Concurrent Treatment of PTSD and Substance Use Disorders using Prolonged Exposure (COPE)

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PTSD Consultation Program
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Agenda

1. PTSD and Substance Use Disorder (SUD) comorbidity
2. COPE: Overview of Aims and Content
3. Findings to Date
4. Future Directions
1. Comorbidity of PTSD and SUD

- Individuals with (vs. without) PTSD are 2-5 times more likely to have an SUD.

- Among Veterans serving in Vietnam era or later (N=1,001,996), 41.4% with an SUD were diagnosed with PTSD (Petrakis et al., 2011).

- Among first-time users of VA healthcare from 2001-2010 (N=456,502), 63.0% with alcohol use disorder had comorbid PTSD (Seal et al., 2011).

- The onset of PTSD typically precedes onset of SUD.

(Blanco et al., 2013; Breslau et al., 2003; Gielen et al., 2012; Goldstein et al., 2016; Grant et al., 2016; Hoge et al., 2004; Kessler et al., 2005; Vujanovic & Back, 2019; Wisco et al., 2014)
PTSD and Opioids

- Prescription opioids (e.g., hydrocodone, oxycodone) are the most commonly used drug, 2nd only to marijuana.

- **High rates of trauma** (e.g., 92-97%) and **PTSD** (33-54%) among patients with opioid use disorder (OUD) (Mills et al., 2005, 2006; Peirce et al., 2009).

- Among military service members, odds of having PTSD was 28 times higher in those with, vs. without, OUD (Dabbs et al., 2014).

- Concurrent trauma-focused treatment may be important in retention and overall outcomes (Meshberg-Cohen et al., 2019).

(Ecker & Hundt, 2018; Peck et al., 2018; SAMHSA, 2017; Schacht et al., 2017; Schiff et al., 2015)
PTSD + SUD Negative Outcomes

More polysubstance use
Earlier age onset substance use
More SUD treatment episodes
Longer duration of substance use
Poorer physical health
Poorer psychosocial functioning

PTSD + SUD

More severe clinical profile

Poorer treatment outcomes

Substance use & mental health
Psychosocial
Physical health

(Back et al., 2000; Barrett et al., 2014; Bowe & Rosenheck, 2015; Brady et al., 2009; Kaier et al., 2014; Killeen et al., 2015; Hawkins et al., 2012; Mills et al., 2006; Torchalla et al., 2012; Ouimette et al., 2005; Vujanovic & Back, 2019)
Do you believe that your substance use and PTSD symptoms are related?

Almost all (94%) indicate that their substance use and PTSD symptoms are related.

(Back et al., 2014)
If your PTSD symptoms get worse, what happens to your substance use?

Most Veterans (85%) indicate that their substance use increases when their PTSD symptoms get worse.

(Back et al., 2014)
Clinical Trials for PTSD often exclude patients with SUD

Out of 156 RCTs, 73.7% excluded participants based on substance use status (e.g., current, past year, or lifetime diagnosis of substance abuse or dependence).

Only 7.7% examined substance use related outcomes.

Importantly, no studies observed increases in substance use during the course of PTSD treatment.
Treatment Models for Co-Occurring PTSD and SUD

**Sequential Model:** SUD first, PTSD later

- Can be difficult for some patients to achieve abstinence or reduce use, especially in the face of PTSD symptoms.

- Unclear how many patients who complete SUD treatment follow-up with PTSD treatment.

- Two treatment episodes, longer time in treatment, higher costs for patient, greater burden for healthcare system and clinicians.
Integrated Model: PTSD + SUD concurrently

- More efficient use of time and clinical resources (2 disorders treated in the same time as 1 disorder).
- Significant proportion of PTSD/SUD patients prefer an integrated treatment approach.
  - One clinician and one treatment episode
- Data suggest that reductions in PTSD symptoms are more likely to lead to reductions in SUD, than the reverse.

(Back et al., 2009; 2014; Brown et al., 1998, Flanagan et al., 2016; Hien et al., 2010; Norman & Hamblen, 2017; Vujanovic & Back, 2019)
Overview of PTSD/SUD

Integrated Treatment Model

1. Treat PTSD + SUD
2. Manage PTSD symptoms without substances
3. Recovery from PTSD and SUD
4. Long Term Relief
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Dr. John Roache
Univ. of Texas Health Science Center at San Antonio

Drs. Katherine Mills, Maree Teesson & Emma Barrett
Sydney, Australia
2. COPE Overview: Aims and Content
COPE consists of 12, individual sessions, 90 minutes each, delivered weekly.

Synthesis of two evidence-based treatments:
1. Prolonged Exposure (PE) for PTSD (Foa)
2. Cognitive Behavioral Therapy (CBT) for SUD (Carroll)

Primary goals:
1. Psychoeducation regarding the functional relationship between PTSD and substance use.
2. Decrease PTSD symptoms via Prolonged Exposure.
3. Decrease substance use using cognitive behavioral techniques.
# Overview of COPE Content

<table>
<thead>
<tr>
<th>Session #</th>
<th>Session Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction: Psychoeducation, Therapy Contract and Goals, Breathing Retraining</td>
</tr>
<tr>
<td>2</td>
<td>PTSD: Common Reactions to Trauma SUD: Awareness of Cravings</td>
</tr>
<tr>
<td>3</td>
<td>PTSD: In Vivo Hierarchy SUD: Managing Cravings</td>
</tr>
<tr>
<td>4</td>
<td>PTSD: First Imaginal Exposure SUD: Review Coping Skills</td>
</tr>
<tr>
<td>Session #</td>
<td>Session Topic</td>
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<tr>
<td>---------</td>
<td>---------------------------------------------------</td>
</tr>
<tr>
<td>5</td>
<td>PTSD: Imaginal Exposure continued&lt;br&gt;SUD: Planning for Emergencies</td>
</tr>
<tr>
<td>6</td>
<td>PTSD: Imaginal Exposure continued&lt;br&gt;SUD: Awareness of High-Risk Thoughts</td>
</tr>
<tr>
<td>7</td>
<td>PTSD: Imaginal Exposure continued&lt;br&gt;SUD: Managing High-Risk Thoughts</td>
</tr>
<tr>
<td>8</td>
<td>PTSD: Imaginal Exposure continued&lt;br&gt;SUD: Refusal Skills</td>
</tr>
<tr>
<td>Session #</td>
<td>Session Topic</td>
</tr>
<tr>
<td>-----------</td>
<td>---------------</td>
</tr>
</tbody>
</table>
| 9         | PTSD: Imaginal Exposure continued  
SUD: Seemingly Irrelevant Decisions |
| 10        | PTSD: Imaginal Exposure continued  
SUD: Awareness of Anger |
| 11        | PTSD: Imaginal Exposure continued  
SUD: Managing Anger |
| 12        | Review and Termination |
Techniques To Decrease PTSD

- *Psychoeducation* – education about common reactions to trauma (including increased substance use) and the interrelationship between PTSD symptoms and use. Handouts for loved ones and family.

- *Breathing Retraining* technique to manage anxiety (and cravings).

- *Prolonged Exposure (PE)*:
  - In-vivo Exposure
  - Imaginal Exposure
In Vivo Exercises

• In-between therapy sessions.
• Repeated and prolonged (30-45 min).

Common examples:
• Walmart or other crowded store
• Restaurant or movie theatre
• Driving during rush hour

*Very important that patients not use alcohol or drugs before, during, or immediately after in vivo exercises to ensure mastery, growth and new learning takes place.

*Choose in vivo situations that are safe with regard to substance use.
Imaginal Exposure

• Repeated revisiting of trauma memory (~30 min per session x 8 sessions).
• Learn to discriminate between past vs. present, that thinking about event is not dangerous, and that anxiety (like cravings) does not last forever.
• Trauma memory becomes more organized and maladaptive beliefs are addressed.

*Very important that patients not use alcohol or drugs before therapy sessions or during homework exercises (e.g., listening to the recordings).
*Routine breathalyzer test before each therapy session.
The Wave of Anxiety

Anxiety

Time

1st imaginal session
2nd imaginal session
3rd imaginal session
4th imaginal session
5th imaginal session
**SUDS: The Subjective Distress Thermometer**

100 – Highest anxiety/distress that you have ever felt
90 – Extreme anxious/distressed
80 – Very anxious/distressed; can’t concentrate. Physiological signs may be present.
70 – Quite anxious/distressed; interfering with functioning. Physiological signs may be present.
60 – Moderate to strong anxiety or distress
50 – Moderate anxiety/distress; uncomfortable, but can continue to function
40 – Mild to moderate anxiety or distress
30 – Mild anxiety/distress; no interference with functioning
20 – Minimal anxiety/distress
10 – Alert and awake; concentrating well
0 – No distress; totally relaxed

**Craving Thermometer**

100 – Strongest craving you have ever felt
90 – Extreme craving
80 – Very intense craving, persistent thoughts about using, physiological signs present
70 – Strong craving, interfering with functioning, unable to concentrate, may have physiological signs
60 – Moderate to strong craving
50 – Moderate craving, starting to interfere with functioning and concentration
40 – Mild to moderate craving
30 – Mild craving, thoughts about using, not interfering with functioning
20 – Minimal craving, fleeting thoughts about wanting to use
10 – Fleeting thoughts about alcohol or drugs
0 – No craving
**Patient Imaginal Exposure Data Form**

*Instructions:* Record your level (0 to 100) immediately before and after listening to the *imaginal* exposure. Also record the highest level (the peak) you experienced while listening to the *imaginal* exposure.

Use this scale to rate your **SUDS:** 0 = no distress to 100 = extreme distress. Use this scale to rate your **craving:** 0 = no craving to 100 = extreme craving.

<table>
<thead>
<tr>
<th></th>
<th>BEFORE</th>
<th>HIGHEST</th>
<th>AFTER</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SUDS</td>
<td>Craving</td>
<td>SUDS</td>
</tr>
<tr>
<td>#1</td>
<td>Date:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#2</td>
<td>Date:</td>
<td></td>
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<td>#3</td>
<td>Date:</td>
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<td>#4</td>
<td>Date:</td>
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<td>#5</td>
<td>Date:</td>
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<td>#6</td>
<td>Date:</td>
<td></td>
<td></td>
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<tr>
<td>#7</td>
<td>Date:</td>
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</tr>
</tbody>
</table>
# Craving and SUDS Decrease Over Time

Mean ratings of pre- and post-imaginal craving and distress by session.

<table>
<thead>
<tr>
<th>Session</th>
<th>Craving</th>
<th>Distress</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-imaginal</td>
<td>Post-imaginal</td>
</tr>
<tr>
<td></td>
<td>M (SD)</td>
<td>M (SD)</td>
</tr>
<tr>
<td>4</td>
<td>18.11 (25.99)</td>
<td>23.31 (32.04)</td>
</tr>
<tr>
<td>5</td>
<td>22.08 (30.36)</td>
<td>24.57 (31.61)</td>
</tr>
<tr>
<td>6</td>
<td>16.05 (25.63)</td>
<td>19.05 (25.73)</td>
</tr>
<tr>
<td>7</td>
<td>8.91 (15.95)</td>
<td>10.03 (19.94)</td>
</tr>
<tr>
<td>8</td>
<td>8.44 (16.34)</td>
<td>12.37 (22.87)</td>
</tr>
<tr>
<td>9</td>
<td>10.21 (17.93)</td>
<td>13.75 (25.41)</td>
</tr>
<tr>
<td>10</td>
<td>8.62 (14.69)</td>
<td>6.96 (19.50)</td>
</tr>
<tr>
<td>11</td>
<td>7.78 (16.25)</td>
<td>7.67 (17.33)</td>
</tr>
</tbody>
</table>

(Jarnecke, Allan, Badour, Flanagan, Killeen & Back, 2019)
Abstinence is not required, but is encouraged.

Note that approximately half of treatment-seeking patients with PTSD/SUD want to abstain (Lozano et al., 2015).

For alcohol, use the NIAAA guidelines for low-risk drinking, when applicable:

- For people over 65, exceeding 3 drinks a day or 7 drinks a week is not recommended.

Managing cravings and thoughts about using:

• Normalize cravings.

• Emphasize that cravings are time-limited, like a wave.

• Decision delay technique: Delay the decision to use for 15 minutes and engage in healthy activities (e.g., call a friend, exercise, watch a movie, go to AA/NA meeting, go for a walk).
Techniques to Decrease Substance Use

continued

• Urge surfing
• Breathing retraining exercise
• Challenge your thoughts:
  • Will using really make you sleep better….?
  • Will another drink really make you forget what happened…?
  • Can you really use “just one”….?
  • Is it true that the only way to make the craving go away is by using….?
• Identify triggers for using:
  
  • Which **people, places and things** do you need to *stay away* from in order to stay healthy?

• Note the distinction between encouraging patients to:
  
  • (a) **avoid substance-related** cues or places in the environment that are *not safe* and could increase substance use or relapse risk.
  
  • (b) **approach trauma-related** memories, thoughts, or situations in the environment that are *safe.*
Additional Notes on Working with PTSD/SUD

• Typically *start session with the PTSD component* to (a) emphasize not avoiding trauma memory, (b) have enough time for the imaginal, (c) end session on positive SUD coping skills.

• Have a *compassionate, nonjudgmental approach* in working with patients with PTSD/SUD. High levels of shame and guilt are common.

• Remember that *SUD is a chronic, relapsing brain disease* characterized by dysregulated brain functioning in numerous regions, particularly corticolimbic regions, associated with executive functioning, decision making, reward processing, response inhibition, and emotion regulation.

• *Be patient and repeat important messages,* rationale, and instructions as needed.
3. Findings to Date
COPE Studies to Date

Research to date includes **476 participants** in 4 RCTs, 2 open-label trials, and 2 case reports. Findings show COPE is safe, feasible, and results in significant reduction in PTSD and SUD.

<table>
<thead>
<tr>
<th>Completed COPE Studies</th>
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</thead>
<tbody>
<tr>
<td>Brady et al., 2001</td>
</tr>
<tr>
<td>First open-label trial (cocaine and PTSD)</td>
</tr>
<tr>
<td>Mills et al., 2012</td>
</tr>
<tr>
<td>First RCT (polysubstance and PTSD, Australia)</td>
</tr>
<tr>
<td>Back et al., 2012</td>
</tr>
<tr>
<td>First OEF/OIF military Veteran (alcohol and PTSD)</td>
</tr>
<tr>
<td>Ruglass et al., 2017</td>
</tr>
<tr>
<td>RCT in civilians with sub-threshold or full PTSD (polysubstance)</td>
</tr>
<tr>
<td>Persson et al., 2017</td>
</tr>
<tr>
<td>Open-label trial of translated manual (women with alcohol and PTSD, Sweden)</td>
</tr>
<tr>
<td>Jaconis et al., 2017</td>
</tr>
<tr>
<td>First telehealth case (female Veteran with alcohol and MST)</td>
</tr>
<tr>
<td>Back et al., 2019</td>
</tr>
<tr>
<td>First RCT in military Veterans (mostly alcohol and PTSD)</td>
</tr>
<tr>
<td>Norman et al., 2019</td>
</tr>
<tr>
<td>First comparison of COPE vs. Seeking Safety (military Veterans with alcohol and PTSD)</td>
</tr>
</tbody>
</table>
**Initial Open-Label COPE Study**

- N = 39 individuals with cocaine dependence and PTSD
- Mean age = 34 years old
- 82.1% women
- 74.4% reported rape and 94.9% physical assault

<table>
<thead>
<tr>
<th>Treatment outcome</th>
<th>Pre- to Posttreatmenta</th>
<th>M(SD)</th>
<th>M(SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intrusion</td>
<td>19.5 (13.0)</td>
<td></td>
<td>9.1 (7.1)*</td>
</tr>
<tr>
<td>Avoidance</td>
<td>20.1 (9.1)</td>
<td></td>
<td>14.6 (8.2)</td>
</tr>
<tr>
<td>Total</td>
<td>39.6 (21.4)</td>
<td></td>
<td>23.8 (13.7)</td>
</tr>
<tr>
<td>CAPS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intrusion</td>
<td>9.4 (6.3)</td>
<td></td>
<td>3.2 (6.7)**</td>
</tr>
<tr>
<td>Avoidance</td>
<td>19.7 (10.1)</td>
<td></td>
<td>5.8 (8.9)**</td>
</tr>
<tr>
<td>Hyperarousal</td>
<td>16.6 (7.9)</td>
<td></td>
<td>8.7 (11.6)*</td>
</tr>
<tr>
<td>Total</td>
<td>45.2 (19.8)</td>
<td></td>
<td>15.8 (23.0)**</td>
</tr>
<tr>
<td>MISS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>111.7 (21.9)</td>
<td></td>
<td>83.7 (24.8)*</td>
</tr>
<tr>
<td>BDI</td>
<td>12.1 (8.0)</td>
<td></td>
<td>5.7 (7.4)*</td>
</tr>
<tr>
<td>ASI</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family</td>
<td>0.28 (0.19)</td>
<td></td>
<td>0.18 (0.16)</td>
</tr>
<tr>
<td>Medical</td>
<td>0.35 (0.37)</td>
<td></td>
<td>0.26 (0.34)</td>
</tr>
<tr>
<td>Employment</td>
<td>0.61 (0.37)</td>
<td></td>
<td>0.57 (0.38)</td>
</tr>
<tr>
<td>Psychiatric</td>
<td>0.46 (0.10)</td>
<td></td>
<td>0.19 (0.17)**</td>
</tr>
<tr>
<td>Legal</td>
<td>0.13 (0.17)</td>
<td></td>
<td>0.07 (0.07)</td>
</tr>
<tr>
<td>Drug</td>
<td>0.20 (0.08)</td>
<td></td>
<td>0.08 (0.07)**</td>
</tr>
<tr>
<td>Alcohol</td>
<td>0.27 (0.22)</td>
<td></td>
<td>0.11 (0.16)**</td>
</tr>
</tbody>
</table>

*(Brady, Dansky, Back, Foa & Carroll, 2001)*
Pilot Study in Sweden

- N = 22
- Average age = 45.5
- Women with PTSD and alcohol use disorder
- Average number of trauma types = 7.3
- Childhood trauma (90.9%)
- Age of first trauma = 9.0 years old
- Baseline BDI = 30.4
- Baseline CAPS = 78

(Persson et al., 2017)
RCT in Australia

JAMA
The Journal of the American Medical Association
August 15, 2012

Integrated Exposure-Based Therapy for Co-occurring Posttraumatic Stress Disorder and Substance Dependence
A Randomized Controlled Trial

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Sadie E. Rock, PhD
Kathleen T. Brady, MD, PhD
Amanda L. Baker, PhD
Sally Heppern, MPH (Clin)
Claudia Sambido, PhD
Emma L. Barrett, PhD
Susan Marx, PhD
Julia Rosenfeld, MPH (Clin)
Philippa L. Ewer, MPH (Hons)

Context. There is concern that exposure therapy, an evidence-based cognitive-behavioral treatment for posttraumatic stress disorder (PTSD), may be inappropriate because of risk of relapse for patients with co-occurring substance dependence.

Objective. To determine whether an integrated treatment for PTSD and substance dependence, Concurrent Treatment of PTSD and Substance Use Disorders Using Prolonged Exposure (COPED), can achieve greater reductions in PTSD and substance dependence symptom severity compared with usual treatment for substance dependence.

Design, Setting, and Participants. Randomized controlled trial enrolling 108 participants who met DSM-IV criteria for both PTSD and substance dependence. Participants were recruited from 2007-2009 in Sydney, Australia; outcomes were assessed at 9 months postbaseline, with interim measures collected at 6 weeks and 3 months postbaseline.

Interventions. Participants were randomly assigned to receive COPED plus usual treatment (n=50) or usual treatment alone (control; n=58). COPED consists of 12 individual 90-minute sessions (ie, 13.5 hours) with a clinical psychologist.

Main Outcome Measures. Change in PTSD symptom severity as measured by the Clinician-Administered PTSD Scale (CAPS; scale range, 0-240) and change in severity of substance dependence as measured by the number of dependence criteria met according to the Composite International Diagnostic Interview version 2.0 (CID; range, 0-7), from baseline to 9-month follow-up. A change of 15 points on the CAPS scale and 1 dependence criterion on the CID were considered clinically significant.

Results. From baseline to 9-month follow-up, significant reductions in PTSD symptom severity were found for both the treatment group (mean difference, -38.24; 95% CI, -73.53 to -28.94) and the control group (mean difference, -22.14; 95% CI, -47.35 to 1.99). However, the treatment group demonstrated a significantly greater reduction in PTSD symptom severity than the control group (mean differences, -16.09; 95% CI, -29.20 to -2.70). No significant between-group differences were found in relation to improvements in severity of substance dependence (mean difference, 0.48 vs 0.52; evidence rate ratio, 0.95; 95% CI, 0.72 to 1.21), nor was there any significant between-group difference in relation to changes in substance use, depression, or severity.

Conclusion. Among patients with PTSD and substance dependence, the combined use of COPED plus usual treatment, compared with usual treatment alone, resulted in improvements in PTSD symptom severity without an increase in severity of substance dependence.

Trial Registration. trialregistration.gov Identifier: NCT01290817
JAMA. 2012;307(8):830-839

See also p 714 and Patient Page.

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### Substance use characteristics

<table>
<thead>
<tr>
<th>Substance use</th>
<th>N=103</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age of first intoxication</strong></td>
<td>13 yrs (6-29)</td>
</tr>
<tr>
<td><strong>History of injecting drug use</strong></td>
<td>80%</td>
</tr>
<tr>
<td><strong>Prior substance use treatment</strong></td>
<td>93%</td>
</tr>
<tr>
<td><strong>Past-month substance use</strong></td>
<td></td>
</tr>
<tr>
<td>- Benzdiazepines</td>
<td>73%</td>
</tr>
<tr>
<td>- Cannabis</td>
<td>69%</td>
</tr>
<tr>
<td>- Alcohol</td>
<td>67%</td>
</tr>
<tr>
<td>- Heroin</td>
<td>45%</td>
</tr>
<tr>
<td>- Amphetamines</td>
<td>42%</td>
</tr>
<tr>
<td>- Cocaine</td>
<td>21%</td>
</tr>
<tr>
<td><strong>Main drug of concern</strong></td>
<td></td>
</tr>
<tr>
<td>- Heroin</td>
<td>21%</td>
</tr>
<tr>
<td>- Cannabis</td>
<td>20%</td>
</tr>
<tr>
<td>- Amphetamines</td>
<td>18%</td>
</tr>
<tr>
<td>- Benzdiazepines</td>
<td>16%</td>
</tr>
<tr>
<td>- Alcohol</td>
<td>12%</td>
</tr>
<tr>
<td>- Cocaine</td>
<td>7%</td>
</tr>
</tbody>
</table>

### Trauma/PTSD characteristics

<table>
<thead>
<tr>
<th>Trauma/PTSD</th>
<th>N=103</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age of first trauma</strong></td>
<td>8 yrs (1-44)</td>
</tr>
<tr>
<td><strong>History of childhood trauma</strong></td>
<td>77%</td>
</tr>
<tr>
<td><strong>Prior PTSD treatment</strong></td>
<td>35%</td>
</tr>
<tr>
<td><strong>Number of traumas</strong></td>
<td>6 (2-10)</td>
</tr>
<tr>
<td><strong>Trauma types</strong></td>
<td></td>
</tr>
<tr>
<td>- Physical assault</td>
<td>93%</td>
</tr>
<tr>
<td>- Threatened or held captive</td>
<td>89%</td>
</tr>
<tr>
<td>- Witnessed injury or death</td>
<td>79%</td>
</tr>
<tr>
<td>- Sexual assault</td>
<td>78%</td>
</tr>
<tr>
<td>- Accident or disaster</td>
<td>66%</td>
</tr>
<tr>
<td>- Torture</td>
<td>24%</td>
</tr>
<tr>
<td>- Combat experience</td>
<td>2%</td>
</tr>
<tr>
<td><strong>Median duration of PTSD symptoms</strong></td>
<td>10 yrs (1-40)</td>
</tr>
</tbody>
</table>

**Average baseline CAPS total = 90**
Substance use did not increase with exposure work.
Use of an Integrated Therapy With Prolonged Exposure to Treat PTSD and Comorbid Alcohol Dependence in an Iraq Veteran


FIGURE 1. Alcohol Use Severity, PTSD Symptoms, and Depressive Symptoms During Treatment and Follow-Up

(Back, Killeen, Foa, Santa Ana, Gros & Brady, 2012)
N = 81, 90.1% male,
Average age = 40.4 years old, 37% AA
Branch = 56.8% Army, 16.0% Marines, 11.0% Navy, 8.6% Air Force
Served in OEF/OIF/OND = 64.6%
Military related index trauma = 81.0%
63% alcohol use disorder only, 27.2% both alcohol and drug use disorders
CAPS baseline = 81

(Back, Killeen, Badour, Flanagan, Allan, Santa Ana, Lozano, Korte, Foa & Brady., 2019)
COPE resulted in significantly lower CAPS ($p<.001$, controlling for baseline) and PCL ($p=.01$) compared to Relapse Prevention (RP).

Significantly greater proportion of participants achieved PTSD diagnostic remission in COPE (83.3% [46.3% of ITT]) versus RP (35.7% [18.5% of ITT]), $p=.004$. 

Dr. Christal Badour
Substance Use:
- Substance use decreased significantly with 42.6% in COPE and 25.9% in RP achieving 3+ consecutive weeks of abstinence.
- < 20% in both groups met NIAAA criteria for at-risk drinking at end of treatment.
- At 6-months follow-up, COPE evidenced fewer drinks per drinking day than RP (4.5 vs. 8.3, p=.05).

Therapeutic Alliance (TA):
- Patients rated TA positively at session 6 (COPE M=5.3 vs. RP M=5.5) and 12 (COPE M=5.2 vs. RP M=5.4).
- Therapists rated TA positive at session 6 (COPE M=5.0 vs. RP M=4.9) and 12 (COPE M=5.2 vs. RP=5.0).

Retention
- Overall 8/12 sessions completed (COPE = 9 vs. RP = 7).
Between-session (BS) habituation of distress and craving was associated with greater improvement in PTSD symptoms. BS habituation of craving was also associated with greater reduction in substance use. Within-session habituation of distress was unrelated to treatment outcome.

(Badour et al., 2017)
• N = 119 Veterans with PTSD and alcohol use disorder
• Average age = 41.6 years old, 89.9% males, 13.4% AA, 29.4% Hispanic
• Mean number of traumatic events = 8.3
• 84.0% combat trauma

COPE vs. Seeking Safety (SS; coping skills therapy):
• Significantly greater reduction in PTSD symptoms in COPE vs. SS ($p=.002$)
• Rates of PTSD remission were > 3 times higher in COPE vs. SS ($p=.047$).
• Comparable % days abstinent during COPE (67.5%) and SS (63.1%).
• Overall, 10/12 sessions attended, with fewer sessions in COPE (8.4) than SS (11.4) ($p=.001$).
• N = 110 individuals (~36% had subthreshold PTSD)
• Average age = 45 years old, 64% male, 59% AA
• 58.4% physical assault, 37.2% sexual assault
• Polysubstance use: 66.0% drug dependence, 76.5% alcohol dependence

• COPE vs. RP vs. Active Monitoring Control Group:
  • Among those with full PTSD, COPE demonstrated significantly greater reduction in PTSD compared to RP ($p = .047$).
  • COPE and RP resulted in significant reductions in substance use.
  • Substance use did not increase with exposure work.
  • No differences in retention between treatments (COPE = 6 vs. RP = 7).

(Ruglass, Lopez-Castro, Papini, Killeen, Back & Hien, 2017)
• Trauma-focused, exposure-based treatments such as COPE are safe, feasible, and effective in treating PTSD and alcohol and drug use disorders concurrently.

• Supported by critical reviews and meta-analyses, and in alignment with VA policy (Roberts et al., 2015; Simpson et al., 2017).

• Having a substance use disorder should not be a barrier to receiving treatment for PTSD.

• Patients with PTSD and SUD should be offered evidence-based treatment to address both conditions.
4. Future Directions

- More research is needed to explore ways to further improve outcomes and enhance retention.
- COPE-A trial for adolescents currently underway in Australia.
- Maximize outcomes via novel technology-based system that allows clinicians to virtually accompany patients during in vivo exercises and utilize real-time physiological markers of engagement.
  - [https://web.musc.edu/about/news-center/2019/10/30/zeriscope](https://web.musc.edu/about/news-center/2019/10/30/zeriscope)
Primary Goal: Synthesize data from over 50 PTSD/SUD treatment studies (> 4,000 participants) to examine:

- The relative efficacy of different PTSD/SUD treatments.
- Which treatments work for whom and how (moderators and mechanisms)?

https://www.projectharmonyvct.com/
Thank you!

• Sudie Back, PhD at backs@musc.edu
Please enter your questions in the Q&A box and be sure to include your email address.

The lines are muted to avoid background noise.
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Return to TMS and complete evaluation.

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### UPCOMING TOPICS

**SAVE THE DATE: Third Wednesday of the Month from 2-3PM (ET)**

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<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Presenter</th>
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</thead>
<tbody>
<tr>
<td>March 18</td>
<td><em>Massed Treatment for Veterans with PTSD</em></td>
<td>Cynthia Yamokoski, PhD</td>
</tr>
<tr>
<td>April 15</td>
<td>How Do We Make Effective Treatment for PTSD More Effective?</td>
<td>Paula Schnurr, PhD</td>
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<tr>
<td>May 20</td>
<td>Cognitive-Behavioral Conjoint Therapy for PTSD</td>
<td>Candice Monson, PhD</td>
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<tr>
<td>June 17</td>
<td>Using CogSmart with Veterans with PTSD and Traumatic Brain Injury</td>
<td>Elizabeth Twamley, PhD</td>
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