

Hunterdon Concussion Recovery Prescription for Children and Teens

Name of injured student:

Date of Birth:

Date of Concussion:

The goal of the Concussion Recovery Plan is to return the injured child or teen to baseline pre-concussion function as soon as possible. Since every concussion is different, symptoms may vary. The patient should always be evaluated by a medical professional after a concussion. Follow up medical assessment will depend upon the findings at the time of the initial evaluation.

1. ALL STUDENTS: Cognitive and Physical Rest Phase of Recovery.

Immediately after the concussion, the child or teen may have trouble focusing or remembering, may feel foggy or slow, or have a headache. If the child has any of these symptoms, COMPLETE REST is essential at this point in recovery. This includes physical, mental and social rest outlined in this section. Even if the child is totally free of symptoms within 24-48 hours, complete physical rest is still required as outlined in section 2.

Sleep in a dark room as much as possible for the first 2-3 days. *The less stimulation to the brain, the better.* Books on tape or quiet music are okay as long as they don't make symptoms worse.

Do not:

- Attend school
 - Younger children require longer periods of *complete* rest.
 - More severe concussions require longer periods of complete rest as well.
- Read
- Use a computer or video game
- Use a phone or text
- Socialize with friends or attend school functions
- Watch TV
- Use an iPod
- Use a hot tub
- Drive or ride in a vehicle

2. For students who are free of symptoms after 24-48 hours of physical, mental and social rest:

If the child or teen is feeling better after 24-48 hours of complete rest, return to school with no physical activity (gym, sports, recess, etc). If classroom work results in increase in symptoms, go to the school nurse and rest for 30 minutes. If symptoms improve, try going back to class again. If symptoms do not improve, go home for the remainder of the day with complete rest as above. Homework or tests are not allowed until symptoms are *completely resolved* and the child can tolerate regular classroom work.

3. For Students who have ongoing symptoms with cognitive activities:

For students who have tried to attend school for two days but could not tolerate the cognitive (thinking) stress, a more gradual return will be required. Begin the activities below for fifteen minutes at a time. Use a timer. If these activities increase your symptoms, **stop** – this means that the changes in blood flow to the brain are interfering with healing. Please see the end of this document for a list * of possible symptoms. Continue to take naps frequently, but after a few days limit naps to 15 minutes to avoid interfering with night time sleep.

- Listen to a recorded book or quiet music.
- Watch TV – quiet shows only!

If this is tolerated for 2-3 days with no increase in symptoms, alternate reading and using the computer for gradually longer periods of time. Start with reading two pages, take a break for ten minutes, then use the computer for ten minutes. Take another break for ten minutes. **NO VIDEO GAMES.** Then gradually increase the length of time by adding ten minutes to each session. If there are no symptoms after reading or using the computer for one hour, the child may return to school. The return to school phase usually takes 5-6 days to complete.

Try one class and continue to attend as long as the symptoms do not recur. Math or foreign language are more likely to cause symptoms to recur, so don't start with these.

If symptoms develop, go to the nurse's office and rest; skip the next period and go back to class if symptoms got better. If symptoms did not get better, go home. Start over the next day with gradually increasing the amount of time spent at school and reading or using the computer. No sports or physical education yet. No music, band or chorus yet.

Additional modifications for all students during this cognitive rest phase:

- Allow child to wear sunglasses or ear plugs to reduce brain stimulation
- Provide written instructions for coursework or assignments
- Allow extra time to get from class to class
- Lessen homework load
- Do not administer tests
- Written assignments should not be given as a substitute for gym class

4. ALL STUDENTS- Gradual return to physical activity when symptoms have resolved:

When the child or teen is symptom free on no medications for one full week at school, start the stepwise return to play program below. Recovery usually occurs in three to four weeks.

Stepwise **return to activity** is critical. Allow 24-48 hours for each step. Recurrence of symptoms should return the person to the previous level of activity restriction for at least 24 hours. Guidance for moving from one step to the next may come from athletic trainers, physical therapists, physicians, nurse practitioners, or other professionals. Hunterdon Medical Center physical therapy department offers special sessions for the stepwise return to activity after concussion for children and teens.

- Step 1 Complete rest until no symptoms are present as above.
- Step 2 Light aerobic movements with *no resistance training*.
 - Walking, swimming, stationary cycling for 20 minutes.
 - The objective of this step is to increase heart rate. Keep intensity <70% of maximum*
- Step 3 Sport specific exercise such as running or gradual resistance training.
 - Skating, jogging, running drills. No sprinting. No head impact activity.
 - The objective of this step is to add movement to increased heart rate*

- Step 4 Non-contact training drills, gradually increasing resistance training, passing drills, etc.
 - The objective of this step is progression to more complex training
- Step 5 Full contact training.
 - Practice in non-competitive environment.
 - The objective of this step is to restore confidence in the athlete and allow assessment of functional skills by staff*
- Step 6 Return to full play.

Computerized testing (such as the ImPACT test) evaluates brain function affected by concussion, including reaction time, processing speed, cognitive ability, memory and post-concussion symptoms. However, many of these tests require a baseline for comparison in order to interpret results. Results on these tests, however, are not the only criterion for return to play. ALL symptoms must be resolved to move from Step to Step.

No spinning or looping carnival rides for at least three months after a concussion.

***Possible symptoms of concussion** (may not be present immediately after injury and may occur days later).

- Easy distractibility or poor concentration
- Feeling “in a fog”
- Inappropriate behavior
- Seeing stars or flashing lights, vacant stare
- Blurred or double vision
- Dizziness or lightheadedness, loss of balance
- Headache
- Fatigue
- Nausea and vomiting
- Change in coordination
- Slurred speech
- Ringing in the ears
- Irritability
- Low tolerance for frustration
- Personality changes
- Anxiety or nervousness
- Depression
- Forgetfulness/poor memory
- Confusion or difficulty understanding concepts

Comments from today’s medical evaluation:

Cognitive and Physical Rest until next assessment on: _____

May initiate gradual return to physical activity outlined above

Signed _____

Date _____