

3-2014

# Nurse Practitioner Education: Exposure Therapy Options for Symptom Control in Post- Traumatic Stress Disorder Patients

Erynn Richardson

Follow this and additional works at: <http://knowledge.e.southern.edu/gradnursing>



Part of the [Nursing Commons](#)

---

## Recommended Citation

Richardson, Erynn, "Nurse Practitioner Education: Exposure Therapy Options for Symptom Control in Post- Traumatic Stress Disorder Patients" (2014). *Graduate Research Projects*. Paper 29.  
<http://knowledge.e.southern.edu/gradnursing/29>

This Article is brought to you for free and open access by the Nursing at KnowledgeExchange@Southern. It has been accepted for inclusion in Graduate Research Projects by an authorized administrator of KnowledgeExchange@Southern. For more information, please contact [dbravo@southern.edu](mailto:dbravo@southern.edu).

Nurse Practitioner Education: Exposure Therapy Options for Symptom Control in Post- Traumatic  
Stress Disorder Patients

Erynn Richardson

March 10<sup>th</sup>, 2014

Capstone Literature Review

A Paper Presented to Meet Partial Requirements

For NRSG 594

MSN Capstone

Southern Adventist University

School of Nursing

## Chapter 1: Introduction

Approximately one out of every five veterans returning home from the wars in Iraq and Afghanistan are diagnosed with Post Traumatic Stress Disorder. Of these veterans 50% will never consult anyone for treatment. ([www.va.gov](http://www.va.gov)).

The diagnosis of PTSD was not clinically defined until 1980. Prior terms used to explain the behaviors of returning soldiers night terrors as well as their anxiety symptoms were termed “night terrors,” shell shock,” or “battle fatigue.” It is estimated that one out of every twenty veterans from World War II exhibited symptoms of PTSD such as irritability, night terrors, and flashbacks. ([www.ptsd.va.gov](http://www.ptsd.va.gov)) From the Vietnam War 15.2% of male veterans and 8.1% of female veterans were diagnosed with PTSD ([www.ptsd.va.gov](http://www.ptsd.va.gov)). In 2004 there were an estimated 161,000 Vietnam veterans still receiving disability for PTSD ([www.sfgate.com](http://www.sfgate.com)). For those soldiers returning from Iraq and Afghanistan, one in every six returns with PTSD. ([www.nytimes.com](http://www.nytimes.com)).

PTSD symptoms may start within three months of a traumatic event, but sometimes symptoms may not appear until years later. These symptoms cause significant problems for the veterans in both their social relationships, and work situations. ([www.mayoclinic.com](http://www.mayoclinic.com)) The diagnosis of PTSD as well as the treatment costs about \$2 billion dollars annually. ([www.va.gov](http://www.va.gov))

There are many signs and symptoms that occur with PTSD that can be placed into three specific subgroups; Re-experiencing symptoms, Avoidance symptoms, and Hyperarousal symptoms. Re-experiencing symptoms such as flashbacks, bad dreams and concerning or frightening thoughts are common complaints post combat. ([www.mayoclinic.org](http://www.mayoclinic.org)) Symptoms may be triggered by words, smells, sounds or even events that remind them of the event.

Doc Bailey, a Combat certified Army medic who served through two deployments in Iraq,

suffered from severe re-experiencing symptoms, prior to getting long term therapy for his PTSD. One particular event he will never forget. Doc Bailey recalls

“ I was just leaving formation and nothing was really happening, No one had said anything in particular, but it was cold, and one of the soldiers behind me made a kind of snoring sound trying to get the snot out of his nasal passages. I cannot describe in words exactly what happened. The white became dark, I could still see Riley and the snow on the ground but I wasn't there I was back. Over There. I was holding a young man who had been hit by an IED, the back of his turret had been blown clear, he had been blown forward his jaw crushing on his saw, he made these horrible snoring respirations as his body fought to stay alive. It was one of the most painfully powerless moments in my life. I could not save this man. Each exhale would splatter blood all over me and the drivers seat behind me. All I could do was hold his airway open and talk to him. I must have been completely stationary for a while because my squad leader came up to me and tapped me on the shoulder. I know I jumped, and tried to play it off like I was trying to remember something I had to do, but the incident had really shaken me. I wish I could say that was the last time. I wish I could say that I never had to relive shoving Kerlex into a man's leg as he was screaming for me to stop. I wish I could say that I never had to remember when an AT-4 inside a burning humvee went off 20 meters away from me, I wish I could say that that one time was the only time I had to worry about my past barging into the present in such a shocking way. Sadly all that and worse happened”.

(<http://themadmedicblogspot.com>).

Unable to control these events during daily life many veterans cannot function without fear of the next flashback, rendering them incapable of holding a job due to unknown episodes of anxiety and panic.

Avoidance symptoms include guilt, depression, worry, and suppression of the memory of

the dangerous event. Anhedonia is also included in the symptom profile of PTSD, which is the inability to enjoy things that were enjoyable in the past such as hobbies, family gatherings or even certain foods. Medic Bailey confesses that he would seclude himself from others as well as try to even get away from himself with drugs and alcohol. He also admits that on two separate occasions he tried to take his own life due to severe depression and guilt of his survival. Veterans now account for 20% of all U.S. suicides, about one suicide daily. ([www.va.gov](http://www.va.gov).) Soldiers who have fought, survived, and returned home to only die from their own hand due to PTSD, a disease that with medication therapy, cognitive therapies or even combination therapies can be treated and even cured. ([www.va.gov](http://www.va.gov)).

Hyper-arousal, which could include personality changes such as anger, insomnia, and feelings of anxiety may also be exhibited by PTSD sufferers. Many veterans self medicate with drugs or alcohol to decrease their anxiety. Combat Marines with PTSD and at least one deployment were six times more likely to be arrested for drug charges and 11 times more likely to be discharged for misconduct ([www.huffingtonpost.com](http://www.huffingtonpost.com)). Acts of violence were more commonly perpetrated by veterans who were homeless, un-employed, under employed or lacked social support from family or friends. ([www.huffingtonpost.com](http://www.huffingtonpost.com)) Veterans now account for the 200,00 people that are homeless each night. Of these homeless veterans 45% suffer from PTSD or mental illness, ([www.expeditionbalance.org](http://www.expeditionbalance.org)). Increasing numbers of homeless veterans and its strong correlation with increased violence will only continue to grow without treatment of the disease itself.

PTSD is severely undertreated and under diagnosed, most likely due to the increased influx of soldiers returning from combat zones without adequate psychological therapy available. ([www.military.com](http://www.military.com)). Without proper treatment for long-term symptom control, substance abuse, suicide and other co-factors related to untreated PTSD's cohabitating addictions and behaviors will continue to rise. As many as 27% of Army soldiers screened just three to four months after returning

from deployment to Iraq met criteria for alcohol abuse and were at increased risk for related harmful behaviors ([www.drugabuse.gov](http://www.drugabuse.gov)).

Are Nurse Practitioners educated enough on the different treatment options for the growing number of post combat veterans returning home with PTSD? By treating the patient effectively it can reduce risk for suicide, drug/alcohol addiction, jail time, un-safe sexual behaviors, and violence to name a few. Many treatment regimens for PTSD initially start with stabilization medications for depression and anxiety symptoms with Selective Serotonin Reuptake Inhibitors (SSRI), such as fluoxetine, sertraline and paroxetine. Many patients are then not offered any other long-term therapies or psychological support. Nurse Practitioner education in other essential PTSD therapies is essential for the adequate treatment for the returning veterans diagnosed with PTSD.

### **Theoretical Framework:**

Roy's adaptation model is used for the framework of this capstone project. The treatment of PTSD can be established with cognitive therapies due to its explicit assumptions that include the person as an individual who is continually adapting to the changing environment around them. In the case of post-combat PTSD patients the individual has come from a hostile environment where adaptation to this particular environment has evolved over time. When the veteran returns home they are taken out of their current environment and placed into a new environment, which they must adapt back into due to the non-hostile atmosphere. Roy's model works with the knowledge that health and illness are inevitable dimensions of a person's life. In an effort to obtain adaptability to the environment the patient must respond to it in a positive manner. This area is relevant in the use of exposure therapy, which is a cognitive therapy, used to treat post-combat PTSD. When using exposure therapy the patient is continually exposed to a stimuli and the reaction to the stimuli through verbal, written or physical responses are recorded.

These responses are used to indicate the patient's progress with symptom control and decrease negative effects of the traumatic event or stimulus, to see how well they adapt. Recording of these reactions show the ability of the patient to adapt to certain life scenarios that may replicate the feelings of the traumatic event. The ability to adapt to the surrounding environment is measured by positive responses, which is one of the cornerstones of the Roy adaptation model.

With consistent therapy and interaction with the traumatic event through frequent exposure the patient may achieve the goal of adaptation by achieving dignity and integrity as an end result.

### **Rational for Review**

The purpose of this capstone project is to review the variety of cognitive exposure therapies used to treat PTSD in regards to symptom reduction and control in a effort to increase the knowledge of nurse practitioners who may treat effected veterans.

### **Definition of Terms**

Combat: To oppose in battle, fight against; an action fought between two military forces

Post-Traumatic Stress Disorder: is an anxiety disorder that may develop after exposure to a terrifying event or ordeal in which severe physical harm occurred or was threatened.

Diagnostic and Statistical Manual of Mental Disorders (DSM-5): American Psychiatric Association's classification and diagnostic tool that serves as a universal authority for psychiatric diagnosis

Cognitive Therapy: Short term for psychotherapy or cognitive behavioral therapy. A form of therapy in which the goal is to diminish symptoms by correcting distorted thing on negative self-perceptions and expectations.

Virtual-reality Exposure Therapy: method of psychotherapy that uses virtual reality technology to treat patients with anxiety disorders.

Prolonged Exposure Therapy: form of behavior therapy and cognitive behavioral therapy designed to treat post-traumatic stress disorder, characterized by re-experiencing the traumatic event through remembering it and engaging with, rather than avoiding reminders of the trauma.

Clinician-Administered PTSD Scale (CAPS): thirty item structured interview to make current or lifelong diagnosis of PTSD as well as assess PTSD symptoms over a weeks time.

SUDS: Subjective Units of Disturbance Scale: 0 to ten scale used for measuring subjective intensity of disturbance or distress by an individual developed by Joseph Wolpe.

### **Purpose Statement**

The purpose of this literature review is to educate Nurse Practitioners on cognitive therapies that is beneficial to the treatment of combat related PTSD. The main focus is to increase the provider's knowledge base of these therapies, as well as their benefits to facilitate successful treatment of PTSD as well as symptoms control.

## **Chapter 2**

### **Methods and Results**

#### **Search strategy**

A review of the literature regarding cognitive therapy options for post-traumatic stress disorder patients were performed using MEDLINE and PubMed. The terms used for the search for each search engine included search terms post combat PTSD, cognitive therapy, exposure therapy, virtual reality therapy, PTSD treatment, Clinician Administered PTSD scale, PTSD



symptoms and cognitive reprocessing therapy. The search was limited to human subjects between the years 2000-2014 that were linked to full text articles. Articles that met three main search criteria within the article search including search words; post combat, PTSD and cognitive therapy, were reviewed and articles pertaining to these topics were analyzed and chosen for literature review.

### **Search results**

A total of 36 full-text studies were identified using MEDLINE. The search was narrowed to include only articles only with human subjects. Also included in search criteria key words of post-combat, military PTSD, exposure therapy PTSD and combat cognitive therapy. CINAHL was used also to locate 24 full-text studies that were not retrievable by MEDLINE. The titles and abstracts of all the results were screened and read in entirety to include 22 articles that were referenced for this literature review. Of these 22 articles 14 were identified to include related subject matter to this literature review.

## **Chapter 3**

### **Discussion**

#### **Summary of Evidence**

Post-traumatic stress disorder symptoms may start within three months of a traumatic event, but sometimes symptoms may not appear until years after the event. These symptoms cause significant problems in social or work situations and in relationships (www.mayoclinic.com) The diagnosis of PTSD as well as the treatment contributes to two billion dollars spent annually on average. With increased knowledge of diagnosis and treatment of veterans and earlier care of PTSD healthcare dollars spent could see a steady decline.

PTSD is marked by biological as well as psychological symptoms. It is a mental health

condition that is triggered by a traumatic/ terrifying event- either experiencing it or witnessing the event. ([www.mayoclinic.org](http://www.mayoclinic.org)). Patients experience flashbacks, nightmares and uncontrollable thoughts about the event. Many of these veterans deal with anger outburst, anxiety, severe depression, paranoia as well as isolation. Many of these problems for veterans are closely connected to the adaptation to life outside of the combat zone. PTSD sufferers can be in a continual state of fight or flight without stimuli to coincide with this reaction. Some patients have triggers that initiate their anxiety, such as sound, smell, image or memory that is associated with the traumatic event or events that they may have experienced. ([www.expeditionbalance.org](http://www.expeditionbalance.org)) Without the proper treatment and tools to work through these triggers these symptoms continue to worsen.

The actual physical changes in the body that attribute to the pathophysiology are not entirely understood although there are many suggestions. One of these suggestions is that PTSD symptoms may result when a traumatic event causes an over-reactive adrenaline response, which creates deep neurological patterns in the brain. These patterns can persist long after the event that triggered the fear, making an individual hyper-responsive to future fearful situations. Another suggestion is that exposure to traumatic stimuli can lead to fear conditioning with activation of the amygdala and associated structures, such as the hypothalamus, locus ceruleus, periaqueductal gray and parabrachial nucleus. The activation of these areas of the brain accompanied by the activation of the autonomic neurotransmitter and endocrine activity produces many of the PTSD symptoms. The orbitofrontal cortex of the brain can stop this process when it exerts an inhibiting effect on the activation of the amygdala. However patients who develop PTSD appear to have an orbitofrontal cortex that is less capable of inhibiting this process, possibly due to stress-induced atrophy of specific nuclei in this region ([www.emedicine.medscape.com](http://www.emedicine.medscape.com)).

### ***Group based Exposure Therapy***

Exposure therapy is a type of therapy that helps decrease distress about a certain trauma or traumas. The therapy works by helping approach trauma-related thoughts, feelings, and situations that have been avoided due to the distress it may cause. Repeated exposure to these thoughts, feelings, and situations help reduce the power the trauma has to cause distress. This is done through a process of events such as education, where the patient is educated on the therapy and what to expect. Breathing retraining is also taught to decrease stress and help with relaxation. Next is the actual exposure to the trauma through visual aids, talking about the event and even being exposed to related factors using video simulation, smell sound and mental event recall. These therapies can be done in a group, couple or individual setting.

Ready, Vega, Worley and Bradley (2012), studied exposure therapy on U.S. Vietnam veterans with PTSD. In this study participants who meet DSM criteria for PTSD were treated for 12 weeks with group based exposure therapy broken down into three phases. One week into therapy patient's symptoms were assessed using the Beck Depression Inventory, used to diagnosis as well as evaluate levels of depression. The Posttraumatic Stress Disorder Checklist was also completed to evaluate evidence of present PTSD symptoms. These assessment tools were administered again at one week after completion of therapy and at six months post treatment.

Phase one consisted of group therapy twice weekly for four hour intervals for two weeks which consisted of eating lunch together in group and focusing on developing cohesion within the group and education and rational education for exposure treatments and exercises. These exercises included participants telephoning each other outside of class and asking pre-determined questions (i.e. What's

your favorite movie) and were then reported in the following group. Participants were also to present a 20 minute presentation to the group regarding their pre-war lives to build cohesion.

Phase two consisted of once weekly group therapy for four hours as well as one individual imaginal exposure (IE) therapy each week for eight weeks. This imaginal exposure therapy was defined as repeated recall of the traumatic event and placing themselves back into the traumatic event with imagination while speaking out loud about the event in detail. Within this time frame of phase two each participant presented their IE to the group and what they experienced. During each session two IE presentations were presented to the group in length of 60 minutes to 90 minutes in length. Throughout all of therapy each participant completed six individual IE sessions. These presentations were recorded and participants were instructed to listen to their most recent IE session daily. Focus was placed on describing and revisiting the trauma repeatedly (daily) shifting their focus on “hot spots”, or areas of highest remaining distress.

The third and final phase consisted of two week therapy with a focus on guilt, grief and relapse prevention as well as imaginal therapy. Working through guilt or grief regarding fallen comrades or of their own survival such as survivor’s guilt. Presentations with emphasis on being a survivor and not a victim as well as a healing ceremony were activities presented to the group at completion. Relapse prevention included emphasis on not returning to isolation or avoidance.

A decrease in depression was found post treatment, as compared to before treatment ( $F(7) = 4.87$   $p = .002$ ). At the six month follow up the depression results were found to have improved more  $t(6) = 3.45$   $p = 0.014$ . The percentage of participants no longer meeting PTSD diagnostic criteria post treatment increased from 63% to 88%. (Ready et al., 2012)

Schumm, Fredman, Monson and Chard (2012) studied group based therapy utilizing male combat veterans of Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF), along

with their female partners. The six participants in this study were referred by the Veteran Affairs PTSD treatment program for Cognitive Behavior couples therapy (CBCT). Symptom severity was assessed by a Clinician- Administered PTSD Scale (CAPS), in a manner comparable to DSM-IV criteria, assessed symptoms severity. The individual couples met with therapist for two to three sessions to assess relationship function for baseline reference. The couples underwent 15 sessions, which were broken down into three phases. Phase one was designed to increase positive behaviors as well as to teach skills to facilitate conflict management. Phase two consisted of emphasis on improved communication skills and decreased couple level avoidance. Phase three emphasized relationship difficulties such as trust. After completion of the CBCT, all of the Veterans who participated were no longer meeting PTSD criteria per CAPS. Both veterans and their spouses reported decreased relationship stress. Decreased relationship stress. Decreased depression symptoms were reported as is consistent with other CBCT therapies. (Schumn et al., 2012)

Asukai, Saito, Tsuruta & Kiahimoto (2010) also studied PTSD group exposure therapy. Twenty-four Japanese patients (21 women and three men) with a diagnosis of PTSD were chosen due to mixed traumatic events that had occurred three months prior to involvement in the study. Participants were either placed into a prolonged exposure group (PE) or a control group. The control therapy consisted of the 10 week treatment as usual (TAU) followed by Prolonged Exposure (PE). The PE therapy group received 8 to 15 weekly 90-minute sessions of therapy. Prolonged Therapy consists of psychotherapy about common reactions to trauma, breathing retraining, in vivo exposure (approaching sage situations that patients avoided due to trauma related fear), imagery exposure (repeated recounting of trauma memories during sessions and listening to recordings of the recounting made during therapy sessions), and processing (discussion of thoughts and feelings related to the exposure exercises). The therapy consisted of psycho education, which is provided to individuals with

mental disorders and their families to empower them to deal with the condition. This is done with one-on-one discussions or with a family unit discussing concerns as a result of the patient's condition.

Breathing retraining such as coordinated breathing technique is also used by counting out loud the number of breaths incorporating a rhythm of inhaling through the nose and exhaling out of the mouth. Imaginal exposure therapy is also used by recreating the image of a traumatic event in your mind while talking about the event in detail and translating the details of the event. Repetitive prolonged exposure of this event creates desensitizing of the mind and body to the event. Vivo therapy is used by confirmation of the stimuli or surrounding elements associated with the traumatic event. For example if a patient refrains from groups of people due to paranoia or anxiety the patient can be exposed to this situation gradually to desensitize them from this particular trigger situation. Patient baseline CAPS scores were recorded for pre-treatment symptoms. Other assessment tools used were Center for Epidemiologic Studies Depression Scale (CES-D), General Health Questionnaire (GHQ28) and Impact of Event Scale- Revised (IES-R). Follow up appointments were scheduled for three, six and 12-month intervals for completers of each group for evaluation. Completers of PE in both groups significantly decreased their scores over time on all assessment scales, CAPS  $F(4, 68) = 15.73$ ,  $p < .001$ , IES-R  $F(4, 68) = 11.83$ ,  $p < .001$  and CES-D,  $F(4, 328) = 8.32$ ,  $p < .001$  and GHQ-28,  $F(4, 68) = 5.80$ ,  $p < .001$ . These results were all consistent with 12-month follow up as well. Patients that received PE, either with and without TAU had decreased symptoms of PTSD, CAPS,  $F(4, 68) = 15.73$ ,  $p < .001$ ; IES-R,  $F(4, 68) = 11.83$ ,  $p < .001$ ; CES-D,  $F(4, 68) = 8.32$ ,  $p < .001$ ; GHQ-28,  $F(4, 68) = 5.80$ ,  $p < .001$ .

### ***Individual Prolonged Exposure Therapy***

Prolonged Exposure therapy has also been shown to be beneficial to patients on an individual basis for PTSD symptoms. Imaginal, Vivo, and virtual reality exposure therapies are

examples of cognitive exposure therapies used for post combat PTSD patients. Imaginal exposure therapy consists of therapy sessions of imagining certain aspects of the feared object or situation combined with relaxation techniques. Also used is Vivo exposure therapy, which can be used in two forms, flooding exposure and systematic desensitization. Flooding vivo exposure consist of rapid exposure to feared situations. Systemic Desensitization involves gradual exposure with coupled relaxation exercises at peak anxiety levels. The newest of the prolonged exposure therapies is virtual reality exposure which consists of individual immersion in a computer generated virtual environment replication of the traumatic event using headphones, computerized glasses and computer controller systems. These three different areas of prolonged exposure therapy is based off of the primary exposure therapy technique. Having three Subgroup within this therapy gives a variety of options that can be individualized for each patients needs.

Morina, Maier, Bryant & Knaevelsrud (2012) studied patients with diagnosed PTSD and persistent pain that were treated with a combination of exposure therapy and biofeedback. The participants of this study consisted of 15 traumatized refugees with inclusion criteria of being a victim of torture/war with a current DSM-IV diagnosis of PTSD and persistent pain. Pain was assessed using a verbal rating scale, on a six point scale on a six point scale, in which a score of six, indication extreme current pain. Also assessed was the impact of pain on activities of daily living scoring zero= no disability to ten=worst disability. PTSD symptoms were scored using CAPS. The pilot study used 10 sessions of biofeedback (BF) therapy followed by 10 sessions of trauma focused VIVO specific narrative exposure therapy (NET).

NET is used with the assistance of a therapist to construct a chronological narrative of the patient's life story with focus on the traumatic event. The patient is asked specifics about emotions,

cognitions, and sensory information as well as observed physiological responses while narrating the events verbally. The emphasis of this therapy is put on not losing connect with the here and now of reality, and reinforcement that this is only a memory (Schauer2001). Assessments were conducted at pre-BF, post-BF/pre NET, post-NET and at a three-month follow up.

Mornia, Maier, Bryant and Knaevelsrud found no significant change in pain or PTSD symptoms post BF. Patients also were then subdivided into those who exhibited high motivation post biofeedback. Patients with strong biofeedback related gains in motivation exhibited larger decreases in PTSD symptoms during NET than subjects without pronounced gains in motivation ( $t(13)=3.17, p=.007$ ). Motivation for trauma focused therapy increased significantly from pre and post BF with Cohens  $d+-1.01$  and  $t(4)=-3.50, p=.004$ ; T1:M=5.10, SD=2.37;T2: M=7.44, SD=2.24. The pattern in this current study suggests that PTSD symptoms themselves may also cause pain to persist, and that reducing PTSD intensity through NET may also decrease pain symptoms. ( Morina et al., 2012)

### ***Virtual Reality Exposure Therapy***

Virtual Reality Therapy (VRT) is presented by a therapist through computer generated trauma cues and stimuli by a computer simulator. The computers simulation can be modified or replicated the patient's traumatic experiences. This particular method of therapy is easily controlled by a technician certified to operate the simulator as well as a psychologist who observes the patient during therapy to assess for patient distress or concerns for patients mental wellness.

McLay et al. (2012) studied 30 active duty soldiers and/or marines with an existing diagnosis of chronic PTSD related to combat operations in Iraq or Afghanistan . At the beginning of the study all participants were evaluated using CAPS as well as the PTSD checklist military version (PCL-M) for a baseline assessment of symptoms two weeks prior to the beginning of their therapy. They were then



reassessed at one week after completing treatment as well as three months post therapy. The Virtual Reality (VR) apparatus used in this therapy consisted of hardware and software installed into two networked computers. One computer was responsible for the virtual environment (virtual Iraq). The second computer was used by the therapist to control and individualize cues and stimuli for each soldier such as visual, auditory, tactile and olfactory cues via the VR simulator. Other examples of software specifics included the ability for a soldier to drive a humvee down a desert highway alone, in a convoy or navigate through Iraqi city scenes. Participants in this study were asked to choose their most traumatic combat experience that was closely related to their PTSD. This was then employed into their VR therapy. The VRT sessions consisted of 45 minutes therapy and post VRT time with a therapist to process the experience. Participants completed the VRT twice weekly for a total of 10 sessions, which were all recorded on audiotape and given to participants to review as homework. Of the 30 initial participants only 20 completed therapy. Fifteen (75%) of the 20 participants no longer meeting diagnostic criteria for PTSD post assessment. At the three-month assessment 76% no longer met PTSD diagnosis criteria. Anxiety scores were decreased significantly between pre and post treatment ( $t(19)=3.67, p=.003$  and between pre treatment and three month follow up ( $t(16)=5.36, p<0.001$ ). Participants in this study were found to have significant improvement in their PTSD severity scores over the course of therapy ( $t(19)=3.69, p=0.002$ ) and continued to maintain them at the three-month follow up ( $t(16)=4.05, p<0.001$ ). (McLay et al., 2012)

Gerardi, Rothbaum, Ressler, Heekin, & Rizzo (2013) evaluated the effectiveness of VRE using a virtual Iraq. The case study report is of a 29-year-old male combat engineer serving with the Army National Guard following 10 years of active duty service. The patient reported ongoing intrusive recollections of war trauma that interfered with daily living. Also reported were avoidance behaviors including fast driving. He reported an inability to concentrate, mood

irritability, flashbacks, angry outburst, inability to relax, strong startle reflex and hypervigilance.

Prior to therapy the specific trauma related to PTSD symptoms to be addressed in therapy was assessed as well as a current CAPS score, BECK depression inventory as well as other self-assessment inventory systems.

Treatment sessions consisted of four 90 minute therapies conducted once weekly over a period of four weeks. Also included within the 90 minute sessions were debriefing, education on trauma reaction and brief education on breathing relaxation methods. During the therapy the patient wore head mounted displays that included separate display screens for each eye, integrated head tracking system and stereo headphones. Also included was a handheld controller for the patient to move forward within the environment at his own pace. Specific intrusive and distressing details of the identified event were included in therapy such as time of day, weather, events and particular sounds. Subjective units of distress were measured every five minutes during exposure and were graded on a 0-100 scale. During the processing of the therapy the patient began to remember details of the event that he had forgotten such as remembering seeing himself in the mirror right after the event and still holding his weapon covered in dirt. Many suppressed memories came to the forefront as well as the ability to deal with these details after therapy. The patients CAPS scores decreased 56% post treatment. For the CAPS test-retest reliability = .63 ; reliable change is indicated by the CAPS total decrease of 59 points from pre- to post-treatment ( $p < .05$ ). Although the participants still meets criteria for PTSD per CAPS standards the patient did report decrease in prior PTSD symptoms on his own account subjective from the defined CAPS standards. He reports ability to concentrate at work and home, increased communication with spouse, decreased anhedonia, decreased avoidance of family and friends

and stated he no longer feels the need to continually think about the identified trauma. (Gerardi et al., 2008)

Wood, Wiederhold and Spira (2010), studied 350 virtual reality sessions with warriors diagnosed with combat related PTSD. The patients' subjective arousal and level of Subjective Units of Discomfort (SUDS) was collected for baseline data prior to therapy. SUDS is measured using a scale of one to ten or one to 100 measuring a patients subjective intensity of disturbance or distress currently being experienced. The rating of zero includes feelings of peace, serenity and total relief. Level ten includes feelings of unbearably bad, overwhelmed or on verge of nervous breakdown. This scale is an individual rating system of the person's sense of his/her own anxiety. For research purposes unknown this article rated on a 10-point scale (i.e. 5=50). The presence of PTSD was also confirmed using DSM-IV criteria. Two patient case studies were presented for this study. Case study one was a navy first class petty officer in mid 30's with multiple combat deployments to Iraqi. Measurement of reaction to the Virtual reality exposure therapy VRET was measured using SUDs. Evaluation after 10 sessions of VRET showed no clinical evidence of PTSD in this patient. He was able to achieve a 24% reduction in his PCL-M pretreatment score compared with his three-month follow up. With the knowledge of the advising psychologist he has discontinued paroxetine and zolpidem tartrate and has returned to unrestricted active duty status. The second case study participant was a 26-year-old female Navy Second Class Officer Seabee who had served six years of continuous duty and had completed three tours of combat duty in Iraq. Prior to VRET treatment she had been treated with paroxetine hydrochloride for six months with no other treatments. The patient served as a Humvee 50 caliber gunner protecting convoys and was exposed to heavy combat, IEDs, rocket propelled grenades and land mines. The first VRET therapy the patient was taught skills of cognitive behavioral therapy as well as meditation, paced abdominal breathing and attention refocusing. During the first two sessions

the patients SUDs were measured at 80 during exposure and 20 during relaxation and was consistent through her third session. During the warriors number two's 10-week session interview and re-evaluation the patient had no clinical evidence of PTSD, depression or anxiety. She was able to achieve a 63% reduction in her PCL-M pre-treatment scores. The patient commented at end evaluation " I wish I would have had this training prior to my first combat deployment or between my combat deployments!" She also elaborated " I don't think my PTSD difficulties would have been so bad if I would have had this treatment before and or between my combat deployments." Through case analysis VRET is an effective and safe treatment for combat related PTSD. (Wood et al., 2010)

### **Limitations**

Limitations this literature review was the small amount of information that investigated post combat/military PTSD treatments. Many of the articles that were found with military participants were studies researching medication management only. Also related to limitations was the decreased amount of information and research studies that were conducted on primary exposure therapy and sufficient exposure therapy protocols. Some suggested resources for Nurse Practitioners wanting to refer patients are;

- Calling state psychological association
- Calling the psychology department at a local college
- Calling the National Center for Victims of Crime's toll-free information and referral service; 1-800-FYI-CALL. This service uses agencies from across the country that support crime victims
- Calling human resources at current work place
- If member of Health Maintenance Organization (HMO), call to find out about mental health services
- Resources for information about therapies and patient education visit [www.ptsd.va.gov](http://www.ptsd.va.gov)

These phone calls may be time consuming initially, but once established and familiar it can be an effective and successful plan of care ([www.ptsd.va.gov](http://www.ptsd.va.gov)).

## Chapter 4

### Conclusions

PTSD in active combat soldiers as well as post-combat veterans is a prevalent medical problem that is only growing in numbers. Decreased education on successful treatment options for treating patients with PTSD will continue to decrease the successful treatment and management patients who continually suffer with this disease. Optimal education in these therapies as well as their relevance to each individual case can influence the successful treatment and management of PTSD and its associated symptoms (Whitten, 2005)

Exposure therapies are a very successful in treating PTSD symptoms as well as the diagnosis as a whole. Decrease in depression, anxiety, rage, pain and many other symptoms have been exhibited with the above therapies( Morina 2012). Also included in these therapies are successful group, couple and individual therapy options. With the proper education of these therapies many health care providers may be able to refer patients for optimal treatment options are administering these therapies on their own. Cognitive therapies have proven to be successful in the long-term treatment of PTSD alone as well in conjunction with medication therapies with profound treatment success ([www.apa.org](http://www.apa.org)). Increased awareness of PTSD symptoms and treatment options may contribute to decreased suicide rates, homelessness, divorce, and drug addiction and alcohol abuse.

As Nurse Practitioners having a trusted relationship with patients is key to learning more about the patient and their needs. Assessment skills and patient interviews during routine exams for screening are important tools to use for possible referral of patients to psychology or psychiatry for long-term treatment. Being familiar with current standardized scales of assessment such as the DSM-IV and CAPS patients can be assessed and referred to areas specialized care for

PTSD patients. Primary Care areas or the front lines for assessment and early treatment of symptoms of PTSD. Knowing when a patient is in the acute stages of PTSD is key to prevention of suicide, and need for inpatient treatment. Not educating ourselves as professionals and knowing the standards of care will only contribute to the rising symptoms of untreated PTSD. Being familiar with area resources and their availability for referral is also instrumental for the treatment of patients with PTSD.

Excellent national resources for education on exposure therapies as well as details of treatment options are available at [www.ptsd.va.gov](http://www.ptsd.va.gov), which is the national center for PTSD who's initiative is to promote science and promoting understanding of traumatic stress.

Currently in Chattanooga, Tennessee there are many psychologist and psychiatrist who specialize in treatment of PTSD and exposure/cognitive therapies. A current Internet search lists many specialized areas of treatment. The Association of Advancement of Behavioral and Cognitive Therapies (ABCT) is also an excellent resource for health care providers. ABCT maintains a database for local therapist who specialize in certain treatment programs as well as current and up to date resources for professionals. Also offered thru this organization is teaching continuing education specific to behavioral and cognitive therapies available ([www.abct.org](http://www.abct.org)).

The Sidran Institute is also an excellent resource for education and support groups for patients with PTSD. Many practitioners at times have limited resources to refer to for patient care related to patient income, availability of services or location. Using hotlines to speak to other patients that may suffer from these problems is also a great resource. Through Sidran there are many in home resources available to patients that include selective cognitive therapy plans. Also included within the website is fact sheets on how to choose a therapist for PTSD ([www.sidran.org](http://www.sidran.org)). Giving the patient an active role in their plan of care is encouraged to help

with decision making of treatment. Treatment when able should be a multi-disciplinary team effort, which includes the patient.

Within the North Georgia and Chattanooga areas there are many support groups available specific to post combat PTSD. While being treated with exposure therapy individual with patient and therapist, group therapy has also shown great success. (Ready 201

## References

- Ahmadizadeh, M., Ahmadi, K., Anisi, J., & Ahmadi, A. (2013). Assessment of cognitive behavioral therapy on quality of life of patients with chronic war related post-traumatic stress disorder. *Indian Journal of Psychological Medicine*, 35 (4) 341-345. Retrieved from <http://ezproxy.southern.edu/4293/text.asp?2013/35/4/341/122222>.
- Asukai, N., Saito, A., Tsuruta, N., & Kishimoto, J. (2010). Efficacy of exposure therapy for Japanese patients with posttraumatic stress disorder due to mixed traumatic events: a randomized controlled study. *Journal of Traumatic Stress*, 23(1), 744-750. DOI: 10.1002/jts.20589
- Bormann, J., Liu, L., Thorp, S., & Lang, A. (2011). Spiritual Wellbeing Mediates PTSD Change in Veterans with Military- Related PTSD. *International Society of Behavioral Medicine*, 19:496-502. DOI 10:1007/s12529
- Bryant, R., Harvey, A., Dang, S., & Sackville, T. (1998). Treatment of Acute Stress Disorder: A Comparison of Cognitive- Behavioral Therapy and Supportive Counseling. *Journal of Consulting and Clinical Psychology*, 66(5), 862-866.



Gerardi, M., Rothbaum, B., Ressler, K., & Heekin, M. (2008). Virtual reality exposure therapy using a virtual Iraq: Case Report. *National Institute of Health*, 21(2), 209-213. DOI: 10.1002.jts.20331

Ironson, G., Strauss, J.L., & Williams, J. (2002). Comparison of Two Treatments for Traumatic Stress: A Community-Based Study of EMDR and Prolonged Exposure. *Journal of Clinical Psychology*, 58(1), 113-128.

Kitchiner, N., Roberts, N., Wilcox, D., & Bisson, J. (2012). Systematic review and meta-analyses of psychosocial interventions for veterans of the military. *European journal of Psychotraumatology*. Retrieved from <http://dxdoi.org/10.3402/ejpt.v3i0.19267>

Lazrove, S., Triffleman, E., Kite L., & McGlashan, T. (1998). An open trial of EMDR as treatment for chronic PTSD. *American Journal of Orthopsychiatry*, 69(4), 601-608.

Marshall, R., Carcamo, J., Blanco, C., & Liebowitz, M. (2003). Trauma-focused psychotherapy after a trial of medication for chronic PTSD. *American Journal of Psychotherapy*, 57(3), 374-383.

McLay, R., Graap, K., Spira, J., & Perlman, K. (2012). Development and testing of virtual reality exposure therapy for post-traumatic stress disorder in active duty service members who served in Iraq and Afghanistan. *Military Medicine*, 177, 635-642.

- Monson, C., Macdonald, A., Vorstenbosch, V., & Shnaider, P. (2012). Changes in social adjustment with cognitive processing therapy: effects of treatment and association with PTSD symptom change. *Journal of Traumatic Stress, 25*, 519-526. DOI: 10.1002/jts.21735
- Mornia, N., Maier, T., Bryant, R., & Knaevesrud, C. (2012). Combing biofeedback and narrative exposure therapy for persistent pain and PTSD in refugees: a pilot study. *European Journal of Psychotraumatology*. Retrieved from <http://dx.doi.org/10.3402/ejpt.v3i0.17660>
- Polak, A., Witteveen, A., Visser, R., & Opmeer, B. (2012). Comparison of the effectiveness of trauma-focused cognitive behavioral therapy and paroxetine treatment in PTSD patients: Design of a randomized controlled trial. *BMC Psychiatry*. Retrieved from <http://www.biomedcentral.com/1471-244x/12/166>
- Ready, D., Vega, E., Worley, V., & Bradley, B. (2012). Combing group-based exposure therapy with prolonged exposure to treat U.S. Vietnam veterans with PTSD: A case study. *Journal of Traumatic Stress, 25*, 574-577. DOI:10.1002/jts.21734
- Resick, P., Suvak, M., Johnides, B., & Mitchell, K. (2012). The impact of dissociation and PTSD treatment with cognitive processing therapy. Wiley Periodicals, Inc., *Depression and Anxiety, 29*, 718-730. DOI: 10.1002/da.21938

- Schumm, J., Fredman, S., Monson, C., & Chard, K. (2013). Cognitive-Behavioral conjoint therapy for PTSD: Initial findings for Operations Enduring and Iraqi Freedom male combat veterans and their partners. *The American Journal of Family Therapy*. DOI: 10.1080/01926187.2012.701592
- Stapleton, J., Taylor, S., & Asmundson, G. (2006). Effect of three PTSD treatments on anger and guilt: exposure therapy, Eye movement desensitization and reprocessing and relaxation training. *Journal of Traumatic Stress*, 19(1), 19-28. Retrieved from [www.interscience.wiley.com](http://www.interscience.wiley.com). DOI:10.1002/jts.20095
- Tuerk, P., Yoder, M., Ruggiero, K., & Gros, D. (2010). A pilot study of prolonged exposure therapy for posttraumatic stress disorder delivered via Telehealth technology. *Journal of Traumatic Stress*, 23(1), 116-123. DOI: 10.1002/jts.20494
- Watson, C., Tuorila, J., Vickers, K., & Gearhart, C. (1997). The efficacies of three relaxation regimens in the treatment of PTSD in Vietnam War veterans. *Journal of Clinical Psychology*, 53(8), 917-923.
- Whitten, L (2005). Cognitive- Behavioral Therapies Curb Substance Abuse and Symptoms of PTSD. *National Institute of Health*. 20 (2). Retrieved from [http://archives.drugabuse.gov/NIDA\\_Notes/NNVol20N2/Cognitive.html](http://archives.drugabuse.gov/NIDA_Notes/NNVol20N2/Cognitive.html)

Wood, D., Wiederhold, B., & Spira, J. (2010). Lessons learned from 350 virtual-reality sessions with warriors diagnosed with combat-related post-traumatic stress disorder. *Cyberpsychology, Behavior, and Social Networking*. DOI:10.1089/cyber.2009.0396.

Zalta, A., Fisher, A., McLean, C., & Gillihan, S. (2013). Change in negative cognitions associated with PTSD predicts symptom reduction in prolonged exposure. *Journal of Consulting and Clinical Psychology*, 82(1), 171-175. DOI: 10.1037/a0034735

References	Purpose  Objective  Hypothesis	Patients  Population  Sample	Intervention  Identify  Independent and Dependent  Variables	Comparisons	Outcomes Findings
<p>Ahmadizadeh, M., Ahmadi, K., Anisi, J., &amp; Ahmadi, A. (2013). Assessment of cognitive behavioral therapy on quality of life of patients with chronic war related post-traumatic stress disorder. <i>Indian Journal of Psychological Medicine</i>. 35 (4) 341-345. Retrieved from <a href="http://ezproxy.southern.edu/4293/text.asp?2013/35/4/341/12222">http://ezproxy.southern.edu/4293/text.asp?2013/35/4/341/12222</a>.</p>	<p>Assess the efficacy of problem solving, exposure therapy and combined therapy in quality of life of war related PTSD in veterans compared to control group and compare applied treatments with each other</p>	<p>N=120  Sample: Men ages 25-50 diagnosed with PTSD alone or in concomitant depression who had a recorded profile in Hazrat Abolfazi clinic, Sani Khani clinic and psychiatric Sadr Bonyad center</p>	<p>Randomized control study  Four study groups of 25 individuals each  Problem solving therapy; 15 sessions of 45 minutes.  Exposure therapy; 13 therapy sessions of varied times  Combined therapy; Seven group sessions  Quality of Life Questionnaire (QOL)-36 short term health questionnaire, measured by SF36  Global</p>	<p>Comparing GSI and QOL post therapy</p>	<p>Mean SF36 scores were significantly improved as well as improvement was seen in mean of GSI after follow-up period  GSI mean scores significantly improved.  SPSS was used for this research but not p values were presented in the text of this article.</p>

			severity index (GSI): personal assessment that evaluates a broad area of psychological problems and symptoms of psychopathology. Instrument is used to measure patient progress and treatment options		
Asukai, N., Saito, A., Tsuruta, N., & Kishimoto, J. (2010). Efficacy of exposure therapy for Japanese patients with posttraumatic stress disorder due to mixed traumatic events: a randomized controlled study. <i>Journal of Traumatic Stress</i> , 23(1), 744-750. DOI: 10.1002/jts.20589	Examine more accurately the efficacy of PE (Prolonged Exposure) as an evidence-based treatment in non – Western setting on a sample of Japanese PTSD patients.	N= 24 Sample: Japanese civilian trauma survivors referred from psychiatric outpatient clinics or victim support services associated with police authorities.  Involved in traumatic event 3 months earlier with primary diagnosis of PTSD	Randomized controlled trial  CAPS 1 week version/1 month version  Videotape assessment of interviews  Depression Scale: Japanese version (CES-D) Questionnaire  IES-R: Impact of Event Revised  CES-D: Center for Epidemiologic Studies Depression	Compare PE group (n=12) with TAU group (n=12)	Completers of PE in both groups (n=19) significantly decreased their scores over time on all assessment scales:  CAPS., F(4, 68) =15.73, p<.001  IES-R, F(4, 68) =11.83, p<.001  CES-D, F(4, 328)= 8.32, p<.001;  GHQ-28, F(4, 68) =5.80, p<.001. These results remained at 12-month follow up.

<p>Bryant, R., Harvey, A., Dang, S., &amp; Sackville, T. (1998). Treatment of Acute Stress Disorder: A Comparison of Cognitive-Behavioral Therapy and Supportive Counseling. <i>Journal of Consulting and Clinical Psychology</i>, 66(5), 862-866.</p>	<p>Compare the efficacy of brief CBT program with nondirective supportive counseling (SC) to provide index of the benefits of CBT relative to non-specific therapeutic support.</p> <p>Hypothesis: CBT will result in fewer PTSD symptoms both at post-treatment and at 6 month follow up.</p>	<p>N=24</p> <p>CBT: 12</p> <p>SC:12</p> <p>Sample: MVA or industrial accident patients who were referred to the PTSD Unit at Westmead Hospital in Westmead, New South Wales, Australia.</p>	<p>Acute stress disorder interview: Structural interview based on DSM-IV criteria for Acute Stress Disorder contains 19 scored items that related to ASD symptoms</p> <p>StressQuestionnaire: Impact of Event Scale</p> <p>Likert Scale for degree of injury in event 1-10 range.</p> <p>Beck Depression Inventory: diagnosis of depression</p>		<p>Post-treatment fewer participants of CBT group met criteria for PTSD than in the SC group (1, N=24) = 13.59. <math>p &lt; .001</math>.</p> <p>At 6 month follow up mark fewer participants in CBT group met criteria for PTSD than SC group (1, N=24) = 6.17, <math>p &lt; .05</math>.</p> <p>Avoidance scores for CBT were less than SC for time 2: <math>t(22)=21.37</math>, <math>p &lt; .001</math> and time 3, <math>t(22)= 10.32</math>, <math>p &lt; .005</math></p>
<p>Bormann, J., Liu, L., Thorp, S., &amp; Lang, A. (2011). Spiritual Wellbeing Mediates PTSD Change in Veterans with Military-Related</p>	<p>Test the hypothesis, that increases in existential spiritual wellbeing (ESWB) would mediate reductions in self-reported PTSD symptoms following a group mantram intervention.</p>	<p>N=66</p> <p>Sample: Outpatient veterans diagnosed with PTSD using a Clinical Administered PTSD scale.</p> <p>18 years or older.</p>	<p>Skills training Using Mantram focus word during non-stressful periods and prior to sleep.</p> <p>Delivered in six-week classes (90 min per week) with</p>	<p>Mantram group compared with control group.</p> <p>Spearman correlation coefficient used for association between attendance</p>	<p>Path from mantram intervention to ESWB change was significant and positive (<math>B=4.89</math>, <math>p &lt; 0.0001</math>) and the path from ESWB change to PCL change was significant negative (<math>B= -0.46</math>, <math>p=0.001</math>). Mantram intervention can reduce severity of PTSD symptoms by enhancing experience of ESWB</p>

<p>PTSD. International Society of Behavioral Medicine. 19:496-502. DOI 10:1007/s12529</p>		<p>PTSD diagnosis related to military related trauma.</p> <p>Not currently participating in any other PTSD related therapies.</p> <p>Being stable on psychotropic medications for at least 2 months prior to enrollment.</p>	<p>homework exercises.</p> <p>Randomized trial</p> <p>FACIT-SWB: Functional Assessment of Chronic Illness Therapy-Spiritual Wellbeing</p> <p>PCL: PTSD checklist civilian version</p> <p>ESWB: Existential Spiritual Wellbeing</p>	<p>of mantram class with change in PCL and FACIT-SWB change scores</p>	
---	--	--	--	--	--



<p>Gerardi, M., Rothbaum, B., Ressler, K., &amp; Heekin, M. (2008). Virtual reality exposure therapy using a virtual Iraq: Case Report. <i>National Institute of Health</i>, 21(2), 209-213. DOI: 10.1002.jts.20331</p>	<p>Explore the recollection of one account of event, treatment and conclusion of a currently enrolled patient in an ongoing research study regarding VRE treatment</p>	<p>N=1                  Sample: 29 year old male combat engineer serving the Army National Guard active duty for 10 years.                  Is being treated for PTSD currently and for the past 6 months.</p>	<p>Controlled Study currently underway.                  Case Study Account                  Questionnaire                  VRET equipment</p>		<p>CAPS scores decreased by 56% from pre-treatment total score of 106 to post score of 47.                  Standard difference calculated difference between the two administrations is 7.38, reliable change is indicated by score of 25 points (<math>p &lt; .01</math>). Both clinically and statistically significant.                  Short term VRET treatment in OIF veteran resulted in substantial decrease in patients self reported PTSD symptoms.</p>
---	--	--	--	--	---

<p>Ironson, G., Strauss, J.L., &amp; Williams, J. (2002). Comparison of Two Treatments for Traumatic Stress: A Community-Based Study of EMDR and Prolonged Exposure. <i>Journal of Clinical Psychology</i>, 58(1), 113-128.</p>	<p>To determine if EMDR and PE are equally effective at reducing symptoms, as well as if symptom reduction is maintained at three month follow-up and if both treatments are equally tolerated. Hypothesis: Both treatments will be equally effective in the current study. Hypothesis 2: EMDR would be associated with less distress compared to PE due to less patient attention required in EMDR in association with the traumatic event in contrast to flooding techniques used in PE.</p>	<p>N= 22 Sample: Individuals with single trauma, past spousal abuse, or adult survivors of childhood sexual abuse Males: 5 Females:17  Patients requested or referred for treatment at a university psychological services clinic serving the community</p>	<p>Pilot Study Randomly assigned to PE and EMDR groups and assessed at baseline and after 6 sessions.  4 Administered Questionnaires: PSS-SR BDI SUDS DES</p>	<p>Comparing EMDR: Eye Movement Desensitization And Reprogramming  And  PE: Prolonged Exposure</p>	<p>Significant reduction in PTSD scores for both PE (<math>t = -5.27</math>, <math>p = .002</math>) and EMDR (<math>t = -3.36</math>, <math>p = .008</math>)  This shows both PE and EMDR were effective and neither were more effective than the other in decreasing PTSD symptoms. Improved to extent of termination of treatment: EMDR: 7 PE:2</p>
<p>Kitchiner, N., Roberts, N., Wilcox, D., &amp; Bisson, J. (2012). Systematic review and meta-analyses of psychosocial interventions for veterans of the military. <i>European</i></p>	<p>Evaluate the efficacy and relative effectiveness of psychosocial treatments.</p>	<p>Systemic bibliographic search was undertaken to locate and retrieve RCT's of psychosocial treatments for common mental health disorders from 20 databases.</p>	<p>Systemic review and meta-analysis of randomized controlled trials.</p>		<p>Reviews suggest that veterans respond to out-patient trauma focused psychosocial interventions for chronic PTSD on a one to one or group basis with the therapist same room.  Meta-analysis (random effects) <math>K = 4</math>, <math>N = 128</math> <math>SMD = -0.59</math>, 95% CI -1.09, -0.10.  No p values given</p>

<p>journal of Psychotraumatology. Retrieved from <a href="http://dxdoi.org/10.3402/ejpt.v3i0.19267">http://dxdoi.org/10.3402/ejpt.v3i0.19267</a></p>		<p>Sample: Included all forms of psychosocial therapy, with adult (greater than 16 yrs old) who had previously served in the armed forces regardless of age, gender, and country of origin.</p> <p>Studies had to report at least pre and post treatment outcomes.</p>			
--	--	--	--	--	--

<p>Lazrove, S., Triffleman, E., Kite L., &amp; McGlashan, T. (1998). An open trial of EMDR as treatment fro chronic PTSD. <i>American Journal of Orthopsychiatry</i>, 69(4), 601-608.</p>	<p>Collect data prior to ongoing randomized clinical study that seeks to EMDR (eye movement desensitization and reprocessing) more rigorously.</p>	<p>N=8</p> <p>Sample: Mixed gender adult volunteers referred to the Traumatic Stress Clinic at the Yale Psychiatric Institute specifically for EMDR therapy. Pt met DSM-II criteria for chronic PTSD and an index trauma at least of three months prior to the study.</p>	<p>Pre-Pilot open trial</p> <p>Structural interviews post therapy</p> <p>CAPS interview tool: Clinical administered PTSD scale.</p> <p>The Impact of Events Scale-Revised</p> <p>The Beck Depression Inventory.</p> <p>The Dissociative Experiences Scale (DES) questionnaires</p> <p>·</p> <p>Psychometric measures following three 90 minute EMDR sessions: baseline week one of treatment, two months post treatment</p>		<p>Depressive symptoms improved significantly with EMDR.</p> <p>EMDR reduced PTSD symptoms intensity across all measures.</p> <p>The median number of endorsed symptoms for PTSD criteria B, C and D decreased from 2, 4 and 3 to 0.</p> <p>No subject that completed treatment met criteria for PTSD post-treatment.</p> <p>No p values recorded.</p>
---	--	---	---	--	--

<p>Marshall, R., Carcamo, J., Blanco, C., &amp; Liebowitz, M. (2003). Trauma-focused psychotherapy after a trial of medication for chronic PTSD. <i>American Journal of Psychotherapy</i>, 57(3), 374-383.</p>	<p>Present treatment of course of three PTSD patients who experienced substantially varying degrees of improvement on medication and then experienced further benefit from trauma-focused psychotherapy.</p>	<p>N=3</p> <p>Sample: Three patients being treated in a trauma focused psychotherapy research clinic following the principles of Prolonged Exposure Therapy.</p> <p>All three had partially responded to previous treatment with an SSRI.</p>	<p>Three personal independent case studies of patient accounts and treatment.</p> <p>DTS: Davidson Trauma Scale</p> <p>CAPS: Clinical administered PTSD scale</p>		<p>Mean symptom reduction in the psychotherapy phase //931.5 points on the DTS and 30 points on the CAPS) was clinically significant.</p> <p>Three different treatment responses yet all patients had some degree of improved symptoms after trauma focused psychotherapy.</p> <p>No p values presented</p>
--	--	---	---	--	---

<p>McLay, R., Graap, K., Spira, J., &amp; Perlman, K. (2012). Development and testing of virtual reality exposure therapy for post-traumatic stress disorder in active duty service members who served in Iraq and Afghanistan. <i>Military Medicine</i>, 177, 635-642.</p>	<p>Treatment development project aimed at developing a testing method for applying virtual reality exposure therapy (VRET) to active duty service members, with a diagnosis of combat post-traumatic stress disorder</p>	<p>N=20  Sample: Active duty Marines or soldiers with existing diagnosis of chronic PTSD related to combat operations in Iraq or Afghanistan.</p>	<p>Open label treatment-development study for treatment protocol development.  PCL-M: used for PTSD symptom severity.  PHQ-9: assess severity of depression and anxiety  VRET: Virtual reality exposure treatment  Video recorded sessions.</p>		<p>Of the 20 participants who completed treatment 15 no longer met criteria for PTSD as well as severity of symptoms post assessment.  Significant differences in BAI scores between pre and post treatment; (t(19)=3.67, p=0.003)  Significant differences in PHQ-9 scores pre and post treatment; (t(41) =5.92, p&lt;0.001).</p>
---	--	---	---	--	--

<p>Monson, C., Macdonald, A., Vorstenbosch, V., &amp; Shnaider, P. (2012). Changes in social adjustment with cognitive processing therapy: effects of treatment and association with PTSD symptom change. <i>Journal of Traumatic Stress, 25</i>, 519-526. DOI: 10.1002/jts.21735</p>	<p>Determining the different spheres of social adjustment, leisure and social, family, work and income improved immediately following a course of cognitive processing therapy (CPT) when compared with veteran's diagnosis of PTSD on a waiting list for therapy.</p> <p>Hypothesis 1: All spheres of social adjustment would improve immediately following a course of CPT compared with veterans on the waiting list.</p> <p>Hypothesis 2: Predicted improvement in social adjustments and reduction in symptoms would be stronger in treatment group.</p>	<p>N=60</p> <p>Sample: Sixty veterans recruited from a Department of Veterans Affairs Medical Center.</p> <p>Participants must have diagnostic criteria for PTSD (DSM-IV-TR criteria) secondary to military related event.</p>	<p>Three phase screening process: Clinician interviews</p> <p>Pre-assessment interviews</p> <p>Both groups assessed with interview at baseline, mid-treatment and post-treatment and at interval times with those on wait list for symptoms.</p> <p>CAPS: Clinically administered PTSD scale and SAS statistics</p>		<p>Significant improvements in SAS-total (<math>r=.39</math>, <math>p=.008</math>), SAS extended family, and SAS Housework (rs ranged from .39 to .54; <math>p&lt;.001</math> to .01) when CPT and waitlist were compared.</p> <p>CPT has shown above and beyond improving PTSD symptoms as well as enhanced social adjustment</p>
---	---	--	---	--	--

<p>Mornia, N., Maier, T., Bryant, R., &amp; Knaevesrud, C. (2012). Combining biofeedback and narrative exposure therapy for persistent pain and PTSD in refugees: a pilot study. <i>European Journal of Psychotraumatology</i>. Retrieved from <a href="http://dx.doi.org/10.3402/ejpt.v3i0.17660">http://dx.doi.org/10.3402/ejpt.v3i0.17660</a></p>	<p>Evaluation of the preliminary effects of a combined pain focused, 10 sessions Biofeedback program to examine the feasibility, acceptance and safety of the combined therapy.</p>	<p>N=18 Male: 60% Female: 40% Sample: Patients referred to the outpatient unit for victims of torture and war in the department of Psychiatry and Psychotherapy (University Hospital of Zurich). PT must have co-morbid diagnosis of persistent pain and PTSD.</p>	<p>Uncontrolled Pilot Study  10 sessions of biofeedback therapy  Assessments completed at four different intervals  M.I.N.I Plus Version: Standardized interview tool.  Verbal raring scale of pain.  CAPS structural clinical interview for PTSD assessment.</p>		<p>Motivation for trauma focused therapy increased significantly pre and post BF: <math>t(14)=-3.50, p=.004</math>  Patients BF-related gains in motivation exhibited larger decreases in PTSD symptoms during NET than subjects without pronounced gains in motivation (<math>t(13)=3.17, p=.007</math>)</p>
--	---	--	---	--	---



<p>Polak, A., Witteveen, A., Visser, R., &amp; Opmeer, B. (2012). Comparison of the effectiveness of trauma-focused cognitive behavioral therapy and paroxetine treatment in PTSD patients: Design of a randomized controlled trial. <i>BMC Psychiatry</i>. Retrieved from <a href="http://www.biomedcentral.com/1471-244x/12/166">http://www.biomedcentral.com/1471-244x/12/166</a></p>	<p>To compare the effectiveness and cost effectiveness of Trauma focused Cognitive behavioral therapy (TF-CBT) to paroxetine in patients with PTSD in terms of PTSD symptom reduction.</p> <p>Hypothesis: TF-CBT treatment to be more effective in PTSD symptom reduction than paroxetine most prominently at long-term follow up.</p> <p>Hypothesis 2: CBT will be cost effective, especially related to less expected relapse rates compared with pharmacological treatment.</p>	<p>N=234</p> <p>117 in each treatment group.</p> <p>Sample: PTSD patients referred to the outpatient psychiatric clinic of AMC. 18 years of age or older and have a score of 45 or higher on the Clinician Administered PTSD scale.</p>	<p>Randomized controlled trial, comparing TF-CBT and paroxetine treatment</p> <p>Clinician Administered PTSD Scale (CAPS); clinical interview for diagnosis of PTSD assessing PTSD symptom frequency (range 0-4) and intensity (range 0-4). Then added together for a total score (range 0-126)</p> <p>Clinical assessments</p> <p>Self-report assessments</p> <p>Patient Interviews and Questionnaires.</p>		<p>No results at this time. Suggested treatment for further research.</p>
--	--	---	--	--	---

<p>Ready, D., Vega, E., Worley, V., &amp; Bradley, B. (2012). Combining group-based exposure therapy with prolonged exposure to treat U.S. Vietnam veterans with PTSD: A case study. <i>Journal of Traumatic Stress, 25</i>, 574-577. DOI:10.1002/jts.21734</p>	<p>The goal of this model was to improve treatment outcomes with a more efficient group treatment approach that had low attrition rates.</p>	<p>N=8</p> <p>Sample: Combat related PTSD and ability to recall a focal combat-related traumatic experience.</p> <p>Participants were referred to treatment by the Atlanta VAMC PTSD treatment team.</p>	<p>Non-controlled open trial.</p> <p>Case study</p> <p>PTSD symptom Scale interview (PSS I/PSS-SR)</p> <p>Assessment Tools: Beck Depression Inventory, Post-Traumatic Cognitions Inventory and Post-Traumatic Stress Disorder Checklist.</p>		<p>Depression symptoms were lower post-treatment <math>t(7)=4.87, p=.002</math> and follow up <math>t(6)=3.45, p=0.14</math></p>
---	--	--	--	--	--

<p>Resick, P., Suvak, M, Johnides, B., &amp; Mitchell, K. (2012). The impact of dissociation and PTSD treatment with cognitive processing therapy. Wiley Periodicals, Inc., Depression and Anxiety, 29, 718-730. DOI: 10.1002/da.21938</p>	<p>Examines dissociation as a predictor of PTSD treatment outcome and explores effects of PTSD treatments with dissociation.</p>	<p>N=150 Sample: Adult women with PTSD, secondary to an index of a sexual or physical assault in childhood or adulthood.</p>	<p>Patient interviews using: DSM-IV: Diagnostic and Statistical Manual of Mental Health Disorders  CAPS: Clinically administered PTSD scale  Beck Depression Inventory: Assessment of Depression diagnosis  Once/twice weekly sessions of CPT for total of 12 hours over 6 week period.  Clinical rated severity was assessed with CAPS</p>		<p>All dissociation variables exhibited significant  decreases from pre to post treatment with no additional change from post treatment to 6 month follow up.  No P values reported.</p>
--	--	--	---	--	--

<p>Schumm, J., Fredman, S., Monson, C., &amp; Chard, K. (2013). Cognitive-Behavioral conjoint therapy for PTSD: Initial findings for Operations Enduring and Iraqi Freedom male combat veterans and their partners. <i>The American Journal of Family Therapy</i>. DOI: 10.1080/01926187.2012.701592</p>	<p>To expand the case study results of Freedman et al., 2011, with a series of OEF-OIF veterans treated.</p> <p>Secondary goal is to evaluate pre to post treatment group based effect sizes.</p> <p>Hypothesis: OEF-OIF Veterans who received CBCT for PTSD with their intimate partners would exhibit improvements from pre to post depressive symptoms</p>	<p>N=6</p> <p>Sample: Male Vietnam war veterans in treatment for PTSD at St. Cloud (Minnesota) Department of Veteran Affairs Medical Center.</p>	<p>DSM-IV-TR for PTSD assessment and a minimum of 45 for severity of symptoms.</p> <p>Beck Depression Inventory</p> <p>PTSD Checklist: PCL</p> <p>Dyadic Adjustment Scale (DAS): 32 question relationship scale</p> <p>CBCT :15 sessions arranged sequentially in three sessions.</p> <p>Phase-1:conflict management</p> <p>Phase 2-communication Skills</p> <p>Phase 3-couple-level cognitive change of event.</p>		<p>Overall sample showed large and statistically significant effect size reductions in clinician, Veteran, and female partner ratings of Veterans PTSD symptoms. T(4) 3.01 p=,.005. Partner reports of symptom decrease t(5) 3.19 p=&lt;.05</p>
--	---	--	---	--	---

--	--	--	--	--	--

<p>Stapleton, J., Taylor, S., &amp; Asmundson, G. (2006). Effect of three PTSD treatments on anger and guilt: exposure therapy, Eye movement desensitization and reprocessing and relaxation training. <i>Journal of Traumatic Stress</i>, 19(1), 19-28. Retrieved from <a href="http://www.interscience.wiley.com">www.interscience.wiley.com</a>. DOI:10.1002/jts.20095</p>	<p>Compare the effects of three treatments on trait and trauma related anger and guilt.</p> <p>Second aim to compare the treatments in terms of the proportion of patients who deteriorate on the measures of anger and guilt over the course of treatment.</p> <p>Final aim to investigate whether the effects of treatments differed as a function of the pre-treatment severity of anger and guilt.</p>	<p>N=45 completed</p> <p>Sample: Participants with a DSM-IV diagnosis of PTSD as the primary presenting problem were recruited from physician referrals and advertisements in the local media. Must be 18 years of age or older.</p>	<p>Randomized to eight 90 minute individual session of either PE (Prolonged Exposure), EMDR (eye desensitization and reprocessing) or relaxation training.</p> <p>Independently rated audiotapes of 12 SCID-IV interviews.</p> <p>Structured interviews and questionnaires were administered during the intake evaluation, post treatment and follow up.</p>		<p>Results suggested that all three treatments are associated with reduction in anger and guilt.</p> <p>Cluster comparisons for trauma related anger, trauma related guilt, trait anger yielded <math>t(43)</math> all greater than 2.80 <math>p &lt; .01</math>. Showing that particular clusters of participants were high versus low on pretreatment levels of trauma related and trait anger and guilt.</p> <p>additional therapies may be required</p>
---	--	--	--	--	---

<p>Tuerk, P., Yoder, M., Ruggiero, K., &amp; Gros, D. (2010). A pilot study of prolonged exposure therapy for posttraumatic stress disorder delivered via Telehealth technology. <i>Journal of Traumatic Stress</i>, 23(1), 116-123. DOI: 10.1002/jts.20494</p>	<p>Feasibility and clinical outcomes of interest include technical performance and practicality of the telehealth equipment, patient safety, treatment completion rates, number of sessions required and clinical outcomes.</p>	<p>N=47  Sample: Treatment seeking combat veterans identified by referral from mental health providers and case manger to the PTSD clinical team.</p>	<p>PTSD Checklist Military Version (PCL) Questionnaire  Beck Depression Inventory-II Questionnaire  Race/ethnicity  Combat Theater  Prolonged Exposure therapy via telehealth.</p>		<p>Mean pre and post PCL scores for in person PE group were 60.7 (SD=9.5 and 27.7 (SD=6.0) which is clinically and statistically significant t(28)=16.9, p&lt;.001 d=4.2  Mean pre and post treatment PCL scores for the telehealth PE group were 61.0 (SD=10.6) and SD=7.6). The difference was also statistically significant, t(8)=12.3, p&lt;.001. d=2.9.</p>
---	---	---	--	--	---

<p>Watson, C., Tuorila, J., Vickers, K., &amp; Gearhart, C. (1997). The efficacies of three relaxation regimens in the treatment of PTSD in Vietnam War veterans. <i>Journal of Clinical Psychology</i>, 53(8), 917-923.</p>	<p>Compare the efficacies of simple relaxation instructions, relaxation instructions with deep breathing training and relaxation instructions with both deep breathing and thermal biofeedback in the treatment of veterans with PTSD.</p>	<p>N=99 Sample: Male Vietnam War Veterans in treatment for PTSD at St. Cloud, Minnesota Department of Veteran Affairs Medical Center</p>	<p>Relaxation and Deep Breathing Instruction</p> <p>Mississippi Scale for Combat-Related PTSD:</p> <p>PTSD-1 – 17 point self rating on Likert scales based on DSM-III PTSD symptom criteria.</p> <p>DSM-III: Diagnosis criteria to diagnosis PTSD</p>		<p>Mean pre and post treatment BDI-II scores for the in person PE group were 27,8 (SD=9.3) and 10.9 (SD=6.4). This is statistically significant, <math>t(28)=8.7</math>, <math>p&lt;.001</math>, <math>d=2.2</math></p>
--	--	--	---	--	---



<p>Wood, D., Wiederhold, B., &amp; Spira, J. (2010). Lessons learned from 350 virtual-reality sessions with warriors diagnosed with combat-related post-traumatic stress disorder. <i>Cyberpsychology, Behavior, and Social Networking</i>. DOI:10.1089/cyber.2009.0396.</p>	<p>Concepts of Virtual- Reality (VR) therapy are distinguished from other psychotherapy interventions.</p> <p>Treatment architecture utilized to treat 30 warriors diagnosed with PTSD is summarized.</p> <p>Also case studies are presented to assist with better understanding of VRET-AC and a continued validation of this treatment model.</p>	<p>30 warriors diagnosed with combat-related PTSD with VRET-AC (virtual – reality exposure therapy with arousal control). 2 of these participants case studies will be presented that were treated with VRET-AC.</p>	<p>Use of VRET-AC sessions after assessment of warrior’s subjective arousal by reporting their SUD (subject units of discomfort). As well as psychotherapy regarding immersion, presence and synchrony. VR therapy and VRET-AC preformed, number of self report clinician-rated measurements .</p> <p>Assessment of warriors pre-treatment, after ten weeks or ten sessions of VRET-AC and after additional three months or 10 more sessions.</p>	<p>Self reported symptoms of depression and PTSD-related cognitions were assessed at pre-treatment, each of the</p>	<p>Significant time effects appeared on both EMG and finger temperature indicating that relaxation occurred during the sessions.</p> <p>However the interaction effects were negative with correlation between all three categories. Significant at .05 level for time effects compared to fist session to post-treatment/last session scores.</p> <p>VRET-AC is an effective and safe treatment for combat related PTSD.</p> <p>Case study #1 showed 24% reduction in PCL-M pre scores compared with 3 month f/u. Two participants had decreased severity of symptoms due to VRET-AC therapy and successful treatment of PTSD.</p> <p>Case study #2: 63% reduction in her PCL-M pre score vs 10 wk evaluation. One patient had full recovery of symptoms 13 wks post VRER-AC.</p> <p>Subjective ;no p values</p>
--	---	--	---	---	---

<p>Zalta, A., Fisher, A., McLean, C., &amp; Gillihan, S. (2013). Change in negative cognitions associated with PTSD predicts symptom reduction in prolonged exposure. <i>Journal of Consulting and Clinical Psychology</i>, 82(1), 171-175. DOI: 10.1037/a0034735</p>	<p>Examine the causal relationship between PTSD-related cognitions and symptom reduction of PTSD during PE.</p> <p>Hypothesis: Changes in PTSD-related cognitions would predict subsequent change in PTSD symptoms but not vice versa as well as a similar pattern for depression.</p>	<p>N=63 Sample: female sexual or nonsexual assault survivors with a primary diagnosis of PTSD for 1 year.</p> <p>Participants were already enrolled in another ongoing study for assessment of hypothalamic pituitary adrenal axis functioning that has not yet been published.</p>	<p>Participants were randomly assigned to receive immediate PE (prolonged exposure or MA (minimal attention) which includes phone contact weekly for 10 weeks. Once MA was completed those participants were included in PE therapy.</p> <p>Post-Traumatic Cognitions Inventory (PTCI): Questionnaire</p> <p>Posttraumatic Stress Diagnostic Scale (PDS): Questionnaire</p> <p>Beck Depression Inventory: Questionnaire</p> <p>.</p>	<p>10 PE sessions and post treatment.</p>	<p>The autocorrelations for both BDI and PTCI produced large effects (<math>d_s=2.36</math> and <math>1.72</math>). The effect of PTCI on BDI was significant (<math>p=.0</math>, <math>d=0.38</math>) while the reverse was not (<math>p=.58</math>, <math>d=0.10</math>).</p> <p>This showed that levels of PTSD-related cognitions appear to drive successive levels of depression symptoms.</p>

