Military Trauma: An Osteopathic Perspective

Teodor Huzij DO, FACN
AAO Convocation 2014
Objective

- Review trauma terminology and literature
- Review a diverse body of osteopathic perspectives and approaches to military trauma
- Propose a unique osteopathic understanding and approach in respect to the area of military trauma
Military Trauma

What is it?
Diverse Phenomena

Physical: Injury to living tissue

Psychological: psychological distress following exposure to a stressful event
Proposed Definition

A direct impact on the body unit’s interrelated structure and function and that body’s efforts towards allostasis utilizing its innate self-healing and self-regulating systems
PTSD

- Exposure to actual or threatened death, serious injury or sexual violence (or learned of trauma to close family/friend)
- Intrusion (memories/dreams, dissociation, cues)
- Avoidance
- Altered cognitions and mood
- Hyperarousal

DSM 5
Military Statistics

- 2008: 20% + PTSD or Depression, 19% TBI
- 2000-2012: 103,792 PTSD, 253,330 TBI
- 2012: Suicide > Combat
- 2001-2013: 50,897 Physical; 320,000 TBI; 400,000 PTSD
- Military Sexual Trauma: 2012 - 70/day, 26,000 service members, 94% offenders male

Anatomy & Physiology

Structure and Function of Psychological Trauma
Anatomy & Physiology

- Reduced Volume
  - Med PFC
  - Hippocampus
  - Amygdala
  - Elevated Cortisol

- Hypofunctioning
  - PFC Inhibition of Amygdala
  - Hippocampus
  - Anterior Cingulate

Hippocampus
Hippocampus
Hippocampus
Putamen

Internal capsule

Caudate nucleus

Amygdala

Pyramidal tract

Tail of caudate nucleus
Anterior Cingulate Gyrus
Neurotransmitters

- **PFC projections - Glutamate**
- **Amygdala**
- **Dopamine**
- **Acetylcholine**
- **Glutamate**
- **GABA**

- **PFC - Amyg - Hypothal**
- **Glutamate - GABA**
- **PFC - Locus Ceruleus**
- **Norepinephrine**

Steckler, Neuropharm 2012.
Self-Healing/Regulating

- Excitotoxicity, Apoptosis and Inflammatory pathways
- Hippocampal neurogenesis
- Neurotrophins: Brain Derived Neurotrophic Factor

Osteopathic Heritage

Osteopathic Perspectives on Trauma
Nervous Conditions: “impoverished condition of the whole sympathetic system from the atlas to the coccyx that have lost the power to execute the function of supplying the nervous system with nourishment.”

CSF: “He who is able to reason will see that this great river of life must be tapped and the withering field irrigated at once, or the harvest of health be forever lost.”

Osteopathy Research and Practice. Philosophy and Mechanical Principles of Osteopathy.
Heavy Vibrations → Locking Down Membranes

Sacral fulcra-sag - mental disturbances

Cranial Strains ↑ with mental/emotional stress

Contributions of Thought. Teachings in the Science of Osteopathy
Jack the Psychopath

Milestone loss, non-verbal, masked faces, waxy flex

Hx: Med staff holding patient down for treatment

Exam: “Unbelievable degree” muscle contracture

Tx: 2-3 mo OMT → Speaks & Interacts (1st in 5yrs)
Physical/Psychological trauma → Shock → Locked Breath

“Thoughts are indeed things”: Nervous System Patterns

Dr Fulford's Touch of Life. The Healing Power of the Natural Life Force.
Rollin Becker DO

General Adaption Syndrome - Dr Hans Selye

Thyroid, Adrenal, and Traumatized Segmental Areas

Additional lesion resistance: Analyzing neurosis
Osteopathic Approach

Addressing PTSD Osteopathically.
Seek Health

- NOT the Absence of SYMPTOMS
- Health-Dysfunction Continuum
- Somatic Dysfunction “Does Do”
- Recruit healthy areas. Self-healing. Motion Present
- Goal or Destination
Treatment: Body

- **Fitness** *(exercise, exercise conditioning)*

- **Nutrition** *(high fat, lower sugar, gluten-free)*

- **Medications:**
  - Paroxetine or Sertraline *(2nd line)*
  - Avoid Benzodiazepines

*References:*
- Stroble, J Neu Trsm 2009.
- Murphy, Int Jrn Endo 2013.
- Britains NICE.
- Steckler, Neuropharm 2012.
- VA/DoD Clinical Practice Guideline for the Management of Post-Traumatic Stress
Treatment: OMM

OMM

Goal: Restore Balance, Optimize Structure and Function, Encourage Self-healing and Self Regulating

Musculoskeletal, Neural, Hormonal, Vascular, Lymphatic, Respiratory

Treatment: OMM

- **Vascular and Lymphatics:** ↓ Cortical volume (medial prefrontal cortex, hippocampus, amygdala)

- **Optimize Structure & Function:** Hypofunctioning cortical systems (frontal inhibition of amygdala, hippocampus, anterior cingulate gyrus)

- **Autonomics and Visceral:** Elevated stress hormone levels

- **Thoracoabdominal diaphragm:** Shock, Ineffective breathing

Treatment: Mind

- Meditation
- Psychoeducation
- Psychotherapy
  - CPT, Prolonged Exposure, EMDR

Treatment: Soul

- Meditation
- Supportive Relationships
- Services and Agencies
- Higher Power / Faith System

Summary

- **Osteopathic definition of trauma**

- *Stand on the shoulders of our predecessors*

- *Seek Health - all of its roles and manifestations*

- *Approach the patient through the LENS of the Osteopathic Philosophy - Body, Mind and Soul*
The End

Questions?