## Music-Associated Head Banging and Neuromusculoskeletal Injuries to the Neck: A Narrative Review

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## **ABSTRACT**

Rock musicians and enthusiasts have both been known to participate in the common expressive practice of "head banging," extreme beat-directed rhythmic motions of the head and neck, of which few harmful consequences have been published. PURPOSE: This narrative review will summarize all of the peerreviewed published studies regarding music-associated head banging and neuromusculoskeletal injuries to the neck, METHODS: A review was performed of PUBMED, using the keywords: (head banging) AND (music OR rock OR heavy metal OR concerts). Studies were included if they related to music-associated head banging and neuromusculoskeletal injuries to the neck. Studies related to head banging associated with pediatric neurodevelopmental disorders, non-music-associated physical trauma, or non-neck injuries were excluded. RESULTS: In total, the reviewer found 2 observational studies that fit into the inclusion criteria for this review. CONCLUSION: Regardless of how common head banging may be in the genres of rock, punk, and heavy metal; music-associated head banging has the potential to cause symptomatic neuromusculoskeletal injuries. The observational studies looked at the teenage prevalence of head banging observed during a dance marathon and the factors, both musical and biomechanical, that contribute to the increased risk of neck injury while head banging. In addition, 5 broadcast journalism articles, non-peer reviewed, were found, which reported incidences of disc herniation, cervical radiculopathy, spinal stenosis, whiplash, and chronic neck pain in musicians. That being said, there was a limited amount of peer-reviewed studies, and even a limited number of broadcast journalism reports, available to be able to draw specific conclusions. These injuries may simply go unreported by metalheads, possibly due to a pervasive music culture with the desire to "rock on" no matter the amount of selfinflicted neck pain. Future studies would be indicated to further stratify the risks, perhaps with a survey of the performers and attendees of rock shows the day after a performance to assess for symptoms.

