

All that is good about the sport of boxing

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Commentary

Boxing is a popular amateur and professional combat sport around the world. It is also a sport with a high incidence of acute and chronic traumatic brain injuries (TBIs).^{1,2} Subdural hematoma (SDH) is the most common cause of boxing related mortality.³ Some boxers have unfortunately perished in the ring or in the immediate aftermath of a bout due to an acute SDH. The ones who survive this devastating brain injury are unfortunately left behind with lifelong severe neurological deficits. Chronic neurological injuries come to light after the boxer has retired and include among others chronic traumatic encephalopathy (CTE). This disease was first documented in boxers in 1928 by Dr. Harrison Martland, a New Jersey medical examiner.⁴ Over the years it has been described in the boxing medical literature by various names such as dementia pugilistica, punch drunk syndrome and more colorful ones such as “slug nutty” and “cuckoo”.⁵ In addition to acute and chronic TBIs, boxers also suffer non-fatal disabling and at times chronic ophthalmological and orthopedic injuries.⁶

In the face of such devastating injuries, one may ask is there anything good about boxing? Over the years I have advocated passionately for making boxing safer.^{7,8} I understand it is impossible to make the sport completely safe. The goal in boxing is to knockout (KO) the opponent. Every punch thrown at the head is thrown with the intention of achieving this KO by causing a concussive brain injury. As a physician neurologist I realize that boxing can thus never be made completely safe, it can only be made safer by more stringent medical supervision of the sport. We should not defend the sport by saying it is good for the brain or that the risk of dying in boxing is less as compared to sports such as base jumping, white water rafting, free-rock mountain climbing and high-altitude mountain climbing. There is neurological benefit of repetitive head impact exposure. As responsible ringside physicians we should first and foremost acknowledge the health risks associated with the sport and then commit ourselves to making the sport safer.

The answer to my question above is yes. Yes, there is good in boxing including some health benefits. Boxing is a great sport to improve cardiovascular health and muscle strength. Boxing workouts and drills can be tailored to all age and gender groups including special populations such as older adults and those with chronic medical conditions. Boxing has been strongly linked to the causation of post-traumatic Parkinsonism.⁹ Idiopathic Parkinson's disease (PD) is a neurodegenerative condition characterized by a resting tremor, bradykinesia, rigidity and a disturbance of gait and posture. As the disease progresses patients become prone to falls which is one of the leading causes of morbidity and mortality in this patient population. Patients with PD are recommended gait and balance exercises to build motor reserve and prevent falls. Boxing therapy (BT) uses gait and balance exercises to improve ambulation in people with PD.¹⁰ The efficacy of BT has not yet been fully proven. How ironic is that the sport most strongly linked to causation of post-traumatic Parkinsonism is now helping to improve quality of life for

Parkinson's patients. Bozdarov et al., identified 16 studies that used non-contact boxing as an exercise intervention that improved various mental health difficulties. They found that non-contact high-intensity boxing exercises in training group setting, provided significant reduction in symptoms of anxiety, depression, PTSD and negative symptoms of schizophrenia. The sport provided a cathartic release of anger and stress leading to improved mood, self-esteem, confidence, concentration, metabolic burden, strength, and coordination. The authors concluded that non-contact boxing drills may be a promising intervention to improve the mental health burden though further well designed randomized controlled trials are needed for confirmation.¹¹

There is no doubt that boxing instills discipline, character, and confidence. There are numerous boxing programs that help to get kids off the streets, away from crime and drugs.¹² It is the boxing gym where these kids find a safe home. It is here that boxing coaches and trainers become role models and parents to these youths.

There is good and bad about every sport. Boxing is no different. Apart from the medical injuries associated with boxing, there are other concerns such as use of performance enhancing drugs (doping). Criminal behavior outside the ring is sadly a part of modern boxing.

There is still good in the Sweet Science. We just need to find and cultivate it.

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Conflicts of interest

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