

## Relationship Between Pain Intensity at the Time of the Hamstring Muscle Injury and Hamstring Muscle Lesion Volume Measured by Magnetic Resonance Imaging

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**Abstract :** The primary objective of this study was to analyze the potential correlation between the pain experienced at the time of a hamstring muscle injury and the volume of the lesion measured on MRI. The secondary objectives were to analyze a correlation between this pain and the lesion grade as well as the affected hamstring muscle. We performed a retrospective analysis of the data collected in a prospective, multicenter, non-interventional cohort study (HAMMER). Patients with suspected hamstring muscle injury had an MRI after the injury and at the same time were evaluated for their pain intensity experienced at the time of the injury with a Numerical Pain Rating Scale (NPRS) from 0 to 10. A total of 61 patients were included in the present analysis. MRIs were performed in an average of less than 8 days. There was a significant correlation between pain and the injury volume ( $r=0.287$ ;  $p=0.025$ ). There was no significant correlation between the pain and the lesion grade ( $p>0.05$ ), nor between the pain and affected hamstring muscle ( $p>0.05$ ). Pain at the time of injury appeared to be correlated with the volume of muscle affected. These results confirm the value of a clinical approach in the initial evaluation of hamstring injuries to better select patients eligible for further imaging.

**Keywords :** hamstring muscle injury, MRI, volume lesion, pain

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