threat, rather than using physical means to flee the threat, the infant or child can psychologically disengage. Dissociation mechanisms are well described and commonly observed in young children and adults.

Situations which result in evoking an alarm reaction in children may result in the child using any variety of dissociative techniques. The clinical approach to working with children who dissociate is to try to keep them in the here and now. A dissociated child is not capable of utilizing the therapeutic milieu or therapeutic interactions which are taking place—he or she is in a different place. Therefore, it is very important that, when traumatized children are observed "daydreaming," staring off with a glazed look, or seeming to be absent, the therapists, families, teachers and others understand that these children are frequently dissociating—utilizing the psychological equivalent of flight. The pain or anxiety has become so great that they disengage. The therapeutic approach whether individual, group, or milieu, must acknowledge that the child may be using a dissociative adaptation and make every attempt to minimize anxiety-provoking content or techniques which will make the child unavailable for therapeutic work.

If the child continues to feel threatened and dissociative adaptations are not completely successful in reducing the pain or anxiety of this threat, the child will be forced to utilize other mechanisms to

minimize the pain.

4. Vocalization, resistance and aggressive behaviors: The child's 'fight' reaction:

Children, of course, are not particularly well equipped to fight. Children, rather than fighting, have evolved the use of vocalization, i.e., crying, to get an adult caretaker to know that the child is under threat. Crying, therefore, is the developmentally appropriate response to a threat which the child is unable to avoid and which is causing the child to require a possible fight reaction. The child is unable to fight for himself, so the cry should bring attention to the adults to come and defend the child.

Unfortunately, crying only infrequently brings an adult to defend a traumatized child. The child is then forced to utilize the child's fight reaction—tantrums. Tantrums, particularly those that have a real regressive feel to them are very typically seen in traumatized children after they have moved along the alarm-fear-terror continuum. When a traumatized child has a tantrum, they are often terrorized. These tantrums often result in physical restraint until the child is able to feel contained, held, calmed and, ultimately, reintegrated. Aggressive behaviors, rather than a deteriorated tantrum, may be the fight equivalent for a terrorized child. This is often seen in children who themselves were victims of physical assault or violence.

It is important to distinguish between physically assaultive re-enactment behaviors and a regressed, terrorized psychological disintegration seen in tantrums. One can see the differences in these two classes of behavior: children re-enacting tend to be more integrated, they appear to have some "willful" quality to the aggressive behaviors, and they are often aware of the consequences of their behaviors, although frequently they do not show much remorse. In contrast, terror-related behaviors are regressed, defensive, often appearing purposeless. In many cases, both types of behaviors may be observed, sometimes in the same episode, making it difficult to distinguish between them. It is important, however, to try to understand the difference between aggressive reenactment behaviors (often predatory) and aggressive behaviors related to a child feeling anxious, fighting and afraid. The cornered animal is terrorized and will fight very violently. This very same animal when not terrorized, however, will very infrequently fight. Stalking behavior, in contrast, is practiced, planned, calculated and predatory. Understanding antecedent behavioral and emotional functioning prior to an aggressive or violent act is critical in developing appropriate treatment interventions.

Clinical Considerations: Risk and Protective Factors

1. Age and developmental stage:

One of the most important clinical considerations in working with traumatized children is recognizing that children of different ages think differently, act differently and

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Once someone learns how to ride a bicycle the parts of the brain involved in that action are indelibly altered—that person will always know how to ride a bicycle. . . . In a similar fashion, children (and adults) who have been traumatized have affective or emotional memories indelibly burned into their brainstem and mid-brain: these are alterations in basic physiological functioning, persisting emotional memories related to the original trauma. No matter how much you talk, you will not be able to take those away.

have different emotional functioning. Children of different ages will experience a traumatic event in different ways. Frequently, experiences which are traumatic to an adult may not be to a child. On the other hand, experiences that are extremely traumatic to a young child may be perceived by an adult as something that is not that frightening. A child of three or four will experience separation from a parent and family as profoundly traumatic. The traumatic nature of this may be easily observed when looking at the behavior and functioning of the child over time. Initially, of course, there will be lots of crying and weeping, but the child very quickly will 'adapt' and will become withdrawn, quiet, possibly using

dissociative adaptations, and will be observed by others to be a "normal, good little child." This is observed frequently in young children (three to four years old) removed from parental custody. Adults frequently minimize for the child experiences which they themselves would not have found traumatic, such as a two-week separation from family. Although their adaptations mask their distress from most adults, the children are being traumatized. Our work with children in these situations has demonstrated that traumatized children, even when they are "behaving" and acting like "good kids," will have profound physiological hyperactivity, such as heart rates above 120 even while asleep.

On the other hand, a child who is with his parent when the parent is held up in a parking lot may not be nearly as traumatized as the adult. The three-year-old child may not understand the significance of a gun being held to his parent's head if the context in which the child has seen guns has been in play. The fear that the child feels will more frequently be a reflection of that of the adult rather than gener-

ated by the child's own perception of the event. A two-year-old child in this situation will not be likely to be traumatized, whereas a seven-year-old child who understood that this was a life threatening experience will be very traumatized. Again, the individual experience of the trauma is age dependent.

2. Threat to life and limb: One of the most important factors in determining whether or not a traumatic event will be carried forward in a malignant way is the degree to which this event is a threat to the life and limb of the child. Children and adults who perceive that they are potentially in a life-

threatening situation will be much more traumatized and much more likely to have long-term sequelae than children who are not.

3. Disruption of social and family supports: Following a traumatic event, the ability of family, friends and community to comfort the child and make sense of the event is directly related to the ability of the child to cope. When the traumatic event disrupts a previous social structure and results in loss of previously utilized social and familial mechanisms for comfort, the event is more likely to be carried forward and have long-term adverse effects.

4. Number, nature and pattern of traumatic events: The number, nature and pattern of the traumatic event all make a difference in whether or not the trauma will be carried forward in a malignant way. The more frequently someone is traumatized, the more likely they are to have symptoms. Children who are chronically physically abused, for example, have much more pervasive and malignant symptoms than children who are traumatized a single time (e.g., a car accident) and are able to return to a supportive emotional and social situation.

Unfortunately, most children victimized by physical or sexual abuse have been experiencing some elements of low level traumatic experience over much of their lives. The acute threat to life and limb may be infrequent, yet these children continue to feel quite threatened at times. These children are affected both by re-experiencing phenomena and through actual new stressful events. Frequent changes in the adult caretakers, mental health professionals, contact with law enforcement and contact with family members may all result in ongoing stress. It is likely that these children, therefore, have some degree of alarm reaction sensitization and are at great risk for developing Post-Traumatic Stress Disorders (PTSD).

5. Early intervention and 'sensitization': There is some evidence to suggest that early intervention including psychoeducational and critical incident debriefing techniques can minimize the sensitization of the alarm reaction and, therefore, to fewer long-term symptoms. This has been one principle guiding the early involvement of the Trauma Assessment Team with traumatized children. We have been carrying out assessment, initial brief treatment and crisis intervention to help acutely traumatized children, hoping to minimize the long term adverse effects of their experiences. Although a variety of critical incident debriefing and early intervention models have been developed for adults, much less work has been done with children. As part of our work with traumatized children, we have developed novel psychoeducational and debriefing techniques and games for traumatized children, and are hoping to minimize the long-term adverse effects of their experiences. Work of our group and others demonstrate the need for, and the potential promise of, these early, aggressive therapeutic activities with traumatized children. Unfortunately,

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the majority of traumatized children experience ongoing and persisting traumatic life events.

6. Loss of control: A key element in making someone feel more comfortable and safe is giving them a sense of control. One of the major clinical observations in traumatized children is that they feel much more vulnerable and much more anxious when they don't feel in control. A major therapeutic guideline for working with traumatized children, then, is to help them understand that they do have control over many things and help them learn how to transform and alter their sense of being victimized and helpless. This is an ambitious but useful goal.

When traumatized children feel that they are not in control, they will very predictably exhibit signs and symptoms of the sensitized fear response. That is, again, they will start by psychologically freezing—which can return a sense of control to them. They have control over what they do even if it is to do nothing. If the adults around them are not able to give them some sense of control, the

children get more anxious, oppositional, fearful, and ultimately terrorized. This can easily escalate into the primitive, regressed tantrum state described above. It is extremely important in the early interventions with these children that they are given choices. The adult can give them choices which are equally acceptable for the adult, and which are framed in such a way as to make the children understand that they are in control and making the choice

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Specific Clinical Interventions

1. Re-conceptualizing psychotherapies as being 'brain-region directed': The overriding clinical principle in working with traumatized children is understanding what part of the brain is mediating and generating the emotional and behavioral symptoms. The stress response is a primitive ingrained part of the human central nervous system. The cortex, where we think, is obviously involved but the key parts of the central nervous system involved in post-traumatic stress disorders are the primitive brain stem and the midbrain. These brain areas mediate the

physiological, hyper-reactivity, hypervigilance, anxiety, emotional lability, behavioral impulsivity and sleep problems of PTSD.

No matter how much you talk to someone, the words will not easily get translated into changes in

the midbrain or the brainstem. Once someone learns how to ride a bicycle the parts of the brain involved in that action are indelibly altered—that person will always know how to ride a bicycle. No matter how often someone talks to you (cortical activity), the parts of the brain involved in motor memory will not change. No amount of talking can unlearn and change the part of the brain that is controlling the simple motor memories involved in riding a bicycle. You may learn to not get on bicycles or if you do get on bicycles to not put your feet on the pedals, but you cannot unlearn the motor behavior.

In a similar fashion, children (and adults) who have been traumatized have affective or emotional memories indelibly burned into their brainstem and midbrain: these are alterations in basic physiological functioning, persisting emotional memories related to the original trauma. No matter how much you talk, you will not be able to take those away. You may teach someone to understand what has happened to them, you can help them learn to avoid situations that might evoke that trauma, but you cannot take away the fact that part of their brain (and mind) has been altered.

Simply using cognitive and verbal interventions will not alter the parts of the brain mediating PTSD symptoms. What is needed to change those portions of the brain is interventions and therapeutic modalities which affect and alter the activities of those parts of the central nervous system.

The major way to affect those primitive parts of the brain is to provide predictability, nurturance, support, and cognitive or insight-oriented interventions which make a child feel safe, comfortable and loved. As noted in all psychotherapies, the mutative or changing element of the therapy is the 'relationship' (i.e., the affective elements) not the 'words' of the therapy. Therapists familiar with conceptualizations of transference will recognize this conceptualization. The less anxious a child feels, the more likely you are able to have access to replacing and re-routing painful affective memories.

2. Early intervention and crisis management: The key to minimizing the sensitizing potential of an experience is early intervention. Early interventions should focus on providing stability, predictability, and information. Children in the midst of a crisis are very often confused and bewildered with little idea about what is going to happen next. It is critically important that mental health professionals and other caretakers working with children in the midst of an acute crisis provide information for the children which is age appropriate, and helps the children develop some sort of cognitive understanding of what has happened and what will happen next. Withholding information or attempting "smooth over" what has happened to a child will not help. Children are extremely sensitive to nonverbal cues. Rather than let the child's mind build the experience into something more terrorizing, provide simple, clear and factual information to help the

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child build more realistic mental images of the event.

3. Milieu therapy: A key to all therapeutic approaches which are focused on minimizing stress or trauma is, of course, providing a stable, predictable and nurturing milieu. Whether this is in the context of a hospital, residential or family setting, the child needs to have a predictable schedule. The schedule needs to include a variety of activities, some of which are quiet and contained and others which allow the children to have control over their own activities. This includes free play with games, art materials, and so forth.

4. Psychoeducational and cognitive interventions: Children need to have factual information about what they have experienced and about the way the mind and the body respond to a trauma. Therefore, psychoeducational and cognitive interventions are very important and useful. It is not helpful to hide information from children, nor is it helpful to gloss over traumatic events. *The ability of the adults to adequately identify and cope with their own emotions regarding the traumatic event is critical.* The adults who work with these children need to be able to tolerate the intense emotional nature of the acute traumatic situation.

5. Family psychotherapy:

Family psychotherapies are important in working with traumatized children. This is particularly important when the family constellation has been affected by the traumatic event. In cases of familial abuse, family members are variably available for therapeutic work. In our experience, unfortunately, we often have little or no family participation. In other cases, we have extremely complex transgenerational issues related to power, sexuality and atypical 'boundaries' which must be addressed for any long term healing to take place. Family psychotherapy can be helpful for children as they reorganize and restructure their sense of relatedness.

6. Individual psychotherapy:

Individual psychotherapy will be important for all of these children. The key to the individual psychotherapy is, of course, the ability to have a special relationship with an adult who has the capability of being nurturing, supportive, and predictable. These qualities in the relationship are required before children can re-experience elements of their traumatic experience in a safe and reparative fashion.

A key to individual psychotherapy with traumatized children is an initial neu-

tral, nonintrusive stand. These children do not need to have any therapist remind them of, or search for, "material." Due to the profound nature of their experience, traumatized children will be bubbling over with re-experiencing material in their therapies. Whether individual psychotherapy involves a therapist with a dynamic, cognitive or behavioral approach or any combination thereof, the key element will be the relationship. It is the relationship which will allow access to parts of the brain involved in social affiliation, attachment, arousal, affect, anxiety regulation and physiological hyper-reactivity. Therefore, the element of therapy which induces positive change will be the ability to re-experience events in context of this reparative, psychologically-informed relationship.

7. Group therapy: Group psychotherapy for traumatized children can be useful. Chronically abused children tend to be asocialized, very frequently exhibiting difficulties with socialization and peer-relations. Groups focused on specific developmental tasks or social skills can be very useful. In addition, groups with children similarly traumatized children can be an excellent forum for psychoeducational approaches.

8. Pharmacotherapy: It is highly probable that many traumatized children will have persisting symptoms which require adjunctive pharmacotherapy. Useful medications include: clonidine, tricyclic or atypical anti-depressants and sometimes benzodiazepines. These medications help buffer the dysregulation and sensitization seen in the brain stem and midbrain neurotransmitter systems involved in mediating PTSD symptoms. Adjunctive pharmacotherapy can be very useful, particularly in context of evolving and intrusive individual and milieu treatment.

Developing a Treatment Plan

1. Multidisciplinary evaluation: The key to developing appropriate treatment planning is having a good multidisciplinary assessment to provide the baseline from which treatment decisions can arise. Understanding the family, social, psychiatric, psychological and cognitive characteristics of a child is essential to optimal treatment planning. This means that extensive psychological, social, family, psychiatric and developmental evaluations are required. In addition, communication between the various evaluators needs to take place. A single coordinating group or case monitor is very helpful. Traumatized children tend to come from very chaotic situations, where they tend to fall between the cracks. Only by having an assigned case monitor can these long-term problems be minimized.

2. Ongoing monitoring of clinical status: Monitoring the ongoing problems that any individual child will have is very important. There should be periodic re-evaluation of the cognitive, emotional, behavioral and physiological state of the child, and a refocusing of the treatment plan originally developed. When new problems arise, specific interventions should be implemented.

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The key in providing useful longitudinal care for traumatized children is to be proactive rather than reactive. A child's history will frequently predict which sets of problems will re-emerge at what point of their development. Children who have been abused or experienced traumatic losses during childhood will likely have re-emergence of profound anxiety and impulsivity during adolescence. This leaves them at great risk for the developing anxiety, affective, and substance abuse problems. Close monitoring of a child's ongoing progress by well-informed caretakers, family members, teachers, case-workers and therapists can provide the mechanism by which proactive treatment planning can take place.

It is very frequently the case that children will have submerged a set of symptoms, only to have them re-emerge when a new developmental phase begins. Because the developmental tasks of adolescence echo those of childhood, this reemergence is very frequently seen during adolescence.

3. Submergence and re-emergence of clinical problems during development: Developmental plateaus: One important clinical phenomenon that occurs in traumatized children is that symptoms and problems become submerged, altered or even disappear during certain stages of development. During these developmental plateaus, a child's functioning may appear age appropriate and they may no longer need special services. That does not mean, however, that the child should not be monitored in an ongoing fashion.

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re-emerge when a new developmental phase begins. Because the developmental tasks of adolescence echo those of childhood, this reemergence is very frequently seen during adolescence. Many children traumatized as young children seem to make good progress until they become 12 or 13 years old, when symptoms of hypersexuality, aggressive or assaultive behaviors, and impulse and anxiety problems may re-emerge. This underscores the critical element of ongoing monitoring of clinical status regardless of current treatment status.

Summary

Each year in the United States over 2 million children are traumatized by physical or sexual abuse or by exposure to domestic or community violence. The relatively small community of professionals working with these children have noted this increasing number of traumatized children with alarm. Available clinical resources are overwhelmed by the increase in numbers and in the severity of the presenting problems plaguing these children. This set of articles has presented one conceptual framework for evaluating and working with traumatized children. The ultimate utility of these conceptualizations can only be demonstrated with time. Basic research and clinical research in this area must increase. As we are able to bring more federal, foundation and individual resources to bear on these problems, I anticipate, and

welcome, the day when reviews of this nature can be based upon data from numerous studies which have addressed the complex problems—ranging from neurobiological to sociocultural—related to the mistreatment of children in our culture.

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