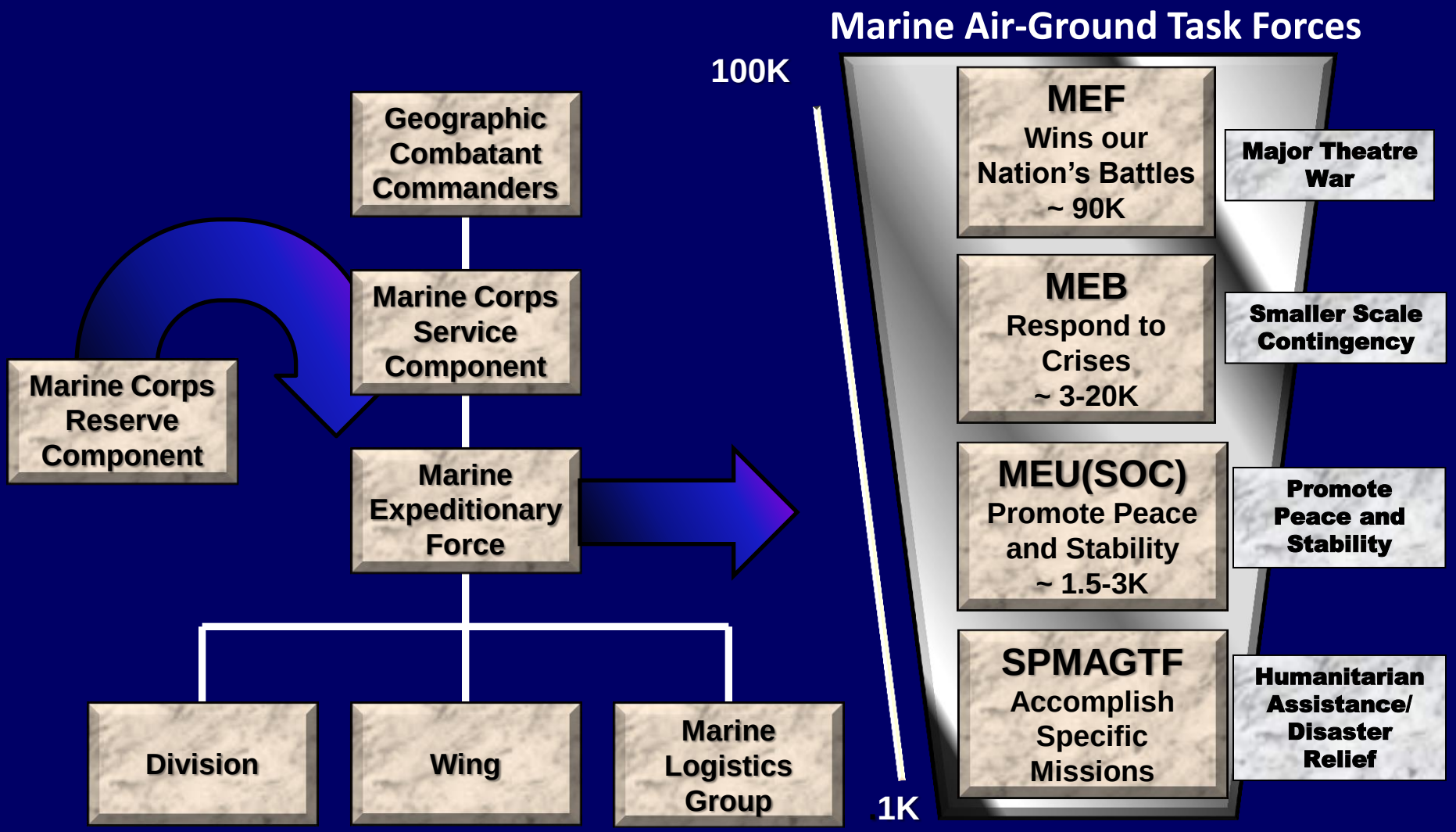
The United States Marine Corps

America's Expeditionary Force in Readiness

Scalable Marine Forces



*** Forward-deployed MEUs serve as advance echelons of MEBs, which in turn serve as advance echelons of MEFs.*

Expeditionary Maneuver Warfare
Operational Maneuver From the Sea

Marine Corps Priorities

1) **Continue to provide the best trained and equipped Marine units in Afghanistan (**TCCC, OEMS, L.A. Trauma Center, EMT, Mojave Viper, CAX)

2) Rebalance our Corps and posture it for the future

- **(**Joint Medical OPS, Enroute Care, Restoration Centers, Agile MTB w/ ½ STP)

Marine Corps Priorities

3) Better educate and train our Marines to succeed in complex environments

- **(**MTB, FRSS/STPs, Next Generation BAS & Corpsman**)**

4) Keep the faith with our Marines, our Sailors, and our families

- **(**TBI/PTSD, Wounded Warriors, Garrison Care, Resilience, Reintegration)

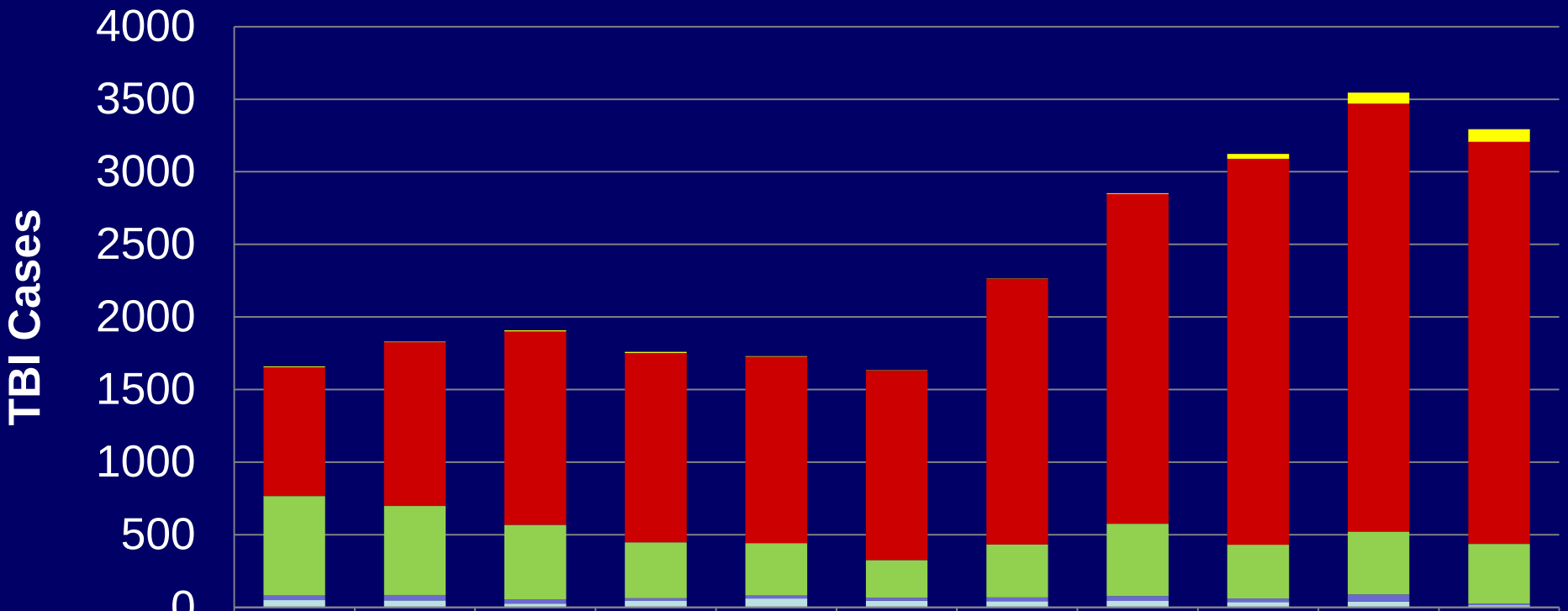
Marine Corps Health Challenges

- Resiliency
- PTSD
- TBI
- Suicide
- Deployment Health Follow-up
- Mental Health Stigma
- Polytrauma
- Amputation
- Tobacco
- Data
- Evidence-based decisions
- Spice
- Environmental Exposures
- Casualty Care
- Expeditionary Medicine
- Medical Stability Operations

Traumatic Brain Injury

Traumatic Brain Injury

Marines-Active Duty



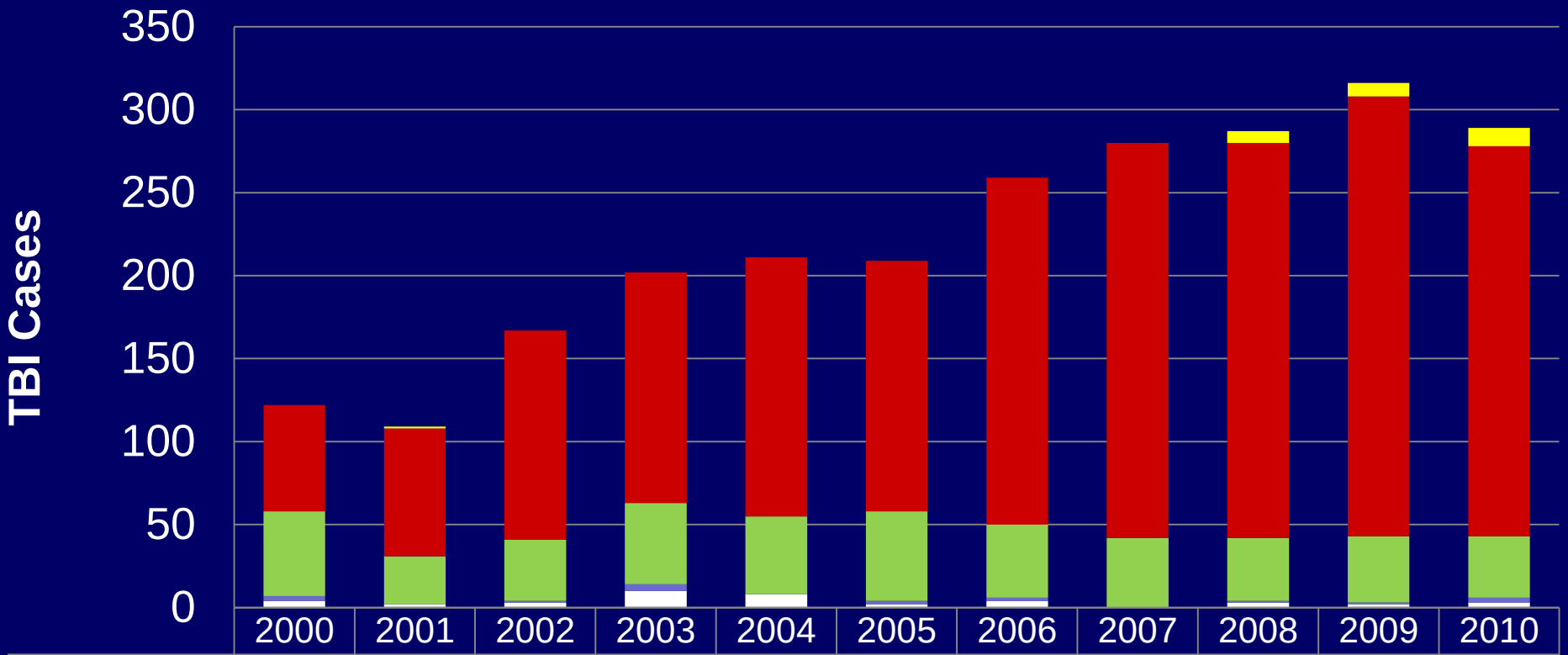
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
UNK	6	4	7	7	4	2	2	4	34	76	87
Mild	887	1127	1333	1304	1283	1307	1829	2273	2658	2947	2770
Moderate	685	615	513	385	362	258	365	498	371	434	412
Severe	33	37	30	19	20	21	26	32	24	47	10
Penetrating	49	47	25	44	61	46	43	45	36	41	15

DVBIC TBI Numbers, http://www.dvbic.org/TBI-Numbers.aspx

2010 thru 3rd Quarter

Traumatic Brain Injury

Marines-Reserves

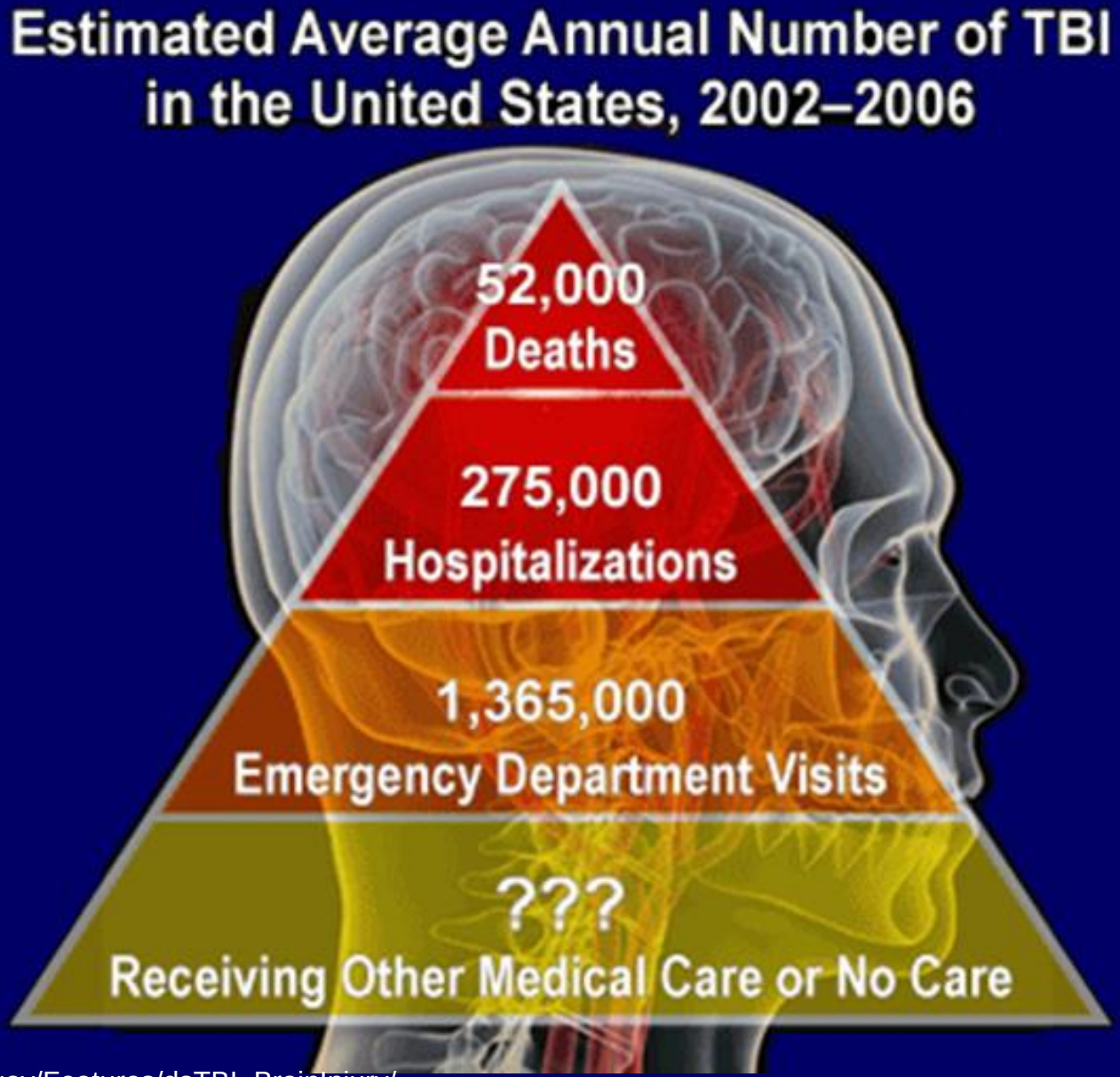


	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
UNK	0	1	0	0	0	0	0	0	7	8	11
Mild	64	77	126	139	156	151	209	238	238	265	235
Moderate	51	29	37	49	47	54	44	42	38	40	37
Severe	3	0	1	4	0	2	2	0	1	1	3
Penetrating	4	2	3	10	8	2	4	0	3	2	3

DVBIC TBI Numbers, http://www.dvbic.org/TBI-Numbers.aspx

2010 thru 3rd Quarter

Traumatic Brain Injury



CDC, http://www.cdc.gov/Features/dsTBI_BrainInjury/

Traumatic Brain Injury

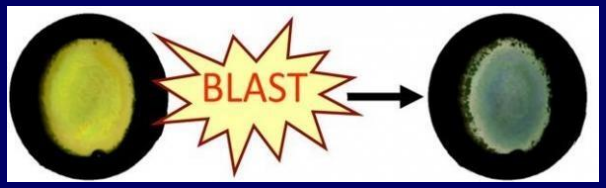
Prevention

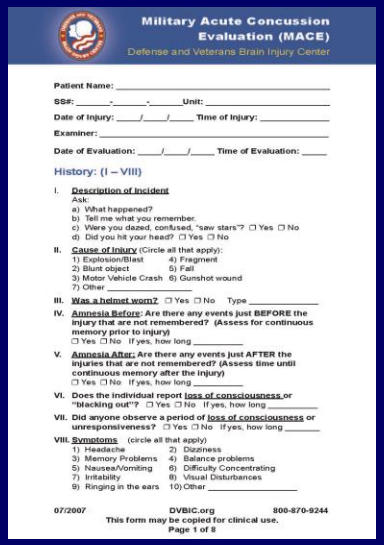
- IED strategies
- Military Equipment
- Personal Protective Equipment
- Mandatory time-out
- Tactics, Techniques, Procedures

Traumatic Brain Injury

Recognition

- 50 meter blast exposure?
- MACE
- DTM
- Personal Dosimetry
- Biomarkers
- Neuroimaging
- NCAT





Military Acute Concussion Evaluation (MACE)

Defense and Veterans Brain Injury Center

Patient Name: _____

SS#: _____-_____-_____Unit: _____

Date of Injury: ____/____/____ Time of Injury: _____

Examiner: _____

Date of Evaluation: ____/____/____ Time of Evaluation: _____

History: (I – VIII)

I. Description of Incident
Ask:
a) What happened?
b) Tell me what you remember.
c) Were you dazed, confused, "saw stars"? ☐ Yes ☐ No
d) Did you hit your head? ☐ Yes ☐ No

II. Cause of Injury (Circle all that apply):
1) Explosion/Blast 4) Fragment
2) Blunt object 5) Fall
3) Motor Vehicle Crash 6) Gunshot wound
7) Other _____

III. Was a helmet worn? ☐ Yes ☐ No Type _____

IV. Amnesia Before: Are there any events just BEFORE the injury that are not remembered? (Assess for continuous memory prior to injury)
☐ Yes ☐ No If yes, how long _____

V. Amnesia After: Are there any events just AFTER the injuries that are not remembered? (Assess time until continuous memory after the injury)
☐ Yes ☐ No If yes, how long _____

VI. Does the individual report loss of consciousness or "blacking out"? ☐ Yes ☐ No If yes, how long _____

VII. Did anyone observe a period of loss of consciousness or unresponsiveness? ☐ Yes ☐ No If yes, how long _____

VIII. Symptoms (circle all that apply)
1) Headache 2) Dizziness
3) Memory Problems 4) Balance problems
5) Nausea/Vomiting 6) Difficulty Concentrating
7) Irritability 8) Visual Disturbances
9) Ringing in the ears 10) Other _____

07/2007 DVBIC.org 800-870-9244
This form may be copied for clinical use.
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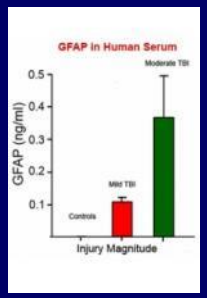
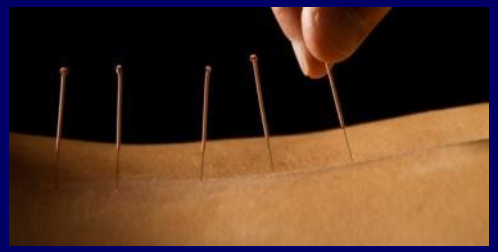
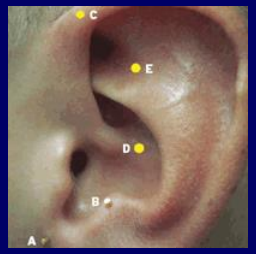


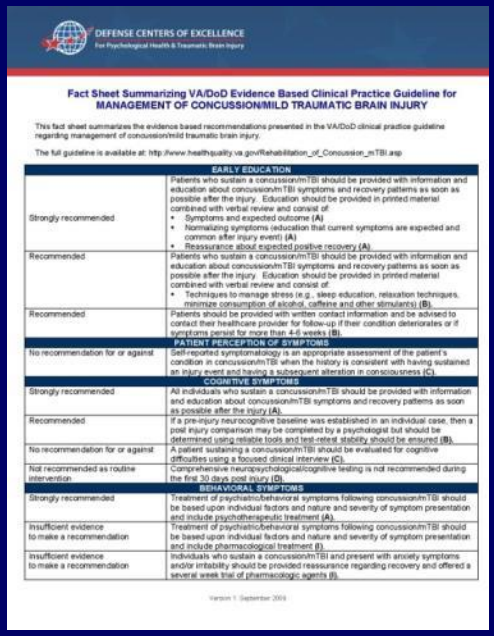
Traumatic Brain Injury



Treatment

- Evidence Based
- CPG
- Restoration Centers
- Medications
- Complementary Medicine
- Return to duty





DEFENSE CENTERS OF EXCELLENCE
For Psychological Health & Traumatic Brain Injury

Fact Sheet Summarizing VA/DoD Evidence Based Clinical Practice Guideline for MANAGEMENT OF CONCUSSION/MILD TRAUMATIC BRAIN INJURY

This fact sheet summarizes the evidence based recommendations presented in the VA/DoD clinical practice guideline regarding management of concussion/mild traumatic brain injury.

The full guideline is available at: http://www.healthquality.va.gov/Rehabilitation_of_Concussion_mTBI.asp

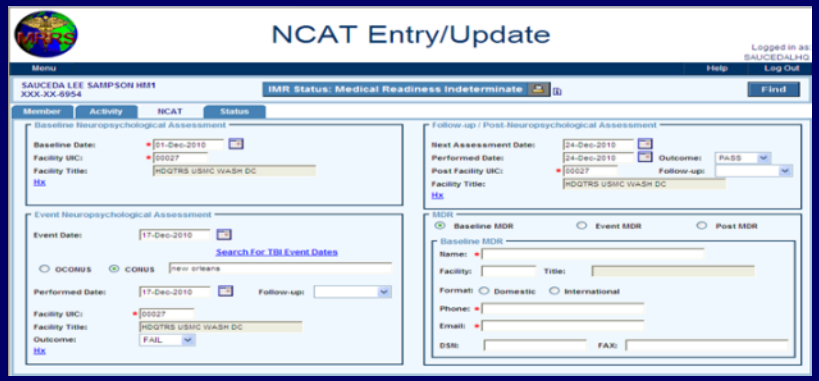
EARLY EDUCATION	
Strongly recommended	Patients who sustain a concussion/mTBI should be provided with information and education about concussion/mTBI symptoms and recovery patterns as soon as possible after the injury. Education should be provided in printed material combined with verbal review and consist of: • Symptoms and expected outcome **(A)** • Normalizing symptoms (education that current symptoms are expected and common after injury event) **(A)** • Reassurance about expected positive recovery **(A)**
Recommended	Patients who sustain a concussion/mTBI should be provided with information and education about concussion/mTBI symptoms and recovery patterns as soon as possible after the injury. Education should be provided in printed material combined with verbal review and consist of: • Techniques to manage stress (e.g., sleep education, relaxation techniques, minimize consumption of alcohol, caffeine and other stimulants) **(B)**.
Recommended	Patients should be provided with written contact information and be advised to contact their healthcare provider for follow-up if their condition deteriorates or if symptoms persist for more than 4-6 weeks **(B)**.
PATIENT PERCEPTION OF SYMPTOMS	
No recommendation for or against	Self-reported symptomatology is an appropriate assessment of the patient's condition in concussion/mTBI when the history is consistent with having sustained an injury event and having a subsequent alteration in consciousness **(C)**.
COGNITIVE SYMPTOMS	
Strongly recommended	All individuals who sustain a concussion/mTBI should be provided with information and education about concussion/mTBI symptoms and recovery patterns as soon as possible after the injury **(A)**.
Recommended	If a pre-injury neurocognitive baseline was established in an individual case, then a post injury comparison may be completed by a psychologist but should be determined using reliable tools and test-retest stability should be ensured **(B)**.
No recommendation for or against	A patient sustaining a concussion/mTBI should be evaluated for cognitive difficulties using a focused clinical interview **(C)**.
Not recommended as routine intervention	Comprehensive neuropsychological/cognitive testing is not recommended during the first 30 days post injury **(D)**.
BEHAVIORAL SYMPTOMS	
Strongly recommended	Treatment of psychiatric/behavioral symptoms following concussion/mTBI should be based upon individual factors and nature and severity of symptom presentation and include psychotherapeutic treatment **(A)**.
Insufficient evidence to make a recommendation	Treatment of psychiatric/behavioral symptoms following concussion/mTBI should be based upon individual factors and nature and severity of symptom presentation and include pharmacological treatment **(I)**.
Insufficient evidence to make a recommendation	Individuals who sustain a concussion/mTBI and present with anxiety symptoms and/or irritability should be provided reassurance regarding recovery and offered a several week trial of pharmacologic agents **(I)**.

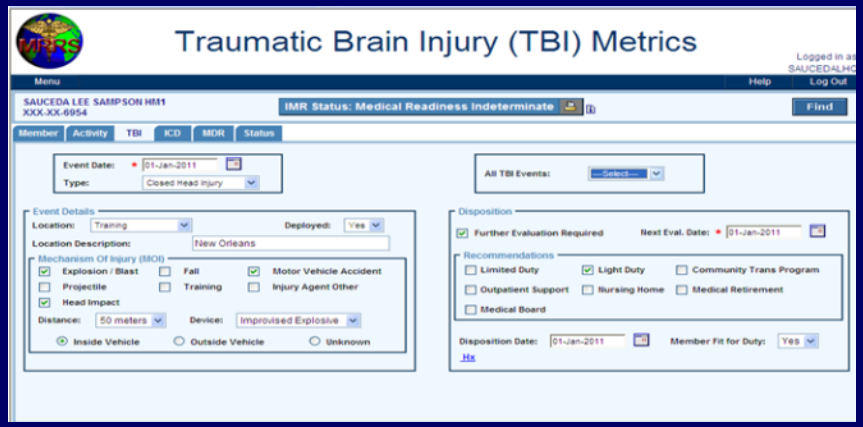
Version 1: September 2009

Traumatic Brain Injury

Data

- CIDNE/BECIR
- MRRS
- AHLTA
- VA
- Sharing
- Analysis





Traumatic Brain Injury

Research

- Blast Patch
- Functional MRI
- Biomarkers
- Accelerometer
- Treatment
- Outcomes

Traumatic Brain Injury

Longer Term Consequences

- Chronic Traumatic Encephalopathy
- Disability Evaluation System
- VA care
- Comorbid

Traumatic Brain Injury

Way Forward

- Continue close coordination with DCOE/Navy Medicine
- Emphasize Prevention
- Immediate recognition and care
- Collect and analyze the data
- Research
- Develop evidence-based scientifically supported solutions
- Support the service member through all phases

Questions?