

Posttraumatic Stress Disorder

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Chapter to appear in Fisher, J. E., & O'Donohue, W. (Eds.), *Practice Guidelines for Evidence Based Psychotherapy*. New York: Springer.

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Posttraumatic Stress Disorder

What is Posttraumatic Stress Disorder?

Posttraumatic Stress Disorder (PTSD) is a syndrome characterized by persistent anxiety-related symptoms provoked by a traumatic event. These symptoms are comprised of three clusters: Re-experiencing symptoms such as recurrent intrusive thoughts about the trauma, nightmares, and flashbacks, numbing symptoms such as detachment from others and loss of interest in usual activities, and a third cluster of miscellaneous symptoms including an exaggerated startle response, sleep disturbance, and memory impairment. Estimates of the prevalence of PTSD vary widely; the National Comorbidity Survey found rates of 8.2% among men and 20.4% among women (Kessler et al., 1995). The National Vietnam Veterans Readjustment Study (NVVRS, Kulka et al., 1990) reported that 30.9% of American soldiers who served in Vietnam developed PTSD; this figure rose to 50% if subsyndromal PTSD was counted. Although these figures continue to be widely cited, the NVVRS has been widely criticized on several grounds, including reliance on undocumented, retrospective self-reports of trauma, lack of measurement of impairment, and most importantly the simple fact that only 15% of those serving in Vietnam were actually in combat units.

Basic Facts About Posttraumatic Stress Disorder

The Origin of the PTSD Diagnosis. Both military and civilian psychologists and psychiatrists have long recognized the potentially debilitating effects of extreme trauma, including those related to war and industrial accidents. However, a specific diagnostic syndrome related to posttraumatic symptoms did not emerge until publication of the third edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-III) in 1980 (APA, 1980). Antiwar psychiatrists argued that many veterans returning from Vietnam experienced debilitating effects resulting from war experiences, and proposed a diagnosis of post-Vietnam syndrome. The DSM-III task force was understandably reluctant to create a diagnostic entity related to a specific and highly politically charged event. The proponents of the diagnosis then argued that the posttraumatic symptoms experienced by combatants in Vietnam were similar to those induced by other forms of severe trauma such as rape and natural disasters. They also argued that posttraumatic reactions were characterized by a unique symptom profile that was not adequately captured by existing diagnostic entities such

as mood or anxiety disorders. Post-Vietnam syndrome therefore became PTSD, which was included in the DSM-III. In the two-and-a-half decades since, PTSD has attracted a great deal of attention from both researchers and clinicians. This attention has highlighted several contentious issues related to the disorder. In fact, PTSD has likely become the most controversial contemporary diagnostic syndrome, with virtually every aspect of the disorder and its treatment currently debated.

Consideration of the scientific status of the extant issues related to PTSD holds important implications for treatment. Thus, while debate continues and many issues remained unresolved, we discuss in the sections below several of the major issues surrounding PTSD, followed by a discussion of the more efficacious treatments for posttraumatic reactions.

The Problem of Defining Trauma. As a diagnosis of PTSD presupposes exposure to a traumatic event, a great deal rides on what counts as trauma (McNally, 2004). The original architects of PTSD conceptualized the precipitating traumatic experiences as life-threatening event such as war combat, violent assault, or natural disasters. Indeed, the DSM-III defined traumatic stressors as falling “outside the range of usual human experience” (APA, 1980, p. 236). This definition was expanded in the revision of the DSM-III to include learning about or witnessing a friend or family member’s exposure to a life-threatening event. The DSM-IV further expanded the concept to trauma as “the person experienced, witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others,” as long as the event resulted in “intense fear, helplessness, or horror” (APA, 1994, pp. 427-428). There are several noteworthy aspects of this evolution. First, not only does one no longer need to have direct experience with a life-threatening event, but the vicarious experience no longer needs to involve a family member or friend. Second, the event need not be unusual or outside the range of normal experience. Third, the trauma is no longer defined solely by objective external standards, but now considers the individual’s psychological reaction to the event. And finally, trauma can now include “developmentally inappropriate sexual experiences” (p. 424), even if these involved no actual or threatened violence or injury.

McNally (2003a, 2004) argues that these changes have led to a “bracket creep” in the definition of trauma, noting that they permit events such as hearing off-color jokes in the workplace (Avina & O’Donohue,

2002), extramarital affairs (Dattilio, 2004), or witnessing the terrorist attacks of September 11, 2001 on the television to count as traumatic stressors capable of producing PTSD. In fact, the majority of Americans have experienced at least one traumatic event according to the DSM-IV definition (Breslau & Kessler, 2001). This expansion of the concept of trauma complicates the search for psychobiological correlates of and treatments for PTSD, as it is highly unlikely that the typical reaction to events such as hearing off-color jokes is comparable to that of war combat or brutal rape.

The Causal Role of Trauma. PTSD and its cousin, Acute Stress Disorder, are the only disorders in the DSM-IV (other than the Adjustment Disorders) that refer to a specific external etiological event. The traumatic event is presumed to be the proximal cause of the resulting symptoms. However, one cannot necessarily conclude that an event caused symptoms merely because it preceded the onset of those symptoms, especially when the symptoms include such common symptoms as depressed mood, difficulty concentrating, or sleep disturbances (cf. the logical fallacy known as *post hoc ergo propter hoc*, “after this therefore because of this”).

Furthermore, not everyone exposed to a traumatic event develops PTSD. In fact, epidemiological data reveal that only a minority of those who experience trauma develop the disorder (Kessler et al., 1995). This raises the possibility that the severity of the traumatic event may determine the outcome. Although some studies support such a dose-response effect, many others do not (Bowman, 1999). Moreover, interpretation of those studies that do support a connection between trauma and symptom severity are complicated by the fact that trauma severity is typically assessed through a subjective self-report of severity which is likely to be highly influenced by one’s current clinical state.

Whereas evidence is mixed on the role of severity of trauma in the development of PTSD, research has found that the development of the disorder is highly related to a number of individual (pre-trauma) risk factors, including intelligence, neuroticism, and pre-existing mood or anxiety disorder. Despite these findings, most clinical descriptions of PTSD, including the DSM-IV, focus primarily or exclusively on the trauma event itself as the cause of the disorder.

Problems with Symptoms. As previously observed, PTSD is thought to reflect a unique symptom profile. Yet there exists surprisingly little prospective data on the actual frequency of the cardinal PTSD

symptoms following trauma (McNally, 2004). Rather, patients are typically asked to report their symptoms retrospectively. Most of the symptoms of PTSD overlap substantially with other diagnostic entities, especially mood and anxiety disorders. Moreover, Neal et al. (2004) recently found that disability was more strongly predicted by depression than by symptoms of posttraumatic stress.

Perhaps the most contentious issue surrounding PTSD concerns the symptom of psychogenic amnesia, especially in the context of childhood sexual abuse. The original DSM-III noted that memory impairments in the form of everyday forgetfulness associated with difficulties concentrating could occur. During the 1980s some psychotherapists built on the Freudian notion of repression to suggest that traumatic memories, especially of childhood sexual abuse, were “repressed” from consciousness, yet leaked out to produce intrusive thoughts, images, and other re-experiencing symptoms (Brown et al., 1998; Herman & Schatzow, 1987). As this perspective gained popularity, the forgetfulness symptom in DSM-III was replaced in DSM-III-R and DSM-IV with the “inability to recall an important aspect of the trauma (psychogenic amnesia)” (p. 250). Such amnesia assumes that the information was accurately encoded and subsequently blocked from awareness by an active psychological mechanism.

At current, the debate rages on. Some (e.g. Gleaves et al., 2004) argue that clinical and empirical evidence support the phenomenon of recovered memories. Many others (e.g. McNally, 2003b; Kihlstrom, 2004) take the position that the evidence for psychogenic amnesia is unreliable and/or misconstrued, and that the construct of “motivated forgetting” is inconsistent with a scientific understanding of memory. A failure to report a past trauma might best be explained not by forgetting, but by either a failure to *encode* the event at the time or a simple unwillingness to report. Moreover, research demonstrates that even the most traumatic of memories, far from being forgotten, are highly memorable and particularly vivid. Additionally, “recovered” memories are not necessarily descriptions of events that actually took place. Memory does not operate like a video camera, accurately recording external events then filing them away for later retrieval, but instead is a reconstructive process in which information is influenced by historical and contextual factors (Schacter, 1996).

Is PTSD a Social Construction? Given the various problems on both the trauma and the symptom sides of PTSD noted above, it is not surprising that some scholars have raised the possibility that the disorder

may in some sense represent a social construction. This argument takes two closely related forms. First, some suggest that PTSD pathologizes normal reactions to timeless human experiences (Summerfield, 2004). These scholars note the political origins of PTSD, and question equating normative human suffering with mental illness. Other scholars acknowledge the considerable suffering associated with PTSD, but suggest that the specific symptoms that define the disorder are largely a product of prevailing cultural theories of psychopathology (Herbert & Sageman, 2004).

Most traumatologists reject this view, and insist that PTSD is a “natural kind” phenomenon like heart disease or AIDS, existing independently of our theories about it. In support of this view, they adduce evidence from biological studies, cross-cultural studies, and historical analyses, which purport to demonstrate the universal nature of PTSD across time and social contexts. Careful examination of each of these literatures, however, raises serious questions about evidence supporting the universality of the disorder. Regarding biological studies, although PTSD is associated with psychophysiological reactivity to autobiographical accounts of trauma, between one-third and one-half of those with PTSD do not show heightened reactivity. In addition, similar reactivity is shown by individuals who claim traumatic memories of events that are highly unlikely to have occurred, such as abduction by space aliens (Clancy et al., 2002), suggesting that heightened reactivity reflects the emotional intensity of memory rather than its accuracy. Another line of biological inquiry suggests that traumatic stress, especially chronic and/or extreme trauma, may result in hippocampal atrophy through the effects of chronically elevated levels of stress hormones. Although some neuroimaging studies have in fact found smaller hippocampi in individuals with PTSD relative to controls (Bremner, 2001), most assessments of cortisol levels in persons with PTSD have found that they are not elevated. Moreover, Gilbertson et al. (2002) found that monozygotic twins in which one pair had served in Vietnam and developed PTSD while the other had not been in the war both had comparably small hippocampi, strongly suggesting that reduced hippocampus volume may be a pre-existing risk factor for PTSD rather than a result of traumatic stress.

Cross-cultural studies and transhistorical analyses are frequently cited in support of the legitimacy of the PTSD concept. The “natural kind” perspective would be supported by findings that the specific symptoms comprising the PTSD syndrome occur in other (and especially non-Western) cultures, and that the syndrome can

be documented more-or-less in its present form across historical contexts. The limited cross-cultural research to date has yielded mixed results. Some studies have found moderate to high rates of PTSD symptoms in indigent non-Western peoples (e.g., Carey et al., 2003; Howard et al., 1999; McCall & Resick, 2003). However, such studies simply asked individuals known to have experienced negative reactions to trauma to endorse symptoms of PTSD as defined by the DSM-IV. Setting aside the issues of translation and possible interviewer demand characteristics, such methods do not permit an assessment of normative responses to trauma, since base rate data on traumatized individuals are not collected and since only symptoms associated with PTSD are assessed. Indeed, other studies using more ethnosemantic interview methods in which open-ended interviews assess a wider range of experiences reveal considerable variability across cultures both in the nature of what is considered traumatic, and in the normative responses to trauma (Marsella et al., 1996). It is often argued that history reveals case examples of PTSD symptoms strikingly similar to contemporary conceptualizations of the disorder. However, recent scholarly historical analyses have tended to support the opposite view, i.e., that both the frequency of pathological reactions to trauma, as well as the specific nature of those reactions, vary considerably across historical contexts (Herbert & Sageman, 2004).

In summary, the issue of the essential nature of PTSD remains unresolved. There is no question that some individuals who experience extreme traumatic stressors develop longstanding and debilitating symptoms that impact their psychosocial functioning. Nevertheless, the current conceptualization of the disorder is complicated by problems with the definition of trauma, questions about the etiological significance of traumatic events, and questions about the uniqueness of the symptom profile. Moreover, psychobiological, cross-cultural, and historical studies cast doubt on the notion that PTSD exists independently of prevailing cultural conceptualizations of psychopathology. In fact, as discussed below, some scholars now suggest that some modern intervention technologies may actually contribute to the development of the disorder.

Assessment

PTSD-related assessment requires the identification of qualifying traumas in a patient's life history and a determination of the presence, quality, and intensity of trauma-related symptoms. In both types of assessments the interviewer is challenged by the possibility of having to work to extract information that may be difficult for

a patient to acknowledge, while not creating a climate of suggestion or expectation. For a variety of reasons, including shame, the wish to avoid unpleasant and overwhelming affect, and a sense that the trauma is irrelevant to their psychological difficulties, many individuals do not at first report their trauma histories. The clinician must therefore be prepared to ask directly about such events. However, given the concerns raised earlier about the creation of false memories, it is essential that the assessor avoid leading questions or comments that overtly or covertly suggest that a particular experience occurred.

In addition to the clinical interview, a number of tools are available to assist in the assessment of PTSD. Structured interviews include instruments such as the Structured Clinical Interview for DSM-IV (SCID; First, Spitzer, Gibbon, & Williams, 1995), the Diagnostic Interview Schedule (DIS; Robins, Helzer, Croughan & Ratcliffe, 1981), and more targeted interviews such as the PTSD Symptom Scale—Interview (Foa, Riggs, Dancu & Rothbaum, 1993) and the Clinician-Administered PTSD Scale (CAPS; Blake et al., 1995). Self-report scales include the PTSD Symptom Scale—Self-Report (Falsetti, Resnick, Resick & Kirkpatrick, 1993) and the Posttraumatic Stress Diagnostic Scale (PDS; Foa, 1995). Of note is the Trauma Symptom Inventory (TSI; Briere, 1995), as it includes a number of validity indices such as tendencies to endorse unusual items and to respond in an inconsistent manner.

What Assessments are Not Helpful?

Traditional psychological tests (e.g., MMPI, projective tests like figure drawings and the Rorschach inkblot test) are not useful in assessing PTSD. Likewise, no medical tests are available. Given the concerns discussed above about suggestibility following the experience of trauma, questioning under hypnosis should be avoided given its tendency to produce confabulation. Similarly, questions regarding PTSD symptoms should avoid creating the expectation that such symptoms are inevitable and, if present, will be long-lasting.

Treatment

What Treatments are Effective?

As PTSD is not diagnosed until at least one month following a traumatic event, most of the treatment research on the disorder has focused on patients with persistent symptoms. However, some studies have begun to examine interventions in the immediate aftermath of trauma. Findings from these studies are supplemented

by the considerable military experience over the past several decades in treating acutely traumatized soldiers. There is mounting evidence that the most effective approach to intervention depends upon the phase at which the patient presents for treatment in relation to the experience of trauma.

The Acute Posttraumatic Phase. Many traumatologists paint a highly pessimistic picture of the typical sequelae of trauma, suggesting that most individuals will go on to experience chronic, debilitating symptoms if not treated. In fact, the evidence suggests the opposite is true. Although subjective distress is common in the immediate hours and days following a traumatic event, such effects are transient for the vast majority of individuals, who demonstrate surprising resilience (Bryant, 2004). Also discussed earlier was the possibility that the development of posttraumatic symptoms is partly a product of cultural context. These observations have direct therapeutic implications. First, well-intentioned messages suggesting trauma creates pathology could be predicted to *increase* the likelihood of persistent symptoms, whereas messages emphasizing the transient nature of symptoms and the high likelihood of recovery should foster resiliency. In fact, some theorists have suggested that the time immediately following a traumatic event is critical as victims are especially prone to morbid suggestion during this time (Herbert & Sageman, 2004).

Evidence in support of this perspective comes from two sources. First, the accumulated experience of military psychiatry and clinical psychology has demonstrated the value of treating psychiatric casualties close to the front with rest (including temporary sedation if necessary), while avoiding any hint of pathology and with the expectation of a quick return to the front (Shephard, 1999; 2000; Solomon & Benbenishty, 1986). The second source of evidence comes from the effects of interventions that, ironically, are designed to prevent the development of PTSD among recently traumatized persons. “Psychological debriefing” programs bring acutely traumatized individuals together into groups in which information is presented about the typical psychological effects of trauma, and emotional discussion of details of the traumatic experience is encouraged. Most research on such programs has failed to demonstrate beneficial effects relative to untreated controls, although several studies have found that debriefing actually *increases* the likelihood of the development of chronic symptoms, including PTSD (Deville & Cotton, 2003; Gist & Devilly, 2002). It is possible that these well-intentioned interventions encourage morbid, pessimistic expectancies, thereby impeding the natural recovery process. Thus,

the available evidence suggests that interventions in the immediate aftermath of trauma should be limited to immediate restorative and recuperative measures (e.g., adequate sleep using short-term tranquilizers if necessary) in the context of supportive, optimistic messages about recovery (National Institute of Mental Health, 2002). Meaningful activities should be encouraged to prevent morbid preoccupation with the trauma.

The Subacute Phase. Even if morbid suggestions are carefully avoided, some individuals will develop persistent symptoms. Several recent studies suggest that short-term cognitive behavior therapy (CBT), delivered between two and four weeks post-trauma, is effective in reducing symptoms and arresting the development of a chronic course (Bryant et al., 1998, 1999; Foa et al., 1995), even at four-year follow-up (Bryant, Moulds, & Nixon, 2003). Unlike debriefing programs, which target everyone who experiences a trauma, these CBT programs target only individuals who are experiencing clinically significant symptoms at least two weeks following the traumatic event. Although promising, these studies are limited to victims of assault or accident; no studies have yet evaluated such programs for combat, natural disasters, or terrorism.

Chronic Symptoms. A growing literature supports the effectiveness of exposure-based psychotherapies for chronic PTSD. These treatments are designed to confront the tendency to avoid distressing reminders of the trauma, including distressing memories. Exposure is conducted both in imagery (thoughts, feelings, images), as well as *in vivo* (relevant environmental stimuli). The therapist and patient typically work together to construct a hierarchy of distressing stimuli, which are then systematically presented. Exposure is typically conducted under the general rubric of CBT, in which other techniques such as cognitive restructuring or relaxation training may be incorporated. Exposure-based therapies have been shown to be effective for various traumatized populations, including victims of combat, accidents, rape, physical assault, and natural disasters (e.g., Devilly & Spence, 1999; Foa et al., 1999; Keane et al., 1989; Marks et al., 1998). Although the precise mechanism through which systematic exposure operates remains controversial, the central theme of all exposure-based interventions is confronting the natural tendency to avoid distressing material. Prolonged (imaginal) exposure (PE) represents a particularly well-validated form of exposure treatment in which patients are asked to remember and describe traumatic events during an extended therapy session (e.g. 90 minutes). The

therapy apparently depends on the patient reliving the experience as vividly as possible through the use of present tense narratives and highly detailed sensory cues such as sounds and smells (Foa et al., 1999).

Cognitive restructuring is another well established treatment for posttraumatic symptoms. Foa and Rothbaum (1998) proposed that two dysfunctional cognitions are implicated in the development of PTSD: (1) The world is highly dangerous, and (2) I am incompetent. Based on Beck's paradigm of cognitive therapy (Beck & Emery, 1985), cognitive restructuring for PTSD involves helping patients identify and revise PTSD-related negative automatic thoughts (e.g., "If I get in a car again I'll surely be in another accident and then I'll never recover") stemming from these dysfunctional beliefs. Although cognitive restructuring appears to be an effective treatment (Foa, Keane and Friedman, 2000; Marks et al., 1998), the addition of cognitive restructuring to exposure treatments has been found to be no more effective than exposure treatment alone (Foa & Rauch, 1999; Marks et al., 1998).

Closely related to cognitive restructuring is Stress Inoculation Training (SIT; Kilpatrick et al. 1982), a multicomponent intervention involving relaxation, guided self-dialogue, covert modeling (visualizing the successful confrontation of an anxiety-provoking situation), role-playing, and thought stopping (e.g. subvocally saying the word "stop!" to interrupt ruminative or disturbing thoughts). Although SIT appears to be effective, some evidence suggests it is not as powerful as PE and that it does not add anything above and beyond PE-only (Foa, Rothbaum, Riggs and Murdock, 1991; Foa et al., 1999). Moreover, there is now support for the notion that attempting to suppress trauma-related cognitions may, in fact, paradoxically increase the frequency and intensity of the thoughts (Harvey & Bryant, 1998).

The paradoxical effects of thought stopping point to the more general role of experiential avoidance (i.e. the avoidance of aversive thoughts, memories and emotions) in the development and maintenance of PTSD. Acceptance-based therapies, especially Acceptance and Commitment Therapy (ACT; Hayes et al., 1999), directly address experiential avoidance and have been increasingly used in the treatment of PTSD (Orsillo & Batten, in press; Walser & Hayes, 1998). Although promising, little research has investigated ACT for trauma-related disorders.

What are Effective Self-Help Treatments?

Little is known about self-directed treatment of PTSD, although at least one study (Ehlers et al., 2003) found that self-treatment through a self-help booklet was no better than no treatment. A number of self-help books have been published, but most are inconsistent with scientifically-based treatment guidelines such as those outlined here. For example, almost without exception the available books emphasize pathological responses to trauma as the norm, and many endorse the idea of repressed memories and encourage various techniques to “recover” such memories. Many also highlight dubious techniques (e.g., massage therapy, rapid eye movements) as keys to “unlocking” traumatic experiences. Nevertheless, potentially useful self-help guides include:

- Williams, M.B., & Poijula, S. (2002). *The PTSD workbook: Simple, effective techniques for overcoming traumatic stress symptoms*. Oakland, CA: New Harbinger.
- Greist, J. H., Jefferson, J. W., & Katzelnick, D. J. (2000). *Posttraumatic Stress Disorder: A Guide*. Madison, WI: Information Centers, Madison Institute of Medicine. (Downloadable online at: <http://ptsd.factsforhealth.org/PTSDGuide.pdf>)
- Rothbaum, B. O., & Foa, E. B. (1999). *Reclaiming Your Life after Rape*. San Antonio: Psych. Corp.
- Bourne, E. J. (2000). *The anxiety and phobia workbook*. Oakland, CA: New Harbinger.

In addition, a number of useful informational websites about PTSD are available, including:

- <http://www.ncptsd.org>
- <http://www.ptsdalliance.com>
- <http://www.mhsanctuary.com/ptsd>
- <http://www.apa.org/practice/ptsd.html>
- <http://ptsd.factsforhealth.org/whatisit.html>

What is Effective Medical Treatment?

A variety of medications have been shown to be helpful in uncontrolled, open-label studies, including the selective serotonin reuptake inhibitors and other antidepressants, mood stabilizers, and benzodiazepines. The general finding is that all of these classes of agents are helpful. There have been only a few randomized controlled trials of medications, and only two antidepressants (Sertraline and Paroxetine) are currently FDA

approved for the treatment of PTSD. Given the high rates of comorbidity between PTSD and other conditions, especially mood and anxiety disorders, it is not clear if drug therapy addresses symptoms specific to PTSD, or if the observed improvements are a function of amelioration of comorbid conditions. Either way, as with other anxiety disorders, a major limitation of drug therapy for PTSD is the high risk of relapse following discontinuation of medication.

Therapies without Empirical Support. There are several forms of psychotherapy that, despite being widely practiced, either have minimal or no data to support their effectiveness, involve dramatic techniques that are devoid of therapeutic powers, or may even be harmful. There is no controlled research supportive of psychoanalytic/psychodynamic psychotherapy or of supportive psychotherapy for PTSD. “Recovered memory” therapy involves a number of techniques such as hypnosis, age regression, and guided imagery that are designed to uncover “repressed” traumatic memories, often of childhood sexual abuse. In addition to the problems with the notion of traumatic repression reviewed above, these therapies involve highly suggestive techniques that can actually create memories, which are then experienced as veridical.

The past decade has witnessed the ascendance of the so-called “power” therapies, which promise quick relief from distressing symptoms in as little as a single treatment session. Foremost among these is Eye Movement Desensitization and Reprocessing (EMDR; Shapiro, 2001), which entails therapist-guided back-and-forth eye movements in the context of imaginal exposure. Although proponents of EMDR highlight the powers of eye movements, controlled research has shown this component is utterly devoid of therapeutic effects (Davidson & Parker, 2001; Devilly, 2002; Herbert et al., 2000). Some studies even suggest that eye movements may interfere with effective treatment relative to imaginal exposure without eye movements, especially in the long-term. Although EMDR appears to be more effective than no treatment at all, its proposed mechanism of action is highly suspect, and it appears to be less effective than CBT (Devilly & Spence, 1999).

How Does One Select Among Treatments?

Given the high rates of relapse following medication discontinuation, drug therapy is generally not considered the initial treatment of choice for PTSD per se. However, medications can be very useful in three circumstances. First, short-term use of minor tranquilizers (e.g., benzodiazepines) or related sleep-inducing

medications can often be helpful in the immediate aftermath of trauma to promote adequate sleep and recuperation. Second, antidepressant medications can be useful in treating clinically significant comorbid mood or anxiety symptoms. Finally, medications are sometimes useful in treatment refractory cases in which psychotherapy has failed. In all cases, a risk-benefit calculus based on a consideration of possible side effects and likely benefits should be discussed with the patient. As discussed above, several psychotherapies have been shown to be effective in treating traumatic stress, including exposure-based therapies, cognitive restructuring, and relaxation-based interventions. Such treatments should generally be considered first-line interventions. Useful resources for the professional that discuss specific treatment considerations include:

- Foa, E. B., Keane, T. M., & Friedman, M. J. (Eds.) (2000). *Effective treatments for PTSD: Practice guidelines from the International Society for Traumatic Stress Studies*. New York: Guilford.
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- Bryant, R. A., & Harvey, A. G. (2000). *Acute Stress Disorder: A Handbook of Theory, Assessment, and Treatment*. Washington, DC: American Psychological Association.
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- Rosen, G. M. (Ed.) (2004), *Posttraumatic stress disorder: Issues and controversies*. Chichester, England: John Wiley & Sons.

Conclusion

PTSD has become a lightning rod for the storms currently raging in the field of clinical psychology and related disciplines between scientifically-minded researchers and practitioners and those whose theories and interventions are less rooted in science. Recent research has cast in sharp relief many of the issues surrounding PTSD. Although many questions remain unanswered, emerging data point to the potential importance of avoiding suggestion of permanent pathology in the critical period immediately following the experience of trauma, and support the efficacy of various CBT treatments for those who develop persistent posttraumatic symptoms.

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