

Concussion/ Mild Traumatic Brain Injury (mTBI) Fact Sheet

What is a concussion/mTBI?

A concussion is a mild traumatic brain injury (mTBI). It is caused by a blow to the head, or violent shaking of the of the head, common with motor vehicle accidents. If you develop a concussion, you may experience a variety of symptoms that can impair your daily function. A full recovery may occur within a few days to a few weeks post incident. However, for some people, recovery takes much longer (months to years) with possible physical, emotional and/or cognitive.



Diagnosis/functional limitations summary

If you are diagnosed with a concussion, the most important factor is allowing your brain **time to heal**. Initially, limiting physical activities (social/sports) is important, as well as your cognitive demand (thinking and analyzing at work or school). Evaluation of the concussion will describe six key characteristics.

Cognitive/Fatigue: Cognitive difficulties include decreased concentration, increased distraction, difficulty learning/retraining new information, or inability to multitask. Sometimes accompanied by increased fatigue as the day progresses.

Vestibular: Impairments of the vestibular system – the balance centers of the brain – affect your ability to interpret motion, coordinate head and eye movements, or stabilize vision upon head movement.

Ocular: Dysfunction occurs when moving eyes in tandem (binocular eye movement). This may make it cause difficulties to bring your eyes together or track motion.

Post-traumatic migraine: Symptoms include headaches, nausea, and/or sensitivity to light or noise.

Cervical: Sometimes, concussive blows affect the neck and/or spinal cord (extra-cranial region). This may lead to ongoing headaches.

Anxiety/mood: Occurs when someone has a hard time turning his or her thoughts off, preoccupied with excessive worry or concern.

Recommended activity levels/precautions

Once **symptoms** begin to **decrease**, it is important to **begin increasing your activity** and participation. However, too fast or too soon may increase reoccurrence of your symptoms. How can physical therapy help? Care is different for everyone. Your physical therapist will perform an evaluation to assess symptoms, balance, and difficulty with function to establish a baseline. Then the therapist will design a personalized intervention plan and help guide you through a safe return to normal activities of daily living without “overloading” your brain. If your vestibular system (small organ in your inner ear that helps balance and senses head movements) is impacted, you could experience dizziness and imbalance.

Most recent evidence to support exercise (ages 8 & older)

Recent evidence indicates that physical therapy after concussion is safe, and that earlier initiation of physical therapy interventions may facilitate a faster recovery. In addition, aerobic exercises are important to reduce risk for deconditioning, promote functional brain healing, and provide a non-pharmaceutical option to improve mental health. With concussions, it is important to address: cervical musculoskeletal impairments such as pain and/or decreased range of the neck, visual deficits, eye fatigue, dizziness, imbalance, poor exercise tolerance and regulation of daily functional and work or recreation activities.

Breakdown of types of exercises that will be addressed with therapy

Home exercises established by your PT to help aid in your return to normal activity include: static balance, dynamic balance, motor coordination and control, dual/multitasking, and work/recreation/activity-specific tasks. Exertional tolerance as well as progressive aerobic training will be addressed. Based on evaluation results, interventions may also address oculomotor and vestibular function related deficits such as dynamic visual acuity, visual motion sensitivity and vertigo.

Summary of progression/therapy expectations/outcomes

Even though many individuals who sustain concussions recover within a relatively short period of time (7-14 days), studies have demonstrated that as many as 58% of individuals who sustain concussions have **persistent** symptoms, impairments, or limitations that affect daily activities. Timing of recovery varies for individuals and depends on many factors such as physical conditioning, underlying mental health, age, and impacting symptoms. Vestibular therapy and return to sports will vary with each individual but consistent engagement in exercises, social/family support, physical activity and having a good knowledge base of your diagnosis are extremely helpful tools for faster recovery.