

WARFIGHTER BRAIN HEALTH: Mild Traumatic Brain Injury Training

Courtney Sadler, MPH, CTRS, CBIS

Kristen Benson, MSW, LMSW

Roya Lackey, MSOT, OTR/L, CBIS

Regional Education Coordinator

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Briefing Agenda

- About the Traumatic Brain Injury Center of Excellence (TBICoE)
- Worldwide numbers
- Traumatic brain injury (TBI) basics
- Resources

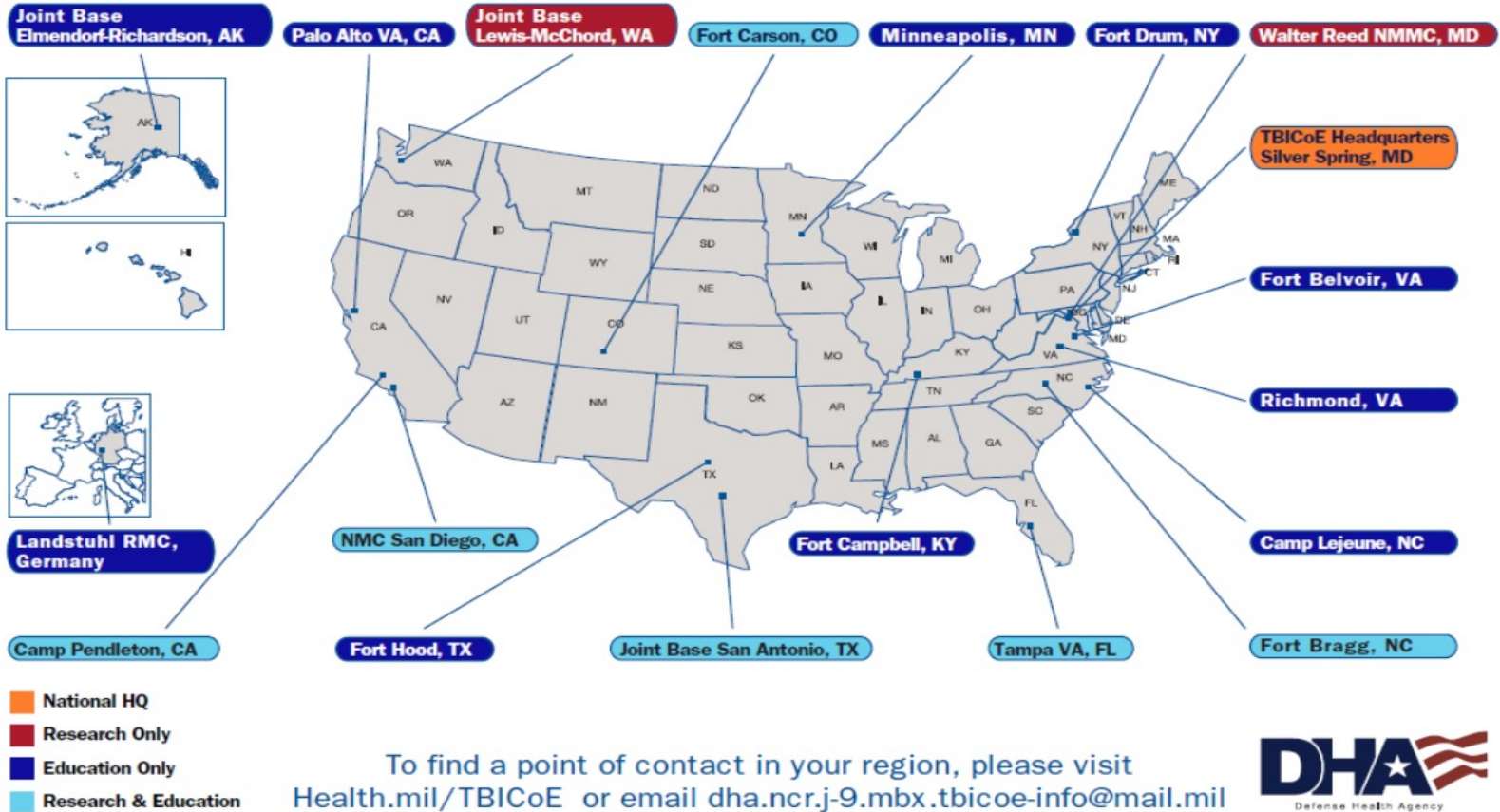


About TBICoE



- Congress established TBICoE in 1992 after the first Gulf War in response to the need to treat service members with TBI.
- **Our mission today remains to serve active-duty military and veterans with TBI, and their families, through state-of-the-art medical care, innovative clinical research initiatives, educational products and programs.**
- TBICoE assists the DoD and Department of Veterans Affairs (VA) in optimizing care of service members and veterans who have sustained a TBI, in deployed and non-deployed settings, through TBICoE's three branches: Research, Clinical Affairs and Education.

TBICoE Sites



To find a point of contact in your region, please visit Health.mil/TBICoE or email dha.ncr.j-9.mbx.tbicoe-info@mail.mil
 This map reflects TBICoE support services across the MHS as of 01 JAN 2021



The TBICoE Branches



These three boxes illustrate the many ways TBICoE supports service members, veterans, their families and health care providers at 21 network sites, located at both military treatment facilities and VA medical centers.

Research

- Clinical investigations
- Congressionally-mandated studies
- Epidemiological research
- Statistical analysis
- Translation of research

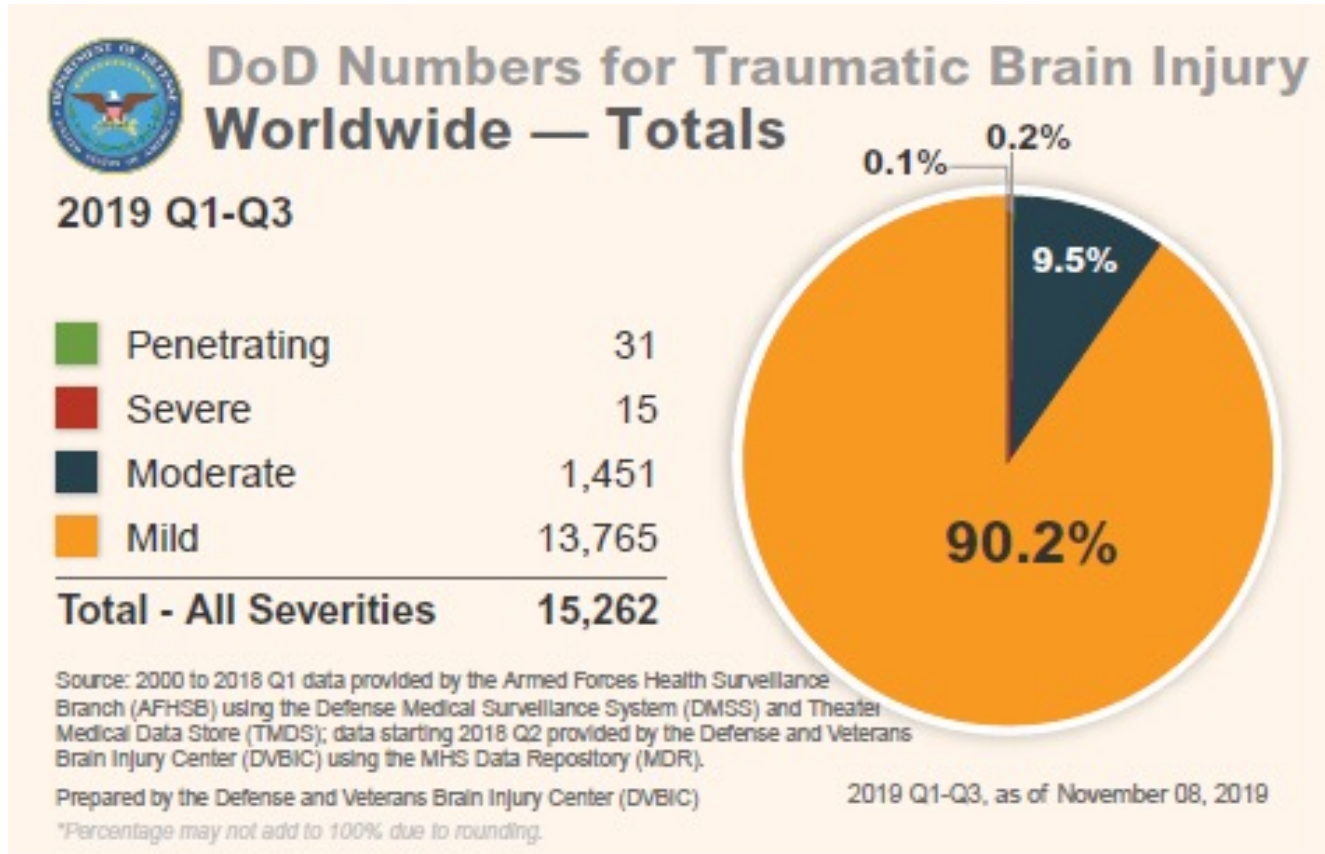
Clinical Affairs

- Care and consultation
- Identification/ sharing best practices
- Clinical guidelines and recommendations (CRs)
- TBI surveillance

Education

- Educational tools
- TBI awareness training
- Product distribution/ dissemination
- Congressionally-mandated Family Caregiver Resources
- Regional Education Coordination (REC)

DoD Worldwide TBI Numbers



Recognize what is new in concussion/mTBI



- a) Review the definition of TBI and current understanding of concussion
- b) Understand the causes of concussion
- c) Understand signs and symptoms of concussion

Learn the definition of TBI & current understanding of concussion



Two conditions must be met before a mild TBI/concussion can be diagnosed:

- An injury event
- **AND at least one of the following**
 - An alteration of consciousness (AOC) lasting < 24 hours
 - A loss of consciousness (LOC) lasting < 30 minutes
 - Post-traumatic amnesia (PTA) caused by the injury event lasting < 24 hours

Key Points:

- LOC is NOT required for diagnosis of concussion
- Symptoms alone do not equate to a diagnosis of concussion
- A **CT scan** is not indicated for most patients with a mTBI, if obtained, it is **normal**
- Symptom severity does not define TBI Classification

Learn the definition of TBI & current understanding of concussion



DoD Definition of TBI: A traumatically induced structural injury or physiological **disruption** of brain function, as a result of an external force, that is indicated by new onset or worsening of at least one of the following clinical signs immediately following the event: AOC, LOC, PTA

Severity	Mild (Concussion)	Moderate	Severe
Structural imaging (Computed tomography)	Normal	Normal or abnormal	Normal or abnormal
Loss of consciousness (LOC)	0 to 30 minutes	30 minutes and <24 hrs	>24 hrs
Alteration of consciousness (AOC)	A moment up to 24 hrs	>24 hours	
Post-traumatic amnesia (PTA)	0 to 1 day	>1 day <7 days	>7 days

Source: Assistant Secretary of Defense for Health Affairs. Health Affairs Memorandum (October 1, 2007). Traumatic Brain Injury: Definition and Reporting

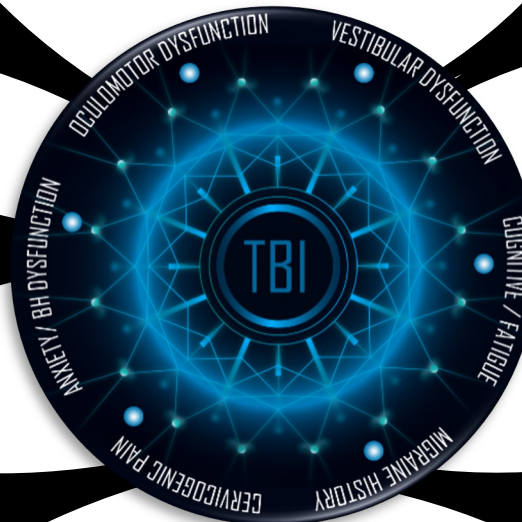
2.b. Become familiar with the new MACE 2 as a multimodal tool

The MACE 2 is the DoD concussion assessment tool to be used as soon after an injury event as possible. This multimodal assessment helps identify prominent symptom clusters.

Oculomotor dysfunction:
MACE 2 VOMS, q14

Anxiety/mood symptoms:
MACE 2 q4C

Cervicogenic pain:
MACE 2 VOMS, q9



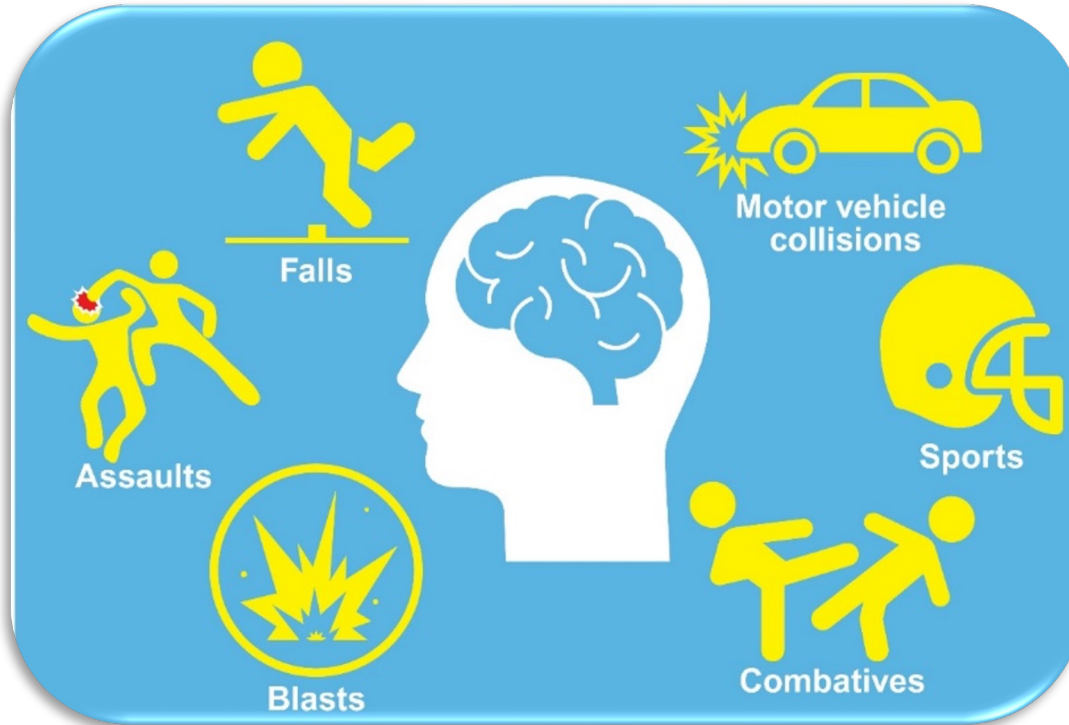
Vestibular dysfunction:
MACE 2 VOMS, Neuro q11 & 12

Cognitive/fatigue:
MACE 2 Cog, Neuro q7 & 8

Post-traumatic migraine:
MACE 2 q4B

Understand the causes of concussion

Concussions can occur on the battlefield and when playing sports, but they also occur in everyday situations



Understand the signs and symptoms of concussion



Observable signs that could indicate concussion:

- Lying motionless on the ground
- Slow to get up after a direct or indirect blow to the head
- Disorientation, confusion, or an inability to respond appropriately to questions
- Blank or vacant look
- Balance difficulties, stumbling, or slow labored movements
- Facial injury after head trauma

Common symptoms after a concussion:

- Headache
- Dizziness
- Memory problems
- Balance problems
- Nausea/vomiting
- Difficulty concentrating
- Irritability
- Visual disturbances
- Ringing in the ears

Differences of TBI and Posttraumatic Stress Disorder Symptoms

Overlapping Symptoms

Possible Symptoms of TBI

- headaches
- dizziness/balance problems
- nausea
- sensitivity to light and sound
- vision changes
- impulsivity

- fatigue
- sleep problems
- trouble with memory and attention
- feeling depressed
- feeling anxious
- irritability

Possible Symptoms of PTSD

- on high alert
- startled easily
- fearfulness
- flashbacks
- nightmares
- guilty feelings
- avoidance
- numbness
- self-destructive behavior

Expectations for Recovery

- Most concussions heal within days or weeks when you follow a progressive return to activity that includes:
 - Rest
 - Gradual return to activity
- Potential complications to recovery after sustaining multiple concussions:
 - Symptoms may be more severe with each additional concussion
 - Each additional concussion, may take longer to resolve



- TBICoE provides free TBI resources for:
 - Providers
 - Service Members
 - Veterans
 - Families
 - Caregivers
- These resources include educational materials, fact sheets, clinical recommendations and much more.
- Download at <https://health.mil/TBICoE>

Educational Resources



TBICoE handouts educate families and caregivers of patients with TBI. They describe the common signs and symptoms and stages of recovery that are available.

The collage features seven handouts, each with a 'PATIENTS' banner and a photograph of a service member. The handouts provide practical advice and lists of symptoms or treatments for various TBI-related issues. For example, the 'Healthy Sleep' handout lists tips like 'Avoid caffeine' and 'Use white noise'. The 'Managing Headaches' handout includes a table for 'WHILE ON DDT' with items like 'Remove TV sets' and 'Use eye drops'.

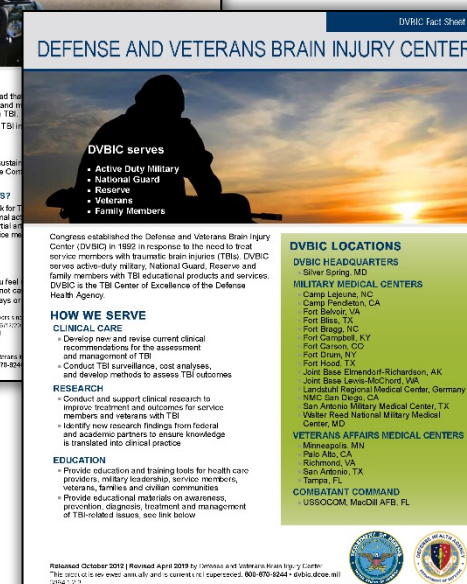
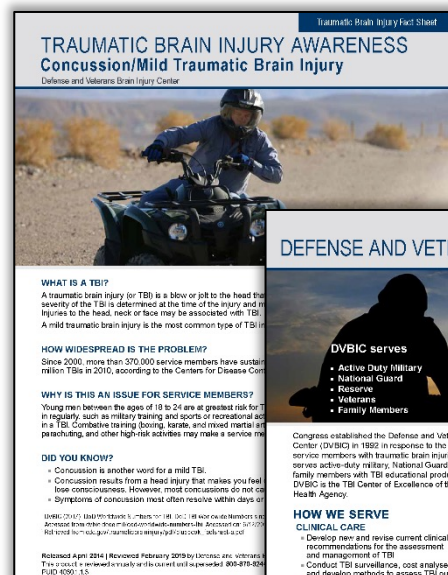
Educational Resources



FACT SHEETS

TBICoE fact sheets present information on various topics related to TBI – symptom management, awareness and prevention, family resources and more.

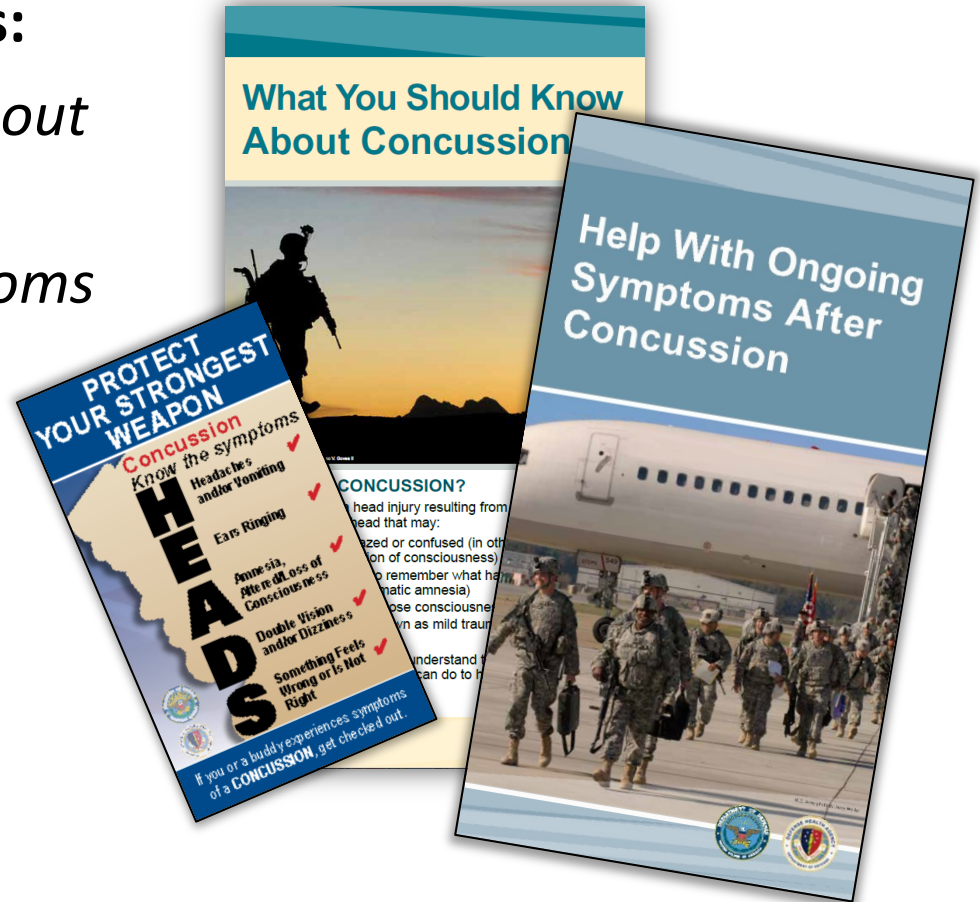
- *Traumatic Brain Injury Awareness* fact sheet
- *Concussion Signs & Symptoms* fact sheet
- *Concussion/Mild TBI and PTSD* fact sheet
- *Mild TBI Symptom Management* fact sheets (6 topics)
- *A Head for the Future* fact sheets (7)



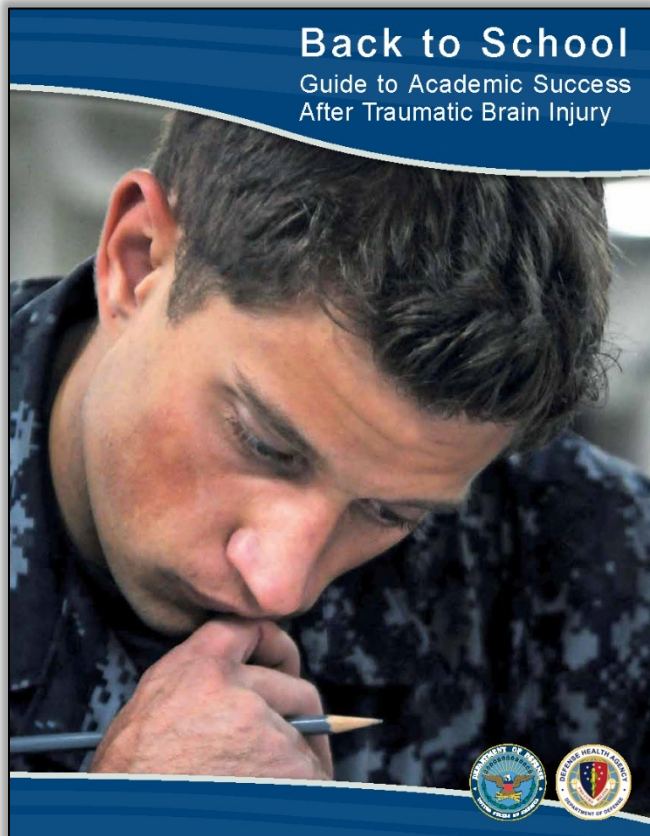
Patient Resources

Additional Patient Resources:

- *What You Should Know About Concussion*
- *Help With Ongoing Symptoms After Concussion*
- *HEADS Card*
- *HEADS Poster*



Service Member and Veteran Resources



TBICoE created a free resource for service members and veterans who have sustained a TBI and plan to go back to school. The *Back to School Guide to Academic Success After Traumatic Brain Injury*.

The guide includes information service members and veterans need to start their academic journey, from symptom management to choosing a school and adjusting to civilian campus culture.

Available to download at <https://health.mil/TBICoE>

A Parent's Guide to Returning Your Child to School After a Concussion



- **Description:** Car crashes, playground falls and sports injuries cause thousands of concussions a year among children. This guide offers practical advice and address common questions to parents.
 - ❑ Section 1: Signs and Symptoms
 - ❑ Section 2: Support Recovery
 - ❑ Section 3: Return to School
 - ❑ Section 4: For Children with Longer Recovery Times



Family Member and Caregiver Resources



The TBI Family Podcast

- Launched in November 2016, this series is for caregivers of service members and veterans with traumatic brain injury (TBI). Each episode offers information, resources and tips for caregivers and shares caregiver stories.
- You can listen to The TBI Family episodes or download them via [SoundCloud](#), [iTunes](#) or [Google Play](#).

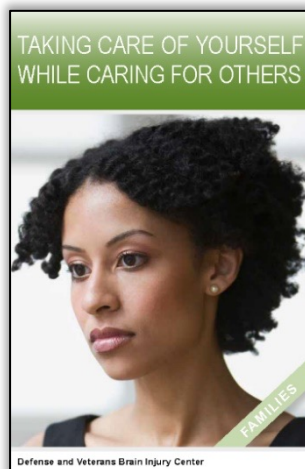


<http://www.dbvic.dcoe.mil/podcasts>

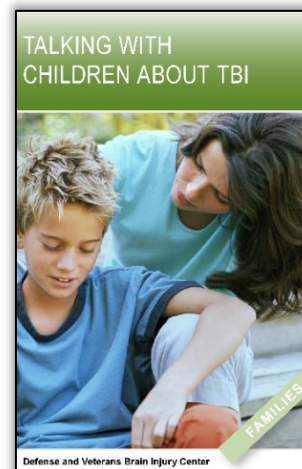
Family Member and Caregiver Resources (continued)



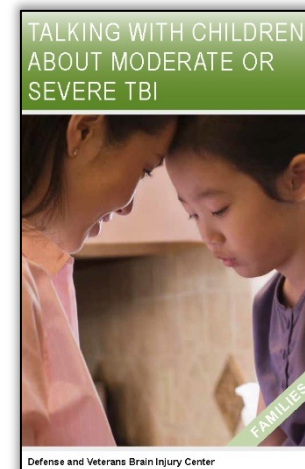
Essential to families with a service member/veteran with a TBI. Everyone in the family is affected, and this tool will assist during this time of transition.



Coping techniques for caregivers and families who are trying to manage stress, anxiety or sadness, while caring for an injured service member/veteran.



Offers communication techniques that can help you explain the effects of TBI to children in a way they can understand. For every age group, from toddlers to teens.



This booklet provides essential tips on how to explain to children what a moderate or severe TBI is and how to cope with the changes in their loved one.

Connected Health Podcasts



<https://www.health.mil/News/Articles/2018/03/05/New-DoD-educational-podcast-series-promotes-better-health>



DHA Connected Health Mobile Applications



Questions?



Traumatic Brain Injury Center of Excellence

<https://health.mil/TBICoE>

Kristen Benson, MSW, LSW
Fort Belvoir, VA
Region: Northern VA,
Washington DC, DE, OH, MD,
PA
Mobile: 267.844.1482
Email:
Kristen.n.benson.ctr@mail.mil

Courtney Sadler, MPH, CTRS,
CBIS
Richmond, VA
Region: Virginia, West Virginia
Mobile: 804.357.3722
Email:
Courtney.j.sadler.ctr@mail.mil

Roya Lackey, MSOT, OTR/L,
CBIS
San Diego
Region: Southern CA, AZ,
Japan, S. Korea
Mobile: 585.704.9641
Email:
Roya.f.lackey.ctr@mail.mil