

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

Vafa Rahimi-Movaghar

*Department of Neurosurgery, Sina Trauma and Surgery Research Center,  
Tehran University of Medical Sciences, Tehran, Iran*

*Received: 20 Sep. 2013; Received in revised form: 28 Dec. 2013; Accepted: 24 May 2014*

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.

## References

1. Rahimi-Movaghar V, Saadat S, Rasouli MR, et al. The incidence of traumatic brain injury in Tehran, Iran: a population-based study. *Am Surg* 2011;77(6):e112-4.
2. Zare MA, Ahmadi K, Zadegan SA, et al. Effects of brain contusion on mild traumatic brain-injured patients. *Int J Neurosci* 2013;123(1):65-9.
3. Sharif-Alhoseini M, Khodadadi H, Chardoli M, et al. Indications for brain computed tomography scan after minor head injury. *J Emerg Trauma Shock* 2011;4(4):472-6.
4. Harmon KG, Drezner J, Gammons M, et al. American Medical Society for Sports Medicine. American Medical Society for Sports Medicine position statement: concussion in sport. *Clin J Sport Med* 2013;23(1):1-18.
5. Giza CC, Kutcher JS, Ashwal S, et al. Summary of evidence-based guideline update: evaluation and management of concussion in sports: report of the Guideline Development Subcommittee of the American Academy of Neurology. *Neurology* 2013;80(24):2250-7.
6. McCrory P, Meeuwisse WH, Aubry M, et al. Consensus statement on concussion in sport: the 4th International Conference on Concussion in Sport, Zurich, November 2012. *J Athl Train* 2013;48(4):554-75.

**Corresponding Author:** V. Rahimi-Movaghar

Department of Neurosurgery, Sina Trauma and Surgery Research Center, Tehran University of Medical Sciences, Tehran, Iran  
Tel: +98 915 3422682, Fax: +98 21 66757009, E-mail address: v\_rahimi@tums.ac.ir

7. West TA, Marion DW. Current Recommendations for the Diagnosis and Treatment of Concussion in Sport: A

Comparison of Three New Guidelines. J Neurotrauma 2013;31(2):159-68.

Archive of SID