

# Negative CT may prompt discharge of patients with abdominal seat belt sign

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The prevalence of hollow viscus injury (HVI) among patients with an

abdominal seat belt sign (SBS) and negative findings on computed tomography (CT) is extremely low, according to a study published online July 13 in *JAMA Surgery*.

Patrick T. Delaplain, M.D., from University of California at Irvine, and colleagues evaluated whether a negative CT scan can safely predict the absence of HVI with an abdominal SBS. The analysis included 754 adult trauma patients seen at nine level I trauma centers between August 2020 and October 2021.

The researchers found that HVI prevalence was 9.2 percent, with only one patient with HVI (0.1 percent) having a negative CT. Comparing patients with and without HVI, there were significant associations observed between each of the individual CT scan findings and the presence of HVI. The presence of free fluid had the strongest association, with a more than 40-fold increase in the likelihood of HVI. The presence of free fluid was the most effective binary classifier for presence of HVI (area under the receiver operator characteristic curve, 0.87). A negative CT scan was also associated with the absence of HVI (area under the receiver operator characteristic curve, 0.68).

"The practice of admitting and observing all [patients](#) with abdominal SBS should be reconsidered when a high-quality CT scan is negative, which may lead to significant resource and [cost savings](#)," the authors write.

**More information:** Patrick T. Delaplain et al, Excluding Hollow Viscus Injury for Abdominal Seat Belt Sign Using Computed Tomography, *JAMA Surgery* (2022). [DOI: 10.1001/jamasurg.2022.2770](https://doi.org/10.1001/jamasurg.2022.2770)

Tanya N. Rinderknecht et al, Improved Computed Tomography Performance in Blunt Abdominal Trauma—Has Our Care Kept Pace?, *JAMA Surgery* (2022). [DOI: 10.1001/jamasurg.2022.2775](https://doi.org/10.1001/jamasurg.2022.2775)

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