



## **DELAWARE MODERN PEDIATRICS, P. A.**

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## **Concussion**

We know that a head injury may result in a concussion. Typical symptoms of a mild concussion may include headache, vomiting, sensitivity to light and noise, mental confusion, crankiness or irritability, loss of attention, and loss of short-term memory.

We used to think that the severity of the head injury could predict the likelihood and severity of a concussion. But it turns out that the symptoms of a concussion can't be predicted by the apparent severity of the blow to the head, or by the initial symptoms. Blows to the head which appear minor can result in dramatic symptoms that may last for weeks or even months. (I've also noticed that my patients who have shown symptoms of ADHD seem also to have worse symptoms of concussion.)

How long should kids with a concussion be restricted from school and homework? There are multiple, sometimes conflicting guidelines; this is not surprising since research is sparse. Here are my general guidelines; I advise a stepwise approach.

1. Adequate sleep is essential, including a reasonably early bedtime. Late bedtimes and lack of sleep usually delays the resolution of symptoms.
2. The child should drink and eat adequately; sufficient fluids is important.
3. Overstimulation from TV and "screen time" should be avoided. TV (including video games, movies, cell phone games etc.) should be avoided until the headache has resolved.
4. It is ok for the child to read or listen to music, until the headache worsens to prevent it.
5. Visits from friends are ok, as the child tolerates. Text messaging and phone chats are also ok, up to an hour before bed time.
6. Once a child can read without severe symptoms, they may attempt homework, up to the point that the headache worsens to prevent it. Computer use is permitted only to do homework.
7. Once a child can read and do homework at home without severe symptoms, then she may attempt a partial or complete return to school.

I don't think it's necessary for a child to refrain from all activity until all symptoms have resolved; there is some evidence that concussion symptoms are not worsened by a child

attempting more cognitive activity. You may allow a child to attempt reading, schoolwork or attending school if the headache and other symptoms are not severe. Usually you can trust the child to stop activity if he or she feels worse.

How long should a child refrain from sports? Again, there are multiple, often conflicting guidelines.

A fundamental rule is that the child should not take part in any activity that might risk a second head injury for a week or two **AFTER** the resolution of all concussion symptoms. (A second head injury, if sustained before all the symptoms of the first concussion has resolved, is known to result in more severe and longer-lasting symptoms.)

Beyond this, a stepwise approach is usually best. Here are some general guidelines.

8. If desired and if tolerated, the child may attend team practices for the social exposure and to keep up with the coach's instructions and team plans, and may even "suit up" if desired. But the child should not participate in any athletic activity that would risk a second head impact while concussion symptoms are still evident.
9. Once the child's symptoms have begun to improve, the child may participate in some light aerobic exercise, such as walking or swimming.
10. If this is tolerated, then the child may try increasing aerobic exercise.
11. Vigorous activity such as running or weight lifting should be avoided until all concussion symptoms have generally abated, unless otherwise instructed by the doctor or health professional.
12. Once the child can tolerate vigorous exercise, then he or she may try (progressively, in order, as tolerated):
  - Sport-specific solo ball handling (avoiding head contact), then
  - Full contact practice, then
  - Full return to play.

This progression of activity should be monitored by your health professional. If at any point the child's concussion symptoms worsen, the level of activity should be decreased immediately.

Keep in mind that these general guidelines must be tempered with "common sense" and by the health professional's instructions. If you're not sure, please ask!

At any point, a consultation with a neurologist, concussion specialist, sports physician, or concussion clinic may be warranted. Keep in mind that there may be a long wait to obtain an appointment with a specialist.