Prolonged Exposure in Veterans

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Honoring the Sacrifice

“The soldier above all others prays for peace, for it is the soldier who must suffer and bear the deepest wounds and scars of war.”
--Douglas MacArthur

“Honor to the Soldier, and Sailor everywhere, who bravely bears his country's cause. Honor also to the citizen who cares for his brother in the field, and serves, as he best can, the same cause -- honor to him, only less than to him, who braves, for the common good, the storms of heaven and the storms of battle.”
--Abraham Lincoln December 2, 1863 letter to George Opdyke and others

Image from: www.flickr.com
History of Response to Combat

“Must you have battle in your heart forever? The bloody toil of combat?” Odyssey

Civil War
- Irritable heart
- Nostalgia

World War I
- Shell shock

World War II and Korea
- War Neurosis
- Battle/Combat Fatigue
- Exhaustion

Vietnam
- Posttraumatic Stress Disorder (1980)

Image from: http://en.wikipedia.org/wiki/Tomb_of_the_Unknown_Revolutionary_War_Soldier
Combat Exposure in Iraq

- Seeing Dead Bodies/Remains: 95%
- Shot At/Receiving Small Arms Fire: 93%
- Being Attacked/Ambushed: 89%
- Receiving Artillery, Rocket, Mortar Fire: 86%
- Knowing Someone Killed/Ser. Injured: 86%
- Clearing/Searching Homes: 80%
- Shooting/Directing Fire at Enemy: 77%
- Ill/Injured Women/Child Couldn't Help: 69%
- Seeing Dead/Serious Inj. Americans: 65%
- Handling/Uncovering Human Remains: 50%
- Resp. for Death of Enemy Combatant: 48%
- Participating in Demining Ops: 38%
- Buddy Shot/Hit Near You: 22%
- Engaged in Hand-to-Hand Combat: 22%
- Saved Soldier/Civilian Life: 21%
- Being Wounded or Injured: 14%
- Responsible for Noncombatant Death: 14%
- Close Call/Hit but Saved by Gear: 8%

Normal Response to Trauma

- Intensity of response varies with nature and severity of trauma
- Intense emotional reactions: dissociation; fear, bewilderment, anger, helplessness and despair
- Re-experiencing symptoms (thoughts, dreams, images)
- Increased vigilance and autonomic arousal
- Sleep disturbance
- Gradual adjustment over weeks-to-months

image from: www.wikipedia.com "patrol through Sadr City"
Most individuals exposed to traumatic situations, including combat, do not develop PTSD.

The manifestation of some symptoms during the first 30-90 days after a traumatic experience is not uncommon and is generally part of the normal stress response.

However, a pattern of symptoms that begin to interfere with work, home life or interpersonal relationships marks PTSD.

Persistent symptoms that either do not improve or worsen, even if considered normal initially, become problematic when they do not remit over time.

www.dailymail.co.uk "U.S. Marines in Vietnam"
DSM 5 Diagnostic Criteria For PTSD

- The person has been exposed to a traumatic event
- Re-experiencing Symptoms
  - Triggered or un-triggered intrusive memories and feelings, flashbacks, nightmares
- Avoidance Symptoms
  - Efforts to avoid thoughts & feelings
  - Efforts to avoid people, places, situations

image from: imgkid.com "inside crowded mall"
Negative Alterations in Cognition or Mood

- Inability to recall important parts of the event
- Diminished interest in activities
- Detachment from others
- Emotional numbing
- Negative beliefs about self and world
- Persistent distorted blame towards self or others
- Persistent negative trauma related emotions
Hyperarousal Symptoms

- Difficulty sleeping
- Irritability and anger
- Difficulty concentrating
- Hypervigilance
- Exaggerated startle
- Self-destructive or reckless behavior
## Prevalence of PTSD

<table>
<thead>
<tr>
<th>General Population (Kessler et al., 2005)</th>
<th>Prevalence Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td>Current 2%, Lifetime 4%</td>
</tr>
<tr>
<td>Women</td>
<td>Current 5%, Lifetime 10%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Veteran Populations</th>
<th>Prevalence Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vietnam (Dohrenwend, 2006)</td>
<td>Current 9%, Lifetime 19%</td>
</tr>
<tr>
<td>Gulf War (Sutker et al., 1993; Wolfe et al., 1999)</td>
<td>3-6%</td>
</tr>
<tr>
<td>OEF/OIF (Hoge et al., 2004)</td>
<td>12-13%</td>
</tr>
<tr>
<td>Significant Benefit</td>
<td>Some Benefit</td>
</tr>
<tr>
<td>------------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------</td>
</tr>
<tr>
<td>Cognitive Therapy</td>
<td></td>
</tr>
<tr>
<td>Exposure Therapy</td>
<td></td>
</tr>
<tr>
<td>Stress Inoculation Training</td>
<td></td>
</tr>
<tr>
<td>Eye Movement Desensitization and Reprocessing (EMDR)</td>
<td></td>
</tr>
<tr>
<td>Imagery Rehearsal Therapy (IRT)</td>
<td>Psychodynamic Therapy</td>
</tr>
</tbody>
</table>
Rauch et al., 2009 explore use of PE within a VA PTSD clinic. Results showed that PE was associated with a significant reduction in symptoms. Effect size was large $d=2.19$.

National implementation data from with the VA showed that PE was related to significant reductions in PTSD symptoms and depression symptoms in actual clinical care setting (Eftekharí, Ruzek, Crowley, Rosen, Greenbaum, & Karlin, 2013).

Has also been shown to be effective in older veterans (Yoder, Lozano, Center, Miller, Acierno, & Tuerk, 2013) and with veterans with mild TBI (Sripada et al., 2013).

image from: www.wsj.com "When the Fighting Stops" by Michael Phillips
Fear Structure

- A fear structure is a program for escaping danger
- Everyone has fear structures
  - Stimulus, response (physiological and behavioral), and meaning elements
  - Seeing a snake on a walk in the woods

The disruption of natural recovery after experiencing trauma
Role of avoidance in the maintenance of PTSD
The whole PTSD related fear structure is activated by any of its elements
heart race when driving
images of the trauma and thoughts about the trauma
By activating the fear structure in Prolonged Exposure corrective information can be incorporated (Foa & Kozak, 1986; Rauch & Foa, 2006).

image from: brotherword.org
People with anxiety disorders have pathological fear structures

Excessive or inaccurate stimulus, response, and/or meaning elements that are resistant to modification

images from: www.macoy.army.mil and www.bakerfieldnow.com
Fear is represented in memory as a structure of associated:

- Stimuli present during the trauma
  - Driving, trash on road, smells, sounds
- Physiological and behavioral responses that occurred during the trauma
  - Heart racing, sweating, fighting back
- Meanings associated with these stimuli and responses
  - “It was my fault.” “I failed.” “The world is unsafe.”

Associations among stimulus, response, and meaning representations many that may not be related to true danger or risk
Prolonged Exposure (PE) Therapy

- Involves reducing efforts to avoid:
  - Trauma memories, thoughts, and feelings
  - People, places, situations that are objectively safe but remind the person of trauma or are associated with feelings of danger

- Techniques:
  - Imaginal Exposure – Revisiting the memory of the worst or most distressing trauma
  - In-Vivo Exposure – Approaching people, places situations

image from: www.whereapy.com
PE Rationale

Exposure:
- Challenges belief that anxiety lasts forever
- Challenges belief that memories, people, places, and situations are dangerous (they are safe!)
- Results in reduction of anxiety without engaging in habitual avoidance behaviors
- Helps process traumatic experience(s)
- Enhances sense of control
Structure of PE

- Individual therapy
- 8-15 weeks (2-4 months)
- Patient meets once a week with therapist
- Homework Assignments
  - Linked to better outcomes
  - Listening to imaginal exposure daily
  - Doing in-vivo exercises

image from: www.fineartamerica.com "Alone On The 6th" by Ian David Soar
# PE In-Vivo Hierarchy

## In Vivo Exercises

<table>
<thead>
<tr>
<th>Activity</th>
<th>SUDS 0-100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Going to the mall when it’s busy</td>
<td>75</td>
</tr>
<tr>
<td>Going to Applebee’s at peak time</td>
<td>65</td>
</tr>
<tr>
<td>Going to the movies with girlfriend</td>
<td>80</td>
</tr>
<tr>
<td>Going to Middle Eastern restaurant</td>
<td>95</td>
</tr>
<tr>
<td>Going to firing range</td>
<td>50</td>
</tr>
<tr>
<td>Holding hands with girlfriend</td>
<td>50</td>
</tr>
<tr>
<td>Taking the kids to the park</td>
<td>45</td>
</tr>
<tr>
<td>Driving on unpaved road</td>
<td>90</td>
</tr>
<tr>
<td>Sitting in waiting room with back to door</td>
<td>85</td>
</tr>
</tbody>
</table>
Imaginal Exposure

- Imaginal exposure and processing allows for
  - integration of previously discounted or unattended elements or aspects of the event
  - and allows for the reduction in the intensity of emotion connected with the memory

- The clinician wants to assist the veteran in placing the events and their actions into the full context

- Clinicians can assist the veteran in seeing the context by probing for thoughts and feelings that occurred at the time of the event
  - Probing “What are you thinking?” “What are you feeling?” during the exposure
Clinician uses this exposure to previously discounted elements as an opportunity to look at the trauma in a different way placing the action within the context of what was happening before, during and after the event.

Reviewing with the understanding of the meaning of actions in the context of the event and values at the time and now.

The clinician accomplishes this task through discussion and non-directive reflection of the patients own thoughts following exposure.
Creating New Meaning

Judgment of actions that occur in a trauma context from a moral lens that does not include this context often results in increased attributions of guilt and distress.

Creating new meaning from the traumatic event occurs when patients incorporate the fragmented aspects of the event, including context, into their understanding of what happened.

While outcome may not be an ideal outcome, knowing the context in which the decision was made can help the veteran understand why he or she did this and what this means about him or her as a person at the time of the trauma and now.
In an effort to increase the access of exposure based treatments, some groups have been developed.

Vary in terms of components and time commitments both for therapists and patients.

Group format offers some benefits that may be particularly useful with PTSD including:

- Positive social interactions and bonding
- Normalization
- Encouragement and examples from peers
Goal was develop treatment based on PE protocol and principles that would incorporate group element and remain effective and efficient.

Developed group and individual hybrid treatment.

Consists of 12-1 hour group sessions focused on in-vivo exposures

Additionally 5 individual 1 hours sessions focused on imaginal exposure.

## Group Prolonged Exposure

*Change in PTSD Severity with Intent-to-Treat Sample (N=67) and Treatment Completers (N=49)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Pre</th>
<th>Post</th>
<th>t</th>
<th>d</th>
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</thead>
<tbody>
<tr>
<td>Intent-to-Treat</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAPS</td>
<td>67.94 (14.40)</td>
<td>53.00 (19.60)</td>
<td>6.91**</td>
<td>0.87</td>
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<tr>
<td>PCL-C</td>
<td>63.57 (9.81)</td>
<td>54.12 (14.49)</td>
<td>5.47**</td>
<td>0.76</td>
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<tr>
<td>BDI-II</td>
<td>30.63 (9.10)</td>
<td>24.44 (11.79)</td>
<td>5.77**</td>
<td>0.59</td>
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<tr>
<td>Completers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAPS</td>
<td>65.69 (13.79)</td>
<td>45.77 (15.30)</td>
<td>7.97**</td>
<td>1.37</td>
</tr>
<tr>
<td>PCL-C</td>
<td>62.16 (10.08)</td>
<td>50.33 (13.35)</td>
<td>6.15**</td>
<td>1.00</td>
</tr>
<tr>
<td>BDI-II</td>
<td>29.22 (8.83)</td>
<td>21.44 (10.82)</td>
<td>6.23*</td>
<td>0.79</td>
</tr>
</tbody>
</table>
Considerations with Group

- Data based on clinical sample where participants selected to pursue group.
- Assessment for PTSD and comorbid disorders is important
- Group format maybe difficult for some patients
- Limiting disclosure within group
- Group composition can make a difference, and not all patients are ideal for groups
Common Concerns

- Patient has experienced more than one traumatic event
  - Common in case of PTSD, particularly combat
  - In many cases, if events have overlapping themes, distressed can be reduced across events even if only focus on one.
  - Important to identify event that is driving symptoms currently.

- Increase in distress
  - Majority of people do not experience a significant increase related to treatment (Foa, Zoellner, Feeny, Hembree, & Alvarez-Conrad, 2002).
  - 10.5% experienced a temporary increase. This was not associated with differences in drop rate or outcome.

- Active use of substances or concern about relapse
  - Recent study of participants with comorbid PTSD and alcohol dependence demonstrated that PE was not associated with increased consumption or cravings (Foa et al., 2013).

- Utilization in patients with comorbidities
  - Comorbidities are typical with PTSD
  - Studies have begun to explore use of PE with a lot of comorbidities (e.g., SUD- Foa et al., 2013, Borderline Personality Disorder (Harned, Korslund, & Linehan, 2014 ), psychosis ( Van den Berg et al., 2015; de Bont, 2013 ))
Clinician care

- Reaction to hearing traumas
  - We habituate too. Remember what you tell your patients
  - Hearing is different than experiencing
- Compassion fatigue
  - Seek support from other clinicians
  - Create and implement strategies for self-care and coping

Image from: www.TravelingBoy.com
Veteran & PTSD Resources

Veterans Administration:
http://www.va.gov/
Look into local VA hospitals, Community Based Outpatient Center (CBOC), PTSD Clinic Team, Mental Health Clinic, etc.


National Center for PTSD: http://www.ptsd.va.gov/
- About Face, Making the Connection

Vet Centers

Questions and Thank you.

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