

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

## **Returning American Veterans and Addictions**

**Susan A. Storti, PhD, RN, CARN-AP**  
August 28, 2008

## **Acknowledgements**

A special thank you to

**William Unger, PhD**  
**Aminadav Zakai, MD**  
Providence VA Medical Center  
Post Traumatic Stress Disorder Program

**Jeffrey Hunt, MD**  
Bradley Hospital  
Director, Inpatient Adolescent Services

**Richard Crino, RN**  
Vice President, Adult Emergency Services  
Northern RI Community Mental Health

2

## **WHO ARE THEY?**

3

## **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

4

## **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

5

## **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

6

## Coping With Wartime Deployment: Special Issues for Families

7

## 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

8

## Coping With Fear of Unknown

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

9

## 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

10

## Special Concerns for National Guard and Reservists

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

11

## Homecoming After Deployment

12

## Post-Deployment Readjustment

### *“Normal” Reactions to “Abnormal” Events*

13

## “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)

14

## “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

15

## 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)

16

## 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.

17

## 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

18

### What are the "Normal" Reactions to these Experiences?

<u>Physical</u>	<u>Thinking/Emotional</u>	<u>Behavior/Emotional</u>
Headache	Questions one's performance	Withdrawal
Tremors	Nightmares	Antisocial acts
Chills	Suspicious	Fear
Fatigue	Intrusive thoughts, images	Guilt
Nausea/vomiting	Decreased memory/concentration	Grief
Thirst	Blaming someone	Panic
Shortness of breath	Poor attention	Anxiety
Visual difficulties	Disorientation	Irritability
	Feel powerless in controlling emotion	Emotional outbursts
	Miss the adrenaline rush/want to return	Inability to rest
		Hyper alert
		Increased AOD use
		Avoid crowds

19

- ### 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.
- 20

### What is it about War?

Nature of war zone stressors

21

- ### 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
- 22

- ### Nature of War Zone Stressors
- Difficult living/working environment
- Poor food
  - Lack of privacy
  - Uncomfortable climate
  - Boredom
  - Extreme physical exertion, exhaustion
- 23

- ### 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)
- 24

### 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

25

### Nature of War Zone Stressors

Inflicting injury and death--killing

- Enemy
- Civilians
- Friendly fire

26

### 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

27

### 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



28

### 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



29

### Daily Life...

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



30

### 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

31

### 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

32

### 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

33

### Contextual factors

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

34

## Post Battle Debriefing

35

### 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

36

## How Are Our Veterans Coping?

37

## 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

38

## 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%)

39

## 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

40

## 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

41

## 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*

42

## 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

43

## Substance Abuse and Dependence

44

## 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.

45

## Alcohol Abuse Problems in Veterans

- Male Vietnam veterans
  - 39% overall
  - 75% of those with PTSD<sup>1</sup>
- Iraq veterans<sup>2</sup>
  - 24 - 35%

<sup>1</sup>From Kulka et al., 1990 NVRRS;

<sup>2</sup>From Hoge et al., 2004



46

## 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.

47

## 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

48

## Co-Occurring Disorders

49

- ### 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 (NVA/R)*
- 50

- ### 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.
- 51

### Associated Disorders

Life time prevalence	
51.9% - 73.8%	Alcohol abuse
35.5%	Drug abuse
47.9 %– 48.5%	Major depression
43.5%	Generalized anxiety disorder
43.3%	Conduct disorder
29.0%	Simple Phobia
28.4%	Social Phobia
10.4%	Obsessive Compulsive Disorder
8.0%	Panic disorder
2.5%	Bipolar mood disorder

52

- ### Common Drugs of Abuse for PTSD
- Alcohol
  - Narcotics (heroin, morphine)
  - Benzodiazepines
- 53

- ### 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
- 54

## Treatment Approaches

55

## Pharmacological Treatment For PTSD

56

- ### 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	
- 57

- ### Decrease Arousal First
- Irritability
  - Being tense
  - Feeling unsafe (hyper-vigilance)
  - Difficulty concentrating
  - Exaggerated startle response
- 58

- ### Medications for Combat PTSD
- Anti-adrenalin – panic, decreased sleep, nightmares, intense anger, irritability, jumpiness
- Propranolol (Inderal) 10-60mg  
 Prazosin (Minipres) 1-5mg hs.  
 Clonidine (Catapres) 0.2 – 0.6mg daily
- Important: Need to monitor blood pressure*
- 59

- ### 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
- 60

## 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.

61

## 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).

62

## 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.

63

## Tricyclic Antidepressants (TCAs)

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

64

## 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.

65

## 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.

66

### 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)

67

### 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.

68

### 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

69

### 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)

70

### Psychotherapeutic Interventions

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

71

### 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*

72

## 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

73

## 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)

74

## Challenges

75

## 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

76

Susan A. Storti, PhD, RN, CARN-AP  
 401-573-6136  
 susanstorti@cox.net

77