COURSE TITLE: Prolonged Exposure Therapy for PTSD for Veterans and Military Service Personnel

COURSE CODE: EL-PETPTSD-1-MIL-CDP

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Section 1: Introduction

Course Contributors

This course was written by William Brim, Psy.D.; Jenna Ermold, Ph.D.; and David Riggs, Ph.D.

Dr. Brim is a clinical psychologist and Associate Professor at the Uniformed Services University of the Health Sciences. He has been with the Center for Deployment Psychology since 2007, initially as a Deployment Behavioral Health Psychologist at Malcolm Grow (USAF) Medical Center and serving as the Deputy Director since 2008. He is a graduate of the University of Tennessee (Psychology) and has his Master's and Doctorate in Clinical Psychology from Nova Southeastern University in Fort Lauderdale, FL (1998). He is a graduate of the Wilford Hall (USAF) Medical Center Psychology Residency Program (1998) and the Wilford Hall Clinical Health Psychology Post-doctoral Fellowship Program (2001). Dr. Brim served on Active Duty as a psychologist in the United States Air Force from 1997 to 2007.

The focus of Dr. Brim’s clinical work, supervision, and training is on deployment- and redeployment-related mental health issues, specifically assessment and treatment of Posttraumatic Stress Disorder and Insomnia. Additionally, Dr. Brim focuses on health psychology clinical practice and supervision, the integration of mental health services in primary care and offers forensic psychology expert consultation and witness services.
Dr. Ermold is a clinical psychologist who has been with the Center for Deployment Psychology since 2006, initially as the Deployment Behavioral Health Psychologist at Malcolm Grow (USAF) Medical Center and currently as a Web Content Developer. Her current responsibilities include developing online training materials for behavioral health clinicians to improve competency in working with military members and their families. She is a graduate of Middlebury College (Psychology, English) and has her Doctorate in Clinical Psychology from the University of Vermont (2003). She is a graduate of the Malcolm Grow (USAF) Medical Center Psychology Residency Program (2003) and served on Active Duty as a psychologist in the United States Air Force from 2002 to 2006. The focus of Dr. Ermold’s clinical work, supervision, and training is on deployment- and redeployment-related mental health issues, specifically assessment and treatment of Post-Traumatic Stress Disorder. Additionally, Dr. Ermold specializes in health psychology, behavioral health integration into primary care, and women's reproductive behavioral health.

Dr. Riggs, Executive Director of the Center for Deployment Psychology, is a clinical psychologist and Research Associate Professor at the Uniformed Services University of the Health Sciences. Dr. Riggs has served as the Executive Director of the CDP since its founding in 2006. He received his B.A. (Psychology) from the University of Kansas and earned his Ph.D. at the State University of New York at Stony Brook (1990). He completed a clinical psychology internship at the Medical University of South Carolina (1989). Prior to taking the Director position at the CDP, Dr. Riggs held clinical research positions at the Center for the Treatment and Study of Anxiety and the National Center for PTSD at the Boston VA Medical Center. He has previously held academic appointments at the Medical College of Pennsylvania, Tufts University, Boston University, and the University of Pennsylvania.

As a clinical and research psychologist, Dr. Riggs has focused much of his work on trauma, violence, and anxiety, with a particular interest in the impact of PTSD and other anxiety disorders on the families of those directly affected. He has trained numerous students and mental health professionals from the United States and other countries in techniques for treating PTSD, OCD, and other anxiety disorders. This has included training professionals in ways to address the needs of survivors of international terror, natural disasters, military trauma, and sexual and physical assault. Dr. Riggs has published more than 60 articles and book chapters and has presented more than 200 papers and workshops on topics including post-traumatic stress disorder, domestic violence, obsessive-compulsive disorder, and behavioral therapy.

About This Course

Most individuals who have been exposed to a potentially traumatic event, such as sexual assault/abuse, physical assault/abuse, natural disasters, motor vehicle accidents, and combat,
are able to recover naturally. Others, however, get “stuck” at some point during the recovery process and develop post-traumatic stress disorder (PTSD). Understanding and exhibiting competence in working with symptomatic trauma survivors is a critical skill for clinicians. In this course, you will be introduced to one of the most effective treatments for individuals who have PTSD, called Prolonged Exposure therapy (PE).

Based on the work of Dr. Edna Foa and her colleagues, this course provides an overview of the theory behind, and empirical support for, Prolonged Exposure therapy. Through a series of interactive exercises and case studies, you will learn about PE and how it works to help individuals who have PTSD.

Learning Objectives

After completing this course, you should be able to:

1. Discuss the theoretical underpinnings for Prolonged Exposure therapy.
2. Summarize the empirical support for this evidence-based treatment.
3. Describe the procedures used in Prolonged Exposure therapy, including in vivo and imaginal exposure, along with the general course of treatment sessions.

PLEASE NOTE:
This course is an introduction to PE and does not replace the in-depth training necessary to gain competence in conducting this treatment. For more information on how to obtain more in-depth training in person or through self-study, please see the “Next Steps” section at the end of this course.
Section 2: Theoretical Background

Trauma and PTSD

Studies have shown that approximately 60% of people are exposed to at least one traumatic event in their lifetime. It is important to emphasize, however, that only about 10 - 20% of those people go on to develop PTSD. In general, most individuals who have been exposed to a potentially traumatic event are able to recover naturally on their own, while a small percentage get “stuck” at some point during the recovery process. It is this group of individuals continuing to struggle with their trauma who would be candidates for PTSD treatment using Prolonged Exposure therapy.

![Prevalence of Trauma and PTSD](image)

Kessler et al., 1995

Behavioral Model of PTSD

As is the case with other anxiety disorders, the development and maintenance of PTSD symptoms can be understood using a behavioral model.

Let’s start by reviewing how the principles of classical and operant conditioning can help explain the development of PTSD by looking at each learning theory and its application in understanding PTSD.

Classical (or Pavlovian or Respondent) Conditioning

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Classical conditioning is a learning theory demonstrated by Ivan Pavlov while he was studying digestion in dogs.

**Respondent or Pavlovian Conditioning**
- **Stimulus leads to Response** ($S \rightarrow R$)

![Diagram of the classical conditioning process](image)

Pavlov found that when a neutral stimulus (Conditioned Stimuli = CS) such as a bell is presented repeatedly with a stimulus of significance (Unconditioned Stimuli = UCS) such as food, the bell eventually elicits the same reflexive response (Unconditioned Response = UCR) of salivating that the food would, even when food is absent (Conditioned Response = CR).

**Classical Conditioning and PTSD**

So now let’s consider how the principles of Classical Conditioning operate during the development of PTSD. At the time of a traumatic event, certain cues/stimuli present in the environment get conditioned to produce the same response that occurred at the time of trauma.

**For example:**
A soldier who recently returned from combat duty in Iraq previously enjoyed watching fireworks but now has an intense physiological reaction on the 4th of July when at a fireworks display.

Fireworks used to signal only “celebration” but now, because of the traumatic experiences the soldier went through, the soldier’s brain now produces a new signal: “**Loud crashing, banging noise = danger.**”
Classical Conditioning and PTSD, continued

Single Trial Learning:
In a traumatic event, things get associated quickly and do not require repeated pairing as with a bell and food. If something isn’t learned quickly in a traumatic event (e.g., “loud noise = DANGER”), that individual may not survive to see the next traumatic event. In other words, a “severe stimulus” leads to a “severe response.” In addition, the stimuli that elicit a fear response often generalize such that:

A crowded street in Baghdad → generalizes to any crowded street → generalizes to any crowded area (like a mall).

Conditioned Stimuli and Conditioned Responses
The conditioned stimuli for the trauma survivor including sights, sounds, smells, people, and thoughts trigger a conditioned response that includes physical, emotional, and behavioral reactions.

Conditioned Stimuli

- Sights
- Sounds
- Smells
- People
- Thoughts

Conditioned Responses

- Physical (shaking, muscle tension, racing heart, sweating, difficulty breathing, headache)
- Emotional (fear, anger, sadness, numbness)
- Behavioral (fight, flee, escape)
Test Your Knowledge

Using the following scenario, try to pick out the Unconditioned Stimuli and Unconditioned Response. What are some possible conditioned stimuli and responses as well?

Janet is a 32-year-old female who was sexually assaulted in a parking lot outside of a convenience store. She was attacked from behind and held at gunpoint during the assault, which took place at night. During the assault, Janet could not see her attacker but smelled his cologne and the alcohol on his breath. She heard sirens of some kind responding to an emergency nearby. Janet experienced intense fear for her life and also became nauseated and threw up during the attack.

**Conditioned Stimuli:**
Smell of alcohol, sight of a gun, parking lots, smell of vomit, nighttime, smell of cologne, sound of sirens, being approached from behind

**Unconditioned Stimuli:**
Being sexually assaulted

**Unconditioned Response:**
Feeling fearful

**Conditioned Response:**
Feeling nauseous
Operant Conditioning

Let’s move on now to review operant conditioning, which was first demonstrated by Edward Thorndike and then further developed by B.F. Skinner. Operant conditioning involves the use of consequences to modify both the occurrence and type of behavior.

This learning theory, in its simplest form, says that when a behavior occurs, a consequence occurs as a result. If the consequence is positive or is one that the individual is interested in, then that person is more willing to engage in that behavior again in the future. If the consequence is negative, then the individual is less likely to do it again in the future.

For example, if a child is warmly praised by a parent for putting his/her toys away, he/she is more likely to put his/her toys away again in the future. The positive response of the parent reinforces this behavior in the child. Similarly, if the child is put in time-out because he/she refuses to put his/her toys away, he/she will be more likely to put his/her toys away in the future to avoid the negative consequence of time-out.

So essentially, the consequences of a behavior impact the likelihood that someone will repeat that behavior in the future.

Operant Conditioning

Consequences impact future behavior:

<table>
<thead>
<tr>
<th>Consequence</th>
<th>Future Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Get something good</td>
<td>Do it MORE</td>
</tr>
<tr>
<td>“positive reinforcement”</td>
<td></td>
</tr>
<tr>
<td>Get something bad</td>
<td>Do it LESS</td>
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<tr>
<td>“positive punishment”</td>
<td></td>
</tr>
<tr>
<td>Lose something good</td>
<td>Do it LESS</td>
</tr>
<tr>
<td>“negative punishment”</td>
<td></td>
</tr>
<tr>
<td>Get rid of something bad</td>
<td>Do it MORE</td>
</tr>
<tr>
<td>“negative reinforcement”</td>
<td></td>
</tr>
</tbody>
</table>

Operant Conditioning and PTSD

So, where does operant conditioning fit in with trauma survivors or anxiety disorders?

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The primary behavior exhibited by individuals who are trauma survivors is **avoidance**. Trauma survivors avoid situations, places, people, things, and memories that remind them of the trauma. When they avoid or escape these situations, it is reinforcing because avoiding these trauma reminders helps reduce or eliminate the really uncomfortable feeling of being anxious and afraid. Avoidance gets reinforced primarily because it reduces or avoids that conditioned response of uncomfortable physiological arousal.

So, simply put: the behavior (**avoidance**) leads to a consequence (temporary relief of symptoms).

Avoidance works in the short term. It results in a reduction in symptoms (conditioned responses), thereby serving as negative reinforcement because it “gets rids of something bad.” That is to say, the reduction in symptoms makes it more likely for the avoidance behavior to occur again in the future.

**So What Is So Bad About Avoidance?**

Although it is an effective strategy for an individual in the short term, avoidance to reduce anxiety and physiological arousal may eventually have a negative impact on the client’s ability to work, have relationships, and engage in productive or enjoyable activities. Essentially, avoidance gets in the way of living.

Here is an example:

Meet Corporal (CPL) James Wright. CPL Wright is a 24-year-old soldier who recently returned from a year-long deployment in Iraq. While much of CPL Wright’s deployment was dangerous, one particular traumatic event continues to affect him now that he’s home. This event involved the lead vehicle in front of CPL Wright’s being struck by a VBED (vehicle-borne explosive device) while driving down a crowded street in Baghdad. Although CPL Wright and his fellow soldiers all survived the blast, three soldiers in the vehicle in front of them sustained serious injuries, and one subsequently died.

**More about CPL Wright**

CPL Wright reported that he believed he was going to die at the moment of impact and he felt completely powerless to help his fellow soldiers who were injured. Since he’s been home, CPL
Wright has been unable to drive anywhere except on-post. He has indicated that he has not seen his family, who live only 20 miles away, since the welcome-home ceremony six months ago because he cannot drive himself to visit. He reports declining multiple offers to attend activities and parties because of their location being off-post.

His friends have stopped asking him to golf or go to sporting events since he has refused so many times. In addition to being unable to drive off-post, CPL Wright recently stopped driving on-post at night as well. CPL Wright is a shift worker and occasionally works nights. Currently, if he is assigned night duty, he walks to and from work, approximately three miles each way. Due to this preference to walk, CPL Wright has been late to work numerous times, which has resulted in disciplinary action. CPL Wright finds himself not wanting to leave his house unless he is forced to or has to meet an obligation such as work or medical appointments. He describes his existence as “living like a hermit.”

You can see from this example the long-term negative impact that avoidance can have when it is used as a coping strategy by individuals with PTSD.

Behavioral Model for the Treatment of PTSD

Now that you understand how classical and operant conditioning are at work in the development and maintenance of PTSD (and PTSD-spectrum disorders), let’s move to the principles of behavior therapy for the treatment of PTSD.

During behavior therapy, and specifically Prolonged Exposure therapy, the goals are to “unpair” conditioned stimuli and conditioned responses and reduce avoidance behaviors that serve to ultimately maintain symptoms.

Let’s use our example of CPL Wright to explain the following points.

1. **Exposure to conditioned stimuli in the absence of unconditioned stimulus leads to habituation (reduced arousal and symptoms).**
   (CPL Wright has been conditioned to fear driving because the unconditioned stimulus (an explosion) was paired with conditioned stimuli (driving) eliciting the conditioned response (fear). If CPL Wright drives more and more, especially off-post, and the unconditioned stimulus, the explosion, does not happen, he eventually re-learns that driving in the U.S. is a reasonably safe thing to do and the likelihood of an explosion is low.)

2. **Avoidance behaviors prevent or reduce exposure to conditioned stimuli and thus serve to maintain symptoms.**
   (Since CPL Wright does not drive off-post and is avoiding driving more and more, he
never gets to experience that driving is not paired with explosions. By avoiding driving, CPL Wright does not learn new information about driving and instead is “stuck” with the survival idea that “driving = danger” from his experience in Iraq. CPL Wright’s anxiety with driving will never habituate because he is not “putting himself out there” to experience that a) the bad thing he expects does not happen, and b) his anxiety will not last forever.)

**Exposure Therapy**

One way to work with CPL Wright would be to try to convince him that if he drives, the probability of something bad happening is low. However, having him experience this for himself is thought to be much more effective. In exposure therapy, the goal is to have trauma survivors confront the situations and stimuli that are causing them to be anxious and to let them learn through the experience that whatever the bad thing is that they are afraid of doesn’t actually happen.

- **Exposure therapy aims to help clients (or trauma survivors) overcome the natural tendency to avoid stimuli related to the trauma**

- **Helping clients (or trauma survivors) actively confront, not avoid, trauma reminders reduces the time necessary for PTSD symptoms to dissipate**

Two kinds of exposure techniques are utilized in PE Therapy: in vivo exposure and imaginal exposure.

1. **In Vivo Exposure**
   Exposure to real-world stimuli that are similar or related to the original traumatic event.

2. **Imaginal Exposure**
   Exposure to memories of the traumatic event.

Each of these exposure techniques will be discussed in more detail later in this course.

**Emotional Processing: A Cognitive Behavioral Model of PTSD**

Although learning theories can account for much of the development and maintenance of PTSD symptoms, emotional/information-processing theory posits that PTSD emerges largely due to the development of a pathological fear structure.
When a traumatic event happens, a “fear structure” is accessed to help that individual survive. A fear structure, in a sense, is a cognitive program for escaping danger. It includes information about the feared stimuli, the fear responses, and the meaning of the stimuli and responses.

Trauma survivors make interpretations about their actions (or inaction) and roles during and after a trauma that also impact how they recover. In addition, they make interpretations regarding symptoms they experience post-trauma as well. The fear structure in people diagnosed with PTSD is thought to include a larger number of stimuli and is therefore more easily and frequently activated. Frequently accessing the fear structure, making erroneous assumptions about the feared stimuli and its meaning, and attempts to avoid the stimuli that trigger the fear structure contribute to making this fear structure pathological, resulting in PTSD diagnosis.

We’ll review this theory further piece by piece.

**Trauma Memory**

When a trauma occurs, a specific emotion-memory structure is “laid down” that includes information about:

- Stimuli present during or related to the trauma.
- Physiological, behavioral, and cognitive responses that occurred during the trauma.
- Meanings associated with these stimuli and responses.

Associations among stimuli, responses, and meaning representations may be realistic or unrealistic and/or helpful or unhelpful for the trauma survivor.

**Characteristics of Trauma-Related Memory Structure**

Specifically, the trauma-related memory structure usually:

- Includes a large number of stimuli.
- Elicits excessive fear responses (PTSD symptoms).
- Includes strong sensory details such as image, sounds, pain, smells.
• Contains erroneous associations between stimuli and “danger.”

• Contains erroneous associations between responses and “incompetence.”

• Has fragmented and poorly organized relationships among representations.

• Includes thoughts and ideas that reflect confusion.

Recovery Process

So how can trauma survivors recover?

By repeatedly activating the trauma memory (with emotional engagement), the trauma survivor is able to incorporate corrective information about “world” and “self”. This “activation” occurs when the individual confronts trauma reminders (e.g., thinking about trauma, approaching trauma cues in the environment), and the “corrective information” occurs when the anticipated harm does not happen and the individual is able to evaluate the new experience in a more balanced way.

For example, Mary avoids thinking about her trauma because she is afraid that if she does think about it, she will “go crazy and totally lose control” and feel “weak” and “unable to handle anything.”

If instead Mary is able to invite the memory of the trauma in and engage with it emotionally, she will then experience that she doesn't actually go “crazy and totally lose control,” and she will, in fact, survive the anxiety she experiences. She will then be able to add the corrective information that while uncomfortable, she can in fact “handle it” and isn't “completely weak.”

Avoidance Leads to Chronic PTSD

From reviewing the case example about CPL Wright, you’ve learned three main points about behavioral avoidance.

Persistent cognitive (thinking) and behavioral avoidance:

• Limits activation of the trauma memory
• Limits exposure to corrective information
• Limits articulation of the trauma memory
Taken together, these limitations prevent organization and change in the trauma memory.

Here’s an analogy:

It may be helpful to think about the trauma memory as a file in a computer. When the trauma happens, information is “laid down” and saved in a file, but that information is not necessarily accurate or in a sensible order. This file needs to be edited. In order to edit the file, one must first OPEN the file, review it, and then make appropriate changes. If the file is never opened, the content contains errors and will remain inaccurate and unhelpful.

Erroneous Cognitions Related to PTSD

When an individual does not activate the trauma memory (i.e., think about it and engage emotionally) then they are “stuck” in a sense with erroneous cognitions about the world and their ability to cope in it.

Some examples of these erroneous cognitions include:

"The world is unpredictably dangerous."
- People are untrustworthy.
- No place is safe.
- Threats could appear at any moment.

"I am unable to cope (incompetent)."
- PTSD symptoms are a sign of weakness.
- I should/could have done something.
- Other people would get over it.

In addition, some evidence suggests that people with PTSD have more negative thoughts about themselves and the world when compared with both people who have not experienced a trauma as well as people who have experienced a trauma but did not develop PTSD.
Erroneous Cognitions Related to PTSD, continued

For example, while it is normal for people to have intrusions, to experience discomfort when reminded of the trauma, and to feel agitated and aroused for the first several days or weeks after a trauma, if one’s conclusion is “and therefore I’m weak,” such an interpretation may contribute to a sense of being stuck with the trauma or of being “bad” in some way. A negative self-view may help perpetuate the symptoms. The mechanism for how that works is unclear but there is a link between self-statements and the persistence of trauma-related symptoms.

In Prolonged Exposure, the therapist helps the client to systematically approach, not avoid, his/her trauma memory and triggers or cues, thus allowing for the integration of corrective information about the world and the trauma survivor’s ability to cope in it.

Review

What are the goals of PE?
The goals are to “unpair” conditioned stimuli and conditioned responses and reduce avoidance behavior.

What role do erroneous cognitions play in the maintenance of PTSD symptoms?
Erroneous cognitions can result in a sense of being stuck with the trauma or being bad in some way.

Why does avoidance lead to chronic PTSD?
It limits articulation of the trauma memory, thus preventing organization and change in the trauma.

Section Summary

In this section, you learned about the two learning theories that provide the foundation for Prolonged Exposure therapy: Classical (Pavlovian) Conditioning and Operant Conditioning. In “Pavlovian” terms, people with PTSD create an association between neutral stimuli that were present during the traumatic event with the event itself; those neutral stimuli become conditioned to produce the same conditioned response (such as anxiety or fear) that occurred at the time of the trauma. In Operant Conditioning terms, the primary behavior exhibited by trauma survivors is avoidance of situations that remind them of the trauma.

Prolonged Exposure therapy is an evidence-based behavioral therapy approach to treating people with PTSD. Its goals are to “unpair” conditioned stimuli and conditioned responses and reduce avoidance behaviors that serve to ultimately maintain symptoms. A key principle underlying PE therapy is that helping clients confront, not avoid, trauma reminders can reduce the time necessary for PTSD symptoms to dissipate.
Section 3: Empirical Support for Prolonged Exposure Therapy

Empirical Support

Now that you have a good understanding of the theoretical underpinnings for PE, let’s review some of the research supporting this treatment. Prolonged Exposure is one of the evidence-based treatments for PTSD. Randomized control trials have shown significant reductions in symptomatology for individuals who have survived different types of traumas such as sexual or physical assault/abuse, motor vehicle/industrial accidents, and torture.

The evidence base for the use of PE with Service members and combat Veterans continues to grow as well. Of note, the VA/DoD Clinical Practice Guidelines for the Management of Post-Traumatic Stress (2010) identifies PE as one of the treatments that has strong empirical support, and recommends its use with this population. A link to these guidelines can be found in the Resources section of this course. While currently there are only case studies to illustrate effectiveness of PE with survivors of terrorist attacks, the results from those are encouraging and larger scale studies are underway.

In addition, PE has been shown to be effective with individuals who have recently been traumatized or have Acute Stress Disorder (ASD) as well as those who are many years post-trauma.

Further Empirical Support

Studies have also been conducted to determine whether adding other treatment components, such as Cognitive Restructuring or Stress Inoculation Therapy, improves PE. These studies have had consistent findings that PE by itself performs as well as or better than a combination of treatments. There is some evidence to suggest, however, that adding PE to augment treatment for clients who are only partially responding to medication (sertraline) reduced their PTSD symptoms.

In studies comparing PE to other evidence-based treatments, PE repeatedly demonstrates significant improvement in PTSD equal to Cognitive Processing Therapy and Eye Movement Desensitization and Reprocessing (EMDR).
Section 4: Prolonged Exposure Therapy Techniques and Procedures

Overview

This section provides an overview of the PE treatment program, including some general recommendations for conducting PE, basic descriptions of the four main procedures used in PE therapy, and a brief review of treatment, session by session.

Please remember that this overview of the treatment does not replace more extensive training that may be obtained in person or through self-study (see Next Steps section for more information).

Here are a few points to keep in mind before getting into the details of the PE process:

• When using PE, it is helpful for treatment sessions to occur weekly or twice weekly if possible. This enables the client to reduce avoidance and distress associated with the trauma as quickly as possible.

• It is helpful for treatment sessions to last 90 minutes. While not everyone is able to establish 90-minute-sessions in their clinic or setting, doing so ensures adequate time to review and conduct treatment procedures as well as provide time for the client to reduce arousal prior to leaving the session.

• Treatment is usually completed in 9 to 12 sessions, especially if the focus remains on PTSD and the two recommendations above (weekly/twice weekly, 90-minute sessions) are adhered to.

Who Is PE Therapy Appropriate For?

PE therapy is appropriate if the client has:

• Sufficient memory of the traumatic event.
• PTSD with or without other related problem (including personality disorders).

PE therapy is not appropriate if the client is:

• Imminently suicidal or homicidal (safety is the first treatment priority).
• Psychotic or bipolar and not on appropriate medication (the client needs to be stabilized on medication prior to treatment).

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• Substance dependent (the client must be in concurrent drug/alcohol treatment and have significant motivation/show compliance with substance reduction/abstinence).
• At high risk in an unsafe environment with significant chance for re-traumatization (safety is the first treatment priority).
• Actively self-injurious (safety is the first treatment priority).

A Good Foundation for PE Therapy

As is true of other treatments, the effectiveness of PE depends on more than just the actual procedures. A good foundation for PE depends on multiple factors. Click on the buttons below to find out more about each factor.

Therapeutic Alliance
Facilitating the therapeutic alliance is a cornerstone to any effective treatment. Ways to facilitate a strong alliance with your client are:

• Acknowledging the client’s courage in coming for treatment
• Communicating an understanding of the client’s symptoms
• Incorporating personalized examples in treatment
• Validating the client’s experience in a non-judgmental manner
• Remembering that your reaction provides important “new information” into the system
• Working collaboratively
• Incorporating the client’s judgment about pace and targets of therapy.

Therapist Skills
Remember your basic therapeutic skills of empathy, active listening, and alliance building.

Conveying your knowledge of trauma and its effects, the rationale for using PE, and each PE technique helps the client feel like you are skilled as a mental health provider.

A good therapist should always be willing to seek guidance and support as needed. This can be especially true when working with trauma.

Treatment Rationale
Providing a good rationale for PE increases treatment credibility; studies have shown that perceived treatment credibility is associated with better therapy outcomes.

A solid treatment rationale helps achieve client buy-in, which is incredibly important for PE because clients must overcome their natural tendency to avoid distressing memories.
Believing that PE can help in the long run is important when getting started.

**Confidence in Techniques**

Conveying confidence in the treatment and in your own ability to deliver it effectively is critical for you and your client to succeed.

Knowing the theory, research, and techniques behind PE will help boost your confidence; seeking supervision, when needed, will ensure that you continue to improve your skills.

**Treatment Procedures Used in PE**

Essentially, PE comprises four treatment procedures:

1. Education about common reactions to trauma
2. Breathing retraining (breathing in a calm way)
3. Repeated exposure to the trauma memories (imaginal exposure)
4. Repeated in-person exposure to avoided situations (in vivo exposure)

These components are covered in the following s.

**Education about Common Reactions to Trauma**

As with many other treatments, one of the most important steps is providing education regarding the diagnosis(es) that the client carries, in this case, PTSD. This psychoeducational component of treatment allows for an interactive discussion that serves to educate the client about common reactions to trauma.

**The goals of PE are to:**

1. Elicit the client’s experience of PTSD symptoms and related problems.
2. Validate and normalize the client’s experiences and symptoms.
3. Instill hope that many of the client’s problems are related to PTSD and should improve with treatment.
4. Promote communication and foster the therapeutic alliance needed for successful treatment.
**Education about Common Reactions to Trauma, continued**

Specifically, the therapist will guide a discussion with the individual regarding the following common reactions to trauma:

- Fear and anxiety
- Re-experiencing the trauma (flashbacks, nightmares)
- Trouble concentrating
- Hypervigilance (over-alertness, startling easily)
- Irritability, anger
- Avoidance of trauma reminders
- Emotional numbing
- Loss of interest, depression
- Feeling of “going crazy”
- Shame and guilt
- Poor self-image

(Source: Foa, E.B., Hembree, E.A. and Rothbaum, B.O., 2007)

**Breathing Retraining**

As with other anxiety disorders, physiological arousal in individuals with PTSD, including fast and shallow breathing, can exacerbate the experience of anxiety and stress. Using a strategy like breathing retraining can help the client to reduce arousal and therefore distress. The easiest technique to teach is simple slow breathing. Clients are instructed to:

- Breathe slowly to reduce arousal.
- Slow their **exhale** breath to help them relax.
- Concentrate on slowing the breathing rate.
- Pause at the end of an exhale before taking another breath in.
- Use a tape made by the therapist to allow them to practice.

This relaxation technique is taught to reduce **overall** distress and physiological arousal in their day-to-day life. It is **never** used during imaginal or in vivo exposure when the goal is for the client to experience the anxiety and its inevitable reduction over time.

**In Vivo Exposure**
In vivo exposure, or in-person exposure, is essentially having the client repeatedly face trauma-related situations that they are avoiding. While confronting these situations will be difficult and anxiety-producing at the outset, going into these situations again and again eventually reduces excessive fear through habituation. It also corrects the individual’s erroneous probability estimates that feared stimuli are excessively dangerous and are the same as the traumatic event itself.

That is, the more clients put themselves into these situations, the more they learn that the situations aren’t actually excessively dangerous and are not the same as the situation they encountered during the traumatic event.

Being able to stay in anxiety-producing situations builds the clients’ confidence that they can handle their anxiety and confront difficult circumstances.

**Case Example**

Let’s use our case example, CPL Wright, to better illustrate in vivo exposure.

The first step for CPL Wright and his therapist is to identify the situations, places, people, and things he is avoiding. CPL Wright and his therapist have discussed how he avoids things like driving off-post, being a passenger in a car, driving at night, being in crowded places, and doing activities with his friends in addition to some other things.

To begin in vivo exposure work, CPL Wright and his therapist will work together to create an ordered list, or hierarchy, of these activities for CPL Wright to purposely confront outside the session. This list is created collaboratively and contains items that are easier and more difficult for CPL Wright to do.

Each item is rated using Subjective Units of Distress (SUDS), which is a 0 - 100 point scale that indicates how distressing it would be for CPL Wright to do each activity. With support from his therapist, CPL Wright will begin to confront or do activities that cause a mid-level of anxiety for him; he will do them over and over again until they no longer cause him to feel anxious.

**Case Example, continued**

For example, if CPL Wright begins with “driving on-post during the day,” he will continue to drive around post until the anxiety or distress he experiences reduces by half or for at least 45
minutes. The goal, again, is to allow CPL Wright to experience that his anxiety will not last forever, will not harm him, and does not control him and what he can do. As CPL Wright masters each item on the list, he will move on to a more difficult item.

CPL Wright’s in vivo list:

100 Drive to parents’ house  
90 Drive on I-495 at night  
80 Drive on I-495 during the day  
75 Go to a mall or crowded place  
60 Be a passenger in the car off-post during day  
50 Go to a party at friend’s house  
30 Drive on-post during the day  
20 Sit in the car watching cars drive by on-post

NOTE: It is important to anchor SUDS ratings to real client experiences that represent that level of anxiety. These anchors are usually done for the 0, 50, and 100 levels of anxiety. For example, a “100” for CPL Wright was how he felt when the blast went off, a “50” was how he felt once back on the Forward Operating Base (FOB) afterwards, and a “0” is how he feels when he goes fishing.

**Imaginal Exposure**

During *imaginal* exposure, the client faces the traumatic memory through repeatedly reliving/retelling the story. Repeatedly confronting the memory of the trauma promotes processing of the highly emotional experience and recognition that the individual can cope with the distress associated with the memory.

Essentially, imaginal exposure hopes to achieve the following:

1. Repeated imaginal reliving of the trauma promotes habituation and reduces anxiety associated with the trauma memory.  
2. Confronting the memory reduces the negative reinforcement that results from avoiding the memory.  
3. It allows the incorporation of safety information into the trauma memory so that the memory can be seen as different from the actual trauma.  
4. The prolonged nature of focusing on the memory allows the client to differentiate the trauma from other non-traumatic events so that the trauma can be seen as a rather unique event instead of a common representation of the dangerous nature of the world.
5. Imaginal exposure helps change the meaning of the symptoms from a reflection of incompetence to a reflection of courage.
6. Prolonged focus on the memory allows clients to study the details that are central to their negative evaluations of themselves.

**Case Example, continued**

Let’s return to our case example, CPL Wright. When CPL Wright first retells the story of what happened during the explosion in Baghdad, his story is disjointed and tends to jump around.

He tends to focus on certain details and leaves out other information. CPL Wright especially focuses on all the things he should have done to anticipate the attack. CPL Wright repeatedly comments on how helpless he felt and how he did nothing to help during the aftermath.

By telling the story over and over again, CPL Wright is able to put an order to the events, flesh out details he was overlooking, focus on the good things he did, such as maintaining the perimeter around the vehicle, in addition to feelings of confusion and helplessness. While aspects of the story continue to be disturbing for CPL Wright, he reports that his distress has decreased significantly with each telling. CPL Wright is also able to tell the story without feeling like it is happening to him in the present.

He differentiates the actual experience of that day from his memory of the experience. CPL Wright is also able to articulate that while he wishes there had been a different outcome, there was no way he could have truly known what was going to happen and also nothing he could have done to prevent the situation. He reports feeling more in control of the memory versus the memory being in control of him.

**Session Outlines**

Now that you have a general idea about the four components of PE treatment, let’s review an outline of each session of PE, starting with Session 1.

Remember, it’s highly recommended that you review the treatment manual or attend an in-person training before doing PE with a client. The session outlines are simply provided here to give you a sense of how sessions are structured.
1. Present an overview of the program
2. Explain that the focus of the program is on PTSD
3. Discuss maintaining factors (i.e., the role of avoidance)
4. Discuss treatment procedures (breathing, education, imaginal exposure, *in vivo*)
5. Discuss trauma ("police report" version to get the facts)
6. Teach breathing retraining
7. Assign homework (practice breathing for 10 minutes, three times/day; listen to audiotape of the session)

**Session 2**
1. Review homework
2. Discuss common reactions to trauma
3. Discuss rationale for in vivo exposure
4. Introduce SUDS
5. Construct in vivo hierarchy
6. Discuss guidelines for in vivo exposure
7. Assign homework
   - Read the "Commons Reaction to Trauma" handout; share with others if helpful
   - Continue breathing retraining practice
   - Add to the list of avoided situations
   - Complete the in vivo exposure assignment
   - Listen to a tape of the session once

**Session 3**
1. Review homework
2. Explain the rationale for imaginal exposure
3. Conduct imaginal exposure
4. Process imaginal exposure
5. Assign homework
   - Continue breathing practice
   - Listen to the audiotape of imaginal exposure tape once a day
   - Continue in vivo exposure exercises daily, working up the hierarchy with SUDS levels
   - Listen to the audiotape of the session one time

**Sessions 4 - 9**
1. Review homework
2. Conduct imaginal exposure
3. Process imaginal exposure
4. In later sessions, focus on "hot spots" in story
5. Assign homework
   - Continue breathing practice
   - Listen to the imaginal exposure tape daily

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- Continue in vivo exposure exercises
- Listen to audiotape of session

**Session 10 (final session)**
1. Review homework
2. Imaginal exposure on entire trauma
3. Process imaginal exposure and discuss how perception of the trauma has changed
4. Obtain current SUDS for in vivo hierarchy and discuss how they differ from the original SUDs for the same items
5. Evaluate the usefulness of procedures and what the client has learned in treatment
6. Assign “homework”
   - Continue to apply everything learned in therapy!

**Let’s Review!**

Let’s review what you’ve learned so far

**True or False?**
During in vivo exposure, the client faces his or her traumatic memory through repeatedly reliving/retelling the story.
(FALSE)

**True or False?**
During in vivo exposure, the therapist essentially has the client repeatedly face trauma-related situations that he or she has been avoiding.
(TRUE)

**True or False?**
Slow breathing is used to induce arousal in a client.
(FALSE)

**True or False?**
A solid treatment rationale helps elicit client buy-in, which is incredibly important for PE because client must overcome their natural tendency to avoid distressing memories.
(TRUE)

**True or False?**
One goal of PE is to instill hope that many of the clients’ problems are related to PTSD and should improve with treatment.
(TRUE)
True or False?
Imaginal exposure helps promote habituation and reduces anxiety associated with the trauma memory.
(TRUE)

True or False?
PE is suitable for clients who are imminently suicidal or homicidal.
(FALSE)

True or False?
Subjective Units of Distress (SUDS), measured on a scale from 0 to 100, indicates how distressing it would be for a client to do a specific activity.
(TRUE)

True or False?
It is helpful for treatment sessions to last 30 minutes.
(FALSE)

PE: Modifications and Future Directions

Now that you have reviewed PE as it is traditionally used, it should be noted that some innovative modifications to the treatment are currently being evaluated to determine their effectiveness. A few of these include:

- Shortening the length of treatment sessions (60-minute versus 90-minute sessions)
- Conducting PE via telehealth technology
- Using Virtual Reality technology during imaginal exposure; also known as Virtual Reality Exposure Therapy (VRET)
- Using PE in a deployed setting

Studies are currently underway to evaluate whether these modifications impact barriers to care, stigma, treatment outcomes, and satisfaction with care.

Section Summary

In this section on PE therapy techniques and procedures, you learned that the PE treatment approach includes four components:

- Education about common reactions to trauma
• Breathing retraining
• Repeated exposure to the trauma memories (imaginal exposure)
• Repeated in-person exposure to avoided situations (in vivo exposure)

You learned that PE therapy, which is usually completed in 9 to 12 90-minute sessions, is best suited to individuals who have sufficient memory of the traumatic event. PE therapy is not appropriate for individuals who are actively self-injurious or suicidal as safety treatment priority. In addition, PE should only be used with individuals with substance use disorders if they are in concurrent substance dependence treatment.
Section 5: Summary

Course Review

This course has given you a good overview of the theoretical underpinnings and techniques utilized for Prolonged Exposure. Some of the key things that you learned include the following:

- Two learning theories provide the foundation for Prolonged Exposure therapy: Classical (Pavlovian) Conditioning and Operant Conditioning.

- The goals of PE therapy are to “unpair” conditioned stimuli and conditioned responses and reduce avoidance behaviors that ultimately serve to maintain symptoms. A key principle underlying PE therapy is that helping clients confront, not avoid, trauma reminders can reduce the time necessary for PTSD symptoms to dissipate.

- The PE treatment approach includes four components:
  - Education about common reactions to trauma
  - Breathing retraining
  - Repeated exposure to the trauma memories (imaginal exposure).
  - Repeated in-person exposure to avoided situations (in vivo exposure).

- This type of therapy is best suited to individuals who have sufficient memory of the traumatic event.

- PE treatment is usually completed in nine to twelve 90-minute sessions that follow an established general structure.

Next Steps

If you are interested in utilizing PE in your practice, you can obtain more in-depth training by doing one of the following:

1. Conduct self-study using the treatment manual Prolonged Exposure Therapy for PTSD: Emotional Processing of Traumatic Experiences by Foa, et. al. This manual is available for purchase and contains a comprehensive write-up on how to provide the rationale for treatment, structure sessions, conduct treatment components, and deal with issues that may derail treatment.
2. Attend an advanced three-day training program in person. For more information on how to sign up for a training program, you can contact the following institutions:

- The Center for the Treatment and Study of Anxiety at the University of Pennsylvania: www.med.upenn.edu
- The Center for Deployment Psychology: www.deploymentpsych.org

References

The references listed below were used in the development of this course and provide more detail about Prolonged Exposure therapy.


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