



# NATO Advanced Research Workshop

## "Wounds of War II:

## Posttraumatic Stress Disorder"

18 - 21 October 2009

St. Kanzian

Klopeiner See, Austria

Brenda K. Wiederhold, Ph.D., MBA, BCIA

President, Interactive Media Institute-Europe

CEO, Interactive Media Institute-U.S.



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This workshop is also supported by:

- Austrian Ministry of Defence
- Ministry of Health and Social Welfare - Croatia
- U.S. Army Research & Materiel Command
- University Hospital Dubrava
- University of Zagreb Faculty of Electrical Engineering and Computing
- The Virtual Reality Medical Institute (Belgium)
- The Virtual Reality Medical Center (USA)

## Conference Co-Chairs:

- Professor Dr. Dragica Kozarić Kovačić
- Professor Dr. Kresimir Cosic
- Colonel Dr. Carl Castro

# Workgroup Leaders

- Workgroup 1: Professor Dr. Nela Pivac & Colonel Dr. Elspeth Ritchie
- Workgroup 2: Colonel Dr. Carl Castro & Mr. Neil Kitchiner
- Workgroup 3: Professor Dr. Dragica Kozaric-Kovacic & Professor Dr. James Spira
- Workgroup 4: MAS Dr. med. Dietmar Golth & Professor Dr. Robert Bray

# 2007 Workshop Participants: 19 countries represented

## NATO

Belgium	Netherlands
Canada	Norway
Denmark	Poland
Estonia	Romania
Germany	Slovenia
Italy	UK
Lithuania	USA

## Partnership for Peace (PfP)

Austria  
Belarus  
Croatia  
Serbia  
Ukraine

# 2009 Workshop Participants: 14 countries represented

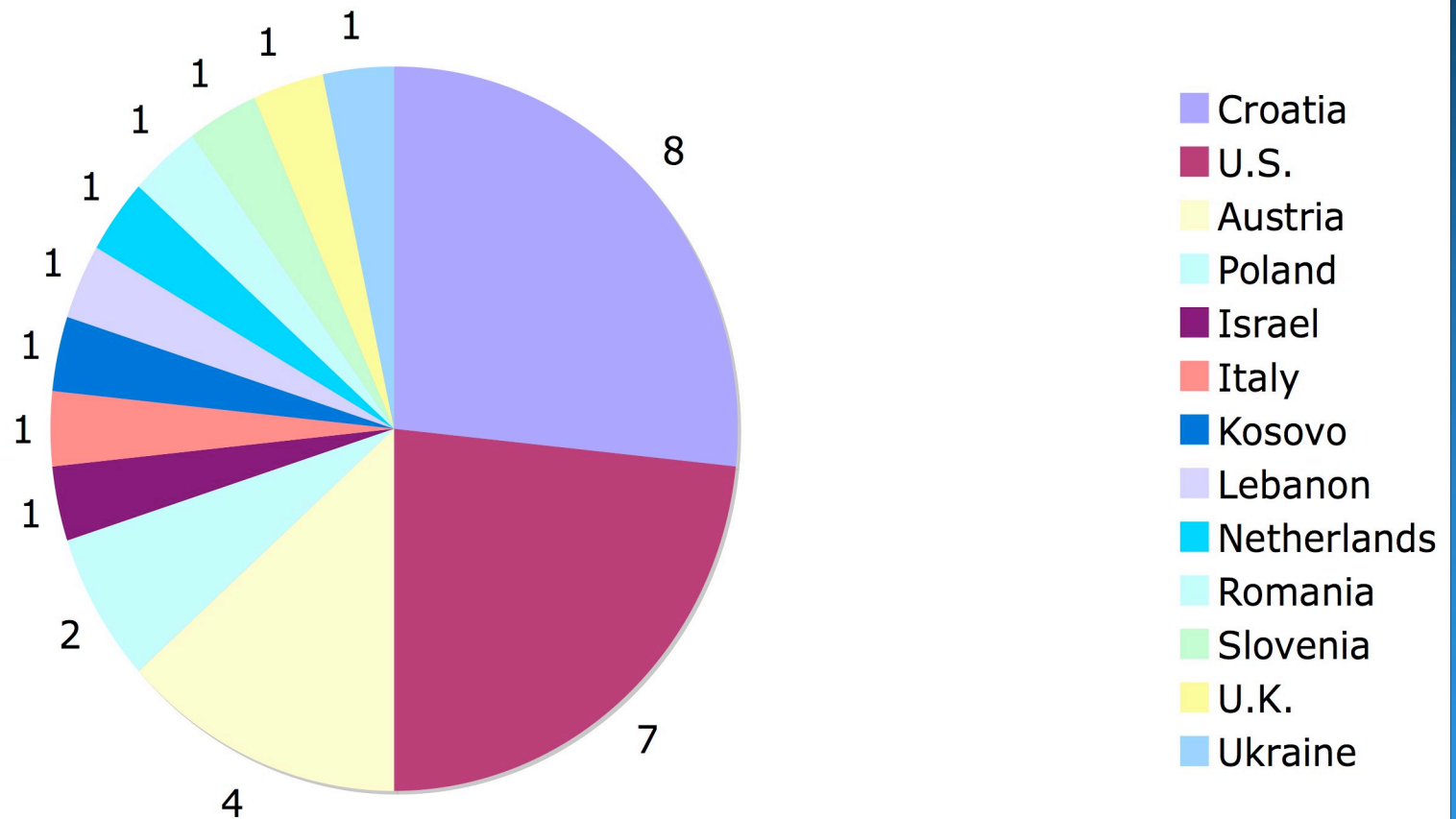
## NATO

Belgium  
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Romania  
Slovenia  
UK  
USA

## Partnership for Peace (PfP)

Austria  
Croatia  
Israel  
Kosovo  
Lebanon  
Ukraine

# 2009 Participants - 13 Countries



# Mission in Iraq: 35 countries 179,603 troops

## NATO

Czech Rep.	Poland
Bulgaria	Portugal
Denmark	Romania
Estonia	Slovakia
Hungary	Slovenia
Italy	UK
Latvia	USA
Lithuania	Turkey
Netherlands	

## PfP

Albania
Armenia
Azerbaijan
Bosnia-
Herzegovina
Georgia
Kazakhstan
Moldova
Ukraine

## Other Countries

Australia
El Salvador
Fiji
Japan
Macedonia
Mongolia
New Zealand
Singapore
South Korea
Tonga



# Suicides in the military

*Journal of Epidemiology and Community Health*

- Researchers have noted increased suicide rates in veterans following both combat and peacekeeping missions
- Former military personnel are twice as likely to kill themselves as people who have not seen combat

# Suicides in the military

- Researchers have noted increased suicide rates in veterans following both combat and peacekeeping missions
- Former military personnel are twice as likely to kill themselves as people who have not seen combat
  - *Journal of Epidemiology and Community Health*
- 99 U.S. soldiers committed suicide last year - the highest suicide rate in 26 years
  - 30 whilst serving in Iraq and Afghanistan

# Suicide risk increases with

- Posttraumatic Stress Disorder (PTSD)
  - one of the strongest factors that contribute to high suicide risk
- Traumatic Brain Injury
- Chronic pain
- Depression
- Substance Use
- Physical Injury/Amputation

# Conclusions from recent research

- Perceived need for treatment higher than available help
- Importance of improving service for military personnel

# What is the purpose of a NATO Advanced Research Workshop?

NATO Definition: a gathering of experts where an intense but informal exchange of views at the frontiers of a subject aims at identifying directions for future action

# Format

- 20 minute presentations
- Q&A
- Workgroups
- Resulting Publication: full papers in IOS Press

# Housekeeping

- IOS Press Deadline - 30 November
- Tuesday schedule has completely changed
- Sign up sheets for Work Groups - in the back of the room
- Literature table - back of the room

# Possible involvement of epigenetic mechanisms in the neurobiology of PTSD

Alja Videtič, Slovenia

NATO "Wounds of War" Advanced Research Workshop

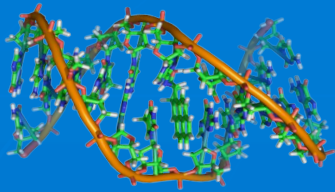
Klopeiner See, Austria, 19 – 21 October 2009



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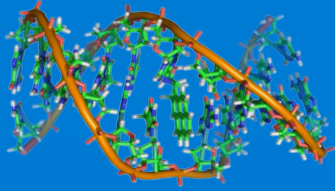
# Complex disease

Conditions caused by a combination of genetic, epigenetic and environmental factors.



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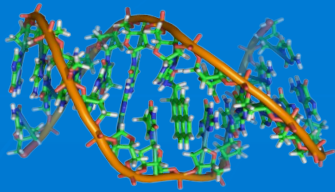
# The term "epigenetics"

1942 C. Waddington:  
"the branch of biology which studies the causal interactions between genes and their products, which bring the phenotype into being"



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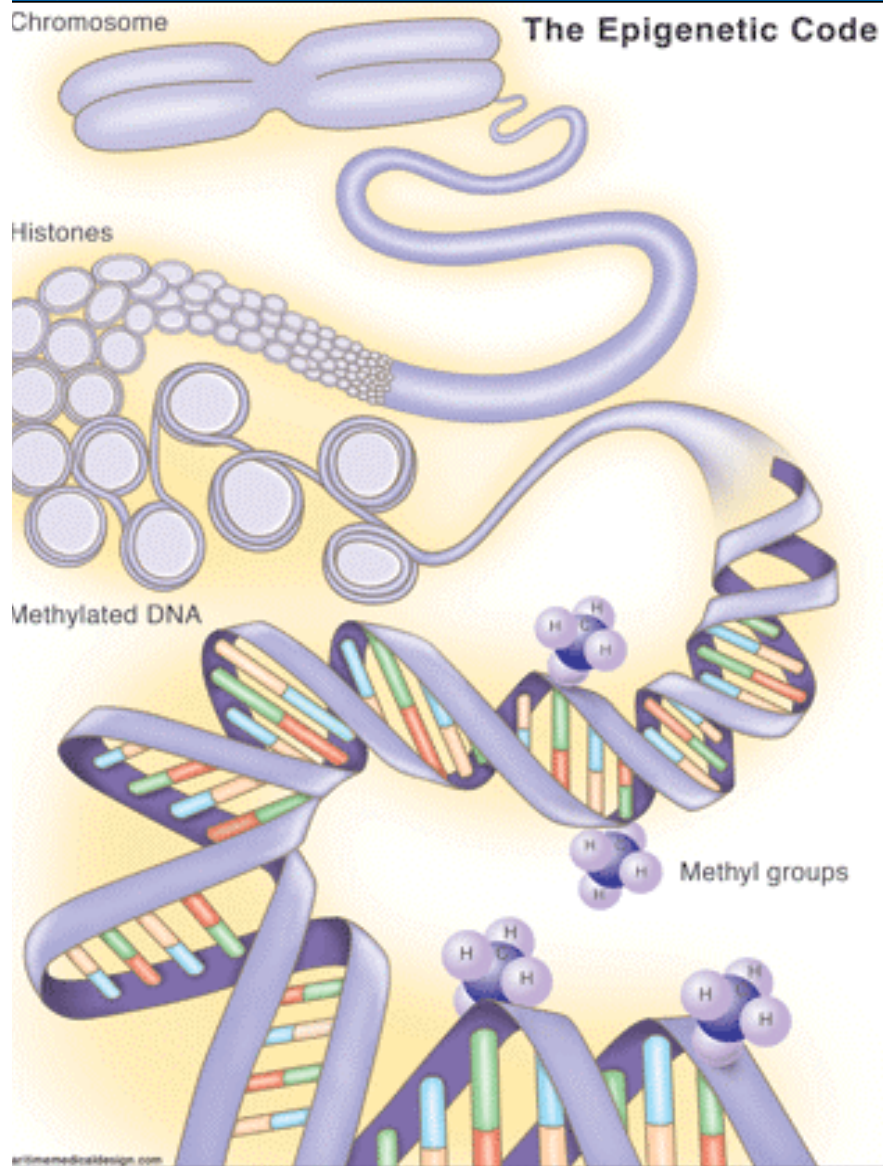
# Epigenetic changes

- are stable, site specific, long lasting
- are **methylation**, acethylation, phosphorylation, ubiquitination,...
- can be trasmitted intergenerationally
- affect replication, repair, transcription, genome stability, cell death
- can alter gene expression

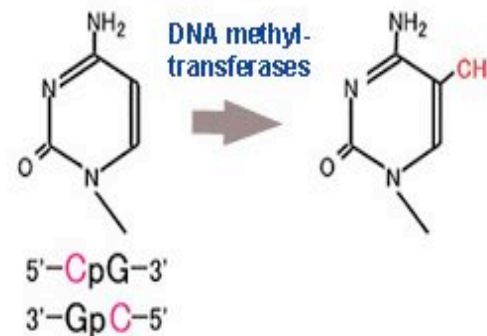


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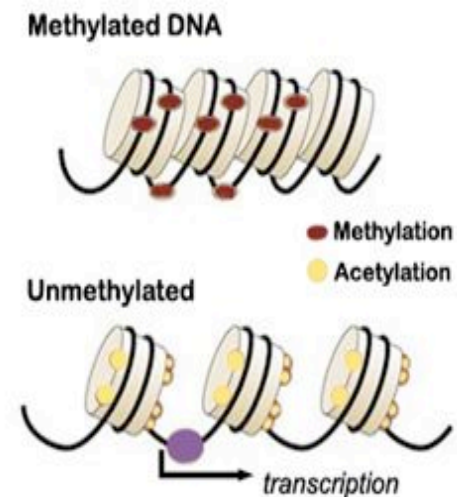
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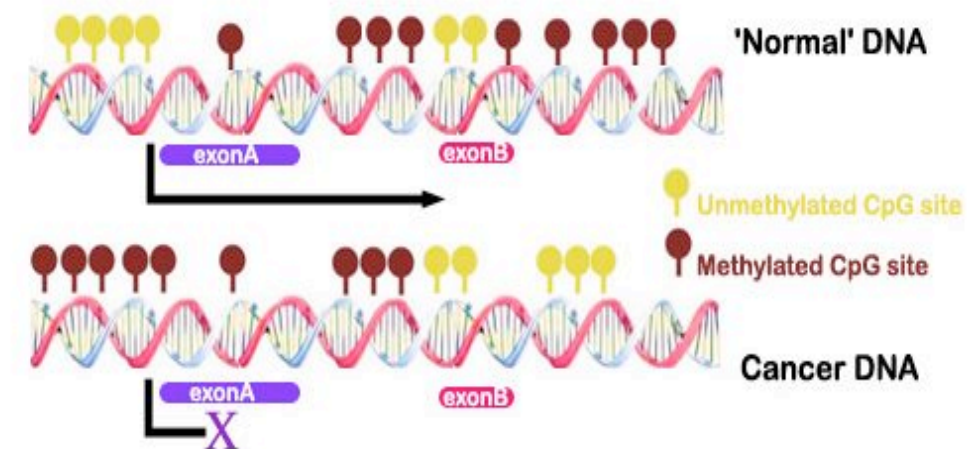
**A**



**B**



**C**



www.neb.com

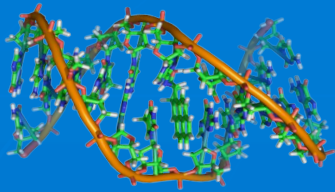
www.cellscience.com



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# Agouti mice: effect of folic acid

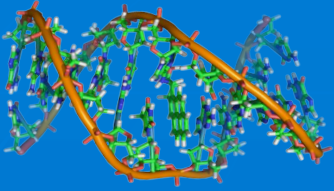


[www.nature.com](http://www.nature.com)



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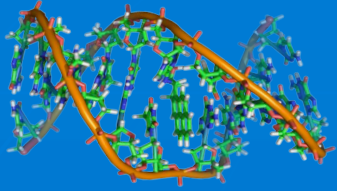
# Neurobiology of PTSD

- Neurobiological systems:
  - Major neuroendocrine stress response system – HPA axis
  - Neurotransmitters
  - Neuropeptides
- Effects of sex, genetic variability, developmental exposure to stress, epigenetics



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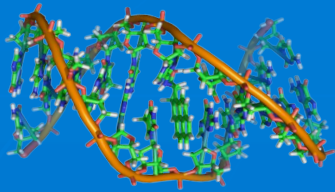
# PTSD ↔ Epigenetics

- No empirical demonstrations of epigenetics associated with PTSD/PTSD risk
- Preferential contribution of maternal PTSD to offspring PTSD risk
- Epigenetic model: glucocorticoid receptor gene (NR3C1): alternation of methylation upon environmental exposure → biased response to traumatic event



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# PTSD ↔ Epigenetics

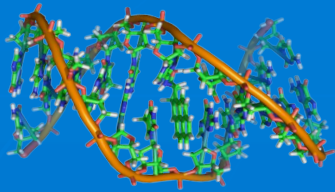
- Structural modifications of the DNA can be established through environmental programming
- Methylation can be reversed with cross-fostering
- Childhood adversity increases risk for development of PTSD



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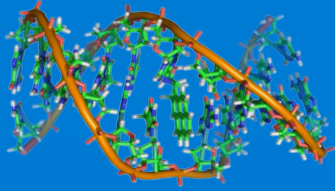
# Glucocorticoid receptor gene (NR3C1) and suicide

- Decreased levels of NR3C1 mRNA and increased levels of DNA methylation of the promoter region in suicide victims with history of childhood abuse
- Effect of paternal care on epigenetics
- Indication for adaptation to stress



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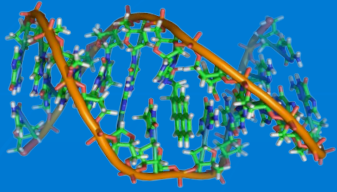
## BDNF: Rodent model

- prenatal and postnatal adverse experiences yield in:
  - reduction BDNF
  - increase in DNA methylation
- DNA methylation patterns are perpetuated to the next generation
- Altered epigenetic marks/gene expression can be rescued with DNA methylation inhibitor



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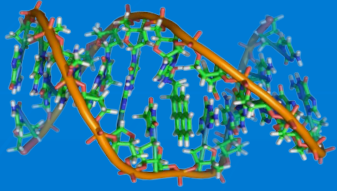
## Dlgap2: Rat model

- Differential global methylation pattern in the hippocampus
- and
- Dglap2 might be possible target for PTSD



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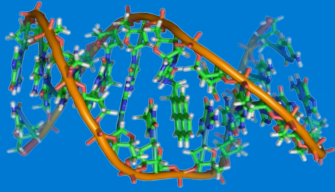
# Application of epigenetic to PTSD

- Ability to account for individual differences in response to trauma
- Integration into a model
- Understanding of mechanisms altering gene expression
- Establish relevant biological subtypes of PTSD
- Implementation of epigenetic drugs; increasing specificity
- Link epigenetics, genetics and PTSD subtypes



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Thank you for your  
attention!



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# Conceptualizing, Diagnosing, and Treating Combat-related Posttraumatic Stress

Carl Andrew Castro and Amy B. Adler

Presented at the Wounds of War II: Addressing Posttraumatic Stress Disorder in Peacekeeping and Combat Troops

Sudkarnten, Austria

18-21 October, 2009

The views expressed in this presentation are those of the author and do not represent the official policy or position of the U.S. Army Medical command or the Department of Defense.



# Statement of the Problem

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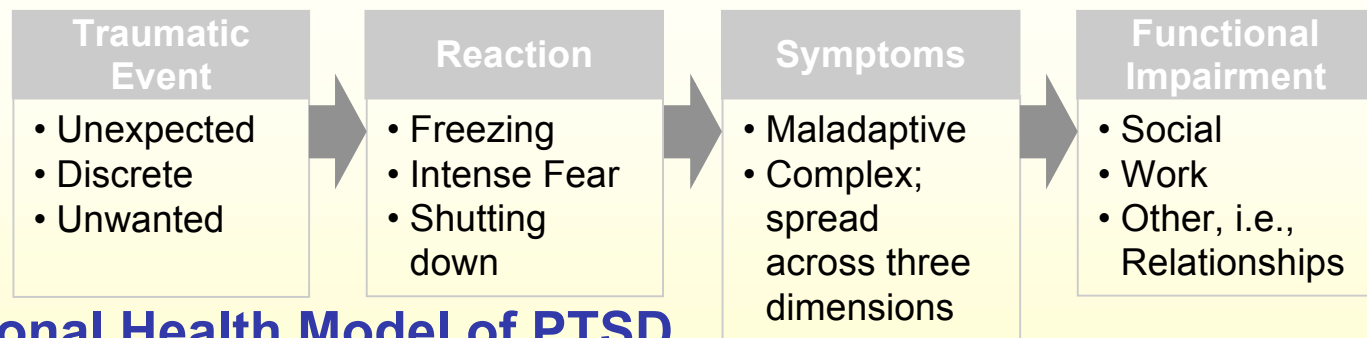
- Combat is an occupational hazard.
  - One of the many hazards associated with combat is PTSD, among many other mental health issues.
  - The current PTSD framework ignores training/preparation, context, and culture.
  - An occupational focus can change the prevention and treatment approaches. Move away from a victim-based approach.
  - Present an occupational health model for combat-related PTSD.
-



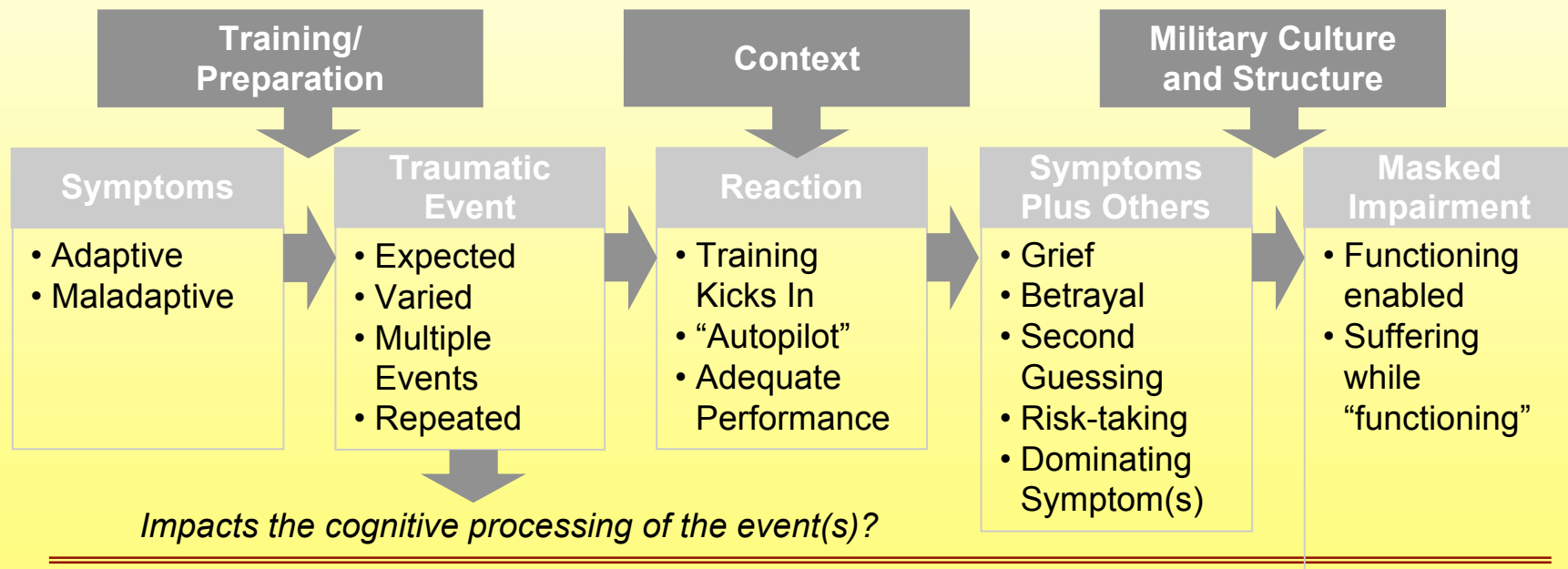


# Occupational Health Model

## DSM IV PTSD Model – Victim-Focused



## Occupational Health Model of PTSD







# The Traumatic Event

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- “...actual or threatened death or serious injury, or a threat to the physical integrity of self or others” (p. 427).
- Implies one discrete event is responsible for subsequent symptoms
  - In combat there may be many traumatic events separated by weeks or months
- Repeated exposure to different events makes any link between traumatic experiences and subsequent symptoms difficult to determine



# The Traumatic Event

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- Not a one-to-one correspondence between the traumatic event and developing PTSD symptoms.
  - Trouble sleeping before the first event
  - Nightmares after the second event
  - Flashbacks after the fifth event
- Events needs to be viewed in terms of
  - Multiple stressors
  - Overall context in which stressors are experienced
    - Deployment-related stressors may be more correlated with PTSD symptoms than number of combat-related experiences (Bliese, Adler, Castro, Thomas, & Hoge, 2008).



# Subjective Response to Traumatic Event

- DSM IV: fear, helplessness or horror.
- Useful for victims of potentially traumatic events
  - Breslau & Kessler, 2001; Brewin, Andrews, & Rose, 2000; Creamer, McFarlane, & Burgess, 2005
- Has narrow utility when applied to individuals trained to respond to potentially traumatic occupational stressors.
  - Experiencing an traumatic event as part of one's occupational role may affect the initial response (Creamer et al., 2005)



# Subjective Response to Traumatic Event

- Initial occupationally-related response does not necessarily preclude the development of emotional responses or the development of PTSD symptoms.
  - Responses of professionals may differ from victims because they expect to encounter occupationally-related potentially traumatic events.
  - They want the opportunity to
    - Use their skills
    - Test themselves
    - Provide meaningful help to others



# Subjective Response to Traumatic Event

- Interviews with 202 Soldiers after 12 months in Iraq with a combat-related event (Adler et al., 2008)
  - 20.8% reported a subject response to a traumatic event described as intense fear, helplessness or horror, which was associated with more PTSD symptoms but not more PTSD caseness
- 159 Soldiers did not respond with intense fear, helplessness or horror and were asked how they did respond
  - 62% reported military training response.
    - “My training kicked in” and “I did what I was trained to do”.
  - 16.4% reported anger.
    - “Angry”, “pissed”, and “hate”



# Subjective Response to Traumatic Event

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- Not responding with intense fear, helplessness or horror may reflect
  - Level of training
  - The profession's cultural bias against emotional responses other than anger
- Occupationally-related responses still associated with PTSD symptoms
  - No significant difference in PTSD symptoms for those reporting A2 vs non-A2 responses
- Studies with police also found training-related responses and anger
  - Brunet, et al., 2001; Sims & Sims, 1998



# Subjective Response to Traumatic Event

- Soldiers don't see themselves as victims
  - Agents of action
  - Trained to respond, to return fire, to focus on what must be done in a given situation.
- May consider themselves a victim of bad leadership or policy



# Symptom Clusters

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- Some symptoms may be normal behavior
  - not a pathological set of behaviors requiring immediate intervention
- In the combat environment, symptoms are normal and adaptive
- In civilian life, symptoms can appear destructive and pathological
- Understanding these symptoms is a starting point for developing meaningful interventions across the deployment cycle





# Reexperiencing

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- The DSM IV requires at least one symptom
  - Intrusive and distressing memories of the traumatic event
  - Distressing dreams of the traumatic event
  - The sense that the traumatic event is reoccurring
  - Intense psychological distress to cues
  - Physiological reactivity to cues that remind the individual of the traumatic event



# Reexperiencing

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- Intense distress and reactivity to cues that remind the individual of the traumatic event
  - Not necessarily pathological
  - Soldiers are trained to look for environmental cues that can potentially lead to danger
- In this occupational context, reactivity is normal, encouraged, and essential to survival
  - E.g., Looking for hidden IEDs, danger



# Reexperiencing

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- Training encourages this reactivity to cues
  - Soldiers are likely to be psychologically and physiologically reactive before being exposed to their first combat-related traumatic event
- Intense memories of the event may help individuals
  - Become more aware of combat-related dangers
  - Develop strategies to avoid such deadly situations in the future
- This focus and awareness is supported by the military with after-action reviews



# Reexperiencing

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- Reexperiencing symptoms may be maladaptive
  - Intense and distressing memories of the events
  - Dreams
  - Flashbacks
- Disruptive
- May endanger a Soldier who is distracted



# Reexperiencing

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- Reexperiencing symptoms may also be triggered when service members are preparing to deploy to combat for a second or third time (Killgore, Stetz, Castro, & Hoge, 2006)
  - Combat veterans preparing to deploy again report more PTSD-related symptoms compared to those soldiers who are deploying for the first time.
  - Soldiers who are deploying for the first time report more physical symptoms than those who have already been to combat.
  - anticipation of deploying again may trigger memories and accompanying PTSD symptoms



# Avoidance

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- The DSM IV requires at least 3 symptoms “not present before the trauma”
    - Attempts to avoid thoughts, feelings or conversations about the trauma
    - Attempts to avoid activities, places or people that result in memories of the trauma
    - Gaps in recall regarding aspects of the traumatic event
    - Reduced interest in personal activities
    - Feeling detached from others
    - Limited range of emotions
    - A sense of a foreshortened future
  - Likely prior to exposure to A1 combat event
  - Adaptive symptoms in a deployed environment
-



# Avoidance

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## Diminished Interest

- Narrow the focus to the needs of the deployment to the exclusion of outside distractions.
- May reflect the 24/7 work cycle
- Limited ability to contact home, recreation
- Cultural emphasis on staying focused on the mission



# Avoidance

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## Feeling detached from others

- Geographical isolation
- Lack of physical contact with family and friends
- Limited communication
- A cumulative lack of shared experiences
- Focus on small team helps Soldiers survive in combat
  - Focus attention and energy on the combat mission
- Ambivalence about contact with home
  - May be burdensome or distressing when they cannot be home to take care of family problems





# Avoidance

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## Restricted emotional range

- Military culture encourages deployed Soldiers to control their emotions
- This may translate to not expressing emotions other than anger or feeling numb
- Other feelings are considered distractions
- Perhaps this restriction is adaptive in an occupational setting in which the individual needs to remain focused on job performance because the stakes are so high



# Avoidance

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## Foreshortened future

- Is it a pathological, irrational response?
  - Friends are killed or wounded, their occupation is dangerous
- Fatalistic beliefs
  - Survival may be a matter of luck, little can be done
  - “When you’re number’s up, it’s up”, “Third time’s a charm”
  - Adaptive if facing future deployments
  - Recklessness or lack of attention to detail vs acceptance of the real risk
  - May reduce guilt, second-guessing



# Hyperarousal

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- The DSM IV requires at least two of the symptoms
  - Difficulty sleeping
  - Irritability or anger
  - Difficulty concentrating
  - Hypervigilance
  - Exaggerated startle response
- Symptoms not present before the A1 event.
- Some likely to be present before the A1 event during a combat deployment



# Hyperarousal

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- Difficulty sleeping
  - Due to the physical conditions on deployment
- Hypervigilance and an exaggerated startle response
  - Adaptive ways to increase tactical awareness
- Difficult to assess symptoms since they are normal for service members on deployment
- Normal at post-deployment because Soldiers need time to adjust to lower state of arousal
- Anger is non-specific and a major symptom
  - Lost time with family, leaders, little things



## Time Course

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- DSM IV assumes a relatively linear response
- In a combat deployment, this PTSD symptoms
  - Begin prior to exposure to events (training)
  - Are affected by the deployment cycle
    - Symptoms minimized at first because they are relieved to be home, initial euphoria
    - PTSD at reintegration associated with more symptoms at 3-6 months post-deployment (Milliken et al., 2007)
    - Account for delayed response in assessment/treatment
  - Are shaped by the need to reset for future deployments



# Rapid Maturation

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- Rapid maturation may not appear to be dysfunctional, can lead to a Soldier feeling out of step with his or her peers
- Combat veterans describe feeling disconnected from friends who have not deployed
  - Reflects differences in priorities
  - Soldiers may view concerns of their friends back home as relatively trivial
- Soldiers may appreciate or value life differently



# Rapid Maturation

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- Physical maturity
  - Walk, body posture, and physical complaints
  - Anecdotal data bolstered by Boscarino's research (1997) who found Vietnam veterans more at risk for various physical health problems
  - Link between somatic concerns and PTSD in combat veterans (Hoge et al., 2007)
  - 60% of returning Soldiers said the deployment to Iraq made them mature (Adler et al., in press)
  - Future research should examine the subjective sense of aging



## Risk-Taking

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- Killgore et al. (2008) found Soldiers with combat exposure were more likely to report risk-taking propensity
- Adler et al. (2008) found that combat exposure was associated with increased likelihood of engaging in risky behaviors
  - carrying an unnecessary weapon
  - looking to start a fight
- Combat may result in physiological changes that alter the way in which service members process emotional experiences





# Risk-Taking

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- Risk taking may be because Soldiers are
  - Seeking an adrenalin high
    - Safe activities may not be enough ; Only high-risk activities lead to a satisfying emotional response
  - Feeling invincible
    - What others regard as dangerous, is dismissed as merely exciting.
    - “if combat didn’t kill me, this won’t either.”
  - Have a fatalistic attitude
    - Fate determined by factors outside their control and that taking part in high-risk activities does affect that control
- Future research should examine mechanism



# Grief

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- Absent from DSM criteria
- Researchers have identified grief as important
  - e.g., Brunet et al., 2001; Henning & Frueh, 1998; Kubany, 1994; Sims & Sims, 1998; Weathers & Keane, 2007
- In the military, the impact of the death or serious injury of a unit member is compounded by the fact that
  - The Soldiers know each other well
  - Depend on each other for survival



# Grief

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- Grieving time is measured in hours, not days
  - The memorial service is brief
  - The focus quickly returns to the combat mission
  - Soldiers may go back on patrol immediately after a memorial service
  - Time for reflection may be limited and incomplete
  - Instead of sadness, grief may become anger
    - Anger at leaders, enemy combatants (e.g., Castro & McGurk, 2007; MHAT, 2007).
  - General anger can disrupt functioning
  - Essential part of combat-related PTSD and recovery



# Guilt/Second Guessing

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- Soldiers are trained
  - to take responsibility
  - to be accountable for what happens
  - to identify and correct deficiencies
- Duty is an integral part of the occupational identity of service members
- Duty can result in devastating guilt and second-guessing
- Researchers have identified the importance of guilt although absent from DSM IV
  - e.g., Henning & Frueh, 1998; Kubany, 1994



## Guilt/Second Guessing

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- Soldiers know that combat is chaotic and survival depends on luck
- Soldiers are also trained to control their behaviors and actions in this chaotic environment, as if these behaviors can prevent all deaths and injuries
- This paradox fuels guilt and second-guessing



# Functionality/Impairment

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- DSM IV assumes that an individual's adjustment following trauma exposure is independent of the occupational context
- Military structure is pervasive and can sustain Soldiers with combat-related PTSD symptoms
  - Specific proscriptions for grooming standards, physical fitness, and clothing.
  - Rigid hierarchy proscribes social behavior and interactions
  - Predictable daily routine
  - Easier to meet expectations in terms of job performance and social interactions



## Functionality/Impairment

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- When Soldiers leave the Army, structure is lost
  - May precipitate a decline in functioning
- Transition to the less structured civilian world
  - May result in treatment seeking in the VA
  - May explain some delayed onset PTSD
  - Has implications for treatment/prevention
- PTSD symptoms may be dismissed because some behaviors (e.g., drinking and break-ups) may be considered normal military life
- Structure may ensure Soldiers are eligible to deploy again (multiple deployer effect)



## Future Research/Questions

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- Define when combat-related PTSD symptoms become part of a disorder or when they are adaptive.
- Understand the optimal way to transition from combat to garrison to civilian.
- Address the issue of delayed onset combat-related PTSD, and the role of the military culture.
- Determine to what extent (if any) personality is affected by the experience of combat.





# Points of Contact

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US Army Medical Research Unit-Europe

Walter Reed Army Institute of Research

[amy.adler@us.army.mil](mailto:amy.adler@us.army.mil)

Table 2  
Summary of the Literature on Intergenerational Transmission of PTSD from Husbands to Wives in Couples with Veterans with PTSD

Authors	Sample		Husband's Status or Soldier's Status	Nationality/War	Findings
Waysman, Mikulincer, Solomon, Weisenberg (1993)	men men	n=127 n= 85	CSR non-CSR	Lebanon War 1982; Israel	-healthiest wives came from expressive families -wives living in conflict-oriented families experienced the highest levels of mental problems -family environment is as important for functioning of wives as husbands CSR
Bramsen, van der Ploeg, Twist (2002)	men women	n=440 n=446	18% prob. PTSD 11% prob. PTSD	Dutch WWII	-PTSD-reactions of both members of the survivors are not independent from one another -dyade is a dynamic-system -number of war events most important predictor of current chronic PTSD
Dirkzwager, Bramsen, Ader, Van der Ploeg (2005)	men husbands	n=696 n=708	4% probable PTSD 10% probable Sub-PTSD	Dutch Peacekeeper	-PTSD in former peacekeepers is a significant risk for secondary traumatisation in intimate partner -more somatic complaints -19% problematic relationship
Al-Turkait, Ohaeri JU (2008)	men wives	n=200 n=176	28,4% PTSD	Kuwait Gulf War I	-combat exposure of veteran and her presence in Kuwait during war predicted PTSD -veterans PTSD not associated with wives PTSD
Franciskovic, Stevanovic Jelusic et al (2007)	men woman	n= 56 n= 56	100% PTSD 39,3% PTSD	Croatia	-only 3 wives had no symptoms of S-PTSD -more than half of the women showed more than 50% of PTSD symptoms – partial PTSD -duration of marriage and employment were significant predictors

Table 3.1  
Summary of Intergenerational Transmission of PTSD from Fathers to Sons (and Daughters) in Families of War Veterans/Soldiers  
Dekel et al 2008 modified and with additions

Authors	Sample	Father's Status	Nationality/war	Findings
Rosenheck, Nathan (1985)	1 son	C-PTSD	USA/Vietnam	morbid preoccupation with traumatic events
Ahmadzadeh, Malekian (2004)	high school students n=141	C-PTSD	Iranian Iran-Iraq war	-aggression and anxiety rates higher -no significant difference in social development
Beckham, Braxton (1997)	20 male and 20 female	C-PTSD	USA	-78% of children had at least one elevated scores on MMPI
Kudler, Feldman et al (1997)	children		USA/Vietnam	-40% illegal drug users -35% behavioural problems -15% lack of impulse control with previous violent behaviour -83% elevated hostility scores -45% showed significant PTSD signs
Caselli, Motta (1995)	male veterans n=40 wives n=24	Vietnam veterans	USA	-fathers PTSD predicted child behaviour problems
Davidson, Mellor (2001)	male veterans n=50 children n=50	Vietnam veterans C-PTSD n=20 no PTSD n=30	USA	-significant differences in perception of level of family function

Table 3.2  
Summary of Intergenerational Transmission of PTSD From Fathers to Sons (and Daughters) in Families of War Veterans/Soldiers  
Dekel et al 2008 modified and with additions

Authors	Sample	Father's Status	Nationality/war	Findings
Davidson, Smith, Kudler (2001)	male outpatient vets n=108 mixed control group n=108 (nonpsychiatric, depression and alcoholic)	C-PTSD	USA n=41 WWII, n=12 Korea n=55 Vietnam	-children of fathers with PTSD needed more psychiatric treatment -6 S-PTSDs in families with PTSD
Haenen, Van den Hout (1994)	children of war sailors and resistance fighters n=191 in 78 cases (41%) father died	no data	Holland WWII	-children of war sailors had Merckelbach significantly elevated scores for phobia, hostility, insomnia in SCL-90 -14% of children (n=26) had S-PTSD
Harkness (1983)	families n=40 with 86 children	C-PTSD	USA Vietnam	-violent behaviour of fathers was correlated with more behaviour problems, poorer school results and less social competence
Major (1993)	children of male Norwegian Resistance Fighters n=288	no data	Norway WWII	-children with deep impressions of fathers war experiences score higher on depression and anxiety
Motta, Joseph, Rose Suozzia et al (1997)	children of veterans n=40 children of nonvets n=4	no description	USA Vietnam and other wars	-impairment of recognition of colors on cards with war related words in group of children of vets
Parsons, Kehle, Owan (1990)	children of vets with combat experience	C-PTSD n=143 no PTSD n= 47	USA Vietnam	-fathers with PTSD noticed children as having more problematic social and emotional manners -difficulties in starting and maintaining friendships

Table 3.3  
Summary of Intergenerational Transmission of PTSD From Fathers to Sons (and Daughters) in Families of War Veterans/Soldiers  
Dekel et al 2008 modified and with additions

Authors	Sample	Father's Status	Nationality/war	Findings
Rosenheck (1986)	children of war veterans n=12	C-PTSD	USA WWII	4 types of family-relationships: -secondary traumatisation -rescuers of fathers -"differentiators" -"remoters"
Rosenheck, Fontana (1998a)	children aged 6-16 years living in households with vets and their partners	military veteran with and without C-PTSD	USA Vietnam	veterans with loss of impulse control had children with more behavioural problems
Rosenheck, Fontana (1998b)	sample of veterans n=1040 fathers with and without war stress and with and without combat stress	no data on fathers psychiatric status available	USA Vietnam	veterans with PTSD whose fathers had served in combat had -more severe PTSD symptoms -more survivor guilt -less social support -more lifetime panic disorder -more drug abuse than those with PTSD whose fathers had not participated in combat; difference in groups were no longer significant when homecoming experience was controlled
Ruscio; Weathers, King & King (2002)	male veterans n=66 with one or more children	29% C-PTSD	USA Vietnam	emotional numbing associated with veterans perceived relationships with their children

Table 3.4

Summary of Intergenerational Transmission of PTSD From Fathers to Sons (and Daughters) in Families of War Veterans/Soldiers  
 Dekel et al 2008 modified and with additions

Authors	Sample	Father's Status	Nationality /war	Findings
Schreuder, Van Tiel-Kadiks (1993, 1994)	children of war victims including Resistance veterans n=46	parents	Holland WWII	13% S-PTSD with reexperiencing psychotraumatic symptoms that contain parental experiences of traumas
Suozzia, Motta (2004)	male combat veterans n=40 adult offspring n=53	C-PTSD	USA Vietnam	combat exposure positively associated with -modified Stroop task -MMPI-2PK scale and -anxiety trait scale; but not with -PTSD distress and -depression
Teague, Caselli, Motta (1995)	children n = 41	C-PTSD	USA	combat level significantly related to -externalizing or -internalizing behaviour of children
Westerink, Giarrantano (1999)	children of veterans older than 15 years n=22; control group of volunteers n=14	C-PTSD	Australia Vietnam veterans	higher levels of conflict in family reported by adolescents

## **Table 4.1: Individual and Systemic characteristics of families with a member of PTSD first presented by Rosenthal in 1987 modified with additions:**

- PTSD symptoms in one or several family members with multidirectional spreading, returns and escalations
- boundary distortions of intimacy and separation in the family – enmeshment
- family rules of fear and mistrust against the outside world with strong boundaries
- somatisation of rage and grief
- permanent parentification of children, confusion of family roles
- mechanisms of silence, overdisclosure, identification, reenactment or trying to rescue the sufferer dominate family life (Ancharoff 1998)
- patronization of victim
- ambivalent feelings towards the victim connected with the stigma of the traumatic event and feelings of guilt
- family secrets or repeated self-disclosure
- distraction from stressful events encouraging avoidance with loss of coping abilities in every days life
- feeling of unworthiness
- medication and substance abuse

## **Table 4.2: Individual and Systemic characteristics of families with a member of PTSD first presented by Rosenthal in 1987 modified with additions:**

- self-destructive behaviour resulting in burning, self-biting, self-injury and suicide
- high investments in building up self-esteem and in the ability to influence and control the behaviour of self and others
- heightened systemic distress with high pressure in the dyadic system (Herndon 1986)
- rigidity of the family system (Williams 1985)
- lack of personal autonomy (DeFazio 1984)
- anxious attachment between parent and child (Bowlby 1981, Figley 199)
- profound need for social support in situations in which encouraged, strengthening positive interventions are not possible
- effort to meet others needs combined with self neglect and lack of expressiveness
- need to be in control
- abusive language
- failure especially of parents to allow and support individual development
- normative crises may develop to catastrophies
- overreactions to stress in every days life
- unreasoning prejudices about politics, gender or races



# PSYCHOTHERAPEUTIC TREATMENT FOR PTSD

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# Introduction

- Thirteen years after the end of war in Croatia, here are still many patients showing a complex post-traumatic response to traumatic experiences (16 %). (Lončar et al., 2006., Tocilj and Urlić, 1995).



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An inner world of deeply repressed emotions causing:

- intrapsychic and interpersonal layers of personality,
- changes in biological functions,
- strong anxiety,
- depression and
- changes in quality of life.



Primary tasks are to help to traumatized persons to :

 **establish feelings of confidence, safety and mutuality cation,**

 **normalizing the stress reactions**

 **reducing the maladaptive psychological processes.**



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The majority of recent studies suggests **multidimensional** approach using

- **psychoeducation,**
- **suport,**
- **anxiety relief,**
- **and life-style modification.**



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# Group psychotherapy

- Group psychotherapy is a **necessary part of integral approach to treatment of psychotrauma.**

(Foa et al.,2000; Shalev et al.,  
1996.)



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## The therapeutic factors developed in group of war's veterans:

1. Psychoeducational meaning
2. Universality
3. Altruism
4. Instillation of hope
5. Group cohesiveness and acceptance
6. Imitative behavior
7. Interpersonal learning
8. Imparting information
9. Disclosures of traumatic events
10. Development of socializing techniques.



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# Basic characteristics of homogeneous groups:

1. Confirmation and validity to traumatic exposure
2. Normalization of traumatic responses
3. Attendance of the others with similar psychotrauma history
4. Acceptance of the attitude of non-condemnation - essential behavioural attitude for survival during traumatic episodes.



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# Therapeutic technique:

Aiming towards these goals in treatment of PTSD, we implemented a psychotherapeutic programme that lasted 40 weeks.

The psychotherapeutic programme consisted of three different group modalities:

1. Socio-therapeutic group
2. Psycho-educative group
3. Trauma - focused group.

Each group consisted of 8-11 patients.

Each session lasted 60 min. conducted by one therapist.



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# Socio-therapeutic group

- With **supportive techniques** we were trying to enable cohesiveness, acceptance, altruism, universality, improvement of **communication**, and **reduction of anxiety**.
- At the very beginning of the work, **reality problems** such as gaining the compensation and retirement, were very often the main topics of the sessions.
- Later on, **family problems** and their resolution were became the main topic of the group.



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# Socio-therapeutic group

Better communication with family members was stimulated, as well as getting involved into the family obligations and strengthening of the male role.

Positive transferences of group members that stimulated acceptance of new behaviour patterns obtained a major role.



# Psychoeducative group

Aims of the psychoeducative group:

- Enabling better knowledge of PTSD symptoms, and consequences on family, professional and social functioning.
- Improvement in coping styles with psychic disturbances by using conflict resolution skills and other social skills.



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# Trauma- focused group

## Aim:

- Disclosure, reconstruction and working through of the traumatic event(s), with as many details as possible (war position description, time of the day, fellow-soldiers situations, enemies' threats, with emotional reactions as consequence).



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# Trauma-focused group

- Stimulation of process of mirroring among group members with similar symptoms enables self-disclosure and self-acceptance.
- This process influences slow dissolution of many resistances that disturb the possibilities of disclosure and of elaboration of traumatic experiences.



- *Description of nightmares* with reliving of traumatic experiences, dreams with similar traumatic contents or dreams with fear and panic, showed as valuable way of disclosing the traumatic events.
- That process of disclosing was accompanied by *strong feelings* among members (i.e. sudden leaving of the session, skipping participation in the next session, verbal aggression directed towards therapist, etc.).
- *Affected intrapsychic balance*: complaining about intensified symptoms, sleeping disturbances, isolation from family members and others.



# How works trauma-focused group ?

- **In the first phases of the group come to the fore:**
  - traumatic events with fears and threats for personal existence,
  - mourning of perished or wounded fellow-soldiers, or survivor's guilt and shame.
- **In the later phases of the group dynamics:**
  - disclosure of traumatic events followed by strong feelings of guilt, shame ...

In that phase of the group process support of other group members is very important.



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# Therapeutic process

- At the very beginning of the programme, establishing **basic feeling of safety and confidence** in the group and in the therapist represents the primary task.
- The most usual contents of discussion in groups are: political situation in the country, suspicion regarding staff and the group conductor, expression of aggression towards the conductor – all these features are understood as paranoid defences of the group members.



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- Silence in the group represents:

- resistance
- aggressive impulses
- passivity (avoidance)
- deep depression



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- After about first 15-16 sessions **cohesiveness and closeness** among group members tend to increase.
- Disclosure of traumatic memories is associated with feelings of **sadness and mourning**.
- Mourning (after death of the fellow-soldier(s), loss of idealized aims because of unfavorable events on battlefield), was bringing about **heightening of vulnerability** of the group members

- In the last third of the therapeutic programme the atmosphere in the group tends to become more comfortable and not so heavy as previously. Silence and acting out reactions are quite infrequent.
- The therapist's capacity of containing aggression and empathy becomes recognized and acknowledged



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# The aim of the research:

- To verify our clinical observations that were showing better adaptation and less expressed symptoms of depression in most of our patients



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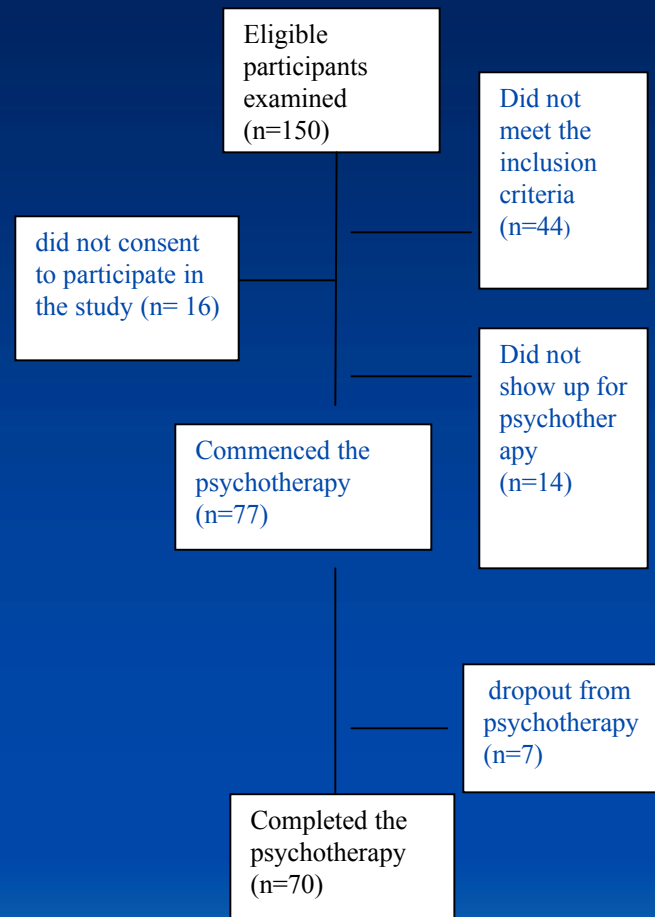
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# Participants:

- PTSD was diagnosed according to ICD-X and DSM-IV criteria. 70 participants were included in this research.

Exclusion criteria: patients over 60, those with low IQ, acute psychotics and addicted on alcohol and/or drugs.



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# Outcome measures:

- A) Clinical evaluation of **comorbid psychiatric diagnosis by using DSM-IV** (anxiety and depressive disorders, psychotic disorders, suicidal behaviour, alcohol and/or drug abuse)
- 👉 ① **Psychological questionnaires** (Mississippi Scale for PTSD-combat, Beck's depression scale, Life Style Questionnaire and Defense Mechanisms, Coping Orientation to Problems Experienced-COPE),
- 👍 ① **Structured interview** to collect data on mental self-evaluation,  
examinees satisfaction with the treatment and the staff.



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Evaluation in three time period:

- before treatment,
- after treatment programme completed
- one year later



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Table 1. Demographic characteristics of 70 war veterans with posttraumatic stress disorder who completed out-patient psychotherapeutic programme

CHARACTERISTICS	N= 70
AGE	
30-40	37
40-50	24
50-60	9
EDUCATION	
Primary school	7
High school	57
University	6
MARITAL STATUS	
Married	54
Single	14
Divorced	0
Duration of the war experience	
< 3	60
3 – 4	7
> 5	3



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	baseline	End of tratment	12 months later	f	P
QUALITY OF LIFE QUESTIONARIE	5 9.49± 10.91	59.62 ±11.31	59.96±11.16	2.85	0.067
ANXIETY	12.62 ± 2.21	12.95 ±1.94	12.35 ±12.75	1.31	0280
PHOBIC	7.85± 2.69	8.31 ± 3.21	8.47± 3.03	1.09	0.343
OBSESSION	7.87± 2.62	8.53 ± 2.94	9.82±3.04	7.43	0.001*
SOMATIZATION	12.25± 3.07	12.87 ± 2.70	12.64± 3.43	2.73	0.740
DEPRESSION	11.96± 3.14	11.84 ± 2.87	11.13± 2.91	0.96	0.391
HYSTERIAS	3.00 ± 2.38	3.36 ± 2.49	3.89 ± 2.82	1.56	0221



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	baseline	End of treatment	12 months later	f	P
PROBLEM-FOCUSED STRATEGIES	41.49 ± 16.68	46.53± 16.03	53.13± 11.86	9.28	P<0.001*
EMOTION- FOCUS STRATEGIES	16.31± 8.65	18.55 ± 8.56	26.96± 15.70	7.29	P=0.002*
AVOIDANT STRATEGIES	74.56± 25.59	84.76± 27.45	97.60± 21.37	13.30	P<0.001*
BECK INVENTORY OF DEPRESSION	33.33 ± 9.58	28.76 ± 8.42	29.22±11.72	30.73	P<0.001*
MPTSD	133.71±13.95	128.55±15.10	138.22 ± 21.10	10.23	P <0.001*



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After completion of the programme,  
three questions were asked:

- What did you like most in the programme?
- What you didn't like?
- What would you change to make this programme better?



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# What did you like most in the programme?

- Understanding and professional help of the staff
- Companionship and discussion
- Intruducing veterans with the same problems
- Information about PTSD
- Recollections of traumatic experiences



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# What you didn't like?

- Discussion about politics
- Changing the subject
- Loss of time
- Passivity of certain members
- Short duration of programme
- I don't know.



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# What would you change to make this programme better?

- More staff members
- Extension of the programme
- More sessions
- Continuation of therapeutic work even after completion of the programme.



# Results:

- Increase in problem-focused strategies, emotions-focused strategies and avoidant strategies in coping with stress.
- Reduction of depression.



# Discussion:

- Gradual completion of the pathological mourning process, and working through of these difficult feelings enabled reduction of depression.
- Deeply repressed emotionally invested experiences could have been revealed, confronted and worked through.
- Re-experiencing of feelings of guilt and shame was made possible due to the new context of group setting.



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# Discussion:

Acceptance of more positive coping strategies was enabled by:

- Learning about PTSD symptoms
- Insight in reasons of intrapsychic and interpersonal problems
- Interpersonal learning
- Improvement in communication skills and acceptance of conflict resolution skills



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# Conclusion

Group is offered as **transitional space** for fantasies and external reality, what contributes to the **establishment of self-respect and of connecting bridges between inner and outer worlds.**

**Re-establishing of self-respect and decreasing of depression** represent preconditions for **more active facing** everyday life.







