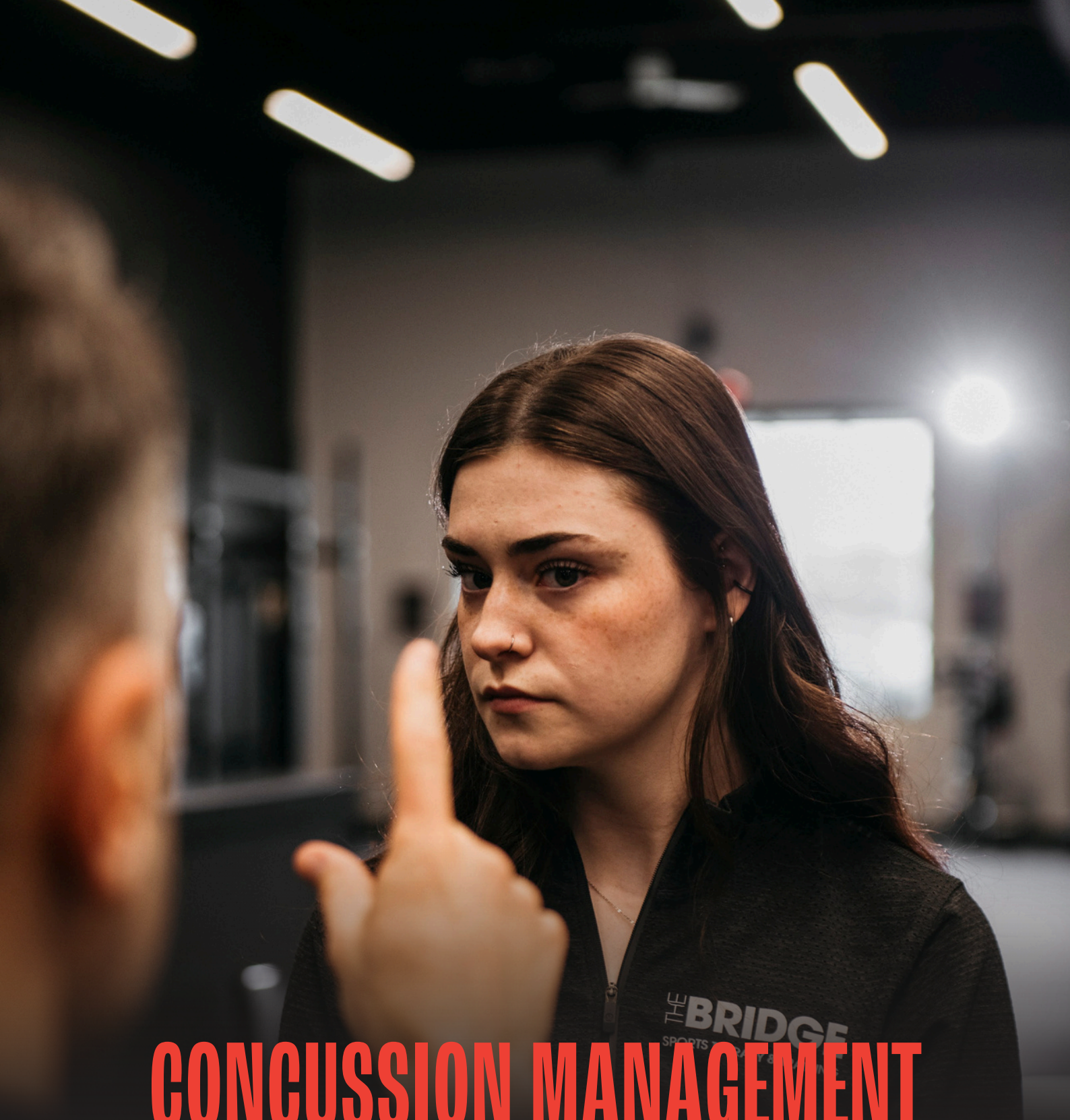




CONCUSSION MANAGEMENT

WHAT YOU NEED TO KNOW



CONCUSSIONS

WHAT ACTUALLY IS A CONCUSSION?

A concussion is a type of brain injury that causes a temporary disturbance in how your brain functions. It is caused by either a direct blow to the head, face, neck or a blow elsewhere on the body with an impulsive force transmitted to the head. This force causes the brain to move back and forth inside the skull, triggering a rapid firing of brain cells and a short-lived impaired neurological function.

Every concussion is different. Signs and symptoms can appear during the first few minutes to hours after injury. Immediately suspect a concussion if your athlete had a loss of consciousness, is "seeing stars", has ringing in their ears or has an injury to the face after a blow to the head.

WHAT TO WATCH FOR

Signs and Symptoms of a Concussion

Headaches/Pressure in the head	• Disoriented/confused
Neck pain	• Anxious
Sensitivity to Noise/Light	• Nervous
Dizziness or balance is off/seems uncoordinated	• Sad or more emotional than usual
Nausea or Vomiting	• Depressed
Memory issues	• Fatigue/Drowsiness
Slurred Speech	• Low Energy
Difficulty concentrating	• Sleeping more or less
Report feeling "foggy"	• Difficulty falling asleep
Not able to respond appropriately to questions	

WHEN TO GO TO EMERGENCY

Signs of a Serious Injury

If you see any of the following RED FLAGS, GO TO THE HOSPITAL as it may be a more serious injury such as a bleed or skull fracture.

- Severe or worsening headache
- Very drowsy or can't be awakened
- Seizures
- Decreasing level of consciousness >2hrs after injury (can't recognize people or places)
- Unusual behaviour, very confused, very irritable
- Weakness or numbness in arms or legs
- Unsteady on feet or have slurring of speech
- Fluid leaking from ears, bruising behind ears, 2 black eyes
- Vomiting
- Inability to remember the injury

IF YOU HAVE OR SUSPECT A CONCUSSION

DO THIS:

Immediately stop playing, going to school or work. See your doctor or book [here](#) with a concussion specialist at The BRIDGE. Our team can offer faster access to assessment and care, helping you get started on your recovery sooner.

REST - For at least 24 to 48 hours after the injury (physical rest - no strenuous activity and cognitive rest - no screens).

SLEEP - If there are no Red Flags, then get a good night's sleep. Take naps, if needed.

EAT RIGHT - Proper nutrition can give you energy and play a role in recovery. Avoid refined sugars and processed foods.

FOLLOW PROTOCOLS - Follow a guided protocol return to learn, work and play according to the direction of your healthcare provider.

DO NOT:

PLAY SPORTS - Do not participate in sport before full recovery, and clearance from your healthcare provider. It's dangerous, and can put you at risk.

WORK OR STUDY - Take some time off from school or work until you feel better.

DRIVE - Do not drive for at least 24 hours. Wait until you feel better.

TAKE PAIN MEDICATION - Pain medication can "mask" symptoms, and make it difficult to tell how the concussion affects you. Talk to your doctor first.

DRINK ALCOHOL OR TAKE DRUGS - These can make you feel worse or "mask" symptoms.

RECOVERY TIMELINES

What to Expect

Most people recover or feel "back to normal" within 10 to 14 days after injury and make a full recovery within 3 to 4 weeks. Children as well as people with a history of concussions or mental health problems, such as anxiety or depression, may take longer to recover.

You may not realize you still have symptoms until you try normal, everyday activities. It is also normal to continue to have some symptoms during recovery. Having a proper concussion assessment and following the correct treatment program allows most athletes and patients to recover safely from concussion.

TREATMENT

Complete rest is no longer considered the best approach in concussion care. For the first 24–48 hours, reduce your usual physical and mental activity and give your body time to recover. This is called relative rest. You can continue with everyday activities such as getting up, walking, and doing light tasks, as long as they don't significantly increase your symptoms. Light activity and getting started on the right treatment approach will help you safely return to learn, work and play.

MONITORED EXERCISE THERAPY

There is consensus that following a short period of relative rest, a monitored exercise program has shown to improve blood flow and speed recovery. Care should be taken to avoid activities that exacerbate any symptoms. We will help you develop a safe and effective program to return to school/work and activity/sports.

HANDS ON MANUAL THERAPY

Headaches, balance, visual issues, dizziness are symptoms common to concussion and whiplash. Ongoing symptoms can often be treated with manual therapy as they are coming from your neck.

VESTIBULAR REHABILITATION

Vestibular rehab may help to reduce symptoms such as dizziness, balance, visual abnormalities, concentration issues and memory problems.

DIET AND NUTRITION

Avoiding pro-inflammatory foods such as processed foods, fast foods and sugar and eating more nutritious foods such as whole foods, fruits, vegetables may help reduce inflammation and symptoms.

EDUCATION

Understanding where you are at in your recovery process is very important of the whole process.

THINGS TO HELP WITH RECOVERY

SLEEP

Sleep alterations are very common in the early stages of concussion. Studies show that you should try to maintain the same sleep and wake times every day and after the first 48 hours. Daytime naps should be avoided.

To support better sleep, avoid caffeine and alcohol for 4–5 hours before bed, as well as heavy meals or vigorous exercise within 2 hours of bedtime. Keep your bedroom dark, cool, and quiet. Try to use your bed only for sleeping and avoid watching TV or using phones, tablets, or other electronics in bed.

SCREENS

Trying to focus on TV or computer screens can worsen symptoms especially light sensitivity, headaches, dizziness and nausea. Try to limit the amount of time you spend watching TV, using your phone, or computer. If you need to use tech devices, take frequent breaks, dim the brightness or use a colour overlay and be mindful of your head and neck posture.

HYDRATION

Proper hydration has been shown to be beneficial to recovery.

Recommended amount of fluid / day	
Adult Men	13 cups
Adult Women	9 cups
Children 9-13 yrs	7-8 cups
Youth 14-18 yrs	8-11 cups

RETURN TO ACTIVITY PROTOCOL

Concussion symptoms can be overwhelming at first but it's important to know that things will get better. Initially you may need to take some time off from school, work and sport. It's important to follow a gradual, symptom-monitored progression of cognitive and physical activities to help get you back to your normal life as soon as possible.

RETURN TO LEARN/WORK

Concussion symptoms that affect memory and concentration can impact your performance at school. Return to Learn/Work helps individuals gradually return to mental activity and learning without putting too much strain on the brain.

RETURN TO SPORT/ACTIVITY

Return to Sport is a 6 stage rehabilitation protocol with testing to determine your physical recovery. The Return to Sport protocol gradually re-introduces sport-specific activities at specific stages of the recovery process.

RETURN TO LEARN / WORK PROTOCOL

Getting back to School or Work

All return to activity protocols should be overseen by a doctor or a licensed healthcare provider. If symptoms occur at any one stage, you must return to the previous stage for 24 hours and then try again. This is your brain telling you that it is not ready for the increased stress.

STAGE 1: SYMPTOM LIMITED ACTIVITY

Avoid any physical or cognitive activities that increase symptoms. Do light walks and light daily activities. Limit screen time and don't do any physical or cognitive activities that make symptoms worse, or risk another hit to your head. Consult with your doctor or healthcare provider before attempting stage 2.

STAGE 2: LIGHT COGNITIVE ACTIVITY

Gradually increase cognitive activity such as light reading, homework, texting or emails. Once you can tolerate up to 1 hour of activity without increased symptoms, you can move to Stage 3.

STAGE 3: HALF DAY OF SCHOOL OR WORK WITH RESTRICTIONS

Go back to school or work for one-half day – morning or afternoon with some restrictions. Lower your school or job workload, do less screen time and monitor screen brightness settings. Don't participate in recess or gym class, take quizzes or tests, no homework.

STAGE 4: FULL DAY OF SCHOOL OR WORK WITH RESTRICTIONS

You can now attend a full day of school or work with certain restrictions depending on your symptoms and triggers. Take frequent breaks, do complete small homework assignments. Don't participate in recess or gym class, or do cognitive activities that significantly provoke symptoms.

STAGE 5: FULL RETURN TO SCHOOL OR WORK

Gradually remove restrictions until you are able to fully participate in all aspects of school (with the exception of recess or gym - see Return to Play protocol).

PERSISTENT SYMPTOMS

Most people make a complete recovery from concussion however 15-30% of people continue to experience symptoms for weeks or months. This can include mood issues, anxiety, difficulty concentrating or headaches. Individualized treatment is available for persistent symptoms.

RETURN TO PLAY/ACTIVITY PROTOCOL

Getting back to Sport or Physical Activity

This protocol follows the 6-step Return-to-Sport progression outlined in the current International Consensus Statement on Concussion in Sport. Each stage is generally separated by 24 hours. This is to ensure your body has adequate time to adjust and your brain is tolerating the increasing activity. If symptoms occur at any one stage, you must return to the previous stage. This is your brain telling you that it is not ready for the increased physical demands.

STAGE 1: MODERATE SYMPTOM LIMITED ACTIVITY

This is the same as Stage 1 of the Return to Learn/Work. Only do activities that do not make your symptoms worse, i.e. light walks. Remain at this stage for 24 to 48 hours before attempting stage 2.

STAGE 2: LIGHT PHYSICAL ACTIVITY - BUFFALO TREADMILL TEST

The treadmill test gradually increases exercise intensity to assess your exercise tolerance and symptom response. If you complete the test without a significant increase in symptoms, you move on to Stage 3. If symptoms increase, we will stop the test and have you continue exercising at a sub-symptom level for a period of time until your tolerance improves.

STAGE 3: SPORT SPECIFIC ACTIVITY

This is your first step to safely returning to sport. You can do individual drills (running, change of direction) and training exercises away from the team environment. No activities at risk of head impact are allowed.

STAGE 4: NON-CONTACT TRAINING DRILLS - HIGHER INTENSITY

Gradually increase intensity and participate in some team-based activities. Do individual drills and exercises at a higher level of difficulty and intensity, some team drills. No contact drills at this stage.

STAGE 5: MEDICAL CLEARANCE - BLACKHAWKS TEST

When you are 100% symptom-free, 100% back to school or work and not having symptoms with increased activities or practice. You will undergo the BLACKHAWKS TEST if you are a high-risk athlete and if you pass, you are cleared for contact. If you have a baseline concussion test, we will compare your current function with your function before the concussion.

STAGE 6: FULL RETURN TO CONTACT - DISCHARGE

You should have participated in 1 full-contact practice before playing your first game.

NUTRITION

Evidence suggests that diet that is lower in refined carbohydrates and sugar and higher in particular fats may help decrease systemic inflammation and facilitate a healing environment.

IN THE FIRST 24 HRS

Do not restrict calories during this time. You should consume at least half the calories you would consume on a regular basis. If nauseous, consume a bland diet comprised of familiar foods, i.e. bananas, rice, applesauce and toast.

PROTEIN

Protein serves a vital role in cell and tissue production and repair. Your brain needs repairing so give it the right tools to repair itself. During concussion recovery, aim for approximately 1.5–2.0 g of protein per kg of body weight per day to support recovery and maintain muscle mass.

Protein (g/day) = [Body weight (lb) ÷ 2.2] × 1.5–2.0

Example: If you weigh 150 lb (68 kg), your daily protein target is 100–135 g per day.

A simple way to reach this target is to spread protein throughout the day:

Breakfast: 25–30 g

Lunch: 30–35 g

Snack: 15–20 g

Dinner: 30–35 g

OMEGA-3

It is widely accepted that increasing omega-3 fatty acids helps in recovery. These fatty acids reduce inflammation and promote healthy cell structure. Food rich sources include sardines, anchovies, salmon, mackerel, herring, eggs, beef, wild game. If you are not consuming sufficient levels, consider adding a supplement.

CURCUMIN

Curcumin is a spice. Used as a supplement, curcumin has been shown to reduce inflammation and improve behavioral impairment. Choose a supplement with black pepper to increase the absorption of curcumin.

CREATINE

Widely accepted supplement during concussion recovery can be found in red meat, poultry, pork and fish. Creatine increases brain cell energy production as well as preserving the mitochondria. Used immediately after concussion, creatine may increase the level of the "fuel" the brain uses to recover. Creatine supplements are widely used, safe supplement for long-term use. Recommended: 3–5 g/day.

ANTI-INFLAMMATORY FOOD CHOICES

Recommended Foods	Foods To Restrict
Olive oil, Avocado oil, Avocado oil-based salad dressings and mayonnaise	Corn oil, Sunflower oil, Soybean oil, products with palm kernel oil and products with partially hydrogenated fats
Avocados, Hummus	Regular mayonnaise
Bright multicolored vegetables: spinach, kale, collards, peppers, carrots, mushrooms, broccoli, sweet potatoes, beets.	
Citrus Fruits: oranges, lemons, limes, grapefruits	Fruit juice concentrate
Berries: strawberries, blueberries, cherries, cranberries, blackberries	Added Sugar: glucose, fructose, high fructose corn syrup, syrup, molasses
Eggs: rich in vitamins and antioxidants	
Fatty Fish: Salmon, tuna, herring, mackerel, Sardines	Fried fish
Lean meats: skinless chicken, turkey breast and a limited amount of lean red meat like sirloin, eye of round, roast beef	Unskinned chicken and fatty meats, processed lunch meats
Reduced fat cheese and dairy products	Butter, cream, high fat cheese, whole milk
Whole grains: Brown rice, whole wheat pasta, barley, bran cereal, oats, quinoa	Refined grains: Regular pasta, white rice, white bread. Processed packaged foods: snack cakes, cookies, crackers, cereals. (If enriched flour and sugar are the first 2 ingredients, pass on this item)
Nuts and Nut butters: Almonds, Walnuts, Cashews, Pistachios	Jelly, Jam, Preserves
Seeds: Flax, Chia, Popcorn, Sunflower Seeds	Pretzels, Potato chips, Tortilla chips
Greek yogurt, Kefir	High sugar yogurt
Spices: Turmeric with Black Pepper, Cinnamon, Cayenne Pepper, Nutmeg, Ginger	Salt

QUESTIONS?

Contact us with any questions
at www.thebridge.fit

