

## Test measures impact of concussions

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*Todd Arnold, a sports medicine physician with Methodist Sports Medicine, discusses concussion impact management.*

### **Question: How common are concussions?**

**Answer:** The Centers for Disease Control and Prevention estimates there are 300,000 per year in organized high school athletics alone. There are so many sports that are not sanctioned that it's hard to quantify. I've seen numbers that are over a million a year from high school and college.

### **Q: In what sports are they the most common?**

**A:** Football, soccer, lacrosse -- even with helmets, those sports still have concussions.

### **Q: You use a computer test to help manage concussions. How does it work?**

**A:** It's a software program called ImPACT Concussion Management that's developed by University of Pittsburgh Medical Center neuropsychologists. It's a neuro-cognitive test that's done on a computer screen that measures how the brain functions, how it solves problems, remembers things and handles changing environments.

For instance, it shows you 10 words, then makes you do another task and then asks, Is this one of the words you saw? It takes about 22 to 25 minutes.

### **Q: How does it work?**

**A:** It's designed so if you've taken a baseline on a normal day and you're then concussed, you can take the test again and I can make a direct comparison between you before concussion and after concussion.

We'd like to have every kid at all of the high schools that we take care of take this as a baseline. Hopefully, nobody will ever need this. But should they have a concussion, they can come to us and we can say here's your brain before and here's how you are today.

### **Q: Can you use it without a baseline?**

**A:** You can, but then we compare you to average data. It works better and it's more accurate if I can compare you to you.

### **Q: Why is it important to have this test for concussion patients?**

**A:** There's an entity or disease called second impact syndrome. If your brain is not completely healed yet, if you take what could be a minor blow, you could have catastrophic effects. Say a kid gets concussed on a Friday during the football season. The kid comes to the clinic on Saturday morning. We do a physical exam, then this computer test, and we see how bad his brain looks.

Then we can retest him in a few weeks and see how much better he is. With the test, we're trying to say your brain is ready. It can go back and take another hit or your brain is not ready.

This is just another tool. This is not the be all and end all.