Concussion

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The brain is a wonderful organ. It starts working the moment you get up in the morning and does not stop until you get into the office.

— Robert Frost

Learning Objectives:
1. Recognize which sports increase the risk of head injury
2. Diagnose concussion in the office setting
3. Create a management plan including a return-to-play timeline for an athlete with concussion
4. Counsel a young athlete on concussion prevention

Primary Reference:

CASE ONE:
Landon Hard, a 14-year-old high school football player arrives in your office the morning after being removed from a game for suspected concussion. There is a championship game quickly approaching and he would like your clearance to get him playing again.

1. How is concussion defined? How common is it, and which sports place athletes at increased risk?

2. How will you proceed in your evaluation of this athlete’s injury?

CASE continued:
Landon reports that he only has a slight headache, although his mother has noticed that he was slow to answer questions this morning. He pleads with you “Doc, really, I feel fine! This game is really important. I don’t see what the big deal is - it was just a little ding.” His mother seems more concerned about a big exam he has coming up and hopes he will do well so he can get into Yale one day.
3. How do you respond? What are the short- and long-term implications of concussion?

4. What do you recommend for treatment?

CASE continued:

His mother asks “Doesn’t he need a CAT scan? Shouldn’t you make sure his brain is ok?”

5. What is the role of neuroimaging in concussion? What about neuropsychological testing?

CASE TWO:

Later in the evening you are attending a high school soccer game at which you are the team physician. You see one of your patients on the field warming up in headgear, and with a mouthguard. She runs over to you before the game and exclaims, “I heard what happened to Landon and I don’t want to get hurt too!”

6. What do you recommend for concussion prevention? Is there a role for helmets, headgear or mouthguards?
Additional References:

Resources:
1. SCAT5 instrument for evaluation of athletes 13 and older: https://bjsm.bmj.com/content/bjsports/early/2017/04/26/bjsports-2017-097506SCAT5.full.pdf
3. Computerized neurocognitive assessment, helpful in determining return to play: www.impacttest.com
4. Baseline testing, sideline screening, and post-injury assessments for use by physicians and athletic trainers: www.cogstate.com/go/sport
5. Standardized computerized testing for use by healthcare professionals: www.headminder.com
6. CDC “Heads Up” toolkit with links to information and handouts for athletes, parents, and coaches: http://www.cdc.gov/concussion/HeadsUp/youth.html