

# On Concussion

by Galen of Ockham, MC, OP

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“Sir Helmhide, are you ok?”  
“Sure, I just need to get out of this traffic”  
“Traffic?...”  
“er...sorry, can you help me to my pavilion?”  
“Of course...here you go. Have some water.”  
“Thanks. When did you get here, Reginald?”  
“I got here about 15 minutes ago, just as you were coming off the field from facing Duke Hammermeister.”  
“Don’t be ridiculous. I haven’t fought today. And the way my head hurts, I may not.”  
“OK...You know, you’re not walking so good.”  
“Yeah, maybe I should just sit here in the shade of this babblequirk for a while.”  
“This what?”  
“You know, the alfhasht.”  
“I’m getting a Chirurgeon....”

As the Chirurgeon on duty at the list, you were concerned when you saw the Duke’s great sword strike an unimpeded blow square on top of Sir Helmhide’s head where it landed with a resounding thud. Sir Helmhide dropped immediately. The Marshals ran to his side, and after a long 30 seconds he slowly got up and shook his head. They helped him remove his helm and he was assisted off the list to his waiting squire, Reginald. All appeared fine at the time and you were not summoned to the field. Then Reginald appeared. He tells you Sir Helmhide seems a bit more befuddled than usual. He doesn’t remember his bout with his Grace, and he’s unsteady on his feet and using stranger than usual words Reginald doesn’t feel his Knight’s quite his usual self and is rightly worried.

A concussion is the most common head injury in contact sports, including SCA heavy combat. It is defined as any change in mental status after a head injury. This can include dizziness, headache, difficulty in concentrating, changes in vision or balance, loss of memory after the injury, or loss of consciousness. Fortunately, the standards for helms and blow calibration make concussions much less common in SCA heavy combat than in sports like high school football. You are probably more likely to have a non-fighter with a concussion from accidents at the event site, though this article will deal primarily with fighters as they are unique for wanting to return to the same activity that got them clonked in the first place. Most concussions resolve with no residual problems, however it is important to know the key signs to ensure you aren’t missing a more serious injury.

Unfortunately, there have been at least 16 different sets of concussion guidelines published. One of the more recent set of guidelines come from the American Academy of Neurology (AAN). I will use these guidelines in this article as they are current and lend themselves well to the SCA setting.

The first consideration is, as always, to the ABCs and c-spine injury. If the patient is unconscious, their c-spine should be immobilized and ambulance called for full spinal immobilization and transport. If the victim is wearing a helm, it should not be removed unless necessary to control the airway. Likewise, any complaint of neck pain should be treated as a neck fracture until proven otherwise.

A grade 1 concussion is defined as symptoms of a concussion lasting less than 15 minutes and no amnesia following the injury. The fighter should be advised not to return to the field until they have been without symptoms for at least 15 minutes.

In a grade 2 concussion, the victim has no memory of events for 30 minutes after the injury or symptoms that last longer than 15 minutes. They can not have been knocked out. These fighters should be advised not to return to fighting for a full week after all their concussion symptoms disappear.

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A grade 3 concussion is one that involves any loss of consciousness. If the time of unconsciousness was just a few seconds, the victim should be transported to a hospital for evaluation and stay out of contact activities until the symptoms have been gone for one week. If the time of unconsciousness is more than a few seconds, they should also be evaluated in a hospital, but should wait for two weeks of no symptoms before returning to fighting.

Telling a fighter not to fight is always a touchy situation. As Chirurgeons, we can only make suggestions, not ban them from the field. However, in the case of a concussion, the suggestion should be made as firmly as possible. Further injury should be avoided at all costs because of the second-impact syndrome. If a person who is still symptomatic from a concussion receives a second blow to the head, even a minor one, it can result in very rapid swelling of the brain leading to death from herniation in a matter of minutes (think of squeezing a toothpaste tube...that's what happens as the brain tries to squeeze out the hole at the base of the skull). While this isn't common (17 cases were reported from 1992 – 1999), it is entirely preventable.

A less serious problem that can occur if the fighter returns to fighting too soon is postconcussion syndrome. A person with post-concussion syndrome can have fatigue, headache, unstable balance, and difficulty concentrating for months following the injury. Gentles with postconcussion syndrome should be evaluated by their physician.

These guidelines assume that this is the first concussion the person has suffered. There is evidence that once you've suffered a concussion, you are more likely to have a second one. All the guidelines recommend a longer return to play period following a second concussion. A third concussion in one season bears a universal recommendation to sit out the remainder of the season.

After an hour of rest and rehydration, Sir Helmhide was only suffering from a mild headache. He was walking and threatening his squire normally. Since he felt pretty good, he was adamant about returning to the list, especially since he didn't remember his first round. After gathering together Sir Helmhide, the Marshal-in-Charge, his Lady, and a couple of his sword brothers, you explain to him that he has suffered a Grade 2 concussion and he shouldn't fight until he has been symptom free for a week. You make sure he knows the decision is his, and also describe postconcussion syndrome and second-impact syndrome. Sir Helmhide feels that the risk is worth taking, however his Lady and household are impressed with your knowledge of the injury and Sir Helmhide spends the remainder of the day cheering on his sword brothers and helping with waterbearing. He's quite proud at evening court when Reginald is named "Most Chivalrous" and is the tourney runner-up to Duke Hammermeister.

## References

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