

## Being Knocked Down After a Blow to the Head Should End a Boxing Match

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Traumatic brain injury (TBI) is an important health issue with high prevalence (1,2). The most common type of TBI is mild TBI (3). There is significant discussion about the definition, diagnosis, and acute and post-acute management of sports-related concussion. In 2013, three guidelines were published by the American Medical Society for Sports Medicine (4), The American Academy of Neurology (5), and the Zurich Consensus working group (6). The aim of each group was to define the best management of sports-related concussion, as well as precise recommendations for a return to play.

West and Marion emphasized the issue for which there was consensus among three groups mentioned above. A concussion means a traumatically induced brief disturbance of brain functions characteristically affecting memory and orientation, which may include loss of consciousness. Any athlete suspected of having a concussion must be stopped from playing and evaluated by a licensed health care provider skilled in the assessment and management of concussions. Meanwhile, the player should be checked for worsening physical or mental status. There is no same-day return to play for an athlete identified with a concussion. Important components of management after an early period of physical and cognitive rest include associated treatments such as cognitive, vestibular, physical, and psychological rehabilitation. A player with diagnosed concussion should not be permitted to return to play on the day of hurt. Graded activity is suggested in a stepwise movement with 24 hours between each stage. The player will only continue to the next level if the player is asymptomatic at the present level. It may take about one week to continue complete the recovery procedure when they are asymptomatic at rest and with challenging exercise. The main fear is reduced response period leading to an increased danger of a repeated concussion. The last purpose about the diagnosis of concussion and preparedness to play is based on clinical judgment. In particular sports such as cycling, motor, and horse-riding sports, protective helmets may prevent head injury (7). On the other hand, in boxing, whether

amateur or professional, when a competitor falls down following a hit to his head, his consciousness is altered and the referee starts to count: one, two, three, ... if he can stand and indicates that he is ready to continue the match, the referee permits the match to continue; if he cannot stand up until "ten", the match is over and his opponent wins the game.

Based on the three above-mentioned new guidelines, when a boxer falls to the canvas following a hit to his head, the match should be over. The rules of boxing should change to reflect this latest information so that a referee does not permit to a boxer to continue fighting after being knocked down. In other words, to prevent more brain injury, boxing matches should end with a knock down rather than a knockout.

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