

# Ethical and medico legal issues in combat sports

Volume 8 Issue 2 - 2025

**Nitin K Sethi**

Associate Professor of Neurology New York-Presbyterian Hospital, Weill Cornell Medical Center, New York, USA

**Correspondence:** Nitin K Sethi, MD, MBBS, FAAN, Associate Professor of Neurology New York-Presbyterian Hospital, Weill Cornell Medical Center, New York, NY, USA, Tel 2127465519**Received:** May 28, 2025 | **Published:** June 06, 2025

## Introduction

Popular professional combat sports include boxing, mixed martial arts (MMA), wrestling, karate, Muay Tai, kick boxing among others. All these sports fall under the category of combat or striking sports. In boxing and to a lesser extent in MMA, the goal remains to win by knocking out the opponent with a blow to the head (knock-out). In MMA a win can also be achieved by submission. Due to the striking nature of these sports, they all are associated with a high risk for acute traumatic brain injuries (TBIs), chronic neurological sequelae of multiple head impact exposures, orthopedic and ophthalmological injuries raising a myriad of medico legal and ethical issues. In this commentary some of these issues are highlighted and discussed.

## Ethical issues in combat sports

Combat sports by their very nature are brutal sports where in the intention is to win by causing bodily harm to the opponent. This may take the form of a knockout (KO) caused by a blow to the opponent's head leading to loss of body tone accompanied by varying duration of loss of consciousness (LOC). When the LOC is brief and the boxer rapidly returns to baseline, it is graded as a concussion. More severe TBIs such as an acute subdural hematoma (SDH), acute intracranial hematoma (ICH), subarachnoid hemorrhage (SAH), intraventricular hemorrhage (IVH) and cerebral contusion are accompanied by a longer duration of LOC and varying degrees of neurological deficits.<sup>1</sup> Acute SDH remains the most common cause of boxing related mortality.<sup>2</sup> Boxers who suffer this injury either collapse in the ring during the bout or shortly thereafter. If rushed to the hospital in a timely fashion, a decompressive hemicraniectomy may spare their life but leave them with severe permanent neurological deficits. Most boxers placed on life support though perish due to brain death caused by the sudden increase in intracranial pressure.

This high risk for acute TBI and accompanying morbidity and mortality raises ethical concerns about the sport. Many physician medical associations such as the American Academy of Neurology (AAN) and the British Medical Association (BMA) have advocated for the sports to be banned.<sup>3</sup> Some also discourage their member physicians from been involved in these sports. The argument put forth is that physician involvement in these sports (as ringside physicians) gives legitimacy to these "blood sports" and physician bodies cannot condone any sport where the goal is to win by causing bodily harm to your opponent.<sup>4</sup> If physicians were to stop "working" these events, these sports would cease to exist. Ringside physicians are thus frequently marginalized in their respective professional academies and labeled as mavericks or fans of the sport. But does working an event equates to condoning it? The field of combat sports medicine has evolved rapidly over the last decade. Ringside physicians have published numerous articles highlighting the dangers of combat sports such as neurologic injuries, ophthalmic injuries, orthopedic injuries, risks of rapid weight cutting, risks involved with the use of performance enhancing drugs (PEDs), transgender athlete participation among others.<sup>5-7</sup> They have also collaborated to develop protocols designed to help make these

sports safer such as red flagging vulnerable athletes, stopping fights in time, safe weight cutting practices and protocols that increase interaction between physician, referee and the inspector.<sup>8</sup>

One argument put forward by supporters of combat sports, is that they are no more dangerous than other more mainstream acceptable sports such as mountain climbing and car racing. Some climbers perish while attempting to scale Mount Everest every year. If mountain climbing is acceptable, why ban combat sports? This is a lopsided argument which fails to take into consideration opposing viewpoints and the well documented risks of acute and chronic TBIs associated with combat sports. Physicians especially those involved in combat sports should acknowledge the considerable risks associated with these sports and collaborate with stakeholders to help make these sports safer. These stakeholders should include the various Athletic Commissions, sports governing bodies and most importantly current and retired professional combatants. While combat sports cannot be made 100% safe, they can certainly be made safer by enhanced screening and ringside/cage side medical protocols. When to counsel a combat sport athlete to quit from partaking in the sport needs individualized risk assessment of the athlete. Interval/ serial neuroimaging with MRI brain scans and neurocognitive assessments can help achieve the objective of protecting these athletes from the stigmata of neurological injuries such as chronic traumatic encephalopathy (CTE).<sup>9</sup>

Supporters of combat sports argue that two consenting adults should be allowed to duel as long as they are aware of the risks associated with the sport and agree to it. Death is a risk they take when they step into the ring or cage. Again this is a lopsided and polarized argument. In the end combat sports are sports and in no sport should an athlete die. Physicians involved with the sport should collaborate with all stakeholders especially the athletes to change this mindset and culture. This toxic masculinity culture needs change. Saying "no mas" should not be interpreted as a sign of weakness and the boxer humiliated on social media. Combatants should be discouraged from saying things like "I will kill him in the ring" or "I rather be carried out on my shield than suffer a loss in the ring" just to promote and hype up a fight. "Live to fight another day"; "always protect yourself in the ring"; "health and safety first"; "if you feel something, say something" should be the new mantras instead. Referees and ringside physicians who stop fights on medical grounds should not be targeted on social media-bullied and professional reputations tarnished.

## Medico legal issues in combat sports

Medico legal liability refers to the intersection of medicine and law where physicians and the institutions they represent can be held accountable for damages and bodily harm sustained by patients. A key concept of medico legal liability is to establish negligence, where the physician's treatment falls below the expected standard of care.

Traumatic SDH remains the most common cause of boxing related mortality. Either the combatant collapses in the ring or soon after the fight is over. If the boxer reaches the hospital alive; a decompressive hemicraniectomy while lifesaving leaves the fighter with significant residual neurological deficits. Ringside physicians have been sued for negligence when a boxer suffered traumatic SDH and perished or sustained significant neurological deficits. Why the fight was not stopped in time by the physician is the ground for litigation in most such cases.

It is tough to establish medical standards of care in a sport where every punch thrown at the opponent's head is thrown with the intention of winning by causing a concussive head injury or other bodily harm. In most commissions around the world, the referee is the sole arbitrator of the fight. Ringside physicians cannot directly stop the fight; they can only recommend a stoppage on medical grounds to the referee. When to stop a fight in time is not an easy task for any physician. There are no established medical standards on when a fight should be stopped with respect to the number of blows sustained to the head by the combatant. The initial signs of TBI are entirely subjective such as headache and dizziness. The combatant and the corner want the fight to go on, so frequently lie and deny the presence of these symptoms when asked by the ringside physician. By the time objective signs such as unequal pupils, gross motor instability appear the TBI has usually progressed. Ringside physicians hence face the dilemma of to stop or let a fight go on. Stopping a fight too early denies the combatant his right to a fair fight, glory and paycheck. Stopping a fight too late risks his health and safety.

Ringside physicians should be aware of the significant medical liability in combat sports. All physicians should have malpractice coverage for their ringside work.<sup>10</sup>

## Conclusion

Due to their striking nature and association with acute and chronic TBIs, orthopedic and ophthalmological injuries, combat sports raise a myriad of medico legal and ethical issues. These should be discussed and addressed by the combat sports medical community in association

with all the stakeholders. Collaborative effort can help make these sports safer.

## Author contributions

NKS drafted the manuscript

## Study funding

No targeted funding reported.

## Disclosures

None. The views expressed are those of the author and do not necessarily reflect the views of the organizations he serves.

## Data sharing statement

The author has no additional data to share.

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