



Guardian Education:

- Your child has been seen by the HeadStrong Community Paramedicine Program for head injury. Concussion is a mild traumatic brain injury, induced by biomechanical forces, caused by a blow or jolt to the head or body. It temporarily disrupts the normal functioning of the brain. Concussion is not a structural injury, so standard radiological tests are often normal.
- Most people recover completely from a concussion in days or weeks, but symptoms can last much longer. Over-exertion, re-injury and academic or emotional stress can aggravate symptoms and prolong recovery.
- Below is some information for getting your child back into school and back to their normal activities.

Returning to Learn Plan



- Allowing the student to re-enter academics in a graded and monitored fashion is ideal in minimizing these stressors. A student who has comorbidities prior to their concussion, such as learning disorders or migraine headaches, often has a slower recovery period.
- Using a five-step process called “Return to Learn” can help to manage a concussed student’s return to school. Information in this section is broken down by a child’s needs from the school generally, in the classroom specifically, and by their developmental stage.

Step 1

- Immediately after a concussion, it is beneficial to take a break from cognitive (thinking, processing) activities for up to a few days.
- This may mean no school, no homework, no computer, no texting, no video games and maybe no TV if it makes symptoms worse. In general, it is beneficial to minimize screen time.
- As symptoms improve, slowly reintroduce light cognitive activity. Initial activities may include watching TV, listening to audio books, drawing, and cooking, as long as they do not increase symptoms.

Step 2

- Light cognitive activity is resumed once your child has had significant improvement in symptoms at rest.
- Your child may do activities that do not cause symptoms to get worse.
- Initially, your child may only tolerate five to 15 minutes of work at a time. Stop the activity when moderate symptoms develop.
- Your child may increase the length of cognitive activity as long as symptoms do not worsen significantly or as long as symptoms improve within 30 minutes of taking a break.

Step 3

- School-specific activity should be increased gradually:
- When feeling better, your child should try to do some schoolwork at home, increasing the duration as tolerated.
- Your child should continue to participate in this activity in short bursts of time (up to 30 minutes) as tolerated and then work up to longer time periods.

Step 4

- Follow these guidelines to determine when your child is ready to return to school:
- When your child is able to do one hour of homework at home for one to two days, they may try to return to a modified school schedule. Examples of a modified schedule: A decreased number of classes, adjustments to decrease reading and note taking, and extra time to complete assignments and tests.
- If symptoms develop while your child is at school, they should take a break in a quiet, supervised area until symptoms improve. When symptoms improve, they may return to class.
- Your child may increase their time in school as tolerated.

Returning to Activity

Step 1

- Initially, your child may participate in light aerobic activity as tolerated. This could include light walking. This does not include any type of sports training.

Step 2

- Once your child is back in school with minimal symptoms, your child can restart non-contact light aerobic exercises, including brisk walking, stationary cycling, etc. These activities should not make symptoms worse.

Step 3

- Once your child is symptom-free in a full day of school and can tolerate light aerobic activity, they can re-start sport-specific training. This would include exercises such as moderate jogging/running, moderate-intensity stationary bike, throwing a baseball and kicking a soccer ball. No head impact activities.

Step 4

- Once your child is able to tolerate sport-specific exercise, he may advance to noncontact training drills and heavy noncontact physical exertion, including sprinting/running, high-intensity stationary biking, his regular weightlifting routine and noncontact sport-specific drills.

Step 5

- At this point, ask your child's doctor if your child is ready to advance to full contact play.

The 2-Point Rule for Managing Symptoms Following Concussion

As stated earlier, over-exertion and stress can aggravate symptoms and prolong recovery. These instructions are for patients who have sustained a concussion and have begun some activity (physical or cognitive/"brain activity").

Following these instructions can help to find the right balance between activity and feeling symptoms. Follow the instructions below to guide you on how to increase activity following your concussion – they will help you resume your regular activities as soon as possible!

General Instructions

- Imagine your symptoms on a 10-point scale, where 0 means you feel great (no symptoms) and 10 is the worst symptom you've ever experienced.
 - These can be used for ANY activity: Schoolwork, reading, watching TV, using a phone or tablet, exercising.
- If your symptoms reach more than 2 points higher from where you started, you should rest and recover, and then return to the activity if you are able.
 - An example:
 - § If your headache starts at a 2 out of a 10, you can do any activity until it gets to a 4 out of a 10.
 - § Don't go from a 2 out of a 10 to a 7/10; then it will take too long to recover.
- Recovery
 - It should take no longer than 20-30 minutes, 1 hour maximum, to recover from any activity.
 - This can be used for ANY activity: Schoolwork, reading, watching TV, using a phone or tablet, exercising.
 - If it takes hours to recover, you probably did too much before you took a break.
- Keep in mind that any pre-existing conditions you had prior to your concussion (migraines, ADHD, mood disorders, etc.) can temporarily worsen during your concussion

recovery. The hope is when you are recovered from your concussion your pre-existing condition returns to your “baseline.”

Return to the Emergency Department if your child:

- Seizures (twitching or jerking movement of parts of the body; may look stiff)
- Weakness or tingling in the arms or legs
- Cannot recognize people or places
- Confused, restless or agitated
- Difficult to arouse or unable to awaken
- Repeated vomiting
- Blurred speech
- Bloody or clear fluid from the nose or ears



Education for the Patient

Managing Your Concussion

The First Few Days

- Rest is best the first few days after your concussion. It is ok to sleep as much as your body needs; you do not need to be woken up in the middle of the night.
- Make sure you are getting enough nutrients and drinking plenty of fluids.
- Do not “fight through” activities if they are causing worsening symptoms, this could prolong your concussion recovery.
- After a few days you will likely start feeling better and can start adding in some activities that do not cause symptoms. TV for short periods of time or a movie if you can tolerate it.
- Phone/tablet use: both are fine to use for short amounts of time only in the first few days if symptoms do not worsen. You can enlarge the font and turn down the brightness to help prevent spikes in headaches. You can set a timer to “check in” with yourself so that you do not get lost on social media. If you are having increased symptoms, stop and take a break. After the first few days you can work up to “house rules” regarding use.
- Over the Counter medications (Tylenol/Acetaminophen, Motrin/Ibuprofen, Aleve, Excedrin etc.) do not typically help with concussion headaches and can in fact cause rebound headaches if taken more than 3x/week. The best thing to do is take a break from the activity causing symptoms. You can rest, let symptoms improve, then you can return to the activity. If your headache is so bad that you need something to “take the edge off,” it is ok to try one of the over-the-counter medications listed above.
- Movement is medicine after a concussion! It is important to move your body daily starting with a light walk and advancing as outlined below.

Managing Symptoms

- As you start to feel better you are going to be adding in more activities, but keep in mind your brain energy bank is not running with a full battery!
- It is ok to go to events with friends and family, but you may not be able to stay the entire time. It is wise to have an “exit plan” should the need arise.

The 2-Point Rule for Managing Symptoms Following Concussion

- These instructions are for patients who have sustained a concussion and have begun some activity (physical or cognitive/” brain activity”)
- It is important to follow these instructions, as finding the right balance between activity and feeling symptoms is important for the brain to heal.

- Follow the instructions below to guide you on how to increase activity following your concussion – they will help you resume your regular activities as soon as possible!

General Instructions

- Imagine your symptoms on a 10-point scale, where 0 means you feel great (no symptoms) and 10 is the worst symptom you've ever experienced.

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§ An example: If your headache starts at a 2 out of a 10, you can do any activity until it gets to a 4 out of a 10.

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Recovery

§ It should take no longer than 20-30 minutes, 1 hour maximum, to recover from any activity.

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§ If it takes hours to recover, you probably did too much before you took a break.

§ Keep in mind that any pre-existing conditions you had prior to your concussion (migraines, ADHD, mood disorders, etc.) can temporarily worsen during your concussion recovery. The hope is when you are recovered from your concussion your pre-existing condition returns to your “baseline.”

Returning to Learn

School is important and we'd like you to be back in school as soon as possible.

You will not be expected to do all your schoolwork immediately when you return, but it is important to be in the school setting to help integrate back into your normal routine as well as being able to see your friends.

In general, you are likely ready for school when you can do some schoolwork at home without a significant spike in symptoms.

We will ask your teachers to use your first day at school as a “sponge day.” This means that you really are just there to figure out how to pace yourself throughout the day as well as to acclimate to the lighting and noise of the classroom. Remember the 2-point rule!

As you start to do more cognitive work you may notice an increase in symptoms. This is ok, it just means your brain is starting to get the exercise it needs!

You can also follow the Green/Yellow/Red Zone method for managing symptoms in class:

- Green Zone = Headaches are small and improve with short rests at your desk (looking away from the board or your notes and then going back in a short amount of time)
- Yellow Zone = Headaches are increasing and may require you putting your head down at your desk or whatever way you have agreed upon with your teacher to notify them you're taking a break (some kids have found a notecard works well). Sometimes leaving to go get a drink of water or going to the nurse for a bit helps as well.

- Red Zone = Headaches have gotten to the point where leaving the classroom is the best option and may need the nurse's office. Try to avoid these headaches because it is hard to return to class once they get too high.
- You may need to start with a half day of school for the first day or two to make sure you can tolerate it.
- Try to avoid bouncing in and out of school which is usually seen when you are not pacing yourself and taking breaks during the day.
- After school it is ok to take a rest and then start some homework. If you need a nap, try to limit to no more than 20 minutes to avoid interrupting your sleep cycle at night.
- Regarding homework, try and do what you can but if you cannot get it done it's ok! Focus on current work before advancing to makeup work.
- Tests and quizzes are when you are ready – start with a quiz then advance as you are able.
- **Tips/Tricks for Visual Complaints (eye pain/strain):**

Palming:

- In a seated position with feet firmly planted on the ground, lean your elbows on your knees or on the table in front of you.
- Keep your eyes OPEN and place the palms of your hands over your eyes.
- Do not let any light in, keep your eyes open so you are looking into darkness.
- Take 5 deep breaths in through your nose and out through your mouth.

20:20:20 Rule:

- For every 20 minutes you spend looking at a screen, look into the distance 20 feet for at least 20 seconds.
- Repeat this throughout the day every 20 minutes you're using a screen.

Patient Instructions: Aerobic Activity Following Concussion

- It is important to follow these instructions, as light exercise following concussion can help the brain heal.
- Follow the instructions below for several different types of exercise that can be performed.

Goals

- The goal of aerobic activity after concussion is to work up to 30 minutes per day, getting your heart rate up, working up a sweat and being a little out of breath.
- There are many ways to get in your aerobic activity daily. Your healthcare provider will tell you what activities you are allowed to do.
- Some examples of good aerobic activity include running, treadmill, stationary bike, ergometer, elliptical.

Nutrition/Hydration

- Good nutrition and hydration are important in concussion recovery!
- Make sure that you are "fueling" your recovery by including a variety of fruits/vegetables/protein in your diet.

- If suffering from decreased appetite, small frequent meals that are nutrient dense is a great option.
- Try to drink about half your weight in ounces daily. Add natural flavor to your water with fruits or can also dilute sports drinks in water. Can also try Nuun Tablets or Liquid IV in your water.

Sleep Hygiene

- Sleep is always important, but it is especially important after a concussion. This is the time where the brain and body can recharge from the day and be prepared for the next day by forming new pathways to help you learn and retain information.
- Studies show that getting a restful night's sleep helps improve learning, whether it be in school or learning a new skill. Sleep also helps you with attention, decision making and creativity!
- Poor sleep hygiene can lead to increased risk of irritability, mood swings, difficulty getting along with others, and even depression.
- Below are some tips to help ensure a restful night's sleep:
- Maintain a consistent sleep schedule: Try to go to bed around the same time every night, including when on vacation and on the weekends. It is also important to wake up around the same time each morning.
- Napping: If you must nap, limit to one 20-minute nap per day to prevent disruption in your nighttime sleep.
- Exercise: Getting as little as 10-15 minutes of exercise per day can dramatically improve your sleep.
- Avoid Caffeine: Try to avoid caffeine such as soda, coffee, or tea at least 6-8 hours before bed. While alcohol has been known to help people fall asleep, it can disrupt your sleep during the second part of the night when the body begins to process the alcohol.
- Natural Light: Make sure that during the day you are getting exposure to natural sunlight to prevent problems with your sleep/wake cycle.
- Create a Relaxing Sleep Environment: Your bed is meant for sleep, try to avoid doing your homework or hanging out on your bed. It is best to keep your bedroom on the cooler side and keep the room pitch black at night. Avoid having a clock in your line of vision because you can become anxious/frustrated if you wake up and are unable to fall back to sleep. White noise machines can help with sleep as well. If you can't fall asleep within 20 minutes of getting into bed, get up and walk into another room. You should only get into bed when you're tired.
- Avoid Electronics: Try to avoid phones, TV, and tablets at least 30 minutes before bed. You can read a book, listen to music, or meditate instead!
- Avoid Large Meals: Large meals 1-2 hours before bed can cause indigestion and subsequently an unpleasant night's sleep.
- Create a Bedtime Routine: There are many things you can do to create a consistent bedtime routine: take a warm bath, listen to soothing music, drink an herbal tea (decaf), or even listening to guided meditation on an app such as "Calm" or "Headspace."



Work/School Excuse – Concussion

Date: **/**/****

Patient: ***

The student named above was seen by HeadStrong Community Paramedicine Program and has been diagnosed with a concussion.

Return to School: The academic accommodations in this letter will help to transition the student back to school after their concussion. The student may not require all these accommodations, and they may be lifted as symptoms improve.

1. The student may return to school prior to full symptom resolution – we want them to return for some activity within 2-3 days of injury at the latest
2. The student may not be able to tolerate a full academic workload initially and may need to restart school as “listening only” days to start, and advance eye-tracking activities (reading, note-taking, etc.) as symptoms improve.
3. When the student returns to school, they should work to the threshold of provoking symptoms. If the student develops symptoms, he or she should go to a quiet area (nurse’s office or library), rest, and then return to class when feeling better.

Additional accommodations:

- Reduce non-essential schoolwork: We recommend starting at 50% workload, and advancing as the student recovers. Once recovered, the student may be able to make this up, depending on the length of time missed.
- Exams: No tests the first week back, and no more than one make-up test per day. The student may take quizzes and tests when he is feeling ready and has had adequate time to learn and study the material.
- Reduce eye-tracking activities where possible: This includes getting pre-printed class notes, avoiding prolonged reading, and postponing and/or reducing longer reading assignments.

- Physical Activity: No contact sports, gym or recess until cleared by an appropriate health care provider. The student should not be writing papers in substitute for gym class.

Note to Employer / School Official:

The patient named above was seen by HeadStrong Community Paramedicine Program today. Any recommended restrictions on activity are listed above. In follow-up visits, the patient's physician may decide that other restrictions are necessary.

Clinician Signature_____