



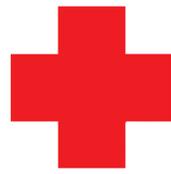
Traumatic Brain Injury: Educational Materials



#4

IMPORTANT:

If you are experiencing a medical emergency, please call 911 or present to your nearest emergency room for evaluation and treatment.



You should go to the nearest emergency room if the following conditions are present:

- ANY periods of loss of consciousness
- Unable to wake up
- Experiencing double vision or loss of sight
- A weakness or burning in your arms or legs
- A severe headache or one that progressively gets worse
- Any kind of seizure or convulsion
- Bad nausea or excessive vomiting
- Unsteadiness while walking or standing
- Any bruising around your eyes or ears
- Slurred speech
- If you become confused or exhibit odd behavior



Important Advice About Your Conversations With Your Treating Doctors

Be honest with yourself and your doctors regarding your symptoms. If you feel you are getting better, be as specific as possible in letting your doctors know in what ways you are improving, but also let them know the areas where you still have residual symptoms. The same is true if you feel your condition is NOT improving. Don't sugarcoat it. Don't consider it whining or complaining. When you tell the doctors with as much specificity as possible how you are feeling and in what ways you are still hurting, this will better help the doctor help you. Your doctor can decide what additional tests may need to be ordered. They may need to add/modify prescriptions. The doctor may need to cut back on the frequency or the intensity of your therapy or exercise program. In some situations, there may need to be referrals to specialists for more evaluations. A good rule of thumb for you to use with every medical appointment is this: Start from the top of your head and go to the tip of your toes and let them know about all of your injuries/symptoms. Bottom line: Don't be tough guy/tough girl. Help the doctors help you!



Please Protect Yourself From Re-Injury!!!

In the educational materials in sections 2 and 3, we stressed the importance of preventing a re-injury to your brain! These concerns still apply as your brain is continuing to heal from the initial trauma. This is especially true as you begin any kind of return to work/school activities. Here are some quick reminders which may help protect you:

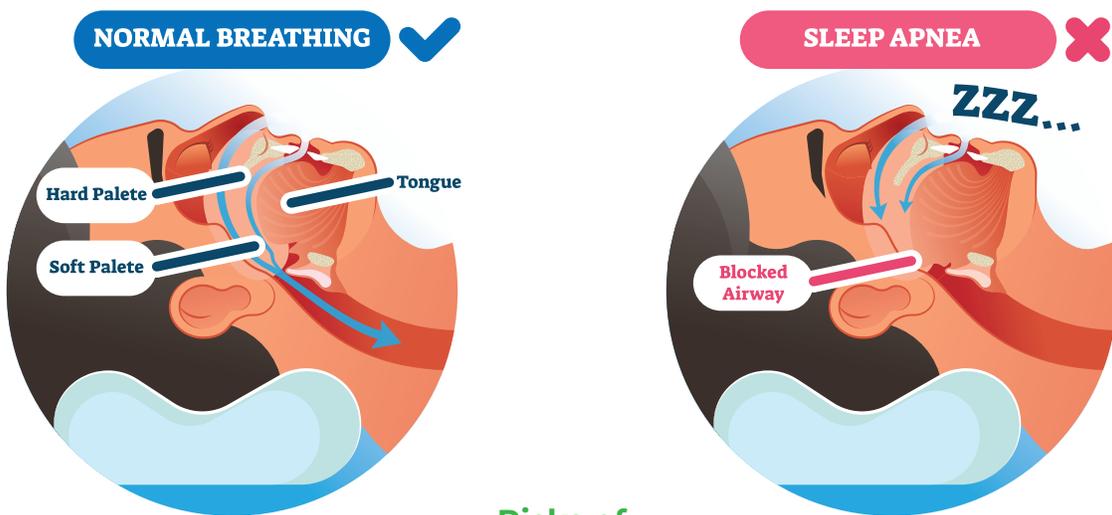
- Avoid any unnecessary movement of your head and neck - especially any quick motions. You do not want your brain jostling around inside your skull!
- Avoid bright lights if you find yourself sensitive to them. Shaded glasses can help you manage sensitivity - especially when out and about on sunny days. However, do not wear them for extended periods of time as it could make matters worse.
- Avoid loud noises. If you are sensitive to loud sounds, leave the room or avoid those situations where you can potentially be exposed to the noise. Consider using noise-cancelling headphones, if necessary.
- Avoid prolonged screen time exposure. You should reduce the amount of time you spend looking at a computer monitor, a laptop, iPad, smart phone, or the television. It is recommended that you “unplug” from the screen at least two hours before going to sleep.
- Avoid foods/stimulants which can be bad for your TBI. Things to avoid include:
 - Too much salt
 - Too much sugar
 - Too many processed foods
 - Too many fast foods
 - Too much caffeine. Studies show that caffeine blocks the release of adenosine, a neuro-protective agent that brings down inflammation and promotes brain healing. Caffeine is also a vaso-constrictor, meaning it constricts the blood vessels in the brain, which in turn, reduces blood flow. Without enough cerebral blood flow, the brain can't get the vital nutrients it needs to repair itself. Consuming one or two cups of coffee a day will not severely affect you since the caffeine in a cup of coffee is not high enough to cause damage. If you do choose to drink coffee, it is best to consume it before 10:00 a.m.
 - Avoid energy drinks.
 - Avoid alcohol
 - NO smoking
 - NO drugs
 - Do not take supplements or vitamins without your treating doctor's recommendation
 - Remember to consume a lot of water! The more hydrated you are, the better your body can flush out the harmful toxins that have accumulated in your brain since your injury.



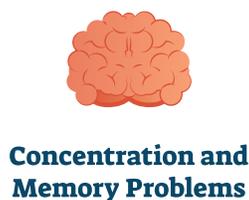
Fatigue

If you find yourself constantly fatigued, it may be because you have developed a sleep disorder that is preventing you from getting the rest you need. In fact, one of the most common sleep disorders after a brain injury is known as sleep apnea. This occurs when a person's breathing is disrupted while sleeping. This can lead to an over-abundance of CO₂ in the bloodstream which can lead to extreme fatigue while you are awake. It may be beneficial to have an overnight sleep study to diagnose any sleep disorders you might have.

SLEEP APNEA is a potentially serious sleep disorder in which breathing repeatedly stops and starts.



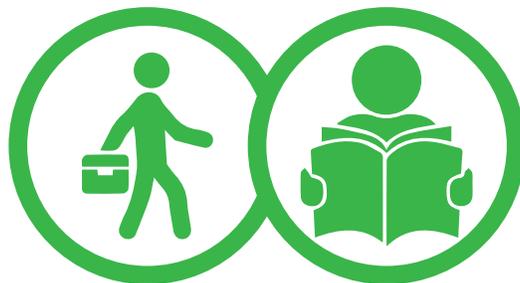
Risks of Untreated Sleep Apnea



Tips For Your Return To Work/School

So many people view their job as a part of their identity. It is also something that shows they are capable, independent, and can provide for themselves and/or their family. Many studies have shown that a return to work for TBI patients can improve their overall quality of life and can also help offset some of the financial issues that arise without being out of work. But it is also important to acknowledge that patients who have sustained a TBI will often experience symptoms that can make their return to work challenging. For example:

- The Mayo Clinic's pamphlet: "Understanding Brain Injury: A Guide for Employers" notes that patients with TBIs may often display memory, attention, and cognitive issues. It also addresses other issues that people with a TBI may have, including difficulty making decisions, starting or completing projects, self-control or self-awareness, and mood swings (sometimes unpredictable).
- According to the Brain Injury Association of America, patients should consider a gradual return to work.
- The Americans with Disabilities Act requires employers that are subject to the Act to make a reasonable accommodation to "the known physical or mental limitations of otherwise qualified individuals with disabilities, unless it results in undue hardship." And reasonable accommodations could include:
 - modifying work schedules/hours
 - job restructuring or reassignment to a position that better meets the special needs of the worker with the TBI
 - written instructions/guidelines/checklists for performing tasks
 - allowing more frequent breaks
 - move to an environment with less noise
- Communicate with your employer and your colleagues while out of work, and as you prepare to return to work.



Tips For Your Return To Work/School

- (1) Accept the fact that you will have good days and bad days. This is normal. Most people do not feel a sense of “normalcy” until 3 to 4 weeks after the TBI. Some may take even longer - especially if they had prior concussions. Be positive about the return to work, but be realistic and know and abide by your limitations. As you prepare to return to work, you can try to start mimicking your work hours. Wake up at the time you would ordinarily start your day, get ready for work, and then start doing light tasks to see how you can tolerate being up and active. Take breaks and your mealtime as you normally would throughout your workday. If you work at a desk with a computer, try and simulate this activity at home.
- (2) You may not realize that you had symptoms or that you haven't fully recovered from your injury unless and until you attempt a return to normal, everyday activities.
- (3) Be ready to take breaks - especially if your work requires concentration or physical effort. Don't overdo it!
- (4) Beware of mood swings and some irritability. It is easy to get “annoyed” after a TBI as you may not physically feel the best and you may not be getting the deepest, restful sleep at night. This may be a good time to ask your family, your friends, and even your co-workers for some help and support.
- (5) If / when you feel an outburst of emotion, try to relax your mind and body. Breathe! Breathe deep. Take a moment or two to try and relax and reduce the stress. Sometimes you may need to physically remove yourself from the stressful situation until you can regain control.



Breathing exercises don't have to take a lot of time out of your day. It's really just about setting aside some time to pay attention to your breathing.



Tips For Your Return To Work/School

- (6) You may forget things! This is ok - and it is common for people who have sustained a TBI. Hopefully, your memory will improve over time. Practice writing things down that you need to remember.
- (7) Dizziness or nausea symptoms may occur - especially if you move quickly or change positions. Slow down and take your time to avoid sudden movements. Take this into account if you are having to stand for extended periods of time or walk longer distances. Plan ahead to try and break the standing/walking into smaller lengths of time or distance.
- (8) Balance problems may occur as well. This is common, so take everything a little bit slower. Give your brain a chance to adjust. Use the handrails when navigating stairs. The same is true for escalators. Use a cane or walker if you are really concerned about your safety while walking or standing.
- (9) Fatigue may also be an issue. You may feel yourself getting tired sooner than in the past. This is because your brain is running on less energy than normal. You also may get tired doing the smallest of tasks. This is normal. You will need to build up the energy and gradually get back to pre-injury levels.
- (10) You may also feel it is taking longer to comprehend things - either what people are telling you, what you are reading, or what you may see on a screen. Don't be ashamed. Ask them to repeat the conversation, the directions, or explain things in greater detail. Your processing speed is greatly reduced from the TBI. Cut yourself some slack and give yourself extra time to complete items on your "to do" list. Again, writing things is an effective way of keeping things organized and it can allow you to develop a step-by-step plan to process things.

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Tips For Your Return To Work/School

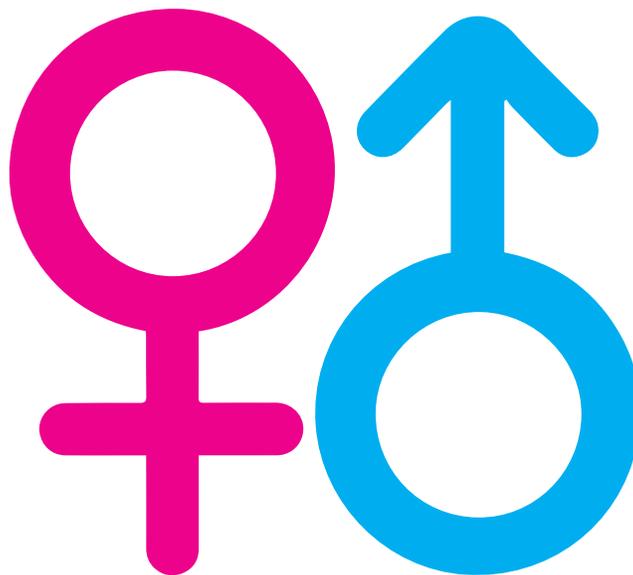
- (11) Some patients report a ringing in their ears when they start increasing their activity level. This could be caused by damage to your inner ear after the TBI, but it will usually go away after a few days. However, make sure you tell your healthcare provider if this symptom occurs.
- (12) Do not put yourself in harm's way (or potentially others), if you perform a high-risk job working around machinery, or on ladders, or operating heavy machinery unless and until you feel you are capable of safely doing it and your healthcare provider agrees and releases you to do the work. This is especially true if you experience vertigo or balance issues.



Post-Concussion Syndrome

It is an unfortunate reality for some patients that the after-effects of a TBI can last for weeks, sometimes months, or they can be permanent. If a patient experiences symptoms for more than 4 (four) weeks, this is known as Post-Concussion Syndrome (PCS). Somewhere between 15% - 30% of patients that have sustained a TBI will continue to have symptoms like headaches, dizziness, or vertigo. Some patients are more prone to experience prolonged recovery and persistent symptoms. These are just some of the risk factors which could lead to PCS:

- A history of a prior concussion(s)
- Depression
- Anxiety
- Family history
- Sex of the patient (for example: females tend to be at a higher risk)



Other Therapies For TBI Treatment and Rehabilitation

There may be a need to use other types of therapies to facilitate your recovery from the after-effects of your TBI. These can include:

- **Manual therapy:**

Physical therapy or chiropractic care may help treat the symptoms that come from your neck. If you are experiencing headaches, balance problems, visual issues, dizziness or vertigo, it may be from blood flow abnormalities. These could be symptoms from both a TBI and a neck injury (such as whiplash).

- **Exercise therapy:**

Working with your doctor and/or a physical therapist, exercise has been shown to improve circulation and blood flow which could speed your recovery.

- **Vestibular / Vision therapy:**

Dizziness, vertigo, and visual problems are common complaints following a TBI. A rehabilitation program designed to address these symptoms can often help reduce the severity of these issues.

- **Nutrition assistance:**

We have previously provided you with information regarding the importance of a well-balanced diet with a heavy emphasis on fruits and vegetables. But sometimes, patients need a more advanced program from a nutritionist or dietician that places an emphasis on healthy eating habits. This change in diet can help offset inflammation in the brain and reduce symptoms.



Some Final Notes

A traumatic brain injury can be life-altering. Your “new normal” may be drastically different from your life before the injury. However, it is important to not let this injury define you. If you feel you need counseling to help you cope with your injuries, please know there is no shame in asking for help. There are many resources and groups that are available to patients and their families to help them deal with TBIs. These include:

- Academy of Cognitive Therapy.

www.Academyofct.org

- American Academy of Physical Medicine and Rehabilitation.

www.aapmr.org

- Brain Injury Association of America.

www.biausa.org

- Brain Trauma Foundation

www.braintrauma.org

- Family Caregiver Alliance

www.caregiver.org/resource/traumatic-brain-injury

- National Institute of Neurological Disorders and Stroke.

www.ninds.nih.gov

- TBI National Resource Center

www.neuro.pmr.vcu.edu

