

UNC School of Social Work
Clinical Lecture Series

Working effectively with hyper-arousal symptoms in individuals with PTSD

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PTSD - A Diagnosis with a History...

- Schreckneurose (fright neurosis)
- Railway Spine
- War Neurosis
- Shell Shock
- Soldier's Heart
- Combat Fatigue
- Gross Stress Reaction
- Battered Woman Syndrome
- Rape-Trauma Syndrome

The Traumatic Neuroses of War

- Published in 1941 by Abram Kardiner
- Detailed his careful observations of the symptoms of World War I / World War II soldiers.
- Defined PTSD
- Grappled with the question as to whether and how to bring traumatic experiences to conscious memory.

Effect of traumatic memories on the psyche:

“is not like the writing on a slate that can be erased, leaving the slate like it was before. Combat leaves a lasting impression on men's minds, changing them as radically as any crucial experience through which they live.”

(Grinker and Spiegel, 1945)

Research Time-Line

1895 through 1974	study of trauma focused on males
1974	Rape Trauma Syndrome (Burgess and Holstrom)
1978	Battered Children (Kempes)
1978-79	Family Violence (Walker, Hilberman, Strauss, and Gelles)
1981	Sexual Abuse of Children (Herman)

PTSD

- Recognition of PTSD as a diagnosis originally was not based on careful scientific study, but on collected descriptions and observations found in literature and made first hand.
- Only after it was a recognized diagnosis did significant research begin to establish an evidence base for the disorder and attempt to substantiate the impact of stress at a multitude of levels.
- This research, in turn, suggests possible ways to verify the presence of the disorder as well as how to focus efforts to prevent the disorder.
- As of 1980: PTSD became official, medically sanctioned, certified psychiatric disorder.

PTSD- Controversial Diagnosis...

Social, Political, Clinical and Legal Concerns

- Actually quite common to experience a catastrophic stress during your lifetime.
- Most people are resilient and weather the crisis without developing PTSD.
- Is it normal distress or clinical morbidity?
- Is it the event and the trauma or the interpretation and preexisting factors that cause the resulting picture?

More Controversies...

- Does PTSD serve a litigious rather than a clinical purpose?
(as suggested by Friedman, Keane, and Resick)
- Does the diagnosis rely too heavily on self report?
- How is exposure linked to liability?

PTSD-Some Facts...

- There appears to be a dose-response relationship between severity and onset.
- Often associated with stigma or suspected of not being genuine.
- Often co-occurs with other MH problems
–(80% have a lifetime history of another psychiatric disorder).
- New traumas can build on previous ones.
- Folks with PTSD experience more aches, pains and illnesses than their non-PTSD counterparts.

What is PTSD?



- PTSD first presumes that a person has experienced a traumatic event involving actual or threatened death or injury to themselves or others -- and where they felt fear, helplessness or horror.
- Diagnostic criteria:
Three symptom clusters must persist for more than a month after the traumatic event and cause clinically significant distress or impairment.

What is PTSD?

Symptom clusters of PTSD:

- Intrusions - such as flashbacks or nightmares, where the traumatic event is re-experienced
- Avoidance - when the person tries to reduce exposure to people or things that might bring on their intrusive symptoms
- Hyperarousal - meaning physiologic signs of increased arousal, such as hypervigilance or increased startle response

More about PTSD...

- PTSD is a common disorder.
- Second most prevalent anxiety condition in the United States, after Social Anxiety Disorder.
- High rates of co-morbidity, social, and occupational impairment.
- Increased health care costs.

DSM-IV TR Diagnostic Criteria

Criterion A: Stressor

The person has been exposed to a traumatic event in which both of the following have been present:

1. The person has experienced, witnessed, or been confronted with an event or events that involve actual or threatened death or serious injury, or a threat to the physical integrity of oneself or others.
2. The person's response involved intense fear, helplessness, or horror. Note: in children, it may be expressed instead by disorganized or agitated behavior.

Criterion B: Intrusive Recollection

The traumatic event is persistently re-experienced in at least one of the following ways:

1. Recurrent and intrusive distressing recollections of the event, including images, thoughts, or perceptions.
2. Recurrent distressing dreams of the event.
3. Acting or feeling as if the traumatic event were recurring (includes a sense of reliving the experience, illusions, hallucinations, and dissociative flashback episodes, including those that occur upon awakening or when intoxicated).
4. Intense psychological distress at exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event.
5. Physiologic reactivity upon exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event.

Criterion C: Persistent Avoidance & Numbing

Persistent avoidance of stimuli associated with the trauma and numbing of general responsiveness (not present before the trauma), as indicated by at least three of the following:

1. Efforts to avoid thoughts, feelings, or conversations associated with the trauma.
2. Efforts to avoid activities, places, or people that arouse recollections of the trauma.
3. Inability to recall an important aspect of the trauma.
4. Markedly diminished interest or participation in significant activities.
5. Feeling of detachment or estrangement from others.
6. Restricted range of affect (e.g., unable to have loving feelings).
7. Sense of foreshortened future (e.g., does not expect to have a career, marriage, children, or a normal life span).

Criterion D: Increased Arousal

Persistent symptoms of increasing arousal (not present before the trauma), indicated by at least two of the following:

1. Difficulty falling or staying asleep
2. Irritability or outbursts of anger
3. Difficulty concentrating
4. Hyper-vigilance
5. Exaggerated startle response

Criterion E: Duration

Duration of the disturbance (symptoms in B, C, and D) is more than one month.

Criterion F: Functional Significance

The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.

Prevalence of Trauma

The National Comorbidity Study (NCS),
Kessler et al. (1995):

Lifetime history of at least one traumatic event:

61% men and **51% women**

Most common types of trauma reported:

- Witnessing someone being injured or killed
- Being involved in a natural disaster
- Being involved in a life threatening accident

PTSD Prevalence

- Overall lifetime prevalence of PTSD: **7.8%** (National Comorbidity Survey, Kessler et al., 1995)
- Other studies report **8-9%** of the population will be affected by PTSD in their lifetime.
 - **Women: 10.4%**
 - **Men 5.0%**

PTSD Prevalence

- Recent studies may show more balanced gender rates.
 - Example: recent US veterans of war in Iraq and Afghanistan.*
- May be that gender differences are negligible under circumstances of extreme trauma exposure.
- Main burden stems from criminal victimization, motor vehicle accidents, and childhood maltreatment.

PTSD Risk Factors

- Gender: Women > Men
- Very Young and Old
- Sexual Violence
- Physical Violence
 - (Assaultive Violence 21% rate of PTSD)
- Acute Stress Disorder
- The presence of Criterion C Symptoms (Avoidance) after exposure to a disaster or act of terrorism may predict the development of PTSD as well as co-morbid diagnoses.

Protective Factors

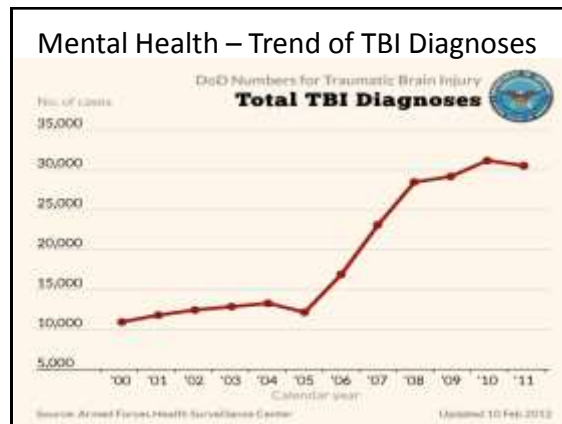
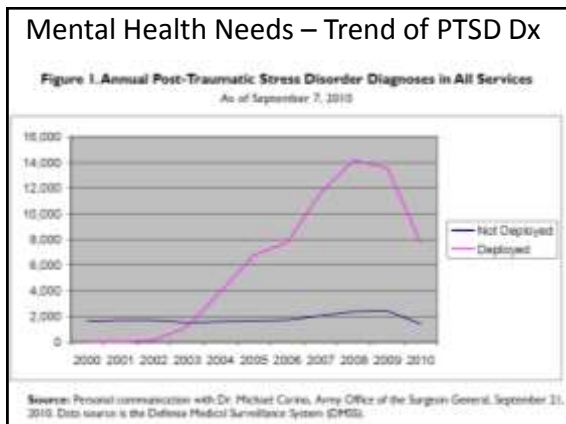
- Presence of Social Support
- Good Premorbid Functioning
- Rapid Onset of Symptoms
- Short Duration of Symptoms
- Absence of other Psychiatric, Medical or Substance Related Disorders

Prognosis

- Differs widely depending on a number of factors, including:
 - Trauma Expected?
 - Severity
 - Length of Exposure
 - Individual's Genetic Makeup and Personality
- When treated, many patients experience significant improvement. However, some individuals never recover fully.
 - *Some survivors of the Holocaust, or the Rwandan and Armenian genocide, for example, have experienced permanent psychological scars.*

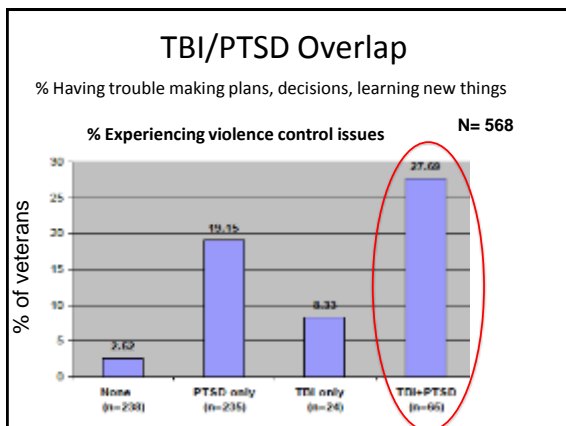
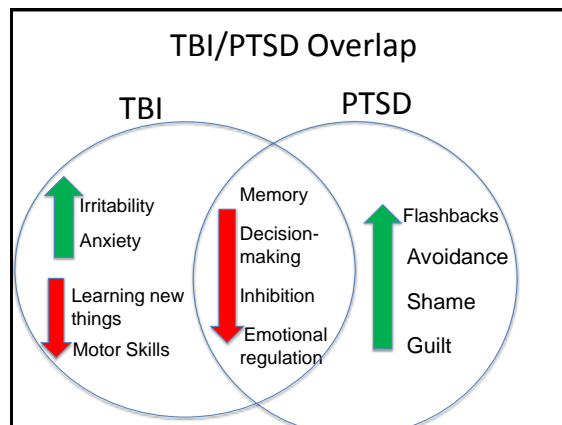
Mental Health Needs of Iraq and Afghanistan Veterans

- Over one million currently active military personnel have served in Operation Enduring Freedom (OEF) or Operation Iraqi Freedom (OIF)
- Estimates vary, but ~15-20% of troops returning show some symptoms of posttraumatic stress disorder (PTSD)
- 15%-20% of all returning veterans have experienced some type of traumatic brain injury (TBI), often associated with IEDs (improvised explosive devices)
- Some veterans have both TBI + PTSD



Mental Health Needs of Iraq and Afghanistan Veterans

- PTSD can lead to a lifetime reduction in social, cognitive, and vocational functioning.
- The sooner the assessment of PTSD, the sooner rehabilitation plans can be implemented, which will dramatically improve effectiveness of these efforts.
- One report indicated that more North Carolinians have served in Iraq and Afghanistan than any other state; thus, we can anticipate a huge demand for allied health services in the upcoming decade.



Case Study

- John is a 27-year old Army Veteran who recently separated from the military.
- Three years ago, he was driving a truck near the outskirts of Bagdad and when an improvised explosive device (IED) detonated about 100 feet away.
- He was not injured but he felt a shockwave from the blast. He also observed another vehicle carrying with two members of his army battalion go up in flames from the explosion.
- In the past three months since returning home, John has had frequent nightmares flashbacks of the event and the death of his fellow service members (one of whom was a close friend) and has been unable to concentrate at school.
- At the same time, he doesn't think he needs help and believes he can handle the stress by himself.

Components of PTSD Assessment

1. Baseline state of psychological functioning before event (retrospective)
2. Nature and extent of individual's distress during the event (retrospective)
3. Nature and extent of significant impairments (retrospective-current)
4. Connection between event and psychological injury (retrospective-current)
5. Treatment to promote individual's return to functioning (current-prospective)

Baseline State of Psychological Functioning Before Event

- Detailed review of medical, psychiatric, substance abuse, and developmental history.
- Review of education and work history and records when available.
- Review of trauma, exposure to toxins, and other potential neurological events.
- Review of previous social and occupational adjustment.

****Obtain from as many sources as possible****

Baseline State of Psychological Functioning Before Event

- Use of Psychological Testing to ascertain "pre-morbid" level of functioning.
- Crystallized intelligence tests such as Vocabulary or Information provide this type of estimate.
- Use of the American Adult Reading Test (AMNART) specifically aimed at generating pre-morbid IQs.

Nature and Extent of Individual's Distress during the Event

- Description of individual's circumstances at time of event.
- Use of the Life Impact of Events Scale
 - Lists 100+ stressful/traumatic events
 - Asks individual and other collaterals to report on occurrence and degree of stressful event during some specified time period:
 - Three Months before event
 - Three Months after Event

Nature and Extent of Individual's Distress during the Event

- Scientific literature shows that recent stress can lead to elevated risk to be involved in an accident in the short-term.
- Important to know if there were recent stressors that increased chances of injury.
- This helps later clarify and distinguish what were the key contributing factors to the individual's current impairments.

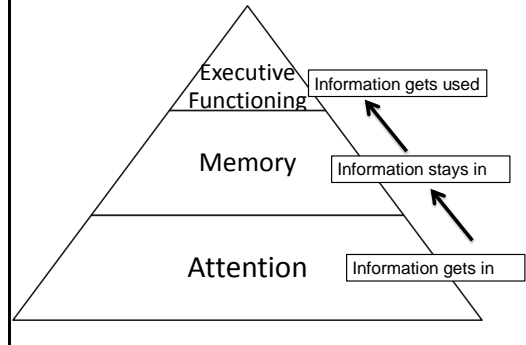
Nature and Extent of Significant Impairments: Diagnosis

- Structured Interviews of DSM-IV criteria for PTSD
 - Clinical Assessment of PTSD (CAPS)
- Structured Checklists of DSM-IV criteria for PTSD
 - Davidson Trauma Scale (DTS), PTSD Checklist (PCL)
- Formal psychological tests of general personality structure
 - Personality Assessment Inventory (PAI)
- Formal psychological tests of specific disorders
 - Trauma Symptom Inventory (TSI)

Nature and Extent of Significant Impairments: Functioning

- One of the PTSD hyperarousal symptoms regards difficulty with attention and concentration.
- Literature agrees that some cognitive impairments associated with PTSD.
- Neuropsychological Testing
 - General Intellectual Functioning (Wechsler Adult Intelligence Scale)
 - Attention (Trails A)
 - Memory (Hopkins Verbal Learning Task)
 - Executive Functioning (Wisconsin Card Sorting Test)

The Brain Function Pyramid



Cognitive Task

- Please memorize the following words:
 - Cup
 - Elbow
 - Sailboat
 - Broom
 - Pear
 - Building
 - Tornado
 - Pencil

Cognitive Task

PINK	BLUE	GREEN
GREEN	PINK	BLUE
PINK	GREEN	PINK
BLUE	PINK	BLUE
GREEN	BLUE	GREEN
BLUE	PINK	BLUE
PINK	GREEN	GREEN

Cognitive Task

BLUE	PINK	BLUE
PINK	GREEN	PINK
GREEN	PINK	GREEN
PINK	BLUE	PINK
BLUE	GREEN	BLUE
GREEN	BLUE	GREEN
BLUE	PINK	PINK

Attention vs. Executive Functioning

- The first color-word task involves straight attentional abilities and taps into processing speed
- The second task is harder because it involves the ability to inhibit the overlearned response to read the word
 - This measures executive functioning because it involves higher order ability to keep a rule in mind, to inhibit initial responses, and to instead execute the new rule

Cognitive Task

- Remember the list of words you were asked to memorize?
- Please write down as many of the words from the previous list as you can.

Cognitive Task

- Now, we're going to list words, some were on the original list and others weren't. Which ones were on the list?

Cap?	Elbow?
Umbrella?	Hat?
Sailboat?	Building?
Broom?	Zebra?
Apple?	Pencil?

Free Recall vs. Recognition

- The first task is much harder because it involves retrieval of encoded information without cues (free recall)
- The second task is easier because it assists retrieval of encoded information with cues (recognition)
- Many people with PTSD even more poorly on the first and not the second due to distractibility, which signals that the information was encoded but that there is a problem retrieving the information

Neurocognitive Effects of PTSD

- Literature agrees that attentional impairments are associated with PTSD
- With respect to possible co-occurring TBI, depends on type of injury (focal or diffuse)
 - Attention is generally affected with reduced working memory and slower processing speed
 - Memory retrieval often affected, but recognition remains intact
 - Executive dysfunction, typically disinhibition, is related to TBI

Dimensions of Anger

- Another hyperarousal symptom of PTSD is **anger**
- Anger can be conceptualized as:
 - Expression
 - Situational
 - Symptoms
 - State vs. Trait

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Findings from MIRECC

- Post-deployment anger was associated with PTSD hyperarousal symptoms:
 - sleep problems
 - difficulty concentrating
 - irritability
 - jumpiness
 - being on guard
- Other PTSD symptoms, as well as TBI, were *less* consistently connected to anger.

(Elbogen et al., 2010)

Findings from MIRECC

- Different Types of Anger and Hostility related to Different Factors:
 - Problems Managing Anger linked to *relationships*, (e.g., being married).
 - Aggressive Impulses/Urges linked to *mental health* (e.g., family mental illness).
 - Problems Controlling Violence linked to *violence exposure* (e.g., witnessing violence, firing weapon).

Research on Anger Management

- Literature reviews find:
 1. medium to large effect sizes across different modalities for reducing anger problems.
 2. cognitive behavioral therapy (CBT) is best for anger traits.
 3. relaxation is most effective in reducing state anger.

(Del Vecchio & O'Leary, 2004; Saini, 2009)

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Reducing Anger in Veterans

- One randomized trial of CBT showed reduced anger among Veterans with PTSD.
- Another study helped train Veterans in stress inoculation techniques using an electronic computer guidance approach
- Some pharmacological approaches have reduced anger in Veterans, too.

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Components of Anger Management for Veterans

- Self-monitoring anger frequency, intensity, and situational triggers.
- Devising a personal anger provocation hierarchy based on self-monitoring.
- Progressive muscle relaxation, breathing focused relaxation, and guided imagery training to regulate physiological arousal.

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Components of Anger Management for Veterans

- Cognitive restructuring of anger by altering attentional focus, modifying appraisals, and using self-instruction.
- Training behavioral coping and assertiveness skills.
- Role-playing progressively more intense anger arousing scenes from personal hierarchies.

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Treatment to Promote Individual's Return to Functioning

- General mental health care for treating people with specific diagnoses: medications, psychotherapy, or a combination
- Specific recommendations to capitalize on cognitive strengths or compensate for cognitive weaknesses.

Treatment of PTSD

- What types of treatment are available?
- How effective is treatment?
- What is the expected course and outcome of treatment?
- What factors complicate PTSD treatment?
- Do most people who need PTSD treatment receive it? If not, why not?

PTSD Treatment

- Posttraumatic stress disorder is usually treated with a combination of medications and counseling.
- The medications are designed to reduce anxiety and to help patients overcome depression.
- Common types of counseling for veterans with PTSD include cognitive-behavior therapy, exposure therapy, group therapy, and family therapy.

Psychological Treatment for PTSD

- Cognitive behavioral therapy
- Group therapy
- Psychodynamic therapy
- Support groups
- Other (hypnosis, couple & family therapy)

Cognitive-Behavioral Therapy

- Recommended as 1st choice treatment
- Initiated after stabilization of crises (suicidal, ongoing violence, or in need of detox)
- Individual or group

Cognitive-Behavioral Therapy

- Exposure-based treatment
 - (systematic desensitization, imaginal, or in vivo exposure)
- Cognitive processing therapy
- Stress inoculation training
- Eye Movement Desensitization and Reprocessing (EMDR)

Medication Treatment

- Selective Serotonin Reuptake Inhibitors (SSRIs; Zoloft, Paxil)
 - 6-8 weeks to work; best if prescribed for at least 12 months
- Atypical antipsychotics (Risperdol, Zyprexa) – agitation, dissociation, hypervigilance, paranoia
- Benzodiazepines – rapid relief of anxiety; dependence and possible worsening of PTSD.
- Recommended as an addition to psychological therapy.

PTSD Treatment Efficacy

- Strong evidence for cognitive-behavioral interventions
 - Particularly exposure-based CBT (imaginal exposure, prolonged exposure)
 - Remission rates 6 months after treatment as high as 50-75%
- Medication Treatments – SSRIs
 - Capable of significantly reducing symptoms, but remission rates much lower than CBT.
 - Improvements not maintained once medication discontinued.

PTSD Treatment of Hyperarousal Symptoms

- Stress management techniques and meditation can help people with anxiety disorders calm themselves and may enhance the effects of therapy
- There is preliminary evidence that aerobic exercise may have a calming effect
- Since caffeine, certain illicit drugs, and even some over-the-counter cold medications can aggravate the symptoms of anxiety disorders, they should be avoided. Sleeping problems should be addressed.

PTSD Treatment Relevant in Hyperarousal Symptoms

- Stress management techniques and meditation can help people with anxiety disorders calm themselves and may enhance the effects of therapy.
- There is preliminary evidence that aerobic exercise may have a calming effect.
- Since caffeine, certain illicit drugs, and even some over-the-counter cold medications can aggravate the hyperarousal symptoms, they should be avoided.

Treatment Expectations

- For many, reduction in symptoms as opposed to cure – decrease in anxiety, nightmares, irritability, and/or overcome avoidance.
- Learn to anticipate and cope with symptoms.
- Symptoms may increase and may need future treatment if additional traumatic experiences.

Complicating factors

- On-going trauma
- Guilt (to be included in DSM V)
- Anger
- Substance abuse
- Secondary gain

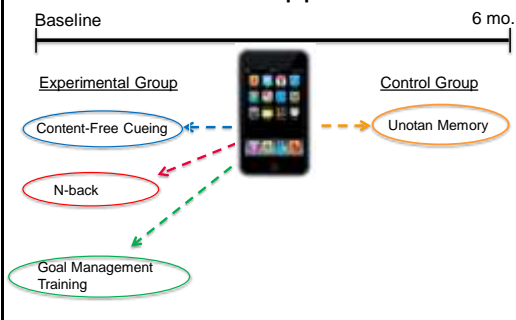
Why is this?

- Internal factors
 - lack of understanding of the disorder
 - stigma
 - avoidance
- External factors
 - lack of providers trained in effective interventions
 - poor detection

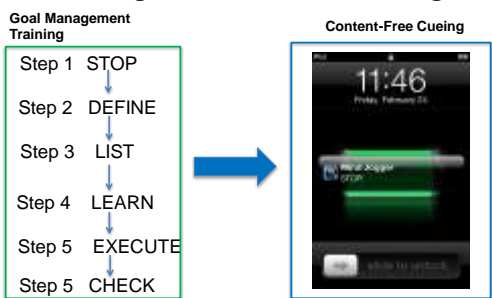
UNC Study on PTSD and TBI

- Aimed at addressing hyperarousal symptoms of attention problems and irritability by improving social and cognitive function of veterans with PTSD and TBI
- Involves participation for six months
- Use an iPod Touch to practice techniques for improving memory and planning skills
- Data collection at the beginning and end of study including interview, testing of memory and attention, EEG, and MRI
- Three in-home support sessions involving a family member or friend
- Veteran will be paid \$500, participating family member or friend will be paid \$200, and veteran will keep iPod

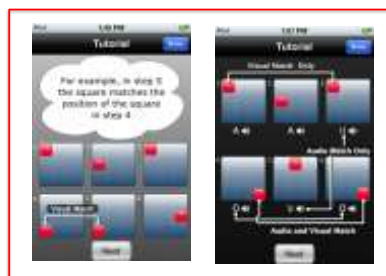
Clinical intervention timeline and iPod touch applications



iPod Applications: Goal Management Training & Content-Free Cueing



N-back Exercise



Control group application: Unotan Memory



Resources

- National Center for PTSD
- <http://www.ptsd.va.gov>
- Anxiety Disorders Association America (ADAA)
- www.adaa.org
- Association for Behavioral and Cognitive Therapies (ABCT)
- www.abct.org