



NAVAL SAFETY COMMAND SAFETY AWARENESS DISPATCH



SA 23-03

Traumatic Brain Injuries

Traumatic Brain Injury (TBI) sounds like the result of a violent accident such as a car crash or a fall from an extreme height, but it can occur from as little as a hit in the head by a soccer ball. TBIs occur when blunt impact to the head causes the brain to accelerate against the skull and then rapidly ricochet back against the opposite side. Concussions, which are often considered a mild form of TBI because they are usually not life-threatening, **can** be severe and may have long-term health impacts. In the naval services, there were 128,955 TBIs recorded in the Defense Medical Surveillance System (DMSS) from the fiscal year 2020 through the second quarter of 2022. Of these, 25,662 were moderate, severe, or penetrating TBIs. Do you know how to assess the severity of your head injury without a medical evaluation? It can be complicated. Go to this link to see an animation from the Centers for Disease Control on what happens to your brain during a TBI: [What Is A Concussion? - YouTube](#)



Figure 1 lists the symptoms of mild and moderate to severe TBIs according to the Mayo Clinic (not all-inclusive). While even a concussion can be serious if not treated, the initial symptoms of a moderate to severe TBI can feel the same and may not show for hours or even days.

Symptom	Mild TBI	Moderate to Severe TBI	Symptom	Mild TBI	Moderate to Severe TBI
Headache	√	√	Feeling depressed	√	√
Nausea or vomiting	√	√	Difficulty sleeping	√	√
Fatigue or dizziness	√	√	Profound confusion		√
Speech problems	√	√	Convulsions or seizures		√
Loss of balance	√	√	Dilation of one or both pupils		√
Loss of consciousness for seconds or minutes	√	√	Weakness or numbness in fingers and toes		√
Blurred vision	√	√	Loss of coordination		√
Ringing in ears	√	√	Inability to awaken from sleep		√
Sensitivity to light or sound	√	√	Agitation, or combativeness		√
Mood changes	√	√	Coma		√

Figure 1 Symptoms of TBI

Our point is that TBIs can be severe and the only way to know for sure is to seek a medical evaluation. At least 12 symptoms of a mild TBI are common with severe TBIs. Our database is filled with Sailors and Marines who thought, "I'll be fine," and they weren't. Read on and learn why you may not be "fine" and must seek a medical evaluation after a traumatic head injury.

- **Berthing Barge Head knocker.** A Sailor hit the top of his head while in his berthing barge stateroom. Approximately 20 minutes later, he collapsed on the deck, injuring his knee, shoulder, and hip in addition to a gash he received when he hit his head. Despite experiencing occasional blackouts, dizziness, and memory loss, the Sailor was only monitored by his roommate and didn't go to the emergency room until **two days later!** The report doesn't mention the outcome, but with symptoms like those, the Sailor certainly had a TBI. — *Please don't wait to seek treatment. Swelling and bleeding in the brain can be fatal if untreated. Get checked out!*

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- **Not So Funny.** A Sailor sat beside her stationary bike on the floor in her living room while talking with friends. She hit the back of her head on the stationary bike when she fell backward while laughing. The Sailor's head hurt, but she had no other injuries and she later went to bed. The Sailor awoke the following morning (*fortunately*) with a headache, took ibuprofen, and went to work. Later that day, she felt mental fog, confusion, dizziness and nausea. She visited her primary care physician, who prescribed two days sick in quarters and ibuprofen. Two days later, the Sailor experienced significantly increased dizziness and was referred to the emergency room, where she received a Computed Tomography (CT) scan and was diagnosed with a post-concussive syndrome (a condition that could produce symptoms for weeks or even years after a TBI). — *TBI symptoms may not manifest themselves immediately. That's why diagnosis by means like a CT scan may be necessary.*
- **It Was Just A Ball.** While playing soccer with his shipmates, a Sailor lost awareness of where the ball was and it hit him in the side of his head. After approximately 30 minutes of lucidness, the Sailor developed disorientation and drifted in and out of alertness. As his condition continued to deteriorate, base medical personnel needed to sedate and intubate the Sailor to evacuate him to the hospital for a CT scan and other tests. He was released from the hospital after two days with a diagnosis of severe TBI and placed on sick in quarters (SIQ) for seven days with daily Neurobehavioral Symptom Inventory (NSI) tests. — *Severe head trauma can develop from seemingly minor incidents. That's why we must take all head trauma seriously.*
- **The Seven Deadly Sins Shots.** Quoting from the report, "A Marine was allowed to continually fire [a Shoulder-launched Multipurpose Assault Weapon (SMAW)] on a range during a field exercise. He fired the weapon seven times in under an hour. As a result, the Marine now suffers from a traumatic brain injury." To put this mishap in perspective, when training with the SMAW, the gunner and assistant gunner are authorized to fire **only five** rounds per day because of sound pressure levels. — *This incident is not only a leadership shortcoming, to say the least, but it also shows that direct head impact isn't the only cause of TBIs. Sound pressure during live fire events can rattle your brain too. That's why there are limitations on the number of rounds and proximity to the weapon. Follow them.*
- **It's All Fun and Games...Until.** A Sailor was roughhousing with another Sailor when they bumped heads. The Sailors seemed to be okay, except one Sailor had a headache. The Sailor waited until the next day to seek medical care in the emergency room. He was diagnosed with post-concussion syndrome and given an IV and pain medication. He was later released and given a phone number to set up an appointment with neurology. He never called. Nor sought a follow-up exam. — *Aside from this mishap being utterly avoidable, the Sailor didn't take his symptoms seriously and was fortunate not to have been more seriously injured. Take all head injuries seriously, please.*

Key Takeaways

If you haven't already figured out the most important takeaways in this dispatch, here is a recap:

1. **Use your head.** If you hit your head hard enough to cause any of the symptoms we listed earlier, you need to be evaluated by medical professionals, not your roommate. Initial symptoms of a TBI can worsen and become more dangerous as time passes. Swelling and bleeding in the brain could take time to manifest in visible signs. Pushing through or avoiding medical evaluation could lead to permanent severe disability or even death. Don't chance it.
2. **Know the signs.** If you exhibit any signs we listed on the first page (they are not all-inclusive) after a head trauma, you need to follow takeaway #1 and seek medical evaluation. Look out for your shipmates, coworkers, and fellow Marines. Some symptoms of a TBI can affect your cognitive thought and decision-making abilities, so be aware of changes in others' behavior.

For more on the symptoms and causes of TBIs, visit the Mayo Clinic website at:

<https://www.mayoclinic.org/diseases-conditions/traumatic-brain-injury/symptoms-causes/syc-20378557>.

And remember, "Let's be careful out there"