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Traumatic Brain Injury Center of Excellence

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March 24, 2022

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Briefing Agenda

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



U.S. Navy Petty Officer 1st Class Jonathan Fauth, shares his Traumatic Brain Injury story with an audience (U.S. Army Photo by Marcy Sanchez/Released).

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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 Dissemination.

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The TBICoE Branches

These three boxes illustrate the many ways TBICoE supports service members, veterans, their families and health care providers within the Defense Health Agency and the Veterans Health Administration.

Research

- Clinical investigations
- Congressionally-mandated studies
- Epidemiological research
- Statistical analysis
- Translation of research
- Support from Subject Matter Experts

Clinical Affairs

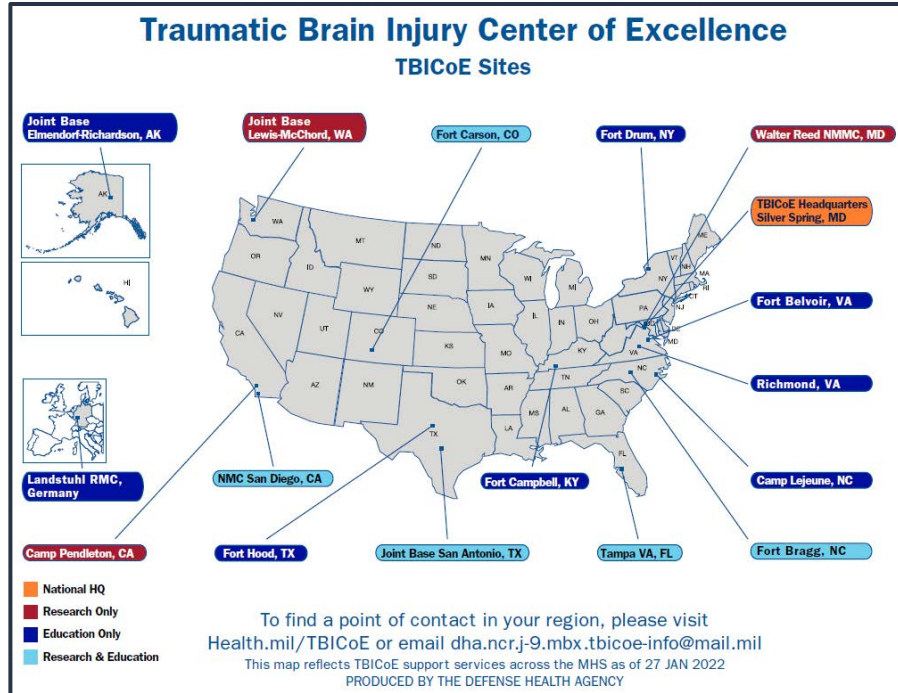
- Care and consultation
- Identification/sharing best practices
- Clinical guidelines and recommendations (CRs)
- TBI surveillance

Dissemination

- Develop educational tools to inform clinical practice
- Regional Education Coordination
- Congressionally-mandated Family Caregiver Resources



TBICoE Map



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DoD Worldwide TBI Numbers

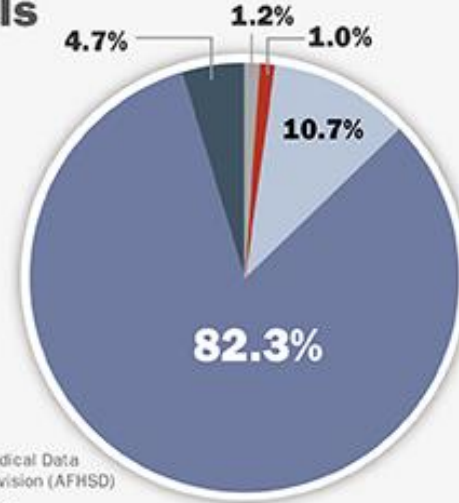


DOD Numbers for Traumatic Brain Injury Worldwide — Totals

2000–2021 Q3

Penetrating	5,584
Severe	4,570
Moderate	48,240
Mild	369,675
Not Classifiable	20,957

Total - All Severities 449,026



Source: Defense Medical Surveillance System (DMSS), Theater Medical Data Store (TMDS) provided by the Armed Forces Health Surveillance Division (AFHSD)

Prepared by the Traumatic Brain Injury Center of Excellence (TBI CoE)

*Percent may not add to 100% due to rounding

2000–2021 Q3, as of November 10, 2021

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Mandatory Events Requiring Evaluation

Department of Defense Instruction (DoDI) 6490.11 notes the events that require mandatory medical evaluation, reporting of exposure, & 24-hour rest period:



U.S. Air Force photo by Senior Airman Ramon A. Adelan)

Involvement in a **vehicle** blast event, collision, or rollover

Presence within 50 meters of a **blast** (inside or outside)

A **direct blow to the head** or witnessed loss of consciousness

Exposure to **more than one blast event** (the Service member's commander shall direct a medical evaluation)

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Provider Tools and Resources

TBICoE Clinical Recommendations with topics that include:

- Headache Following Concussion/Mild TBI
- Sleep Disturbances Following Concussion/Mild TBI
- Progressive Return to Activity Following Mild TBI
- Neuroimaging Following Mild TBI
- Dizziness and Visual Disturbances Following concussion/Mild TBI
- Neuroendocrine Dysfunction Screening Post Mild TBI
- Cognitive Rehabilitation for Service Members and Veterans following Mild to Moderate TBI

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TBICoE Resources



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 Health.mil/TBICoE.

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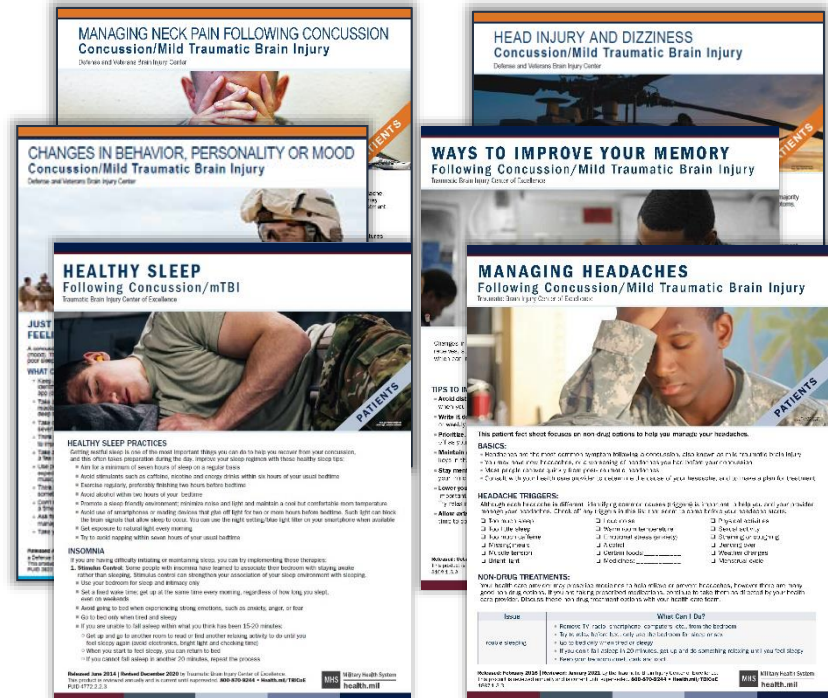


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Educational Resources

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



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TBICoE Resources

The *CUBIST* Podcast

Clinical Updates in Brain Injury Science Today

- Launched in May 2017, this series is for health care providers treating service members and veterans with traumatic brain injury. Each episode offers a brief analysis of current research relevant to clinicians.
- You can listen directly from the website below or subscribe wherever you listen to podcasts.

www.health.mil/TBIPodcasts



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Caregiver Resources

TBICoE Caregiver Guide



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- Understanding TBI
- Caregiver Strategies for Managing the Effects of TBI
- Becoming a Family Caregiver
- Caregiver Resources

Available in an interactive, downloadable PDF at:
health.mil/TBICaregivers



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Caregiver Resources

- Healthcare team
- Counseling, TBI support and educational groups
- APPS: Breathe2Relax, MissionFit, Tactical Breather, Positive Activity Jackpot, T2 Mood Tracker
- TBICoE videos, podcasts and other resources, www.health.mil/TBICoE



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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 and other TBICoE podcasts at [Health.mil/TBIPodcasts](https://www.health.mil/TBIPodcasts)



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TBICoE Resources cont.

Email Updates

- Monthly Concussion Literature Review
- Quarterly Hot Topics Bulletin
- Monthly Providers' Brief

To learn more about TBICoE Research, please visit www.health.mil/TBIResearch

MHS Military Health System
health.mil

Traumatic Brain Injury Center of Excellence
TBI Hot Topics Bulletin
THIRD QUARTER 2021

December 2021

STAY INFORMED ABOUT TRAUMATIC BRAIN INJURY (TBI)
Are you a busy health care provider? Not enough time to keep up with research? Stay informed with the TBI Hot Topics Bulletin. We track the latest TBI scientific studies, advances, and discoveries most relevant to health care providers.

SCIENTIFIC STUDIES

The Natural History of Sport-Related Concussion in Collegiate Athletes: Findings from the NCAA-DoD CARE Consortium

Previous research has investigated clinical recovery from sports-related concussion (SRC). Most studies have small samples and vary widely in their characteristics (e.g., different sports, collegiate, amateur, or professional, male or female). Broglio et al. performed a prospective, longitudinal analysis of 175 concussed collegiate athletes participating in 22 different sports at 20 U.S. academic institutions. The study was part of the NCAA-DoD CARE Consortium, an effort to understand the natural history of sport-related concussion. Their analysis found that return to participation (RTP) was initiated, on average, 4.4 days post injury. Full RTP status was achieved at a median of 12.8 days. Certain factors contributed to early symptom resolution (i.e., shorter RTP duration). These include early initiation of the RTP protocol, frequent post injury assessments, concussions sustained during competition, use of ADHD medication, and being male. In contrast, greater symptom severity and longer RTP duration were associated with frequent symptom assessments, concussions sustained during practice, three or more concussions, and participation in limited contact sports. Overall, most athletes were approved to begin RTP (92%) or participate in sports without restriction (5%) at 1 month post injury.

Comment

The study found that intrinsic and extrinsic factors affect clinical recovery after SRC. A strength is its use of a large, diverse sample of collegiate athletes. Previous reports suggest that clinical recovery occurs within 10-14 days. This study indicates that it may take up to one month for full symptom resolution and RTP. The authors endorse a longer RTP duration as well as being mindful of the athlete's associated risk factors. This approach is more conservative compared to the protocols currently advocated by the NCAA and is consistent with the DoD's Progressive Return to Activity Clinical Practice Guidelines (www.health.mil/About-MHS/OSD/OSD/OSD/Health/Agency/Research-and-Development/Traumatic%20Brain%20Injury%20Center%20of%20Excellence/Provider%20Resource/).

Broglio et al. (2021) Sports Medicine, 51:9 Aug. PMID: 3442927

Comment

The study showed that increased C1q expression is associated with inflammation, neuronal loss, and altered synaptic transmission in mice after mTBI. The authors also investigated C1q activity using an antibody that binds to C1q, blocking its downstream activity. Administration of the antibody 24 hours post injury (then twice a week for 2 weeks) reduced inflammation and neuronal loss in C1q mice. Future studies should examine the translation of these findings to humans, particularly whether C1q antibody treatment mitigates inflammation and post-concussive symptoms.

Holmes et al. (2021) Science, 374:10 Sep. PMID: 3416796

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Brain Injury Awareness Month

TBICoE Education Network Events

Brain Injury Awareness Month, March 2022



DATE & TIME	TOPICS	VIRTUAL PLATFORM
21 MAR 1500-1600 ET	TBI and Caregiver Programs in the Department of Veterans Affairs (VA) & Resources for Caregivers	Adobe Connect
30 MAR 1100-1200 ET	In collaboration with Military Families Learning Network: Support for Reintegration after TBI: Strategies for Advocates, Care Coordinators & Case Managers <ul style="list-style-type: none"> Family Dynamics, Intimacy, Communication, talking with children etc. <p>**CEs available for social workers, case managers and nurses**</p>	Via MFLN website

[Health.mil/BIAMonth](https://health.mil/BIAMonth)



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Questions

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