

*Prairielands Addiction Technology Transfer Center
and
Wisconsin Bureau of Mental Health and Substance Abuse Services*

**Returning American Veterans
and
Addictions**

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WHO ARE THEY?

Who Are They?

- Presently there are approximately 140,000 military members currently serving in Iraq and Afghanistan.

As of March 12, 2008

- 98,400 National Guard and Reserve personnel have been mobilized
- 76,309 Army National Guard and Army Reserve
- 5,595 Navy Reserve
- 7,614 Air National Guard and Air Force Reserve
- 8,638 Marine Corps Reserve
- 344 Coast Guard Reserve

Demographics

- 87 % Male, 15 % Female
 - More than 180,000 women have served in Iraq and Afghanistan
 - At least 450 women have been wounded in Iraq
 - 71 women have died
- 52% of the fighting force is between 18 and 24
- 24% between 25 and 30
- Remaining 24% over thirty
- More than 40% is a racial or ethnic minority

Other Demographics

- Education

HS/GED	45%
Some college	39%
Associate	7%
4 year degree	8%
Graduate degree	1%

- 51% of soldiers are married and 45% have children
- 31% of the fighting force have been deployed more than once

Coping With Wartime Deployment: Special Issues for Families

Emotional Cycle of Deployment

- Initial intense fear and worry
- Detachment and withdrawal as deployment nears
- Loneliness and sadness soon after soldier leaves
- Adjustment period
- Reunion
- Effect of pre-existing difficulties

Coping With Fear of Unknown

- Limited communication with deployed
- Impact of media
- Internet
- Need to maintain realistic perspective

Changes in Family Structure

- Spouse at home faced with managing unfamiliar tasks
- Younger families may choose to move to be near their parents
- Impact of mothers being deployed
- Families that are flexible regarding roles and responsibilities better able to adapt

Special Concerns for National Guard and Reservists

- Financial hardship
- Absence of consistent community
- Effect of prolonged deployments

Homecoming After Deployment

Post-Deployment Readjustment

“Normal” Reactions

to

“Abnormal” Events

“Abnormal” Events

- Separation from family/friends
- Concerns about home
- Difficult living conditions
- Multiple demands, long hours
- Witnessing human suffering (poverty, etc.)
- Witnessing the aftermath of war (death and destruction)

“Abnormal” Events

- Constant threat of death/injury (mortar attacks, IEDs, etc.)
- Combat exposure, including: being shot at, firing own weapon, etc.
- Every day decisions/behaviors take on a life and death significance
- Struggle over what Service members “know” about right and wrong and what they must do to survive

What are “Normal” Reactions to these types of experiences?

- The “fight or flight” survival response is a biological adaptation to war zone threats
- It is “normal” to experience the “fight or flight” response when under threat but it can carry over to civilian life, leading to hyperarousal (jumpy, poor sleep, difficulty concentrating)

Response to Stress

- Everyone experiences a flood of stress hormones in response to trauma. These hormones prime the body for the fight or flight response as well as increase heart rate, constrict blood vessels, and provide a surge of adrenaline for energy.
- In approximately 25% of people, these hormones remain elevated for hours, days, and sometimes weeks after a traumatic experience. These individuals are at risk for developing PTSD. The longer the adrenaline surge lasts, the more vivid the memories become.

Survival Stress Reaction

Fight, Flight, Freeze (Massive release of stress hormones)

- Increase HR and blood pressure
- Blood sugar increases
- Increased blood clotting
- Tunnel vision
- Event recorded in “high definition”
- Increased cholesterol
- Pain sensation dulled – natural morphine (endorphins)
- Increased alertness, increased focus
- Insulin increases
- Memory loss from parts of the event
- Increased strength, energy, aggression
- Hearing may shut down
- Time slows down or speeds up

What are the “Normal” Reactions to these Experiences?

Physical

Headache
Tremors
Chills
Fatigue
Nausea/vomiting
Thirst
Shortness of
breath
Visual difficulties

Thinking/Emotional

Questions one's
performance
Nightmares
Suspicious
Intrusive thoughts, images
Decreased memory/
concentration
Blaming someone
Poor attention
Disorientation
Feel powerless in
controlling emotion
Miss the adrenaline rush/
want to return

Behavior/Emotional

Withdrawal
Antisocial acts
Fear
Guilt
Grief
Panic
Anxiety
Irritability
Emotional
outbursts
Inability to rest
Hyper alert
Increased AOD use
Avoid crowds

All Are Common Reactions to Surviving Traumatic Experiences

- Many early symptoms resolve without intervention within the first few months of being home
- Don't take it personally, be patient, and communicate.

What is it about War?

Nature of war zone stressors

Nature of War Zone Stressors

- Physical conditions /demands
- Personal risk of death /injury
- Witnessing injury, suffering, death, violence
- Loss associated with death of own troops
- Killing others
- Sexual assault

Nature of War Zone Stressors

Difficult living/working environment

- Poor food
- Lack of privacy
- Uncomfortable climate
- Boredom
- Extreme physical exertion, exhaustion

Nature of War Zone Stressors

Personal risk of injury / death

- Ongoing threat of attack (mortars, rockets, small arms)
- IEDs, suicide bombers
- Urban warfare
- Nuclear, chemical, biological (early on in Iraq)

Nature of War Zone Stressors

Witnessing injury, suffering, death, violence

- Seeing close friends seriously injured/killed
- Witnessing death on large scale—enemy and civilians
- Witnessing the carnage of battle – dead and mutilated bodies, horrific injuries, devastated homes, communities
- Witnessing violence, including unnecessary violence
- Handling human remains

Nature of War Zone Stressors

Inflicting injury and death--killing

- Enemy
- Civilians
- Friendly fire

Maximum and Long Range Killing

- WWII – Non firing rate: 75%
- Korea – Firing rate: 55%
- Vietnam – Firing rate: 90-95%



- Protected by physical distance
- Unable to see victim
- Low psychiatric trauma
- Not eye-to-eye with enemy – less emotion

Mid-Range

- Can't see the enemy but can't perceive the extent of his wounds
- Can't see facial expression – no sound
- Not sure if their shot caused the enemies death
- If soldier goes up and looks at the victim he increases his chance of developing PTSD



At Close Range

- Intensely vivid and personal (memory is recorded in high definition)
- Screams and cries can be heard and recorded in memory
- Frozen by the magnitude of what he/she has done
- Need to get off their chest – need to talk
- Resistance to killing is also high at close range
- Sees the victims face and his/her humanity eliminates detachment and denial
- High incidence of PTSD



Daily Life...

- Periods of intense violence followed by inactivity
- Need to maintain an unprecedented degree of vigilance
- Sleep deprivation
- Split second decisions may undergo lots of analysis
- Rules of engagement change often
- Guilt about personal actions



Veterans of the Iraq War

- High rates of exposure to war-zone trauma
(army and marine combat infantry units)

	<u>percent</u>
■ Attacked, ambushed, incoming fire	89-97
■ Searching homes / buildings	80-86
■ Hand to hand combat	9-22
■ Wounded / injured	9-14

From Hoge *et al.*, *N Engl J Med* 2004

Veterans of the Iraq War

■ Exposure to combat (cont)

	<u>percent</u>
■ Seeking dead bodies or remains	94-95
■ Handling or uncovering remains	50-57
■ Seeing dead / seriously injured	65-75
■ Knowing someone killed / injured	86-87
■ Seeing ill / injured women and children	69-83

Veterans of the Iraq War

Exposure to war-zone trauma (cont.)

	<u>percent</u>
■ Shooting or directing fire	77-87
■ Responsible for death of combatant	48-65
■ Responsible for death of noncombatant	14-28

Contextual factors

- Sense of preparedness
- Personal support, conviction for the war
- Morale of unit
- Cohesion of unit
- Uncertainty regarding length of tour

Post Battle Debriefing

Returning Home Stressors

- A lot has changed since deployment
- Feels a bit out of place
- NG and Reserves lack the interaction with other soldiers experienced by active duty units “ feel all alone”
- Less support for single soldiers
- Civilian life mundane and insignificant when compared to combat
- Americans seem not interested or concerned about the soldiers in Iraq
- “Did you kill someone over there?” “Did you get shot at?” “Why did you go?”
- What to do with all the free time

How Are Our Veterans Coping?

Veterans of the Iraq War

Walter Reed Army Institute Study 2003

- 11% of returning Afghanistan vets and 15% of returning Iraq vets showed signs of anxiety, depression and PTSD

VA Health Administration Study 2005

- 120,000 recent veterans had been seen at the VA and more than 30% had a psychological disorder

Military Studies

- 2006 Hoge did a follow up study looking at soldiers who were home for one year
- Main outcome measures were PTSD, major depression and other mental health problems including alcohol abuse
- This study also compared deployment location with the prevalence of mental health problems (Iraq, 19.1%; Afghanistan, 11.3% & other deployments 8.5%)

Military Studies

- March 2007 Seal studied 103,788 OIF/OEF veterans seen at the VA
 - 13% female
 - 54% less than 30 years of age
 - 50% National Guard/Reserve
- 25% had a mental health diagnosis, 56% of which had multiple mental health diagnosis
- 60% of those diagnosed with a psychiatric illness were first screened in non-mental health settings
- Most vulnerable for receiving a mental health diagnosis were 18-24 year old, least likely were 40 plus except for NG/RC

How will National Guard and Reserve Troops compare?

- “Civilian” soldiers
- Length of deployment (longer)
- Uncertainty regarding length of deployment
- Phase of the war (post insurgency)
- Multiple deployments

Veterans of Iraq and Afghanistan

- PTSD directly related to amount of combat experiences in all groups
- Rates of PTSD by number of firefights:
 - No firefights: 4.5%
 - 1-2 firefights: 9.3%
 - 3-5 firefights: 12.7%
 - 6+ firefights: 19.3%

From Hoge et al NEJM 2004

Female Veterans of Iraq and Afghanistan

- In 2007, Dept of Veteran Affairs found female veterans reporting signs of mental health issues at a higher rate than their male counterparts
- The VA diagnosed 60,000 veterans with PTSD
 - 22% of women suffered from “military sexual trauma” (includes sexual harassment or assault), compared to 1% of men

Substance Abuse and Dependence

Effects of Substance Abuse and Dependence

- Increased emotional withdrawal and numbing
- Increased symptoms of depression
- Increased risk of self destructive actions
- Increased risk of violence toward others, i.e., fighting
- Reckless high speed driving
- Use of firearms
- Domestic violence
- Physiologic dependence on alcohol and/or drugs
- Trigger flashbacks
- Increased irritability and acoustic startle
- Loss of job, family, friends, etc.

Alcohol Abuse Problems in Veterans

- Male Vietnam veterans
 - 39% overall
 - 75% of those with PTSD¹
- Iraq veterans²
 - 24 - 35%

¹From Kulka et al., 1990 NVRRS;

² From Hoge et al., 2004



OIF/OEF Veterans

- New study recently published in *Military Medicine* examined rate of PTSD among 120 service members returning from Iraq and Afghanistan
 - 6% had PTSD
 - 27% showed dangerous alcohol use
 - 6% had problems with both PTSD and alcohol use

Erbes et al. (2007). Post-traumatic stress disorder and service utilization in a sample of service members from Iraq and Afghanistan. *Military Medicine*, 172, 359-363.

Does Alcohol Use Help or Relieve Symptoms?

- High correlation with PTSD
- May be used to improve sleep
- Blocks anxiety and panic attacks
- Stops intensive thinking and memories
- Stops terrifying nightmares
- Induces psychic numbing – making it, easier to withdraw
- Survivors guilt
- Calms anger, irritability, restlessness

Co-Occurring Disorders

Frequently Co-occurring Disorders

- Veterans with PTSD have increased likelihood of other psychiatric disorders
 - Substance Abuse and Dependence
 - Depressive Disorders
 - Panic and other anxiety disorders
 - Dissociative disorders
 - Somatization

Kulka et al. 1990 National Vietnam Veterans Readjustment Study (NVAARS)

Co-morbidity

- PTSD is highly co-morbid, 88% of men and 79% of women have at least one additional disorder.
- Among the co-morbid disorders, in 70-90% of patients, PTSD was the earliest psychiatric disorder.
- GAD and alcohol abuse are most commonly the first appearing co-morbid disorders. Followed by depression, phobias and panic disorder.

Associated Disorders

Life time prevalence

51.9% - 73.8%

35.5%

47.9 %— 48.5%

43.5%

43.3%

29.0%

28.4%

10.4%

8.0%

2.5%

Alcohol abuse

Drug abuse

Major depression

Generalized anxiety disorder

Conduct disorder

Simple Phobia

Social Phobia

Obsessive Compulsive Disorder

Panic disorder

Bipolar mood disorder

Common Drugs of Abuse for PTSD

- Alcohol
- Narcotics (heroin, morphine)
- Benzodiazepines

Suicide

- Veterans with PTSD are at high risk for suicide and attempted suicide
- 2007: 121 Army and active duty National Guard and Reserves committed suicide; 20% increase from 2006
 - Approximately 34 while serving a tour of duty in Iraq
 - Largest number since military started to keep records in 1980
- 2007: 2,100 Army soldiers attempted suicide or self-inflicted injuries; 6 times the 350 reported in 2002, prior to the start of the Iraq war
- NG/Reserve members accounted for 53% of veteran suicides from 2001 to 2005
 - More than 50% aged 20 to 29
 - Approximately 75% used a firearm

Treatment Approaches

Pharmacological Treatment For PTSD

Pharmacological Treatment

- Duration of treatment usually longer for PTSD
- Larger doses and combination of medications may be needed
- Symptoms that may respond to meds:

anger

depressed mood

hostility

flashbacks

violent impulses

anxiety

poor concentration

nightmares

sleep disturbances

Decrease Arousal First

- Irritability
- Being tense
- Feeling unsafe (hyper-vigilance)
- Difficulty concentrating
- Exaggerated startle response

Medications for Combat PTSD

Anti-adrenalin – panic, decreased sleep, nightmares, intense anger, irritability, jumpiness

Propranolol (Inderal) 10-60mg

Prazosin (Minipres) 1-5mg hs.

Clonidine (Catapress) 0.2 – 0.6mg daily

Important: Need to monitor blood pressure

Benzodiazepines

- The high co-morbidity with substance abuse in veterans with PTSD and the lack of efficacy on core PTSD symptoms keeps the use of Benzodiazepines a controversial issue among clinicians.
- Common Class Side Effects:
 - Sedation
 - Tolerance
 - Memory impairment
 - Interaction with alcohol

Buspirone

- Buspirone has a limited effect on arousal but is helpful with recurrent and obsessive ideation.
- Buspirone is a mixed antagonist and agonist of the dopamine receptors. The complex nature of the medication makes its effects change with the dose and presence of other medications. Buspirone is also commonly used as adjunct to antidepressants to augment their effectiveness.

Atypical Antipsychotic

- The new generation of atypical antipsychotic medications reopened the controversy whether these drugs can be used more commonly for hyperarousal and sleep management.
- About 22% of PTSD patients have been receiving antipsychotic without the diagnosis of psychosis (from 10% in 1990).

Sleep Management

PTSD is known for two types of sleep disturbances:
recurrent distressing dreams of the event
difficulty falling or staying asleep

Common medication used in sleep management
trazodone (monitor blood pressure and sedation)
nefazodone (Clonazepam)
tricyclic antidepressants
antihistamines

Benzodiazepines and similar medications are only useful in short term management of sleep (less than one month at most) of appropriate patients.

Tricyclic Antidepressants (TCAs)

- Trazadone and nefazadone are serotonergic antidepressants with selective serotonin reuptake inhibitors (SSRI) properties. They also exert strong sedative effects. Trazadone may have the capacity to reverse the insomnia caused by SSRIs.
- Common Class Side Effects:
 - Sedation
 - Dry Mouth
 - Low Blood Pressure
 - Constipation

Monoamine Oxidase Inhibitors (MAOIs)

- MAOIs produced moderate to good global improvement in 82% of all patients, primarily due to reduction in experiencing symptoms such as intrusive recollections, traumatic nightmares and PTSD flashbacks. Insomnia also improved.
- No improvement was found, however, in PTSD avoidant/numbing, PTSD Hyperarousal, depressive or anxiety/panic symptoms.
- Most published reports show that MAOIs effectively reduce PTSD symptoms. In practice, however, most clinicians appear reluctant to prescribe these agents.

Selective Serotonin Reuptake Inhibitors (SSRI)

- SSRIs have emerged as the first choice of clinicians treating PTSD patients
- SSRIs are useful in treating co-morbid anxiety and depression.
- Dosages used in treatment of anxiety disorders are typically higher than those used for the treatment of depression.
- Sexual side effects are sometimes a problem with long term compliance.

Anticonvulsants

- There have been several open trials of anticonvulsant/anti-kindling agents. Carbamazepine (Tegretol) produced reductions in re-experiencing and arousal symptoms, valproic acid (Depakote) produced reductions in avoidant/numbing and arousal (but not re-experiencing) symptoms.
- Anticonvulsants (and lithium) are often used as mood stabilizers in the treatment of mania and have shown to be effective in reduction of impulsivity and aggression.
- Mood Stabilizers
 - Lithium (Lithobid, Eskalith)
 - Carbamazepine (Tegretol)
 - Valproate, Valproic Acid (Depakote, Depakene)

Opiate Antagonists

- There is growing evidence that the endogenous opioid system is dysregulated in PTSD patients.
- The hypothesis that emotional numbing in PTSD might result from excessive endogenous opioid activity
- Study results with narcotic antagonist have been mixed, some showed that veterans with PTSD exhibited reduced numbing whereas the others showed either no improvement or a worsening of anxiety, panic and hyperarousal symptoms.

Important to Remember.....

- Duration of treatment for PTSD usually longer than other psychiatric disorders
- Increased doses and combination of medications may be needed
- Receptors are located throughout the body not just the brain; “psychiatric” medications can have multiple physical effects
- Patients should be cautioned regarding changes in medications. Besides sub-therapeutic or toxic doses, can cause

Important to Remember.....

- Patients should be cautioned regarding changes in medications. Besides sub-therapeutic or toxic doses, can lead to excess serotonin, called “Serotonin Syndrome” (characterized by abdominal pain, diarrhea, swelling, muscle contractions, restlessness, irritability, hostility, and mood changes)
- Discontinuation needs to be gradual; discontinuation syndrome can result if stopped suddenly (dizziness, nausea, fatigue, flu-like aches and chills, sensory and sleep disturbances)

Psychotherapeutic Interventions

Goal: Break the pattern of self-defeat by re-examining event and patients reaction to it

Psychosocial Consequences

Vietnam veterans with PTSD versus those without:

- Less likely to be married
- More divorces
- More marital problems
- More occupational instability

Kulka et al. 1990 NVVRS

Psychotherapy Interventions

Cognitive Behavioral Therapies

Exposure Therapy

Stress Inoculation Training

Cognitive Processing Therapy

Seeking Safety: A Psychotherapy for Trauma/PTSD
and Substance Abuse

Acceptance and Commitment Therapy

Dialectical Behavior Therapy

Eye Movement Desensitization and Reprocessing

Motivational Interviewing

Group Therapy

Which Treatments are Optimal?

Type an issue— Which treatment for whom?

- Most published studies incorporate individual interventions—little significant difference between types
- Some treatments can be done individually or in groups (cpt, exposure, seeking safety); some treatments can only be conducted in a group
- Comparisons of two or more active treatments are rare and usually not conclusive; some data suggest “more” may not be “better” (e.g. Glynn et al, 1999)

Challenges

Challenges

- Large number of amputees and other seriously wounded
- Incidence of traumatic brain injury
- Other medical conditions – loss of hearing; “Baghdad Boil”; depleted uranium
- Effects of sexual assault occurring within a military unit
- Unprecedented numbers of women serving in combat roles and situations
- Possible exposure to both sexual assault and combat trauma
- Re-entry and adjustment to family and work for National Guard and Reserve troops
- Stigma

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