

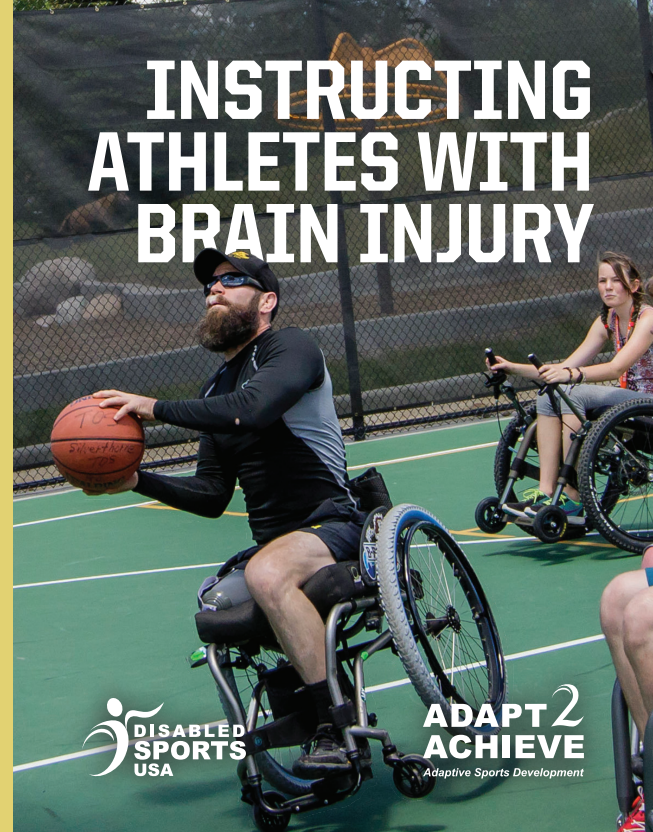
BRAIN INJURY BASICS

Brain injuries are serious conditions that can be present from birth, or can result from combat, violence, falls, vehicle collisions, sports injuries and other causes. They are categorized as mild – also called concussions – through severe, where the patient might experience permanent physical and cognitive deficits. The symptoms will vary greatly based on both the severity of the injury and location of that injury within the brain. In some cases symptoms may improve through therapies.

Traumatic Brain Injury (TBI) occurs when an external force such as a fall, blast or motor vehicle accident injures the brain, and can be further categorized as penetrating (when an object enters the brain) and non-penetrating (caused by a blow or jolt). TBI is the leading cause of brain injury, with at least 1.7 million people sustaining such injuries each year, according to the Centers for Disease Control (CDC).

TBI is often referenced as ‘the signature injury’ of the Iraq and Afghanistan wars, as it is the predominant injury sustained from blasts and explosions with more than 33% of veterans with severe physical injuries also receiving a diagnosis of TBI.

Non-Traumatic Brain Injury is caused when an internal force including a stroke, seizure or lack of oxygen alters brain function.



POSSIBLE CHARACTERISTICS OF A BRAIN INJURY & TEACHING TIPS

Brain injuries produce a wide variety of symptoms, including physical, cognitive, social, emotional and behavioral issues that range from mild to severe. These symptoms can vary by patient and may be intermittent or irregular, so a symptom may be obvious one day, and unnoticeable the next. In most cases the symptoms will begin shortly after injury, but some symptoms can appear years later.

If a student discloses their brain injury on a registration intake form, consider asking how the injury might affect their learning style and adjusting your teaching techniques accordingly. Be aware that not all students will want to talk about their injury, especially in as much detail as you might like. Some parts of your assessment may need to be based on observation in the process of getting to know your student, and supplementing that with information from family members/caregivers when possible.

Memory Deficits

- If lessons are multi-day or multi-session, consider a quick review of previous items to ensure retention. For example, “Should we review the skills we worked on last week,” or “Do you want to show me how you will adjust the paddle to the right size for today?”

Difficulty Communicating

- Allow the student extra time to speak and respond to questions without interruptions.
 - If the student is struggling with a particular word, don’t interrupt and provide the word for them, instead focus them on the general idea of the thought instead of the specifics.
- When possible, find ways to simplify the questions you are asking, by changing them to yes/no questions or questions that don’t require lengthy responses.

Poor Organizational Skills

- Include simple written materials to reference prior to the lesson (i.e. packing lists, schedules).
- Remember that students with brain injury benefit from routines, so try to stick to planned schedules, and let them know as soon as possible if anything will change to allow time to reorganize and re-set.
- Set aside specific staging areas, where needed items are arranged in a manner that facilitates easy set up.
- Provide extra time for equipment fitting and preparation.

Poor Problem Solving/Decision Making Skills

- Take care to clearly define problems and possible solutions.
 - When possible, only present the student with one or two options to avoid overload.
 - When safe to do so, allow students to potentially choose an incorrect solution to help them explore and understand why the correct solution will work better. If you choose this option, please ensure that you know the student well enough to understand how they respond to frustration.
- Break complex processes into smaller pieces.

Decreased Sensory Processing Skills Causing Student to Be Easily Distracted/Overstimulated

- Create a pre-determined space with minimal activity, where you can provide important instructions or the student can go if the situation becomes overwhelming.
 - Should the student become overwhelmed, make the transition to the quiet space seem natural and part of the lesson and not like a punishment.
 - If students have difficulty focusing, consider highlighting one type of instruction at a time. First, use verbal instruction to describe the skill and then use visual instruction to show the skill.
- Encourage smaller group lessons, or one on one lessons, to keep distractions to a minimum.
- Schedule lessons during times with minimal external noise or activity.

Decreased Social Skills

- Create a pre-determined space where students check-in to ensure initial positive contact with program staff or instructors. Instructors and volunteers should be mindful to model the social skills they expect from the students.
- Make sure your student remains engaged in the lesson by asking questions throughout.
- Try to learn about your student’s interests and relate teaching items or questions to these topics when possible, such as setting a routine to their favorite music.
- Including family or friends in the activity can also encourage social skills by having someone with whom the student feels comfortable alongside them.

Disinhibition/Decreased Awareness of Dangers

- Before the lesson gets underway, set appropriate expectations and boundaries, such as speed checks, off-limits areas, etc., and point out potential dangers and safety concerns.
- After you have an understanding of the student’s skill level and severity of his or her brain injury, use your judgment to take appropriate risks.

Visual/Hearing Impairments

- Prior to beginning the lesson, find out if the student has any hearing or vision issues and create a plan to safely and effectively communicate throughout the lesson.

Mental Fatigue/Neurofatigue

- Look for signs of increased distraction, decreased attention, more frequent falls, and diminished communication, particularly towards the end of longer lessons. Shorten the lesson or take more breaks if you are noticing these signs of fatigue.

Preoccupation, Repetitive Behaviors and Poor Impulse Control

- Set boundaries at the beginning of the lesson to encourage focus on the sports activity. For example, set a time limit, using a timer, for a topic to be discussed, or provide a predetermined limit of the number of times a helmet can be adjusted before it must be left alone.
 - Use goal setting and lesson plans as your guide so that the student understands what you want to accomplish during the lesson time.
- Consider what activities may or may not be appropriate for an individual depending on their impulse control.

TYPES OF INSTRUCTION

As with any student, it will be important to adjust your teaching techniques to the individual instead of the other way around. This means asking a student how they learn best, and trying to provide instructions in that manner. A student's brain injury may affect this further by inhibiting the amount of information that can be consumed at once. To assist with this, and keep distractions to a minimum, consider one on one or small group instruction.

1. Verbal Instruction Tips:

- Avoid instruction overload by providing only one or two items of information at a time and allow uninterrupted time for processing.
 - Remember that brain injuries can affect processing of information and students can feel overwhelmed with multiple things to process at once.
- Break multi-part items into steps, like a recipe. First this, second this, third this, etc.
- If there is more than one instructor, identify one as the lead and the other as support.
 - Try to have the lead instructor provide the majority of the verbal instructions.
- Do not shout or speak at a pace that is unnatural, unless the student specifically asks you to speak up or slow down your speech.
- Don't get technical or use uncommon slang terms during important instruction.
- Remember that 90% of communication is non-verbal and a brain injury can impair ability to read non-verbal communication such as body language or facial expressions.

2. Visual Instruction Tips:

- Have the student watch a live demonstration of the skill, in person or on video, so they can visualize the activity. You may demonstrate the skill or ask a volunteer to assist.
- Role play with the student by having them follow your lead.

3. Kinesthetic Instruction Tips:

- Have the student perform the skill hand in hand with you.
 - Remember to always ask permission before using touch to demonstrate a skill or assist with any equipment set up. This is especially important with students with a brain injury, as they may have sensory sensitivities.

As with all students, remember to grade your teaching as skills progress. For example, you can provide more verbal instructions at one time, or provide a tap on the student's hand versus hand-over-hand support, as the student becomes more confident in their skills.

Build in Comprehension Checks

No matter the type of instruction, it will be important to build comprehension checks into your instruction time to ensure that students understand what they are expected to do and that they will be able to safely perform the required skills. This could mean having a student demonstrate a particular skill in a safe environment, or asking them to describe the first few steps in a skills progression.

Comprehension checks should not simply ask "do you understand?" as students may be hesitant to let on that they are confused in a given situation and may not fully disclose any concerns they might have. Instead, watch for non-verbal cues that indicate any confusion or concern.

Watch for Adrenaline Overload

The adrenaline rush which commonly occurs with increased activity may feel good at first, but could cause cognitive difficulties and adverse consequences later in a lesson. This could result in students taking unadvised risks, showing signs of neurofatigue, or even manifesting physical symptoms such as nausea or sweating.

BRAIN INJURY AND INHIBITION

Students with a brain injury may have difficulty judging social cues, and their perception of, and reaction to, social interactions may be altered.

Examples Include:

- Acting interpersonally close with people they don't know well
- Unintentionally sharing personal information that is embarrassing to themselves or others
- Saying hurtful or insensitive things
- Using language that is inappropriate
- Perceiving setbacks as personal insults
- Experiencing deficits in social skills, such as taking turns during conversation or general tact

Make sure to provide clear expectations for desirable behavior and boundaries prior to the lesson. Be friendly, but don't encourage overfamiliarity. If a student is making inappropriate comments or misperceiving a situation, address their behavior in a calm and professional manner, keeping in mind that they may be unaware of how their behavior is affecting others. Encourage them to pause before speaking, and decide if they should share what they are thinking.

Don't overreact, as this may further escalate inappropriate behaviors. Remember these are symptoms of the injury, and are not intended as personal assaults.

As with any student, remember to discourage alcohol or illicit drug consumption, as this could exacerbate brain injury symptoms.

POST TRAUMATIC STRESS

Post Traumatic Stress (PTS) and Post Traumatic Stress Disorder (PTSD) can occur in those who have been exposed to traumatic experiences, often during military service. It affects a part of the brain involved with learning and memory, and many of the symptoms can overlap with those of a brain injury.

Whether the symptoms are short-lived and don't require medical intervention as with PTS, or long-term and should be treated by a clinician as with PTSD, as an instructor it is important to be aware of the environment in which you are teaching, so you can help anticipate student reactions.

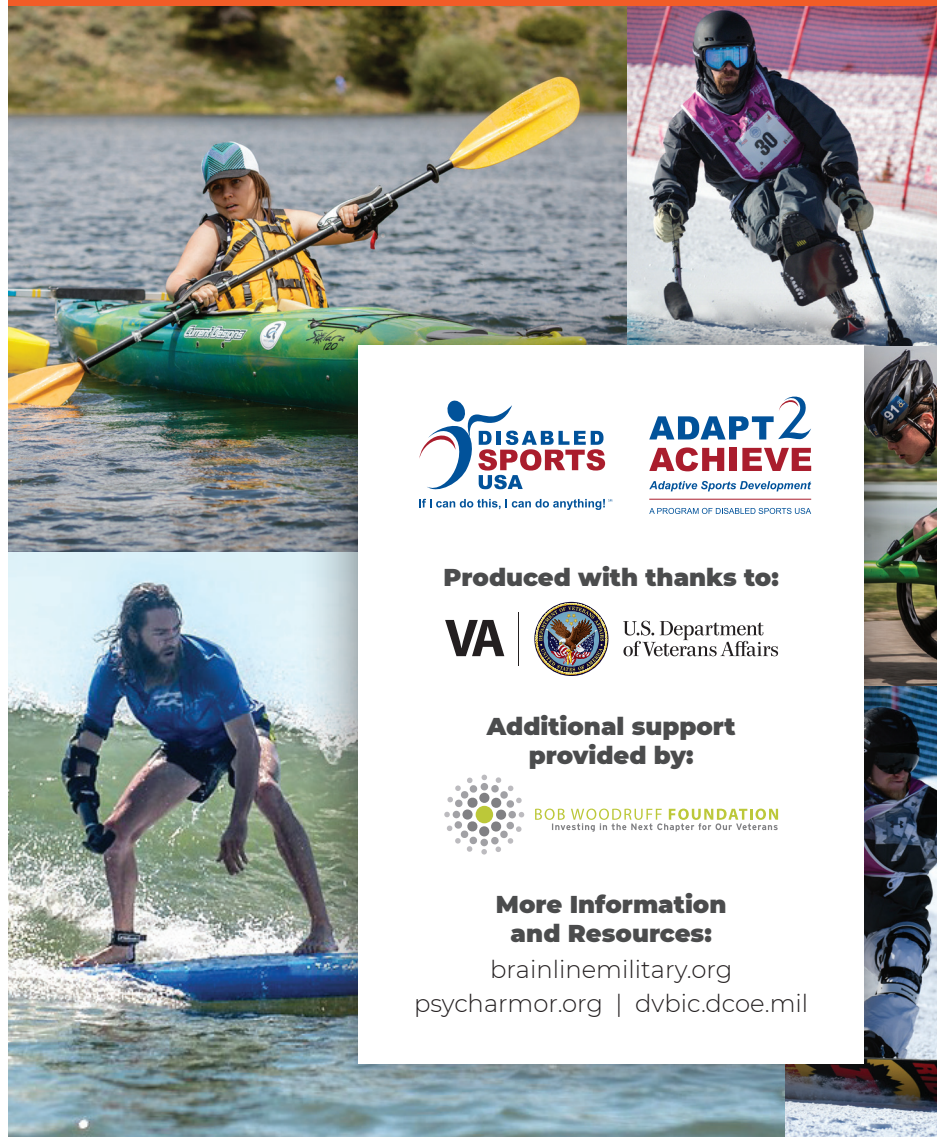
Asking about potential triggers in a registration form, during evaluation, or at the beginning of a lesson, can help you communicate any potential issues to the student (i.e. letting students know about blast canons on mountains, or starting guns at races).

Behavioral signs may include:

- Social withdrawal
- Outbursts or aggression
- Anxiety or irritability
- Poor concentration
- Poor short term memory
- Flashbacks or intrusive images
- Night terrors
- Substance misuse
- Hypervigilance or feeling unsafe
- Problems with crowds or other public settings
- Discomfort with people behind them
- Startle response to sudden or loud noises

If a student ever causes you to feel concern that they might endanger themselves or others, contact a caregiver or the Veteran Crisis Line at


**1.800.273.TALK (8255) or
text to 838255**



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