

# **Rapid weight loss for MMA matches increases potential for traumatic brain injury, and chronic traumatic encephalopathy.**

Collin Mawhinney, Dr. Nahmani

Water loading is the main rapid weight loss method fighters use in order to qualify for a specific weight classes in mixed martial arts (MMA) competitions. This method involves severe dehydration that occurs just a few hours before the fight begins, followed by a quick rehydration and supplementation of nutrients to prepare for the fight. Here we hypothesis that while this method is widely used, we argue, it is an unnecessary method of achieving an inept advantage. In addition, this method increases the likelihood of bodily damage taken in the fight. In this review, we analyzed the available primary literature on this topic to show how this rapid weight loss is not beneficial in MMA and contributes to more bodily damage taken by MMA fighters. We found that in a dehydrated state, MMA fighters are more likely to suffer mild traumatic brain injury which, over the course of time through multiple fights, can lead to chronic traumatic encephalopathy (CTE). Though fighters are doing their best to rehydrate before fighting, evidence suggests that they are not fully rehydrated when they step into the cage. This lack of control over weight management by fight promoters, puts MMA fighters at a higher risk for CTE, an irreversible state of brain damage, due to a cultural norm of drastic weight cuts and one that can easily be rectified through MMA fighting promoters implementing specific urine testing and weight analysis throughout the year to ensure fighters weights do not deviate from their biological norm.