Effects of Traumatic Events on Children

An Introduction

Bruce D. Perry, MD, Ph.D.

Pre-final Draft

This booklet is one in a series developed by the ChildTrauma Academy to assist caregivers and various professionals working with maltreated or traumatized children.

Interdisciplinary Education Series

Edited by B. D. Perry

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Introduction

Each year in the United States approximately five million children experience some form of traumatic experience. More than two million of these are victims of physical and/or sexual abuse. Millions more are living in the terrorizing atmosphere of domestic violence. Natural disasters, car accidents, life-threatening medical conditions, painful procedures, exposure to community violence— all can have traumatic impact on the child. By the time a child reaches the age of eighteen, the probability that any child will have been touched directly by interpersonal or community violence is approximately one in four. Traumatic experiences can have a devastating impact on the child, altering their physical, emotional, cognitive and social development. In turn, the impact on the child has profound implications for their family, community and, ultimately, us all.

Traumatic events in childhood increase risk for a host of social (e.g., teenage pregnancy, adolescent drug abuse, school failure, victimization, anti-social behavior), neuropsychiatric (e.g., post-traumatic stress disorder, dissociative disorders, conduct disorders) and other medical problems (e.g., heart disease, asthma). The deterioration of public education, urban violence and the alarming social disintegration seen in some of our urban and rural communities can be traced back to the escalating cycles of abuse and neglect of our children.

This introductory booklet is written for an interdisciplinary audience. Caregivers, childcare providers, teachers, law enforcement, child protection workers, social workers, judges, nurses, pediatricians and mental health service providers all are will work with traumatized or maltreated children. The more we can understand these children and the impact of traumatic experiences, the more compassionate and wise we can be in our interactions and in our problem solving.

Response to Trauma

Heterogeneity of response patterns

- Adaptive changes in cognition
- Adaptive changes in affects
- Adaptive changes in behavior
- Adaptive changes in neurophysiology
- Adaptive changes in physiology

The Alarm State

The human body and human mind have a set of very important and very predictable responses to threat. Threat may come from an internal (e.g., pain) or external (e.g., an assailant) source. One common reaction to danger or threat has been labeled the ‘fight or flight’ reaction. In the initial stages of this reaction there is a response called the alarm reaction.

As the individual begins to feel threatened, the initial stages of a complex, total-body response will begin. The brain orchestrates, directs and controls this response. If the individual feels more threatened, their brain and body will be shifted further along an arousal continuum in an attempt to ensure appropriate mental and physical responses to the challenges of the threat. The cognitive, emotional and behavioral functioning of the individual will reflect this shift along the arousal continuum. During the traumatic event, all aspects of functioning of the individual change— feeling, thinking, behaving all change. Someone being assaulted doesn’t spend a lot of time thinking about the future or making an abstract plan for survival. At that moment, their thinking, behaving and feeling is being directed by more ‘primitive’ parts of the brain (see Table in Appendix). A frightened child

The Acute Response to Trauma: Each traumatic event has a beginning and an end. As the traumatic event begins, the individual will move along the

doesn't focus on the words; they attend to the
threat related signals in their environment — the non-verbal signs of communication such as eye contact, facial
expression, body posture or proximity to the threat. The internal state of the child shifts with the level of
perceived threat. With increased threat a child moves along the arousal continuum from vigilance through to
terror.

The alarm continuum is characterized by a graded increase in sympathetic nervous system activity, in turn,
causing increased heart rate, blood pressure, and respiration, a release of glucose stored in muscle and
increased muscle tone. Changes in the central nervous system cause hypervigilance; the child tunes out all
non-critical information. These actions prepare the child to fight with, or run away from, the potential threat.
This total body mobilization, the "fight or flight" response, has been well characterized and described in great
detail for adults. These responses are highly adaptive and involve many coordinated and integrated
neurophysiological responses across multiple brain areas such as the locus coeruleus, the amygdala, the
hypothalamus and the brainstem nuclei responsible for autonomic nervous system regulation.

**Heterogeneity of Response to Threat: Dissociation**

<table>
<thead>
<tr>
<th>Dissociation</th>
<th>Hyperarousal</th>
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</thead>
<tbody>
<tr>
<td>Detached</td>
<td>Hypervigilance</td>
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<tr>
<td>Numb</td>
<td>Anxious</td>
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<td>Compliant</td>
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<td>Decrease HR</td>
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<td>Suspension of time</td>
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<td>De-realization</td>
<td>Freeze: Fear</td>
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<tr>
<td>'Mini-psychoses'</td>
<td>Flight: Panic</td>
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<tr>
<td>Fainting</td>
<td>Flight: Terror</td>
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</table>

The most well characterized response to threat is the fight or flight response. However, it is
increasingly clear that individual responses to threat can vary tremendously. Another of the
major adaptations to threat involves a different set of physiological and mental changes.
Sometimes, when fighting or fleeing is not possible, the child will use avoidant and
psychological fleeing mechanisms that are **dissociative**. Dissociation is basically a mental
mechanism by which one withdraws attention from the outside world and focuses on the inner
world. Dissociation may involve a distorted sense of time, a detached feeling that you are
"observing" something happen to you as if it is unreal, the sense that you may be watching a
movie of your life. In extreme cases, children

may withdraw into an elaborate fantasy world where they may assume special powers or strengths. Like the
alarm response, this "defeat" or dissociative response is graded. The intensity of the dissociation varies with
the intensity and duration of the traumatic event. Even when we are not threatened, we use dissociative mental
mechanisms all of the time. Daydreaming is an example of a dissociative event. The period between
wakefulness and sleep is another example of dissociating from the present to your inner thoughts, ideas, fears,
fantasies and, then, ultimately moving into the state of sleep. All children and most adults use some degree of
dissociation during a traumatic event. Some individuals will use, and some kinds of trauma induce, dissociation
as a primary adaptive response.

For most children and adults, however, the adaptive response to an acute trauma involves a mixture of
hyperarousal and dissociation. During the actual trauma, a child will feel threatened and the arousal systems
will activate. With increased threat, the child moves along the arousal continuum. At some point along this
continuum, the dissociative response is activated. This results in the host of protective mental (e.g., decreases
in the perception of anxiety and pain) and physiological responses (decreased heart rate) that characterize the
dissociative response (see **Differential Response to Trauma** Figure, above).

**The Acute Post Traumatic Period**

As the traumatic event ends, the mind and body slowly move back down the arousal or
dissociative continuum. The child moves from the brink of terror, through fear, alarm and, with
time and support, back to calm (see **The Acute Response to Trauma** figure above). Heart rate,
blood pressure and other physiological adaptations normalize. If a child can move back
down the arousal continuum, their brain will resume baseline (pre-trauma) styles of thinking,
feeling and behaving. Hypervigilance decreases and the mental mechanisms related to attention
begin to normalize as well. The child that has dissociated will begin to pay attention to external
stimuli. While the child that has been completely focused on external cues related to threat will actually pay attention to internal stimuli (e.g., feelings, thoughts, sensing their pounding heart or noticing the cut on their leg from diving under a desk during the shooting).

This means, for example, that the child will now perceive the sense of fear and anxiety. This is when they will actually feel the fear associated with the trauma. The individual will begin to process and think about what happened, attempting to make sense out of what has just happened. Because the traumatic event is so far out of the normal range of experience, there will be a variety of mental attempts to process and "master" this event.

The event will play itself out in the mind of the child again and again. A host of intrusive images related to the trauma may swamp the child's thinking. This state of re-living and re-experiencing phenomenon may include telling the story over and over again to friends. The child may act this event out in their play and drawings (see below) or have intrusive dreams. In essence, these children have created memories of the traumatic memory. But these memories are complex and multi-domain. Traumatic memory involves the storage and recall of traditional cognitive information (who, what, when, where), emotional information (fear, dread, sadness), motor-vestibular information (e.g., the body position during the rape) and state memory (vigilance, physiologically hyperarousal).

The normal and predictable mental mechanisms that are used to process all experiences will, at times, fail in the attempts to master and understand a traumatic event. Because traumatic events have features that are outside the range of normal experience, there are very few internal experiences with which to judge or make sense out of the event. The more outside the range of the normal experience and the more life-threatening the experience, the more difficult it will be for the normal mental mechanisms to work efficiently to process and master that experience. The inability to control elements of the traumatic event or the intrusive thoughts that follow leads to a set of predictable, mental and physiological responses.

**Emotional Memory and Physiological Hyperarousal**

Unfortunately, as this event plays itself out again and again in the mind of the child, not only will the thoughts of the event be recalled, the emotions and feelings (fear, anxiety, pain) of being out of control and threatened will be re-experienced as well. Each intrusive thought, nightmare and re-enactment in play also re-eruves the emotional or affective memory of being in the midst of the threatening event.

A classic set of predictable symptoms and physical changes seen in the acute post-traumatic period is related to the ability to re-eruote the emotional and physiological memories of being in the traumatic event. This means very simply that in addition to having cognitive remembrances of the facts and narrative details of their thoughts during the event, the child has the capacity for recollection and reliving of the physiological changes that were present in the alarm reaction. In effect, the child has emotional and state memories from the traumatic event. This means that the children will be hypervigilant, and may have an increased startle response, increased muscle tone, a fast heart rate (tachycardia) and blood pressure.

**Trauma and Memory:** One of the key functions of nervous tissue is to store information. All areas of the brain store information related to the functions they mediate. The cortex stores cognitive information — names, faces, facts. The limbic system can store emotional information — fear, pleasure, sadness. Motor-vestibular memories such as typing, playing the piano or riding a bike are stored in other parts of the brain. In the brainstem, the anxiety or arousal states associated with a traumatic event can be stored. The symptoms of PTSD are stored throughout the brain in these various systems and areas. Re-exposure to cues associated with the trauma (e.g., sights, sounds, and smells) can elicit these stored "memories" and result in the signs and symptoms of PTSD.

Indeed, even at rest in the weeks following a traumatic event, children and adolescents often exhibit signs of physiological hyperarousal - including tachycardia or a fast heart rate. Despite normal behaviors in most situations, children exposed to trauma are internally agitated. They have not truly been able to move back down the arousal continuum to the state of calm. This has profound implications for the child's long term functioning (see Post-traumatic Stress Disorders below).

Persisting physiological and emotional distress is physically exhausting and emotionally painful. Because of the pain, energy and discomfort associated with the recurring intrusive thoughts,
and the physiological and emotional 'memories' associated with these thoughts, a variety of protective avoidance mechanisms are used to escape reminders of the original trauma. These include active avoidance of any reminders of the trauma and the mental mechanisms of numbing and dissociation.

State and affect memories elicited in a non-conscious state:

David is a 9 year-old boy. From age 2 through 6, he was sexually abused by his father. This abuse induced severe physical injuries. At age 6 he was removed from the family.

At age 8, he was seriously injured in a fall. He suffered from serious brain injury resulting in a coma state for 8 months following the injury. He continues to be difficult to arouse and is non-verbal. He exhibits no sign of meaningful communication. In the presence of his biological father, he begins to scream, moan, and his heart rate increased dramatically. Audiences of his biological father elicited a similar response. The scent of his father (one of the father's shirts) resulted in similar agitated behavior and physiological hyperarousal. These ‘memories’ are stored in lower parts of the brain and do not require cognitive memory or consciousness to be expressed.

Avoidance, Emotional Numbing and Dissociation

Traumatized children, when faced with reminders of the original traumatic event, may experience so much pain and anxiety that they become overwhelmed. In these situations - when they cannot physically withdraw from those reminders - they may dissociate. Following a traumatic experience, children may act stunned or numb. Dissociating children often appear to be gazing off into nowhere. They will not readily respond to questions by adults. Their answers to questions will seem unclear, unfocused or evasive. This is understandable if we remember that while these children are present in body, their minds may be 'off in another place' – dissociated, trying to avoid the painful reminders of the original trauma.

Avoiding direct reminders of the trauma sometimes is extremely difficult. In that case, children will withdraw in to themselves in a variety of ways. This inward focused withdrawal basically means that they will have fewer opportunities to be provoked into having more intrusive thoughts about the event, and therefore, they can thereby avoid pain.

In the first days and weeks following the traumatic event, the symptoms listed above, 1) re-experiencing phenomena, 2) attempts to avoid reminders of the original event and 3) physiological hyper-reactivity are all relatively predictable, and indeed, highly adaptive physiological and mental responses to a trauma. Unfortunately, the more prolonged the trauma and the more pronounced the symptoms during the immediate post-traumatic period, the more likely there will be long term chronic and potentially permanent changes in the emotional, behavioral, cognitive and physiological functioning of the child. It is this abnormal persistence of the originally adaptive responses that result in trauma-related neuropsychiatric disorders such as Post-traumatic Stress Disorder (PTSD).

Post-Traumatic Stress Disorders

Children and adults surviving traumatic events very frequently will have persistence of the acute
post-traumatic stress response beyond six months. When this occurs, the child or adult is then considered to be suffering from post-traumatic stress disorder (PTSD). Post-traumatic stress disorder is a diagnostic label that has been traditionally associated with combat veterans. More recently however, it has been very well described in children who have been survivors of physical abuse, sexual abuse, exposure to community or domestic violence, natural disasters, motor vehicle accidents and a host of other traumatic events. The three major clusters of symptoms as described above are observed in a variety of forms of post-traumatic stress disorder.

In brief however, children who survive a traumatic event and have persistence of this low level fear state, may be behaviorally impulsive, hypervigilant, hyperactive, withdrawn or depressed, have sleep difficulties (including insomnia, restless sleep and nightmares) and anxiety. In general, these children may show some loss of previous functioning or a slow rate of acquiring new developmental tasks. Children may act in a regressed fashion. In addition, many of these children have persisting physiological hyper-reactivity with resulting fast heart rate or borderline high blood pressure.

Whether or not someone develops post-traumatic disorder following a traumatic event is related to a variety of factors. The more life-threatening the event, the more likely someone is to develop PTSD. The more the event disrupts their normal family or social experience the more likely someone is to develop PTSD. Having an intact, supportive and nurturing family appears to be a relative protective factor.

Unfortunately, a great majority of children who survive traumatic experiences also have a concomitant major disruption in their way of life, their sense of community, their family structure, and will be exposed to a variety of ongoing provocative reminders of the original event (e.g., ongoing legal actions, high press visibility). The frequency with which children develop post-traumatic stress disorders following comparable traumatic events is relatively high (45-60%).

Children who survive traumatic events and exhibit this diverse set of symptoms and physical signs are frequently also able to meet diagnostic criteria for attention-deficit hyperactivity disorder, anxiety disorder NOS, major depressive disorder, conduct disorder, and a variety of Axis I DSM III-R diagnoses. Keeping in mind, however, that these children have been traumatized and that the symptoms of anxiety, depression and behavioral impulsivity are reflective of core changes related to the traumatic event helps one provide better diagnostic, prognostic and the therapeutic services for these children.
The Firing Squad. From a drawing by a 12 year old Kosovar child witnessing the violence, chaos and destruction of war. Drawings by children exposed to traumatic events frequently include elements of the original trauma and are often re-enactment efforts.

In a separate ChildTrauma Academy Booklet, specific recommendations regarding clinical work with traumatized children are available.

APPENDIX I
The Wars of Childhood: During the ten year span of the Vietnam war, over 3 million young men and women served in Vietnam. Of these, approximately half — over 1 million — developed PTSD at some point during their 20 years of service. In response, the National Center for PTSD, thousands of specialized clinical services, research programs and educational initiatives focused on combat-related PTSD. Billions of dollars have been dedicated to treating and understanding combat-related trauma.

In contrast, each year in the United States, five million children are exposed to abuse, violence and other traumatic events. Unlike the veterans from Vietnam, most of these children don't return to their communities. Millions of children live year after year in the violent and traumatizing world of domestic or community violence, physical and sexual abuse. They are chronically exposed to traumatic events at ages when they are most vulnerable. During the ten years following the Vietnam war, more than 50 million children were exposed to traumatic events (right column above). Only thirty percent of these children developed PTSD (left column). Thirty million children developed severe and chronic neuro-psychiatric problems during this ten-year period. Despite the pervasive and devastating nature of childhood trauma, our society has dedicated few focused resources for research, clinical or educational programs for traumatized or maladjusted children.

The Scope of Childhood Trauma

APPENDIX II

Key Points

The Adaptive Response to Trauma

- The brain mediates threat with a set of predictable neurobiological, neuroendocrine and neuropsychological responses.
- These responses may include different 'survival' strategies -- ranging from fighting or fleeing to 'giving up' or a 'surrender' reaction.
- There are multiple sets of neurobiological and mental responses to stress. These vary with the nature, intensity and frequency of the event. Different children may have unique and individualized 'response'
sets to the same trauma.

- Two primary adaptive response patterns in the face of extreme threat are the hyperarousal continuum (defense -- fight or flight) and the dissociation continuum (freeze and surrender response). Each of these response 'sets' activates a unique combination of neural 'systems'.

- These response patterns are somewhat different in infants, children and adults -- though they share many similarities. Adult males are more likely to use hyperarousal (fight or flight) response -- young children are more likely to use a dissociative pattern (freeze and surrender) response.

- As with all experience -- when the brain 'activates' the neurophysiological systems associated with alarm or with dissociation, there will be use-dependent neurobiological changes (or in young children, use-dependent organization) which reflects this activation.

- It is these use-dependent changes in the brain development and organization which underlie the observed emotional, behavioral, cognitive, social and physiological alterations following childhood trauma.

- In general, the predominant adaptive style of an individual in the acute traumatic situation will determine which post-traumatic symptoms will develop -- hyperarousal or dissociative.

**APPENDIX III**

**The Threatened Child**

**How Fear Changes Thinking, Behaving and Feeling**

<table>
<thead>
<tr>
<th>Hyperarousal Continuum</th>
<th>REST</th>
<th>VIGILANCE</th>
<th>RESISTANCE</th>
<th>DEFIANCE</th>
<th>AGGRESSION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crying</td>
<td></td>
<td></td>
<td></td>
<td>Tantrums</td>
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<th>Dissociative Continuum</th>
<th>REST</th>
<th>AVOIDANCE</th>
<th>COMPLIANCE</th>
<th>DISSOCIATION</th>
<th>FAINTING</th>
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</thead>
<tbody>
<tr>
<td>Robotic/detached</td>
<td></td>
<td></td>
<td></td>
<td>Fetal Rocking</td>
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</table>

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<tr>
<th>Regulating Brain Region</th>
<th>NEOCORTEX</th>
<th>CORTEX</th>
<th>LIMBIC</th>
<th>MIDBRAIN</th>
<th>BRAINSTEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cortex</td>
<td>Limbic</td>
<td></td>
<td>Midbrain</td>
<td>Brainstem</td>
<td>Autonomic</td>
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<th>Cognitive Style</th>
<th>ABSTRACT</th>
<th>CONCRETE</th>
<th>EMOTIONAL</th>
<th>REACTIVE</th>
<th>REFLEXIVE</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Internal State</th>
<th>CALM</th>
<th>AROUSAL</th>
<th>ALARM</th>
<th>FEAR</th>
<th>TERROR</th>
</tr>
</thead>
</table>

Different children have different styles of adaptation to threat. Some children use a primary hyperarousal response some a primary dissociative response. Most use some combination of these two adaptive styles. In the fearful child, a defiant stance is often seen. This is typically interpreted as a willful and controlling child. Rather than understanding the behavior as related to fear, adults often respond to the 'oppositional' behavior by becoming more angry, more demanding. The child, over-reading the non-verbal cues of the frustrated and angry adult, feels more threatened and moves from alarm to fear to terror. These children may end up in a primitive "mini-psychotic" regression or in a very combative state. The behavior of the child reflects their attempts to adapt and respond to a perceived (or misperceived) threat.
Resources

There are many other places to learn more about the impact of traumatic events during childhood. A few starting places are listed below. These resources will be periodically updated and posted in a special section on the ChildTrauma Academy web site http://www.ChildTrauma.org. Visit this site for updates and for other resource materials about traumatic events and children.

SELECTED READING

Books:


This contributed volume summarizes the current state of clinical, research and policy related issues in the area of childhood traumatic stress. Several of the primary theoretical constructs guiding research and treatment are outlined. Excellent summaries of clinical experience and reviews of current clinical research are included.


Winner of the Blanche Ittleson Award for her research on childhood trauma, Dr. Terr is without peer in her experience and insight regarding childhood trauma. This book is a classic. She provides hope for all families and clinicians working with traumatized children. This book is highly recommended.

Articles:


ORGANIZATIONS

Prevent Child Abuse, America

Prevent Child Abuse (formerly the National Committee to Prevent Child Abuse) is nationally recognized as one of the most innovative leaders in child abuse prevention. It has a nationwide network of chapters and their local affiliates in hundreds of communities. Through our media campaigns, people are finding ways they can help prevent abuse. PCA seeks to equip professionals with the latest, proven prevention approaches through training and technical assistance. To find out more about your local affiliate and the national program activities, contact:

Prevent Child Abuse America
200 S. Michigan Avenue, 17th Floor
Chicago, Illinois 60604-2404
(800) CHILDREN
Tel: (312) 663-3522
Fax: (312) 939-8962
www.preventchildabuse.org
mailbox@preventchildabuse.org

Child Welfare League of America

CWLA is an association of more than 1,000 public and private nonprofit agencies that assist over 2.5 million abused and neglected children and their families each year with a wide range of services. There have many
resources for families and professionals working with traumatized children. For more information contact:

Child Welfare League of America

440 First Street, NW, Third Floor
Washington, DC 20001-2085
Tel. (202) 638-2952
FAX (202) 638-4004
http://www.cwla.org

American Professional Society on the Abuse of Children (APSAC)

APSAC's mission is to ensure that everyone affected by child maltreatment receives the best possible professional response. This organization has many useful scholarly and clinical materials focused primarily at the professional audience. Caregivers working with abused or maltreated children may find this a useful resource, nonetheless. For more information contact:

APSAC
407 South Dearborn Street Suite 1300
Chicago, IL 60605
http://www.apsac.org

The National Center for PTSD

The National Center for PTSD is a program of the U.S. Department of Veterans Affairs and carries out a broad range of activities in research, training, and public information. The primary focus of the Center has been combat veterans and their families. Over the last few years, however, this focus has been expanded. There are many useful programs, activities and resources for anyone interested in the effects of traumatic stressors.

The PILOTS database is an electronic index to the worldwide literature on PTSD and other mental-health sequelae of exposure to traumatic events. It is available to Internet users through the courtesy of Dartmouth College, whose computer facilities serve as host to the database. No account or password is required, and there is no charge for using the PILOTS database.

The National Center for PTSD

http://www.dartmouth.edu/dms/ptsd/

International Society for Traumatic Stress Study

The International Society for Traumatic Stress Studies (ISTSS), founded in 1985, provides a forum for the sharing of research, clinical strategies, public policy concerns and theoretical formulations on trauma in the United States and around the world. ISTSS is dedicated to the discovery and dissemination of knowledge and to the stimulation of policy, program and service initiatives that seek to reduce traumatic stressors and their immediate and long-term consequences.

International Society for Traumatic Stress Studies
60 Revere Drive, Suite 500
Northbrook, Illinois 60062 USA
Phone: 847/480-9028; Fax: 847/480-9282
http://www.istss.org

National Clearinghouse for Child Abuse and Neglect (NCCAN)

The National Clearinghouse on Child Abuse and Neglect Information is a national resource for professionals

http://www.childtrauma.org/CTAMATERIALS/effects_I.asp

10/9/2008
seeking information on the prevention, identification, and treatment of child abuse and neglect, and related child welfare issues.

National Clearinghouse on Child Abuse and Neglect Information
330 C Street, SW
Washington, DC 20447
Phone: (800) 394-3366 or (703) 385-7565
Fax: (703) 385-3206
http://www.calib.com/nccanch/
nccanch@calib.com

OTHER

David Baldwin’s Trauma Information Pages

Without question the best trauma-related resource that exists on the Web. Dr. Baldwin has done a remarkable job, collecting, sorting and commenting on this information. If you have access to the Web, start here. You won’t be disappointed.

These Trauma Pages focus primarily on emotional trauma and traumatic stress, including PTSD (Post-traumatic Stress Disorder), whether following individual traumatic experience(s) or a large-scale disaster. New information is added to this site about once a month. The purpose of this award-winning site is to provide information for clinicians and researchers in the traumatic-stress field. Baldwin’s interests include both clinical and research aspects of trauma responses and their resolution. For example:

1. What goes on biologically in the brain during traumatic experience and its resolution?
2. Which psychotherapeutic procedures are most effective for which patients with traumatic symptoms, and why?
3. How can we best measure clinical efficacy and treatment outcome for trauma survivor populations?

Supportive resources supplement the more academic or research information of interest to clinicians, researchers, and students.

David Baldwin’s Trauma Information Pages
http://www.trauma-pages.com

Glossary

Dissociation: The mental process of disengaging from the stimuli in the external environment and attending to inner stimuli. This is a graded mental process that ranges from normative daydreaming to pathological disturbances that may include exclusive focus on an inner fantasy world, loss of identity, disorientation, perceptual disturbances or even disruptions in identity.

Hyperarousal: Mental and physical changes caused by alterations in central and peripheral nervous system activation related to perceived or actual threat. This graded response includes increased sensory and perceptual focus on the threat, activation of physiological systems required for survival and corresponding changes in emotional and behavioral functioning.

Post-traumatic Stress Disorder (PTSD): A neuropsychiatric disorder that may develop following a traumatic event that includes changes in emotional, behavioral and physiological functioning.

Trauma: A psychologically distressing event that is outside the range of usual human experience, often involving a sense of intense fear, terror and helplessness.

About the Author

Bruce Duncan Perry, M.D., Ph.D.
Dr. Perry is the Medical Director, Provincial Programs in Children’s Mental Health for the Alberta Mental Health Board. In addition he continues to lead the ChildTrauma Academy, a training and research institute founded in 1990. From 1992 to 2001, Dr. Perry served as the Thomas S. Trammell Research Professor of Child Psychiatry at Baylor College of Medicine and Chief of Psychiatry at Texas Children’s Hospital in Houston, Texas.

The ChildTrauma Academy

The ChildTrauma Academy is a unique collaborative of individuals and organizations working to improve the lives of high-risk children through direct service, research and education. These efforts are in partnership with the public and private systems that are mandated to protect, heal and educate children. The work of the Academy has been supported, in part, by grants from Texas Department of Protective and Regulatory Services, the Children’s Justice Act, the Court Improvement Act and through innovative partnerships with academic and corporate partners such as Powered, Inc., Scholastic, Inc. and Digital Consulting and Software Services.

For more information, please contact:

Jana Rubenstein, M.Ed., LPC
Director, ChildTrauma Academy
jlncta@aol.com
http://www.ChildTrauma.org