Children's
Healthcare of Atlanta

Concussion guidelines for your child's return to school, book work and studies

Stage of healing	Home activity	School activity	Physical activity
Stage 1— Your child still has many symptoms and problems	– Complete rest in a quiet room – Allow as much sleep as possible – Limit things that require your child to think, focus, reason or remember – Remove any electronics and computers from your child's room – Remove any activity planners and "to-do" lists from your child's room – Give your child plenty of fluids to drink – Give your child plenty of carbohydrates to eat, such as whole grain breads and cereals, pasta and rice	– No school	See Stage 1 in next chart
Stage 2— Your child still has some symptoms and problems	– Quiet room – Allow as much sleep as possible – Allow your child to use TV, video games, texting, social media and email for a short time—less than 2 hours a day – Help your child to not stress over missed school work – Continue with fluids and carbohydrates as in Stage 1	– May return to school for one half day – Attend core classes only – Attend shortened class time – Rest in nurse's office between classes and as needed – No tests or quizzes – Use preprinted class notes – Short homework assignments—work 20 minutes at a time with rest breaks in between – Talk with school nurse or teacher about a 504 plan to help to make sure special needs are met during his school day	See Stage 2 in next chart
Stage 3— Your child's symptoms and problems have gone away	– Slowly return to watching TV, playing video games and texting – Allow more active family interactions	– Full day of classes – **Gradual** return to class work, including make-up work, tests, quizzes – May take one test or quiz a day with extra time as needed to complete – Tell the teacher or school nurse if any symptoms or problems return	See Stages 2-4 in next chart
Stage 4— Your child seems back to normal	– Normal home and social interactions	– Normal school work and studies	See Stages 5-7 in next chart

choa.org/concussion **Concussion nurse: 404-785-1111**

This is general information and is not specific medical advice. Always consult with a doctor or healthcare provider if you have any questions or concerns about the health of a child.

In case of an urgent concern or emergency, call 911 or go to the nearest emergency department right away.

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Concussion guidelines for your child's return to sports, play and activities

Stage of healing	Activity allowed	Examples of sports	Examples of other activities	Goal
1	– No activity – Complete cognitive and physical rest	– Complete physical rest	– Quiet time with rest – Avoid groups, videos, reading, computers, video games, cell phones, noisy places	– Brain rest and healing – Become free of symptoms
2	– Light aerobic activity	– 10-15 minutes of walking or stationary bike – Light sweat on the brow – Slight increase in breathing rate	– Walk in park or neighborhood – Avoid group activities	– Increase heart rate to 30-40 percent max
3	– Moderate aerobic activity – Light resistance training	– 20-30 minutes of jogging or stationary bike – Arm curls, shoulder raises, leg lifts with weights that can be comfortably lifted – One set of 10 repetitions for each activity	– Supervised play – Low risk activities such as dribbling a ball, playing catch, changing directions, jumping, side-to-side slides, chasing a ball or catching a ball on the run	– Increase heart rate to 40-60 percent max – Add resistance – Use eyes to track objects
4	– Intense aerobic activity – Moderate resistance training – Sport-specific exercise	– 40-60 minutes of running or stationary bike – Same resistance exercises with weight for three sets of 10 reps – Pre-competition warm-up such as passing a soccer ball, throwing a football or doing ladder drills	– Supervised play – Moderate-risk activities—no head contact activities, such as balance and agility drills – Can sweat and breathe heavy	– Increase heart rate to 60-80 percent max – Increase resistance – Mimic the sport
5	– Controlled-contact training drills	– 60-90 minutes of time on the field, court or mat for specific drills – Take part in normal practice session – Contact that is normally part of the sport—only use items that "do not hit back" such as a sled in football – Recheck for symptoms or problems often	– Free play – Run and jump as able – Full return to physical education (PE) – Recheck for symptoms or problems often	– Mimic the sport or free play without the risk of head injury
6	– Full-contact practice	– After OK from the doctor, may take part in normal training activities	– With parent or adult supervision, may take part in normal activities	– Build confidence – Assess skills
7	– Return to play	– Normal game play	– Normal playtime and activities	– No restrictions

Maximum heart rate is determined by subtracting the athlete's age from 220 and multiplying by the percentage. For example:

- Your target or ideal heart rate for exercise during Stage 2 is usually 30 to 40 percent of your maximum heart rate.
- To find your maximum heart rate, subtract your age from 220.
- If you are 15 years old, subtract 15 from 220 = 205. Next, multiply that number by 30 and 40 percent. This will give you a target heart rate for exercise in Stage 2.
- 205 times 30 percent = 62 beats a minute. 205 times 40 percent = 82 beats a minute.
- This means that your target heart range for exercise in Stage 2 is between 62 and 82 beats a minute.

- Allow 24 hours between each activity stage in the chart. **This means that it will take at least seven days to return to full activity.**
- For your child to move from one stage to the next, he must be able to do an activity at 100 percent without symptoms or problems for 24 hours.
- If any symptoms return, it means his brain is not ready for the next stage and he should drop back to the previous stage.
- Once your child has no symptoms again for 24 hours, he can try the activities in that stage again.

Concussion Program adapted from the Zurich Concussion Conference November 2008, Br J Sports Med 2009; 43:i76-i84.

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