



mild Traumatic Brain Injury

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mild Traumatic Brain Injury

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1.1 INTRODUCTION: TRAUMATIC BRAIN INJURIES AND CONCUSSIONS

One of the most common deployment injuries is a Traumatic Brain Injury, or TBI. This section will help you understand the causes of TBI, the different severity levels, the diagnosis and the healing of TBI injuries.

1.1.1 What is Traumatic Brain Injury?

A TBI is an injury to the head that can affect how the brain functions. However, a TBI involves more than getting hit in the head; it also means that the [brain temporarily stops working in its usual way](#). A service member with a TBI might become dazed, or “see stars,” or have trouble remembering what happened before or after the injury, or even become unconscious for a few seconds to half an hour. If you experienced a TBI, you might describe it as “getting your bell rung,” or “getting knocked out.”

1.1.2 Different Levels of TBI

The severity of a TBI can range from mild (feeling “dazed” or being unconscious for a short period of time) to severe (a longer period of unconsciousness or inability to remember the injury). Here’s how healthcare providers determine TBI severity.

Severity	Responsiveness at Time of Injury (able to open eyes, speak, move etc.)	Alteration in Consciousness (length of time being dazed, confused, or not thinking clearly)	Loss of Consciousness (length of time spent unconscious)	Post-traumatic Amnesia (how long after the injury until having the first memory)
Mild/ Concussion	Fully awake or only small difficulties	24 hours or less	Less than 30 minutes	Less than 24 hours
Moderate	Some functions working and some not	More than 24 hours	30 minutes to 24 hours	1-7 days
Severe	Coma/ unresponsive	More than 24 hours	More than 24 hours	More than 7 days

All of these factors are measured **at the time of the injury**, not minutes, days, or months after the fact. Unfortunately, a person suffering a head injury may not always remember the injury’s details. However, witnesses at the time of the injury may be able to provide missing details and information and help determine the injury’s severity.

1.1.3 Is TBI the Same Thing as a Concussion?

The terms “concussion” and “[mild](#) traumatic brain injury” (mTBI) actually mean the same thing. However, there are some brain injuries that are more severe than a concussion. If you have been told that you have a TBI, you should find out whether your injury was *mild*, *moderate*, or *severe*.

1.1.4 How is a TBI Diagnosed?

A concussion or TBI can be very difficult to diagnose, especially if there are no visible or external signs of the injury. Service members may try to “walk off” the effects of a concussion and continue with missions, increasing their risk of further injury. Concussion is most commonly diagnosed through an interview with a medically trained specialist. Doctors may also use tests such as CT scans, x-rays of the skull, magnetic resonance imaging (MRI), and single photon emission computed tomography (SPECT). However, 85% of concussions are not detected using these types of tests.

The medical field is continuing to look for ways to assess concussions, including using blood or spinal fluid tests to identify damaged brain cells. Most clinicians rely on interviewing the patient and their family and friends, in addition to monitoring symptoms with questionnaires and tests. **Note that only a medically trained specialist can determine if someone has a TBI.**

1.1.5 Causes of TBI During Deployment

TBI's during a deployment can be caused by bullets, fragments, blasts, falls, motor vehicle crashes, and assaults. In war zones, blasts are the most common cause of TBI. In fact, exposure to blasts accounted for more than two thirds of TBIs sustained during recent deployments. In all of these cases, the injury is caused by the head colliding with something (including a gust of high pressure air), or by rapidly speeding up or slowing down.

Blunt Trauma/Closed Head Injury	Penetrating/Open Head Injury
Explosion/Blast (IED, RPG, land mine, grenade, etc.)*	Gunshot or stab wound
Motor vehicle crash (any type of vehicle including airplane)	Fragments/Shrapnel
Fall (including jumps by paratroopers)	Some types of skull fractures
Non-deployment related: sports injury, construction accidents, physical abuse/assault	

* can also be penetrating TBIs, depending on the circumstance.

1.1.5.1 Blast Injuries

Most service members will encounter a blast or multiple blasts during their deployment. More than two thirds of the TBIs sustained during recent deployments were due to blasts. There are four ways to get a TBI from a blast:

1. Changes in atmospheric pressure injure the brain directly (a primary blast injury)
2. Objects put into motion - such as fragments, bodies, or even vehicles - by the blast can hit people (secondary blast injury)
3. Individuals themselves can be thrown into motion by the strength of the blast and hit something else such as the ground or the inside of a vehicle (tertiary blast injury)
4. Injury develops from sources such as thermal, toxic inhalation, or electromagnetic fields (quaternary blast injury)

THERE ARE 2 TYPES OF TBI:

- **blunt trauma** also called “closed head injury

- **penetrating** also called an “open head injury.”



1.1.6 How Long Does it Take to Heal?

The effects of a concussion are usually temporary and disappear after a few weeks. In fact, most people who sustain a concussion recover fully anywhere from a few minutes to a few months after the injury.

During this period, the brain is working to heal itself just like other parts of the body works to heal a cut or a bruise. When symptoms do not go away naturally, there are often other difficulties involved, including depression, post-traumatic stress, or other physical injuries.

The longer someone is unconscious at the time of the injury, generally the longer the recovery. **Moderate TBI** symptoms may linger for months. Many service members with a moderate TBI are able to return to active duty, while others will need to retire from the military. For the best outcome, moderate TBI requires treatment by a team of medical providers. Symptoms

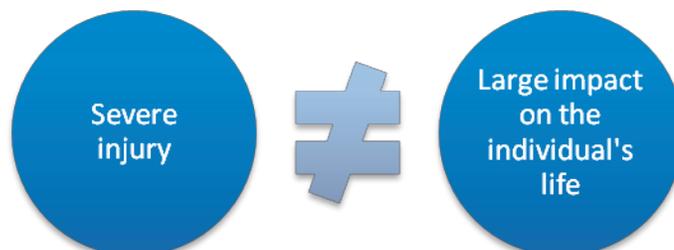
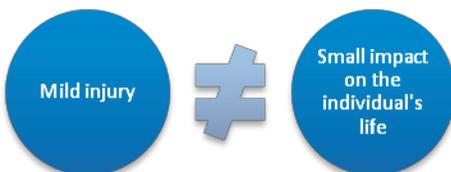


can generally be managed with a regimen of medication, counseling, and learning strategies. **Severe TBI** often results in long-term nursing care and difficulty with independent functioning.

Monitor your progress by seeing your healthcare provider early and often.

1.1.7 Predicting The Impact of TBI

While common sense suggests that a concussion (or *mild* TBI) would have less impact on a service member's life than a *severe* TBI, in fact the severity of an injury does not always determine how someone's daily life is affected.



1.1.8 Predicting The Impact of TBI (cont.)

Every concussion is *different*, and the impact it has is influenced by personal and lifestyle factors, which, naturally, vary from one person to the next. Here is a list of factors that can affect recovery.

- **Age.** Recovery is slower with aging because the brain has to work harder to heal.
- **Time since the injury.** In most cases, concussion symptoms are the most severe just after the injury. Most people recover from a concussion *completely* after six months.
- **How stressful the injury was.** The injury may have caused fear, helplessness, and even horror. Such feelings can challenge the recovery process, especially if there are frequent reminders of the traumatic event.
- **Lifestyle before the injury.** Healthy people tend to get better faster. Personal choices such as using drugs, alcohol, or energy drinks, can determine an injury's overall impact. Engaging in hobbies that require physical or mental speed can quicken a recovery.
- **History of concussions.** A history of concussions makes it harder to recover from a recent concussion.



- **Personality and thinking style.** Some people tend to feel defeated when faced with challenges. While it is reasonable to be upset at times, constant negative thinking can slow healing.
- **Goals.** Having clear, specific goals can act as a powerful motivator throughout recovery.
- **Stigma.** Some service members avoid seeking consultation because they worry that their careers will be damaged. ***However, actively seeking treatment will reduce the impact of a concussion.***
- **Ability to adapt to changes and learn new techniques.** Some people are more adaptive to change than others. A willingness to try new things will speed recovery.
- **Social and role demands.** Recovery requires downtime and an 'attitude adjustment'. Trying to perform at pre-injury levels could hurt the recovery process.

1.1.8 Predicting The Impact of TBI (cont.)



It's important to understand that all of these factors can impact the recovery progress. The good news is that personal and lifestyle factors can be worked on directly. For example, increasing one's flexibility can help with adapting to unpredictable situations.

Because the most effective treatment for a moderate or severe TBI is a comprehensive approach to care (involving close monitoring from a team of medical professionals), this library of materials will focus on mild traumatic brain injury/concussion.

1.2 COMMON CONCUSSION PROBLEMS

Because the signs and symptoms of a concussion can be subtle, they can be overlooked by patients, family members, and health care professionals. Since concussions can be different from one person to the next, some individuals will experience many symptoms while others will experience just a few symptoms. Because many factors influence recovery (flexibility, goal-setting, social support), having a lot of symptoms doesn't necessarily mean having a more difficult recovery.

The difficulties associated with concussion can be grouped into three categories:

- problems with thinking ability
- problems with moods and behaviors
- and problems with body and senses.



1.2.1 Problems With Thinking Ability

Many people have temporary difficulties with their thinking ability. There are no specific tests to determine the cause of thinking problems. If you're having problems with thinking and you suffered a concussion, the two *may* be related. But thinking problems might also be related to post-deployment stress, depression, or general difficulty with adjusting to life back home.

Common Thinking Problems include:

- Memory
- Concentration, attention, and focusing
- Learning and understanding new things
- Processing and understanding information including following complicated directions
- Finding the right words when you are talking or understanding what others are saying
- Solving problems, organizing, and making decisions
- Controlling your impulses and desires; being patient and socially appropriate
- Thinking clearly and quickly

Thinking problems that result from a concussion *will be evident soon after the concussion*. Problems that appear later are often related to chronic pain, sleep difficulty, and emotional distress. In fact, it is the combination of physical and emotional difficulties that can *cause* the thinking problems. New stressors and situations may either cause more problems or make existing problems more obvious.

*It is important to
actively address
any ongoing
adjustment or
emotional concerns.*

QUICK TIPS FOR MANAGING THINKING PROBLEMS

1. Do brain workouts

Keep your brain active every day by enjoying crossword puzzles, Sudoku, card games, or board games.

2. Decrease your stress level.

Limit the time you spend doing stressful activities. Lowering your stress level will lead to a better functioning brain.

3. Maintain healthy habits.

Exercise can improve your mood and help you think more clearly. If you are under medical care for concussion, be sure to check with your health care professional before starting an exercise plan. Other helpful habits include getting enough sleep, avoiding alcohol or drugs, and eating healthy food.

4. Use tools to help you remember.

To track important meetings and events, write things down; set alarms; ask friends to remind you of important events or use the calendar function on a cell phone.

5. Make a Routine

Making a routine will decrease your stress level and help you remember the things you need. Here are some suggestions: put your keys in the same spot; get to bed at the same time in the evenings and wake up at the same time every day; park in the same place at work.

6. Address related problems.

If your thinking problems are connected to depression, fatigue, or post-deployment stress, make sure you are addressing those problems.

1.2.2 Problems With Moods, Emotions, and Behaviors

Dealing with constant deployment reminders can lead to emotional difficulties. A concussion greatly increases the likelihood of experiencing mood or emotional problems. In fact, nearly 43 percent of service members who sustained a concussion also reported experiencing emotional difficulties.

Common problems with moods, emotions, and behaviors include:

- Frustration or irritability
- Depression/feeling like everything is hopeless or pointless
- Anxiety, worrying, or stress
- Reduced tolerance for stress/ feeling easily overwhelmed
- Sleep problems
- Numbing out or flipping out
- Inflexibility
- Feeling less compassionate or warm towards others
- Feeling guilty
- Denial of problems

Managing the homecoming, the physical symptoms from a concussion, and possible emotional problems can be difficult for most.

1.2.2.1 Irritability and Anger

Many service members find that deployment has left them feeling less patient with the stresses of civilian life. After facing life-and-death challenges, issues at home can seem unimportant. Constantly watching for danger creates the feeling of being “on edge.” Irritability becomes even more common if occurring along with the typical symptoms of a concussion. Irritability can also overlap with other challenges such as fatigue (tiredness); in fact, fatigue is the most common cause of irritability.



Studies show that *more than half* of people recovering from a concussion experience *irritability*, annoyance, or impatience.

1.2.2.1 Irritability and Anger (cont.)

QUICK TIPS FOR MANAGING THINKING PROBLEMS

- **Take a break.**
Step away from an irritating situation. Take a walk, get a drink of water, take a few slow breaths – just give yourself a moment to cool off.
- **Give the benefit of the doubt.**
Consider other ways to think about the person or situation bothering you. Consider all aspects. If the problem is with another person, try looking at things from that person's point of view.
- **Take care of things that stress you out.**
Manage your irritability by decreasing your stress level. For example, creating a budget can help to reduce frustrations over finances.
- **Limit your time in irritating situations.**
Limit the time you spend in noisy, chaotic, or crowded situations. Know up front if a situation is going to challenge you, and make a plan in advance.
- **Communicate effectively.**
Express yourself calmly, even when you're angry. Avoid yelling, name-calling, overstating your case, or physical aggression. Listen carefully to the other person. If you feel unable to stay calm, take a break.
- **Find alternative ways to manage frustration.**
Write an angry letter or e-mail to a person who frustrates you and then discard the letter or the email! Vent to a friend who is not involved in the frustrating situation. Establish a routine exercise schedule.
- **Decrease boredom and increase independence.**
Slowly re-engage in work, activities, exercise, and hobbies. Look for new activities such as volunteering or attending a veteran's groups. Do things for yourself as much as possible instead of relying on others.
- **Get support.**
Talk to friends and family about your irritability. Consider post-deployment counseling or support groups.
- **Increase predictability in your life.**
Develop daily routines to provide structure.
- **Talk with your doctor.**
Discuss medication side effects and medical problems that can cause irritability. Ask your provider about medications that might help with the underlying causes of irritability, such as depression or fatigue.
- **Work on related problems.**
If your irritability is related to stress, physical pain, or depression, make sure you're addressing those problems. Counseling can help with problems involving irritability and anger.

1.2.2.2 Depression and Feeling Like Things Are Hopeless or Pointless

In the general public, about six percent of people get clinically depressed in their lifetime. Though researchers have not determined the reasons, people who have had a concussion are four to ten times more likely to become depressed. In fact, depression is the most common mood problem experienced after a concussion.

Generally, depression is a condition with emotional and physical symptoms, including feeling down most of the time, for at least a few weeks. Often, depression comes with feelings of worthlessness, hopelessness, guilt, or the feeling that everything is pointless. Sleep and appetite are usually affected. Thinking can become cloudy.

Finally, depression can lead to thoughts of death or suicide.

THE *good news* IS THAT *DEPRESSION IS curable* WITH TREATMENT.



1.2.2.2 Depression and Feeling Like Things Are Hopeless or Pointless (cont.)

QUICK TIPS FOR MANAGING THINKING PROBLEMS

- **Recognize that depression is not permanent.**
Depression is a natural, temporary state in people who have suffered a TBI or experienced trauma. Even severe episodes of depression can be improved with treatment.
- **Quit the negative thinking.**
Note any negative thoughts that might reinforce your depression. Thoughts like “I’ll never get better” or “My whole life is ruined” make things worse. Come up with alternative thoughts, like “I will be able to kick this depression over the next few months.” Get some perspective by discussing your negative thoughts with people you trust.
- **Schedule pleasant activities.**
Depressed people can devote so much energy to thinking about their mood that they don’t have energy left for fun. Pleasant activities—no matter how big or small—will help you recover.
- **Maintain healthy habits.**
Exercise is a natural way to increase your energy and improve your mood. Other helpful habits include: getting enough sleep, eating healthy and avoiding alcohol, tobacco, drugs, and energy drinks.
- **Add structure.**
Slowly return to work or school. Look for opportunities to participate in the world around you, from volunteering to helping out around the house. Don’t wait to feel motivated—just add the activities to your schedule and do them.



- **Get support.**
Talk to people you trust—friends, family, buddies—and let them know how you’re really doing. Talking to others will keep you from feeling isolated and will give friends and loved ones a chance to help you.
- **Seek professional help.**
There are excellent talk-therapy treatments and medications available for depression. Make sure that your provider knows about your history of concussion before prescribing medication, in case your injury makes you prone to side effects. Be sure to follow your doctor’s recommendations closely and consistently.

1.2.2.3 Problems Sleeping

Following a concussion, sleep disturbance can be a very common problem. The four most common sleep problems are:



1. **Insomnia:** The inability to fall asleep or stay asleep through the night.
2. **Excessive daytime sleepiness:** Being extremely tired or falling asleep for long periods of time during the day.
3. **Delayed sleep phase syndrome:** Mixed-up sleep patterns that are different from most other people (for example, sleeping from early in the morning until the afternoon every day).
4. **Nightmares:** Terrifying dreams that can be related to deployment (or non-deployment) issues.

Poor sleep can increase the risk of depression, stress, memory and concentration problems, and traffic or workplace accidents. There are numerous causes of sleep problems including:

- **Daytime sleeping and inactivity:** This includes sleeping when bored or napping during the day.
- **Not having a sleep schedule:** Getting back into a regular routine can be challenging after a deployment. If a concussion has left you recuperating at home, it can be difficult to resume a daily pattern when you go back to work.
- **Mood or emotional difficulties:** Depression and stress can cause difficulties sleeping.
- **Post-deployment stress:** Memories of your deployment or the moment of your head injury can seem to haunt you at night in the form of negative thoughts and nightmares.
- **Normal transition after returning from deployment:** This can include time zones traveled, and the fact that the nature of military missions limits sleep or alters sleeping schedules, etc.
- **Chemical changes due to concussion:** Chemicals in your body that guide your “internal clock” and help you sleep may be affected by concussion.
- **Pain:** A concussion can result in headaches which disturb sleep.
- **Medications:** Some medications can cause problems going to sleep or staying asleep; other medications can make you so drowsy during the day that you end up not sleeping at night.
- **Use of energy drinks or excess caffeine throughout the day**
- **Exercising too late in the evening/night**
- **Use of recreational drugs or alcohol**

1.2.2.3 Problems Sleeping (cont.)

QUICK TIPS FOR SLEEP PROBLEMS

- **Talk to your doctor.**
Discuss sleep issues with your doctor to determine potential causes and treatments. Bring a list of current medications to help determine whether any of the medications are contributing to the problem. Your provider may suggest a treatment approach including meditation, counseling, or further testing.
- **Manage your daytime habits.**
Develop a daily schedule. Make sure you have some activities in your schedule that are pleasant and meaningful. Limit passive activities like watching TV.
- **Maintain healthy habits.**
Exercise daily, eat a healthy diet, and avoid alcohol, drugs, and smoking.
- **Practice healthy sleep habits.**
 - Set a consistent schedule for bedtime and waking up
 - Follow a routine before you go to bed
 - Avoid caffeine, sugar, or energy drinks five hours before bedtime
 - Do not exercise within two hours of bedtime
 - Only use your bed for sleeping and sex
 - Create a restful atmosphere in your bedroom
 - Use window shades to darken the room
 - If you're struggling for more than thirty minutes to get to sleep, get up and do something else until you feel tired enough to sleep
 - Do not take naps during the day unless necessary to perform a task such as operating a car or heavy machinery.
- **Do not take supplements without consulting your doctor.**
Not all supplements are harmless (especially in combination with other medications).
- **Recognize your triggers.**
Take note if certain people, places, situations, or activities are more likely to affect your sleep. Keeping a sleep journal that includes all of this information can be helpful.
- **Stop the worry spin cycle.**
If you find yourself thinking things like, "I'm never going to fall asleep" or "I'm going to be too tired to work tomorrow," stop the thoughts as quickly as possible. Instead of worrying, substitute thoughts like "I may be tired tomorrow but I will still be able to get my work done."
- **Practice relaxation exercises.**
Learn how to do slow breathing, progressive muscle relaxation, or use imagery to relax your body and mind. Practice these techniques daily and use them when you're struggling to sleep.
- **Give yourself a break.**
Resume your activities slowly following your injury. Be sure to schedule "down-time".
- **Be practical.**
Use alarm clocks to wake up, and ask for a doctor's note to adjust work hours if necessary.
- **Work on related problems.**
If your sleep problems are related to stress, physical pain, depression, or other issues, make sure you're addressing those problems.





1.2.2.4 Anxiety

Individuals with concussions report feeling anxious about twice as often as the general population. Anxiety can be a side effect of a concussion or a direct result of personal or physical problems. Whatever the cause, anxiety is a frequent – if mostly temporary – problem for people who have had concussions. Negative thinking, a common byproduct of anxiety, can make recovering from a concussion more difficult.

What is anxiety? Anxiety goes by a lot of names: nerves, stress, tension, worrying, and phobias, to name a few. Problems with anxiety include:

- General nervousness or feeling “stressed out” or “overwhelmed”
- Specific fears or worries about health and wellness or job loss or financial concerns
- Feeling unsafe in the world after a traumatic event
- Believing that the world is unpredictable
- Feeling vulnerable or expecting harm

Deployment experiences can include some of the most stressful events ever experienced, and can produce fear, helplessness, horror, and vulnerability. When making sense of a terrifying event, or when triggered by reminders of the trauma, the brain replays the incident. The resulting thoughts and reactions (nightmares, flashbacks) can cause considerable post-deployment stress.

While symptoms such as headaches or sensitivity to noise are concussion-related, and symptoms such as flashbacks or nightmares are related to post-deployment stress, note that “post-traumatic stress” symptoms can *overlap* with concussion symptoms.

Therefore, many people who have had a concussion may also experience post-traumatic stress symptoms.

The Relationship between Concussion and Post-Traumatic Stress

Concussion

- Headache
- Sensitivity to noise & light
- Vision and other sensory problems
- Dizziness and balance problems

Postdeployment Stress

- Replaying the event/flashbacks
 - Nightmares
- Avoiding reminders of event

1.2.2.4 Anxiety (cont.)

Lingering reactions to trauma mostly occur when an individual cannot process the horror of the event. People who sustain a concussion may not be able to process the trauma while it's occurring because they are dazed, confused, or, in fact, unconscious. This inability to adequately think about the trauma because of the concussion increases the possibility of experiencing post-traumatic symptoms later.

Because concussion symptoms and post-traumatic stress symptoms often overlap, healthcare providers are trained to evaluate and provide appropriate treatments for both concussion symptoms and post-traumatic stress symptoms.

QUICK TIPS FOR PROBLEMS WITH ANXIETY AND POST-TRAUMATIC STRESS

- **Recognize that stress and anxiety aren't permanent.** There are many scientifically proven ways to manage stress, even after a life-changing deployment.
- **Stop the anxiety spin cycle.** If you notice your mind starting to spin on worries or negative thoughts about your recovery, do what you can to stop it quickly. Thoughts like these gather speed and intensity and can take over your life. Come up with reassuring thoughts like "I am safe now and so is my family" ahead of time to combat anxiety. Get some perspective by talking about your concerns with people you trust.
- **Recognize the triggers.** Take note if certain people, places, or situations are more likely to make you feel stressed. Don't avoid them—that will just reinforce the message that they are dangerous or intolerable. But prepare yourself by thinking through how to manage your stress in advance.
- **Practice relaxation exercises.** Learn how to do slow breathing, progressive muscle relaxation, or use imagery to relax your body and mind. Practice these techniques daily so that you are able to use them when you're feeling stressed out.
- **Add structure to your daily life.** Slowly return to work or school. Look for opportunities to participate in the world around you, from volunteering to helping around the house on a regular basis. Start small but don't wait until you feel completely back to normal to get out into the world.
- **Schedule pleasant activities into your life.** Being stressed can consume so much time and energy that people completely miss the pleasant things going on their lives. Pleasant activities—no matter how big or small—will help you recover.
- **Maintain healthy habits.** Exercise can help you focus, increase your energy and stabilize your mood. Other helpful habits include: getting enough sleep, avoiding alcohol and drugs, energy drinks, and eating healthy (not too much, too little, or just junk).
- **Get support.** Talk to people you trust—friends, family, buddies—and let them know how you're really doing. It will keep you from feeling isolated and it will give them a chance to help you out of your current state.
- **Seek professional help.** There are excellent talk-therapy treatments for stress and anxiety. There are also medication available for anxiety and related problems. Make sure that your provider knows about your history of concussion before prescribing you anything, in case your injury has made you more susceptible to side effects.

SEEK IMMEDIATE HELP IF YOU ARE THINKING ABOUT HURTING YOURSELF OR SOMEONE ELSE.
While these thoughts frequently come with increased stress, they are not to be taken lightly.

- **Work on related issues.** If your stress is connected to fatigue, physical pain or other issues, make sure you are working on them with your health care provider. You can also work on these issues by completing workshops on afterdeployment.org

QUICK TIPS FOR PROBLEMS WITH DENIAL

Take stock of a problem.

Commit to taking a good hard look at what has changed since the injury. Be realistic; try not to overestimate or underestimate your mental and physical functioning before the injury.

Consider how your changes might affect others.

You should not feel guilty but you do have to be aware of the ways in which your challenges impact the lives of others.

Think about why you don't acknowledge your challenges

If you have been denying difficulties after a concussion, try to figure out why. Does it make you feel helpless? Defective? Lonely? Needy? Once you know the reasons, come up with some arguments against them, such as "Even if I need help getting around, I'm a strong person who served his country bravely."

1.2.2.5 Denial of Disability

Following a concussion, some service members simply do not recognize that the injury has had an effect on their lives, although others can clearly see changes. If injured service members are unaware of or unwilling to face the challenges that come with concussions, they may miss the opportunity to practice skills that will shorten and improve recovery.

Some service members want to stay with their unit until the completion of the mission, even when it's unsafe or unwise to do so. Some deny that anything is wrong and delay getting medical treatment to avoid being removed from their duties. The truth is that service members who are not operating at their best compromise the safety of their units.

1.2.3 Problems with Body or Senses

A concussion can affect many different areas of physical functioning. The most common physical symptoms following a concussion are:

- **Headache**
- **Fatigue**
- **Trouble with balance or dizziness**
- **Changes in vision, hearing, or touch**
- **Sexual problems**

Many of the physical aspects of concussion are beyond the scope of this document. However, we will provide an overview of the most common physical problems that arise following a concussion, including some simple ways to manage these challenges.

Let's take a closer look at headaches, which are common symptoms associated with a concussion.



1.2.3.1 Headaches

Headaches are the most common physical symptom following a concussion. Headaches can vary quite a bit in intensity (mild to severe) and the type of pain (dull to sharp). Medical doctors classify headaches into several categories. If you can identify which type(s) of headaches you are experiencing, you can be better prepared to discuss appropriate treatment with your doctor.

Common Types of Headaches			
Type of Headache	Duration	Symptoms & Characteristics	Causes
Migraine	4-72 hours	Pain at the forehead or temple, sometimes with nausea, vomiting, numbness, muscle weakness, and sensitivity to light or sounds. Pulsating quality. May worsen with more activity. Often gets better with more sleep.	Emotional stress, physical activity, menstrual cycle, irregular sleep, irregular meals, trigger foods.
Post-traumatic	Varies	Resembles tension headaches or atypical migraines. Burning or tingling sensation and pain that gets worse with touch. Must be diagnosed by a full workup by a doctor.	TBI with any cause.
Tension	30min—7 days	Pressure or tightening in the head (alternate name: pressure headaches) without a pulsating quality. Mild or moderate intensity. Not aggravated by physical activity. Can make sleep difficult, usually located on both sides of the head. Can be episodic (less than 15 times in a month) or chronic (15 days—6 months)	Facial or neck or whole head pain. Triggers include worry, stress, overwork, poor posture, and poor ventilation.
Cervicogenic (cervical)	30min—7 days	Same as tension headaches above but the pain originates in the neck and is felt in one or more areas of the head or face.	Often the result of whiplash or injuries to the back, neck, or jaw that can be seen in laboratory tests or imaging.
Cluster	15min—3 hours	Very severe pain often behind the eye and on one side of the face but may move to the other side during the course of headache. Can cause awakening from sleep. Can include nasal congestion and facial sweating.	Injury to the head or back of the neck or nerve damage. Triggered by nicotine, alcohol, overwork, stress. Rare headache type.
Analgesic (painkiller) Rebound	Varies	Severity and location varies. Can shift, even within a day, from migraine-like to tension-type symptoms. Nausea, difficulty concentrating, depression, irritability, restlessness.	Overuse of pain medications, including over-the-counter drugs. Can be seen when certain medications taken > 6 times per week.

Headaches can be caused by a number of physical and emotional conditions. Muscle tension, eye strain, dehydration, low blood sugar, and fatigue are the most common physical causes. Short and long term emotional states (like stress and depression) can also cause headaches.

Headaches are often associated with the network of nerves and blood vessels that extend over the scalp, face, and throat. Tightened muscles can squeeze blood vessels, which in turn prevents blood from reaching the head. This is why relaxation techniques are so effective at relaxing the body and allowing the blood to flow freely again.

1.2.3.1 Headaches (cont.)

Most people treat their own headaches with over the counter medicines (painkillers like aspirin, Tylenol, or ibuprofen). You should consult your doctor before you start taking any medications, even if you know that they are usually safe. It is possible to suffer from rebound headaches when the painkillers wear off, and they are generally worse than the initial headache.

QUICK TIPS FOR MANAGING HEADACHES

Recognize the triggers of headache

Take note if certain people, places, situations or activities are more likely to trigger a headache. Remember that headaches can also result from emotions. Learn to pay attention to the early signs of headache so that you can do something before it gets too bad.

Maintain healthy habits.

Make sure you exercise daily (if approved by your provider), sleep 8 hours or more per night, eat a healthy diet, and avoid alcohol, drugs, and smoking.

Stretch

Take frequent breaks during the day to stretch your neck and back. Make sure you are not holding your head, neck, or shoulders in an awkward position.

Use ice/heat

Ice is a natural anti-inflammatory and heat is good for relaxing muscles in the neck and shoulders. A hot shower works for a heat source as well.

Talk to your doctor.

Ask about medical and/or physical problems that may contribute to the headaches. Review any medications you are taking to determine if they could be making the problem better or worse. Your doctor may suggest medications.

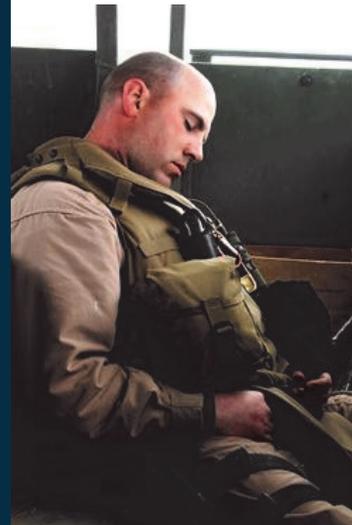
Work on related issues.

If your headache is related to stress, physical pain, depression, or other issues, make sure you are working on them on afterdeployment.org or with your health care provider. There are also excellent talk-therapies that can help with chronic headaches and potential underlying issues.

1.2.3.2 Fatigue (feeling tired)

Chronic fatigue, or tiredness, is one of the most common problems reported after a concussion. People with fatigue lack the energy – both mental and physical in most cases – to follow through with daily activities. Chronic fatigue can make it difficult to care for yourself, do the things you enjoy, socialize, or work. There are three types of fatigue:

1. **Physical fatigue:** Includes muscle weakness or lack of endurance to perform daily activities like dressing and walking. Physical fatigue is usually worse in the evening after the exertion of the day. A good night's sleep usually makes it go away. Building up endurance can help overcome physical fatigue.



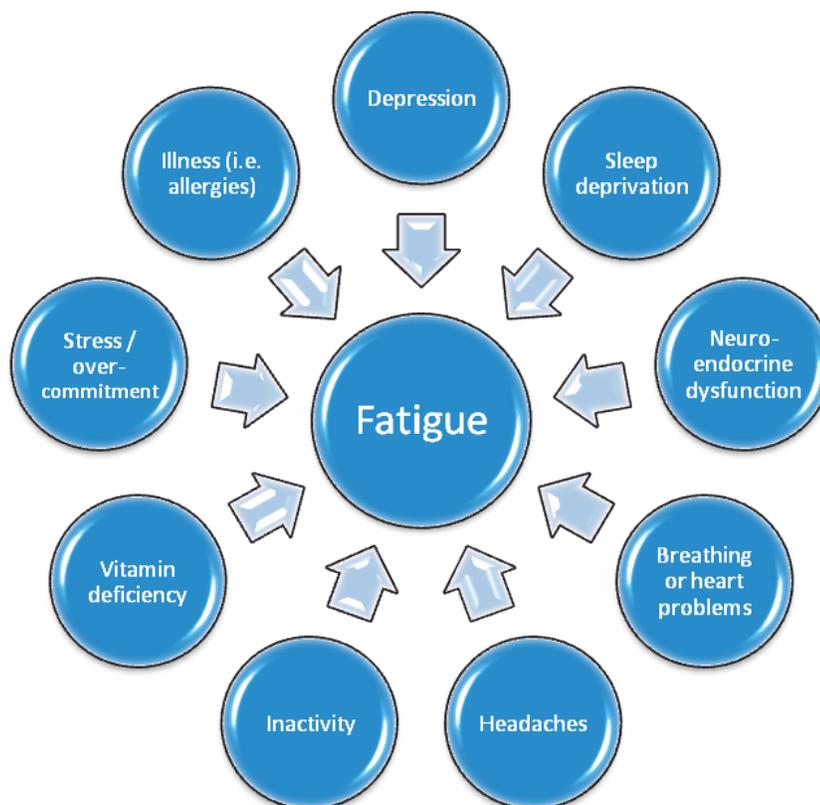
2. **Psychological fatigue:** Comes with mood and emotional difficulties like depression or anxiety. It tends to get worse with stress or emotional pain and sleep does not usually help. Psychological fatigue is worst in the morning. The best way to treat psychological fatigue is to treat underlying causes (e.g., depression).

3. **Mental (cognitive) fatigue:** Common after a concussion. It makes thinking and concentrating difficult and can cause secondary symptoms like headaches and irritability. Rest can be helpful in managing its effects.

Fatigue is very common and occurs in almost one-quarter of all people who haven't had a concussion. Almost 70 percent of people with concussions reported mental fatigue. Following a deployment, fatigue may result from many different causes, including mood or adjustment difficulties, medications, physical problems, or changes in daily patterns

1.2.3.2 Fatigue (cont.)

Fatigue is very common and occurs in almost one-quarter of all people who haven't had a concussion. Following a deployment, fatigue may result from many different causes, including mood or adjustment difficulties, medications, physical problems, or changes in daily patterns.



Not only is fatigue affected by other symptoms, it also can make other problems worse. When tired, thinking will be slower, memory capacity and level of concentration will decrease, and mood will be negatively impacted. Feeling extremely tired can actually make it more difficult to sleep, which can make symptoms even worse.

QUICK TIPS FOR FATIGUE

- **Recognize the triggers of fatigue.** Take note if certain people, places, situations or activities are more likely to trigger fatigue. Remember that fatigue can be related to emotions such as sadness or anger.
- **Keep an eye out for negative thinking and giving up.** Replace negative thoughts with more reasonable ones. Instead of thinking "I'll never get my energy back," think "I can slowly work back up to where my energy was before."
- **Sleep well.** Follow a consistent sleep schedule, including the weekends. Plan to get eight hours of sleep (or more), and get to bed near to the same time every evening. Don't nap during the day if it keeps you from sleeping at night.
- **Maintain healthy habits.** Exercise daily, eat a healthy diet, and avoid caffeine (including energy drinks), alcohol, drugs, and smoking.
- **Manage your schedule.** Plan a daily schedule and prioritize your activities so that you do the most important and difficult things first. If you begin to feel fatigued, you will have already completed the most difficult tasks

Almost
70%
of people
with
Concussions
reported
mental
fatigue.

QUICK TIPS FOR FATIGUE (cont.)

- **Don't overdo your activity level.** Stop activities before you become too fatigued. Avoid scheduling too many activities in any given day.
- **Increase your stamina.** Plan regular rest breaks, increase your level of exercise over time, and pace yourself as you resume your activities.
- **Talk to your doctor.** Ask about medical problems that may be contributing to fatigue. Review medications that you're taking to see if they are contributing to your fatigue.
- **Work on related problems.** If your fatigue is related to stress, physical pain, or depression, make sure you're addressing those problems. Counseling can help with chronic fatigue and emotional problems that may be affecting your energy level.

***Balance* requires complex interaction between multiple systems including the brain eyes, and ears.**

1.2.3.3 Trouble With Balance, Dizziness or Sensory Change

Balance and Dizziness. Concussions can cause temporary balance problems. For example, you might find it difficult to judge how high to lift your foot to reach a stair after a concussion.

The **vestibular system** includes balance organs near the ear. If these organs are injured in a concussion, the result can be dizziness and trouble balancing. Other physical injuries can also affect balance.

These types of disruptions can usually be identified with formal testing done by a doctor. Physical therapists can help injured service members regain their coordination and balance.

Sensory Changes. Following a concussion, many people experience changes in their senses. Some become overly sensitive to lights, sounds, temperature changes, or physical sensations. Others find that one or more of their senses become less reliable or less responsive. Senses help us process the world and affect everything we do, from simple tasks to complex problem solving. So, a sensory problem can actually make other concussion symptoms more challenging to manage.

Many service members who have experienced a concussion report hearing problems. Sometimes ringing in the ears (tinnitus) can make it difficult to process incoming sounds. Hearing difficulties can be caused by exposure to blasts or other loud deployment events, even without sustaining a concussion. Hearing problems generally disappear as concussion symptoms get better.

Vision complaints following a concussion are usually temporary and include symptoms such as blurred vision, problems with peripheral vision, light sensitivity, and double vision. Routine eye exams may appear normal because only one eye is tested at a time. Special vision tests can determine if both eyes are having problems working together following a concussion. A healthcare provider can also recommend eye exercises and therapies.

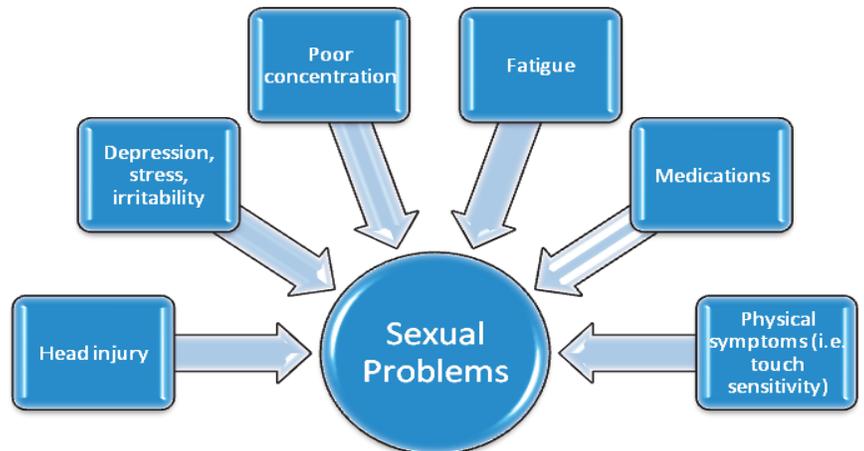
CONCUSSIONS

can have a **serious impact on self-image and on intimate relationships.**

1.2.3.4 Sexual Problems

If you sustained an injury to certain areas of the brain, you may find that your sex drive becomes minimal or non-existent. Injuring other areas of the brain may create heightened sex drive and poor judgment regarding sexual behavior. However, it is much more common for other factors to affect your sex drive. Sexual interest can be limited by depression or stress, poor concentration, fatigue, sensory problems, and/or certain types of medication.

Both men and women report that concussions have negatively impacted their sex lives. Concussions can have a serious impact on self-image and on intimate relationships.



However, it's also

important to work on related issues such as depression when trying to address sexual problems. In fact, studies show that depression can play a bigger role in causing sexual difficulties than a brain injury.

QUICK TIPS FOR SEXUAL PROBLEMS

Recognize triggers. Keeping a record will help to identify triggers that cause or accompany sexual problems. For example, you may have trouble sexually when you feel tired or after a stressful day – fatigue and stress would be understood as triggers. Deployment memories may cause you to feel

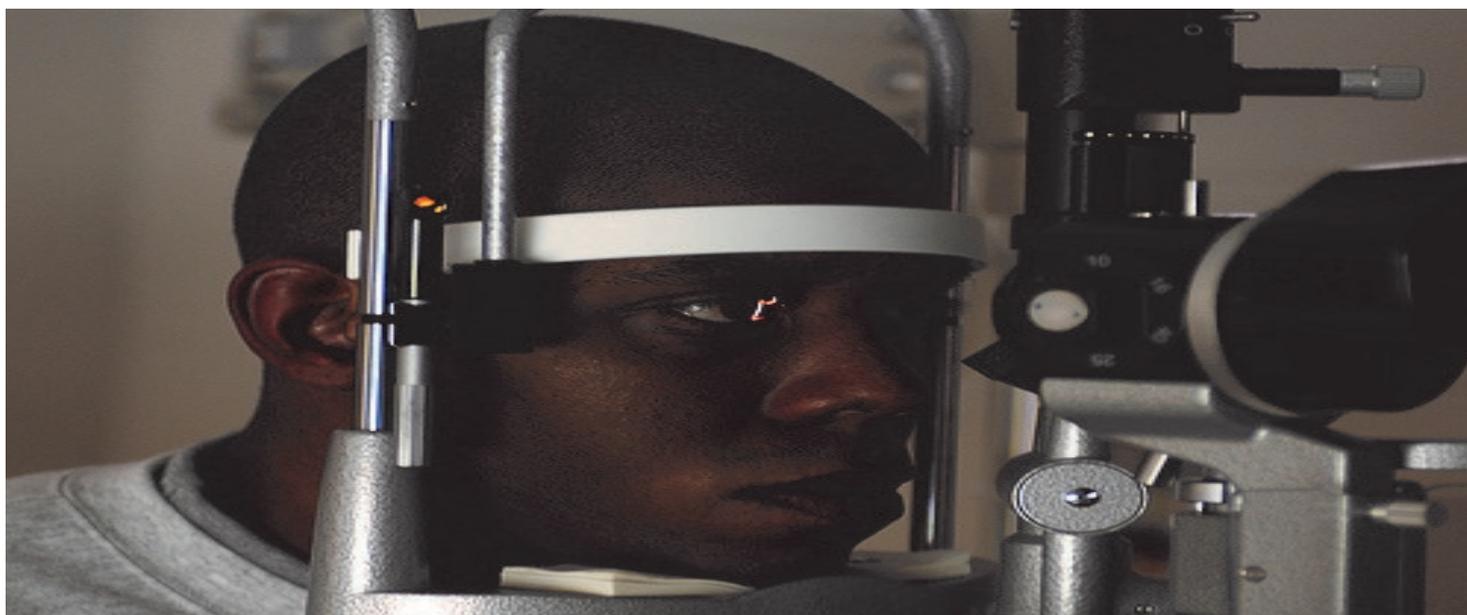
Stop the worry spin cycle. Increased worries make sexual problems worse. If you're thinking things like "I can't satisfy my partner" or "I won't be able to perform" before or during sexual experiences, stop the thoughts as quickly as possible. Instead of worrying, substitute thoughts like, "Both my partner and I will enjoy this experience together."

Don't just wait it out. Usually, sexual problems don't improve with just the passing of time. It's best to have open communication with your partner, and seek consultation with a qualified counselor.

Talk to your partner. Sexual problems are often linked to relationship problems. Discuss the problem with your partner. Instead of focusing only on the sexual problem, be sure to talk about what you can be doing better as a couple.

Talk to your health care provider. Your health care provider can determine potential causes and treatments. Make sure that your provider is aware of your concussion. Keep in mind that many doctors don't ask about sexual health problems. To avoid feeling embarrassed or nervous, prepare what you will say ahead of time. Bring a list of current medications to help determine whether any of the medications are contributing to the problem. Your provider may suggest a treatment approach including medications, counseling, or further testing. Women may require an endocrine work-up to assess potential hormonal disorders.

Work on related issues. If your sexual problems are related to relationship difficulty, stress, physical pain, or depression, make sure you're addressing those problems. Individual and couples counseling can help with sexual difficulties and any potential underlying issues.

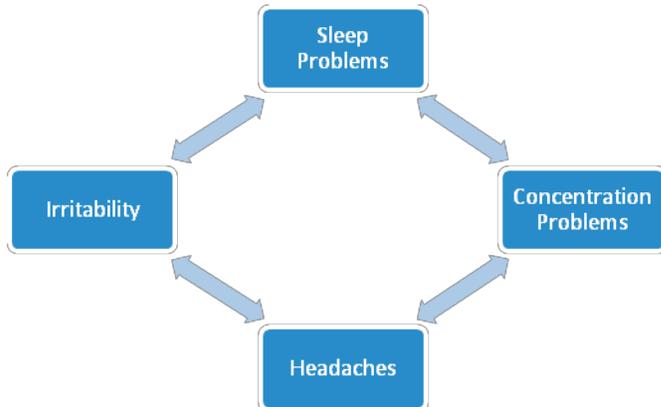


QUICK TIPS FOR TROUBLE WITH BALANCE, DIZZINESS, OR SENSORY CHANGES

- **Talk to your doctor.** Make sure you understand how long problems with balance, dizziness, and sensory changes are likely to last and what you can do to limit them. Ask about medical or physical problems that might be contributing to the sensory changes. Review medications you're taking to determine if they are contributing to the problem. For balance or dizziness, ask your doctor to test you for possible vestibular dysfunction. You can also get a referral to treatment programs if appropriate and available. A neuro-ophthalmology exam can identify problems with your vision.
- **Remember that it may be temporary.** It is natural to feel upset or frustrated with these problems. However, try to avoid negative thought patterns. Replace negative thoughts with reasonable thoughts such as, "This is frustrating but I'm going to do the best I can until it resolves."
- **Be careful.** If you can't drive, operate machinery, or safely perform other high-risk tasks, then don't. Do not take risks that could result in injury to yourself or others.
- **Make necessary changes to protect yourself.** Do what works to limit the stress that sensory changes have on your life. If you need to wear sunglasses to manage light sensitivity, ask your supervisor for permission. For noise sensitivity, use hearing protection such as earplugs, earmuffs or noise cancelling earphones.
- **Sleep well.** Follow a consistent sleep schedule, including the weekends. Plan to get eight hours of sleep (or more), and get to bed close to the same time every evening. Don't nap during the day if it keeps you from sleeping at night.
- **Exercise.** Anything you do to increase blood flow will help limit sensory changes.
- **Stretch.** Throughout the day stretch your neck, shoulders, and back. Don't sit in one position for too long.
- **Decrease unhealthy habits.** Alcohol, caffeine, energy drinks, cigarettes, tobacco, and drugs can worsen sensory problems. For example, cigarettes limit blood flow to structures in your ears and can worsen an ear-ringing problem. Over-the-counter medications can also have an impact on your sensory functioning.
- **Take it easy.** Like other symptoms following a concussion, you will benefit from getting plenty of rest and resuming activities slowly. Pushing yourself too hard might slow or interfere with the healing process and cause you frustration. Limit your daily stress, whether that means limiting your time with certain difficult activities or people or, alternatively, increasing pleasant activities.

1.2.4 Relationship Between Symptoms

The complex relationship between concussion symptoms is further complicated by an individual's personality style, life experience, and personal strengths. For example, let's say that John is experiencing some common concussion symptoms. He's not able to concentrate at his job, and he's often irritable, snapping at co-workers. Unfortunately, his tension headaches are interfering with his sleep; lacking proper rest, John's concentration worsens and he becomes more irritable. Worrying more and more, the sleepless nights add up, and a vicious cycle begins to unfold.

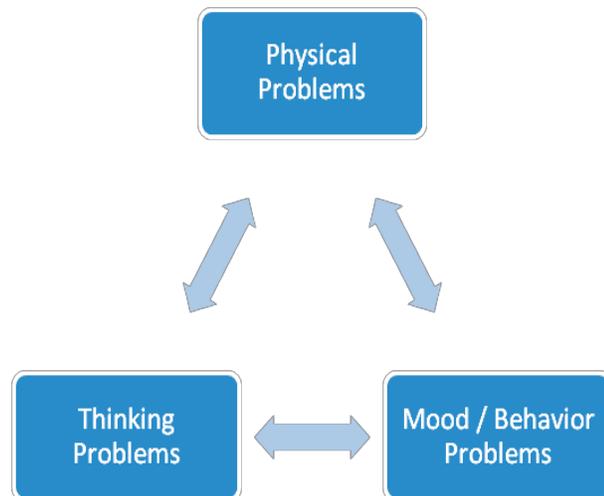


When symptoms do not resolve quickly, there is more emotional distress. And, John's recovery is compounded by the interaction of his symptoms. Decreased sleep results in increased irritability; in turn, increased irritability and problems with co-workers cause John to worry more and sleep even less! This leads to more thinking problems.

Remember, the most effective treatment for any concussion involves working in all three of the following areas:

1.2.4.1 Break the Cycle

Monitoring **thoughts** is as important as monitoring **symptoms**. It's important to recognize instances of being negative or saying things like "This is never going to go away" or "I'm really messed up." To combat negative thinking, replace negative thoughts with positive ones. Use statements like "This is uncomfortable but most people get over concussions in a few months" or "I can do my best even when I don't feel at my best."



1.3 DEALING WITH DAY-TO-DAY PROBLEMS

Understanding the many symptoms that occur following a concussion is important, as it can help you take control of your recovery. However, "symptoms" are just labels for parts of your mind or body that are not working the way you expect. The critical issue is how symptoms factor into real problems in day-to-day life. We call these secondary problems because they are a step removed from either a concussion injury or post-deployment stress.

1.3 Dealing with Day-To-Day Problems (cont.)

For example, Debbie experienced a concussion while serving in Iraq. Her concussion (injury) has resulted in irritability and trouble sleeping (symptoms), which has negatively impacted her relationship with her family and co-workers (secondary problem). This can easily become a vicious cycle that exceeds the effects of the injury itself.



A **concussion** leads to *problems* at work or school, relationship difficulties, or problems with alcohol or drugs.

CONNECTING
with others helps
you to build
community.

Some service members tap into a spiritual experience by connecting with nature, including animals. Being surrounded by life in all its forms also creates a sense of being part of something larger than you.



1.3.1 Problems at Work or School

Many of the problems associated with a concussion can result in difficulty at work or school. Returning service members report that problems with concentration, low tolerance for stress, fatigue, and physical limitations get in the way of their career or academic goals. Lost wages and increased dependence on others can be very stressful.

Additionally, work gives people structure, a sense of purpose, and accomplishment. In some cases, service members must slowly return to the roles that they had prior to their injury. This can easily create frustration and feelings of shame. Others might pursue a completely new job specialty or career after a concussion. However, in almost all cases, people who have suffered a concussion are able to return to work or school and be successful after a period of healing.

Warrior transition units allow service members in need of ongoing medical care to remain on active duty. This environment prevents difficulties that can sometimes arise from having to frequently leave work to attend medical appointments. These units also allow service members time to recover before resuming their previous roles in the military. Service members with concussions can succeed at work and school by asking for accommodations when necessary and using specific strategies to manage challenges.

It's important to
not **rush back**
to regular duties
or school.

1.3.1 Problems at Work or School (cont.)

QUICK TIPS FOR PROBLEMS AT SCHOOL

- **Keep yourself organized.** Use an assignment notebook. Schedule study time into your appointment book in the same way you would record other important appointments. Date your notes. Develop a “To Do” list. Ask for a syllabus before the class starts. Use a voice recorder to leave yourself notes or reminders about important points, topics or assignments.
- **Make Reading Easier.** Highlight important passages as you read them. Use a ruler or straight edge to stay on the line. Read the chapter summary (if available) before you start reading the chapter. Get books on tape if possible. Take notes while you are reading. Read aloud to yourself. Read in 15 minute blocks and then take a break for a set amount of time. Use a magnifying lens when reading books/papers. When reading on the computer, use the zoom function or increase the font size. Request large print handouts if available.
- **Listen in class.** Sit towards the front of the room. Bring your textbooks to class. Develop an outline from lecture. Record important points about the lecture. Copy all information off of the board. Take notes on other students comments, not just what the instructor says. Ask for clarification.
- **Participate in class.** Speak loudly and clearly. Prepare questions ahead of time. Keep comments on topic.
- **Make writing tasks easier.** If you have a laptop computer, ask if you can use it to take notes. Break a writing task down into smaller chunks. Request taking oral versus written tests if you need to. Get help from family or friends when proofreading. The school learning center may be able to provide a scribe/note-taker for you in class.
- **Study and take tests effectively.** Schedule study and break time into your schedule. Don't cram for tests. Study in a quiet place and avoid distractions. Break studying down into smaller time periods. Color code similar information. Highlight important parts of your notes. Make flashcards. Join study groups or get a study partner. Ask for feedback on tests so that you can do better each time.
- **Ask for help.** The student learning center is a great place to start. The can assess your strengths and challenges and provide accommodations if needed. Accommodations include extended exam times, a reader for exams, larger print on handouts, note-takers, audio taping or videotaping lectures, preferential seating, or extended due dates. Tutoring can be a tremendous help. Find out if the school has services or academic counselors for veterans with disabilities. Attend workshops on time management or study skills. Attend support groups for students with disabilities or for veterans who have returned to school if they are available. Make the instructor aware of your injury and expected challenges. Request extra time for assignments if needed. Request a waiver of foreign language requirement. Work with a vocational rehabilitation counselor to make plans for returning to school and necessary accommodations. Talk with family and friends about what you are doing in school. Ask for feedback from people you trust about decisions you are making.

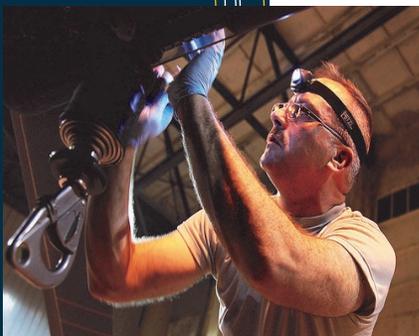


*Reference: DVBIC TIP Card Series which was adapted, with permission, from:
Kreutzer, J. & Kolakowsky-Hayner, S. (1999). *The Brain Injury Workbook: A Guide for Living and Working Productively*. The National Resource Center for Traumatic Brain Injury, PO Box 980542, Richmond, VA 23298-0542 Tel. 804-828-9055. <http://www.tbinc.com/>

1.3.1 Problems at Work or School (cont.)

QUICK TIPS FOR PROBLEMS AT WORK

- **Set Yourself Up For Success.**
 - Look for a job with regular daily schedules and routine tasks.
 - Discuss your condition with chain of command so that they understand what has happened to you, your profile restrictions, and the timeframe for re-evaluation by a medical provider.
 - Avoid work spaces with distracting noise or light, especially fluorescent lights.
 - Before you return to work, think about how many people you would like to interact with every day.
 - Consider expanding the type of work you are willing to do.
- **Know your rights.** Read about the Americans with Disabilities Act (ADA; <http://www.ada.gov/>).
- **Discuss duty restrictions (profiles) with your healthcare provider.** Obtain appropriate documentation to avoid conflicts with command.
 - **Ask for Help.**
 - Request job coaching or supported employment.
 - Ask your job coach to make frequent job site visits.
 - Make supportive phone calls after work.
 - Seek out mentoring by a co-worker or retired worker.
 - Remember that you do not have to tell your employer about your deployment or current challenges.
You are only required to disclose a disability if you need accommodations.
 - Have a vocational rehabilitation counselor visit your work site and do a job analysis. The counselor will point out any dangers and make suggestions to improve safety.
 - Ask for other accommodations if you need them, including: handicap accessibility, flexible scheduling, extra time to learn new responsibilities, or time off for health-related appointments.
 - Role-play possible difficult work situations with a trusted friend or a therapist. Don't expect to handle stress in the moment.
- **Use Tricks to Compensate for Memory or Concentration Difficulties.**
 - Schedule reminders using your cell phone or pager.
 - Keep a task checklist on a clipboard.
 - Use a tape recorder to keep track of tasks.
 - Use a stop watch for time management.
 - Use technology, including handheld and notebook computers.
 - Divide large assignments into smaller tasks and steps.
 - Focus on one task at a time.
 - Use daily "To-Do" lists and check items off as they are completed.
 - Keep a calendar to mark meetings and deadlines.
- **Work Well with Supervisors and Co-Workers.**
 - Arrange regular meetings with your supervisor to discuss your progress, strengths, and areas that need improvement. Constructive feedback can be critical to your success.
 - Explain how feedback can help you avoid mistakes and frustration.
 - Make certain that you hear the positive.
 - Show your willingness to change.
 - Avoid defensiveness, "shutting down" and not listening when you hear negative feedback.
 - Remember that everyone struggles with co-workers and bosses from time to time.
- **Don't Overdo It.**
 - Job sharing with another individual; consider starting in a part-time position.
 - Schedule regular rest breaks to prevent stimulus overload and fatigue.
 - Focus on your safety and health.
 - Rejoin the workforce only when you are ready and make sure to do so slowly. Do not jump in to a demanding job before you can handle it.



1.3.2 Problems in Relationships

Relationship changes following a concussion are real. Many service members have reported feelings of loneliness or isolation after a concussion. This loneliness can be related to feeling irritable, guilty, or misunderstood.

Supportive relationships – from unit friendships to family bonds to romantic partnerships – are important for everyone. These relationships help people feel satisfied with their lives, make them feel like they have a place they belong, and increase self-esteem. Here are just a few reasons why relationships become even more important if you have sustained a concussion:

- You need to talk about your experience. Another person can help you sort out the problems you are facing and provide solutions that you did not think of.
- People you trust can give you feedback about your recovery and let you know how you are progressing.
- Having a team on your side is more effective than trying to do everything on your own.
- Friends, partners, and family members can help monitor your healthy habits, see that you take time for pleasant activities, and ensure that you avoid negative habits.
- Talking with other people can decrease your frustration and stress.

1.3.3 Alcohol or Drug Abuse

Using drugs or alcohol can make it harder for the brain to heal following a concussion.

Substance use can also make memory and concentration problems worse.

Service members who have had a concussion may have lower inhibition and poor judgment when it comes to using drugs and alcohol.

Also, some pain medications can be addictive.

Finally, the side effects from alcohol and drugs may increase the likelihood that you will have another TBI.



Quick Tips for Avoiding Alcohol or Drug Misuse

- **Analyze the situation.** Take stock of how much you're drinking or using drugs. If your patterns have changed since the concussion, your alcohol or drug use may be an attempt to deal with your injury. Keep a two-week record of how much you're using. While recovering from your injury, it's best to abstain from drugs and alcohol.
- **Recognize alcohol or drug use triggers.** Jot down daily events that occur before you start to drink or use. Can you identify triggers that consistently occur when you're drinking or using drugs, such as specific thoughts, behaviors, people, emotions, or places? Do you feel like drinking or using at a certain time of day? Monitoring your patterns will help you change your behavior.
- **Get help.** To quit or moderate your alcohol or drug use, a health care provider can direct you to useful resources, such as twelve-step meetings, rehab programs, and individual and group counseling sessions.
- **Replace the habit with healthier alternatives.** You'll be less likely to slip if you're feeling healthier and happier. Exercise, add fun sober activities to your day, and hang out with friends who do not use.
- **Talk to your support system.** Tell friends, family, and others with whom you're close that you're trying to quit using. When those close to you know, they can offer support.
- **Work on related issues.** If your drug or alcohol abuse is related to stress, physical pain, or depression, make sure you're addressing those problems.



1.4 HOW TO LIVE AND THRIVE AFTER A CONCUSSION

This section focuses on the **most important** things you can do to get better after a concussion. The seven tips below spell out RECOVER. If you work on these seven areas, you will be on the fast track to recovery!



Resolve to get better

Make peace with your recovery; be realistic; set reasonable recovery goals



Educate yourself and your family

Find out what to expect from healthcare providers and other resources



Cope with symptoms

Prioritize your problems so you can tackle them one at a time



Observe healthy habits

Exercise; sleep; eat; socialize; avoid alcohol and drugs



Value your safety

Avoid engaging in risky behaviors or putting yourself in situations (e.g. contact sports) that can cause a second head injury



Engage your support system

Identify your support network, stay in touch and ask for help when needed



Reach out for help for yourself and your family

Get medical attention and professional support early and often

1.4.1 Resolve To Get Better

The most important thing you can do following a concussion is to be realistic about your experience, how quickly you will get better, and what you must do to make that happen. Service members may hear the term “brain injury” and think “brain damage.” This can lead to feeling hopeless about the situation. In reality, brain injuries are just like any other kind of injury. If a you had a broken foot, your doctor would give you crutches and tell you not to put too much weight on your foot until it healed . The same idea applies here – the brain needs time to rest and heal.

Make Peace with Your Recovery

You must accept the fact that you may struggle for a while. It may be impossible to calmly accept your injury. However, it is certainly possible to **be realistic** about your injury and **acknowledge the effects** it has on your life.

Take Recovery One Day at a Time

Negative thoughts like “I’m going to have to live like this forever” will make recovery more difficult.

Be Realistic

It takes time to recover from an injury. Setting realistic expectations will help you feel better about your recovery and help you make safe decisions. Challenge yourself during recovery, but build up slowly by taking small steps first.

You should also be realistic about how you were doing **before** the concussion. It’s easy to blame a concussion for memory or mood problems that actually existed before the injury occurred. Also, remember that everyone forgets things, gets headaches, feels irritable at times, and so on. To set more realistic expectations, write down the changes you have experienced following the injury. Talk with people who knew you before the injury and ask if they agree with the changes you wrote down. They may have noticed things that you haven’t, which you should add to your list. Bring your list to your health care provider so that you can talk about the difficulties you are having following your injury.

Set Goals

The best way to get anything done is to set goals. Make **clear** and **specific** goals **that you can measure** for success. Here is an example:

NO Unclear, nonspecific goal that can't be measured	YES Clear, specific, measurable goal
“I’m going to improve my memory”	“I’m going to remember at least 10 of the items on my shopping list without bringing my list into the store”

Write down a list of personal goals. Work on making them clear, specific, and measurable. Start working on them one by one. In the example above, you would know that you did not achieve your goal if you remembered only 8 items. But you would also know that you were getting close to success. Once you remembered 10 items, you could go on to the next goal on your list. Remember to break down larger goals (I want to buy a house) into smaller, achievable steps (I should set up an appointment to see if I qualify for a mortgage).

The **brain**,
like any
other body
organ,
heals over
time.

1.4.2 Educate Yourself and Your Family

Research studies show that it is incredibly helpful to have a clear understanding of what to expect following a concussion. When service members are educated about their condition, they spend less energy worrying about symptoms and more energy on healing.



What Does it Mean to Be Educated About Concussion?

- Understanding what happened and how it affected your brain.
- Having a clear expectation for what problems you may experience following the injury.
- Knowing the average recovery time for your type of injury.
- Understanding how post-deployment stress and the effects of a concussion can be related and having a clear plan to treat both.
- Being aware of the available resources for addressing problems following a concussion, and seeking out those resources.

How Can I Learn All of This?

You have already started this process by logging on to afterdeployment.org. You should also talk to your health care providers about the problems you are having. Additionally, there are organizations that are specifically set up to help educate and treat returning service members with concussions. You can learn about TBI specific organizations in the *Links, Books, Blogs and Pods* section of the website.

Educate the People Close to You

Remember, your injury is also hard on friends and family. They may be worried and wondering if you will recover. They may also be angry and frustrated with the new challenges and struggles you face. One thing is for certain: deployment injuries affect everyone who is close to you. The more friends and family members know about concussions, the easier your recovery will be for everyone.

1.4.3 Cultivate Healthy Habits

Keeping the body and mind healthy is incredibly important during recovery. Research shows that service members who are active and practice a healthy lifestyle actually recover faster than those who don't.

Exercise

Exercise increases blood flow to your brain, meaning that your brain is getting more nutrients. Exercise also helps your brain indirectly by decreasing clogging of arteries, allowing the arteries to carry more blood to your brain. Also, it provides you with practice focusing on a single activity, which is a helpful way to improve your thinking skills.

Studies have shown that people who exercised following a concussion were less depressed and irritable, could think more clearly, had fewer sleep problems, and did better with their physical functioning compared to people who did not.



1.4.3 Cultivate Healthy Habits (cont.)

Different types of exercise come with different benefits. It is a good idea to do cross-training during your recovery. Here are some examples:



- Cardio / aerobic exercise to increase your heart and lung capacity. Examples include running, walking, and swimming.
- Strengthening exercise, such as weight training, will keep muscles in shape.
- Stretching exercises, such as yoga, may help with concentration, mood, and relaxation.
- Group exercise can help your body while improving your social life. This includes sports like bowling, golf, or pick-up games.

Always check with your doctor before you start any exercise regimen, especially if you have any physical or sensory problems that might make exercise challenging or dangerous. Be aware of any potential dangers before you begin.

Go to a gym on base or look for groups in your community that have exercise programs, like YMCAs, gyms, or adult education programs. Finding other people to exercise with can make it easier to commit to your new routine.

Follow Though with Prescribed Treatment

Even the simplest recovery can take a few months. The best thing you can do for yourself is to follow your doctor's recommendations carefully. Organize prescription medications so that you will take them correctly. Set an alarm to remind you about medication timing. Put appointments with healthcare professionals into a calendar or planner. If you get frustrated with treatments, talk to your health care provider and see if any changes can be made. You can also talk to your friends and family about your frustrations to help put them in perspective.

Eliminate Drugs and Alcohol

The only drugs you should take are the ones prescribed by your doctor. These medications should be taken as directed. Don't drink alcohol until your healthcare providers agree that it is safe to do so. Remember, drug and alcohol use interferes with recovery. The use of drugs or alcohol after a concussion is likely to lead to slower recovery, and increased mood, behavior, and relationship problems. The best thing you can do to stop your drug and alcohol use is get help. You can learn more about getting treatment for drugs and alcohol abuse in the "Alcohol and Drugs" topic area of this website.

Rest

Your brain needs time to recharge, especially when healing. Practice good sleep hygiene/habits to make sure that you are getting enough sleep. While you are recovering, make a full night's sleep (eight hours or more) a priority. If you have returned to work, school, or other demanding activities, then you should schedule rest breaks throughout the day.

Have Some Fun

When people are stressed and injured they may forget about doing pleasant activities in their spare time. You have to do things that make you feel calm, happy, etc. so that you will be able to get through the difficult days.

Make yourself a list of pleasant things to do and then put them in your calendar. Your activities can be anything from watching your favorite TV show to going for a walk, or calling a buddy from deployment.

Follow a Routine

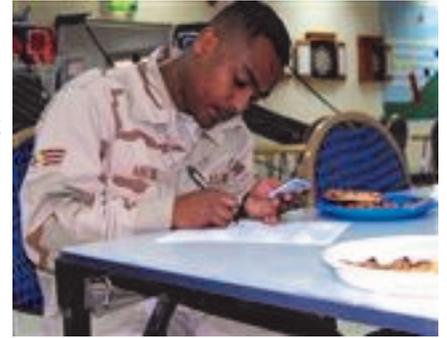
Make your life predictable so that your mind and your body can reliably know what to expect. Eat three meals a day, go to sleep at the same time every night, wake up at the same time every morning, and so on. Following a routine will help you get back into your life after the stresses of deployment and your injury.

START
SLOW AND
GRADUALLY
INCREASE
INTENSITY OF
THE EXERCISE
AND THE TIME
YOU SPEND
DOING IT.

AIM TO
EXERCISE FOR
A FEW TIMES A
WEEK, BUT
DON'T SET THE
BAR UN-
REASONABLY
HIGH.

1.4.4 Obtain Skills for Managing Symptoms

While it can be tempting to try to “get over” the challenges from your concussion all at once, it’s not realistic. Take stock of your symptoms. List everything that has been a problem for you since your injury. These issues may not all be due to the concussion but you should still write them down. Once you have your list, rank your problems in order of how much they bother you. Maybe depression is the worst problem for you because it makes you feel like not getting out of bed in the morning. Or maybe memory problems are the most difficult to work around. Your prioritized problems should be specific to you.



Start with the most important problem on your list and decide how you would like to address it. Take your prioritized list to your health care provider and ask for suggestions. Be patient as you work through each new area of challenge and when you are ready, continue on to the next.

1.4.5 Value Your Safety

It is incredibly **important** that you take **good care** of your body and mind following a concussion.

Avoiding a Second Head Injury: Someone who has had one concussion is three times more likely to get a second one. After a second concussion, a third concussion is eight times more likely. With each injury, recovery time gets longer and symptoms may be more severe. The effects of each new concussion adds on to the problems from the last one.

Quick Tips for Avoiding a Second Head Injury

- Wear a seat belt **every time** you drive or ride in any kind of motor vehicle.
- Wear **full gear** including IBA (individual body armor), Kevlar, ballistic eye wear, ear plugs etc.
- **Never** drive under the influence of alcohol or drugs – this includes prescription drugs that may impair your driving ability.
- **Avoid activities** that could lead to another concussion, like contact sports, until your provider gives you permission to do so.
- **For practicing or playing sports:**
 - Use the right protective gear. This means that headgear should be appropriate to the sport and fit properly.
 - If you get knocked out or “get your bell rung,” do not return to playing until you get permission from a medical provider.
 - Follow all safety rules and the rules of the sport. Avoid fouling.
- **Make your home and work environments safer:**
 - Clean up clutter that you could trip over, especially on stairs.
 - Remove throw rugs that could cause tripping.
 - Use non-slip mats in the bath, shower, and bathroom floors.
 - Install handrails on both sides of any stairways

Watch out for Dangers Related to Your Symptoms: Ask your health care provider about when you can safely drive a car, ride a bike, or operate heavy equipment. Problems with memory, concentration, or reaction time can result in serious accidents and injuries.

1.4.6 Engage Your Support System

There is an old saying: "Laugh and the world laughs with you; weep and you weep alone." Unfortunately, many service members find that when they most need support they don't get it. Sometimes family members and friends feel awkward because they don't know how to be supportive. Some service members become embarrassed, frustrated, or worried after an injury and pull back from their support system. Finally, it may be hard to re-adapt to the pace of life back home after facing life-or-death situations.

If you feel more distant from family and friends, then you will need to work on reclaiming those relationships. Relationships can help you maintain the strength necessary to persevere during recovery. Trusted friends can help you reflect on your progress and determine what areas you still need to work on. They can provide rides, reminders of important events, meal preparation, babysitting, and so on. Finally, being there for other people will make you feel valued and useful.

Relationships keep people balanced. If you isolate from others, you won't have anyone else's perspective to limit the power of your own negative thoughts. For general advice on maintaining relationships after deployment, see the "Families and Friendships" topic on afterdeployment.org.

A support system also includes people at work. You may need to ask your CO, boss, or teacher for some accommodations while recovering. For advice on how to do this, check out the "Work Adjustment" program on afterdeployment.org.

1.4.7 Reach Out for Help for Yourself and Your Family

It can be difficult for service members to notice or admit they are having problems because of a concussion. It is incredibly important to get a professional opinion **as soon as possible following the injury**. Even if a significant amount of time has gone by, you should check in with your health care provider. The right-hand column includes some tips for getting help.

QUICK TIPS FOR GETTING HELP FOR YOURSELF AND YOUR FAMILY

Obtain history to confirm you had a concussion. Document findings in your records.

Take some assessments and diagnostic tests to see if your injury is having any effect on your functioning. Sometimes doctors may want to do a CT scan or other types of "imaging" test such as MRI, SPECT, PET, or fMRI. Even if you can't see the injury, you may still have a concussion.

Help prioritize which symptoms (if any) are causing you the most trouble in your life. Symptoms that cause you trouble means:

- Problems that irritate or disturb you
- Problems that make you more likely to hurt yourself or someone else. This includes being depressed, violent, or using alcohol or drugs.
- Problems that get in the way of your usual activities, including taking care of yourself, dealing with your family, going to work, etc.

Educate your family about your injury, your treatment options, and local or national resources where you can find more information or support.

Create a treatment plan that addresses each of your symptoms (although probably not all at once):

- Provides medications or skills coaching, if necessary, to help with symptoms.
- Suggests individual or group therapy if stress, depression, or anger may be a factor.
- Makes suggestions and recommendations for temporary life style changes such as getting more rest, avoiding alcohol, and limiting high-stress activities.
- Refers you to rehabilitation or other practitioners if necessary
- Follows-up on a regular basis to assess progress.