Walter Reed Army Institute of Research Concussion Fact Sheet

Is concussion different from mild TBI?
The term “concussion” refers to exactly the same thing as the term “mild TBI”. This is confusing because the term “TBI” also includes moderate and severe brain injuries where there is obvious damage to the brain caused, for example, by a penetrating wound or skull fracture.

What are some common “post concussive symptoms”?
Common post concussive symptoms include headaches, sleep problems, concentration/memory problems, dizziness, or irritability starting at the time of injury. These symptoms usually resolve very quickly with rest or supportive medical care. If they persist for more than a few days, studies have shown that this is most often due to co-existing depression or PTSD, probably due to other associated lifestyle factors.

Studies have shown that patients who believe that their concussion will cause lasting symptoms are more likely to have symptoms, which is why it is so important to provide reassurance and education that promote the expectation of a rapid recovery.

What is the best treatment for concussions?
Studies have shown that the most effective medical treatment for concussion is normalizing symptoms and providing reassurance and expectation of rapid and full recovery. As with other symptom based conditions, post concussive symptoms need to be managed using evidence-based and collaborative care approaches centered in primary care.

Most people may understand the term “concussion” as referring to a common and not very serious injury with rapid recovery, whereas this may not be the impression one gets from the term “mild TBI”. The term “mild TBI” is a bit of an oxymoron, with the word “mild” combined with “brain injury” or, as the Soldier may hear it as “brain damage”. There has been a lot of confusion or misinformation lately with many people who see news stories thinking that 10-20% of Soldiers coming back from Iraq have serious brain injuries. This simply isn’t true. The vast majority of Soldiers who have been told that they have a “traumatic brain injury” are in the very mild category which means that they have had a concussion from which they will most likely quickly recover.

Is there something different about concussion occurring in combat?
There is no evidence that being knocked unconscious for 30 seconds from a blast explosion is any different than being knocked unconscious for 30 seconds on a football field or in a motor vehicle accident, in terms of the physical effect to the brain. However, there is one important difference, and this is the context in which the combat-related concussion occurs. Many other things may happen when the Soldier experiences a concussion in combat, such as a buddy being seriously injured or killed, damage or injury to civilians nearby, or the fact that having the concussion indicated a really close call, a near miss on the Soldier’s own life, or the fact that the concussion occurred in the context of combat with the enemy. This is likely why so many Soldiers who report concussion while deployed to Iraq develop PTSD, and why concussion in combat is so strongly associated with PTSD.

What was the result of having a concussion for these Soldiers? Didn’t Soldiers who had concussions have very high rates of other health problems?
Concussion can result in physical symptoms, called post-concussive symptoms, such as headaches, sleep disturbance, irritability, or complaints about memory or concentration. These symptoms usually resolve very quickly, within a few days, although for reasons that are not well understood, some people may experience persistent physical health complaints after a concussion. This study showed that most of the health complaints among Soldiers who reported concussion were associated with PTSD and depression, a finding that highlights the importance of recognizing the context in which the concussion occurs. This is important because if we don’t take PTSD or depression into consideration we might misdiagnose these Soldiers as having a brain injury with ongoing post-concussive symptoms, when in fact they have another condition requiring very different treatment.

**What is the relationship of PTSD to concussion?**
Nearly 45% of Soldiers who reported a concussion with loss of consciousness also met criteria for PTSD. Concussion was also associated with depression. Of note, Soldiers who had a concussion while deployed were much more likely to have physical health problems when they came home than Soldiers with other injuries. However, these health problems were almost exclusively in those who had PTSD or depression. In those without PTSD or depression, there was no relationship between concussion and physical health problems. This is what we would see if the physical health problems are due mainly to PTSD and depression rather than due to the concussion.

**Can PTSD and depression cause physical health problems?**
Studies have shown that PTSD and depression are both important causes of physical health problems. PTSD and depression can be considered physiological conditions with definite physiological signs and symptoms. About a year ago, Dr. Hoge and his group published a study involving Iraq War veterans that confirmed the strong association of PTSD with poor general health, physical symptoms, missed work, and a higher use of medical services.

**Why is PTSD or depression so important in causing the physical symptoms?**
Many studies have shown that people with depression or PTSD are much more likely to have physical illnesses or symptoms than people without PTSD, likely because of the effects of PTSD on the immune system and in elevating levels of adrenaline. What is suggested by this study is that concussion in combat represents a very significant traumatic event, such as a close call on one’s life that can lead to PTSD. Then the PTSD leads to all sorts of physical health problems. What is meant by the term “mediate” in the study is that PTSD and depression explained the physical symptoms that occurred among Soldiers who had concussions.