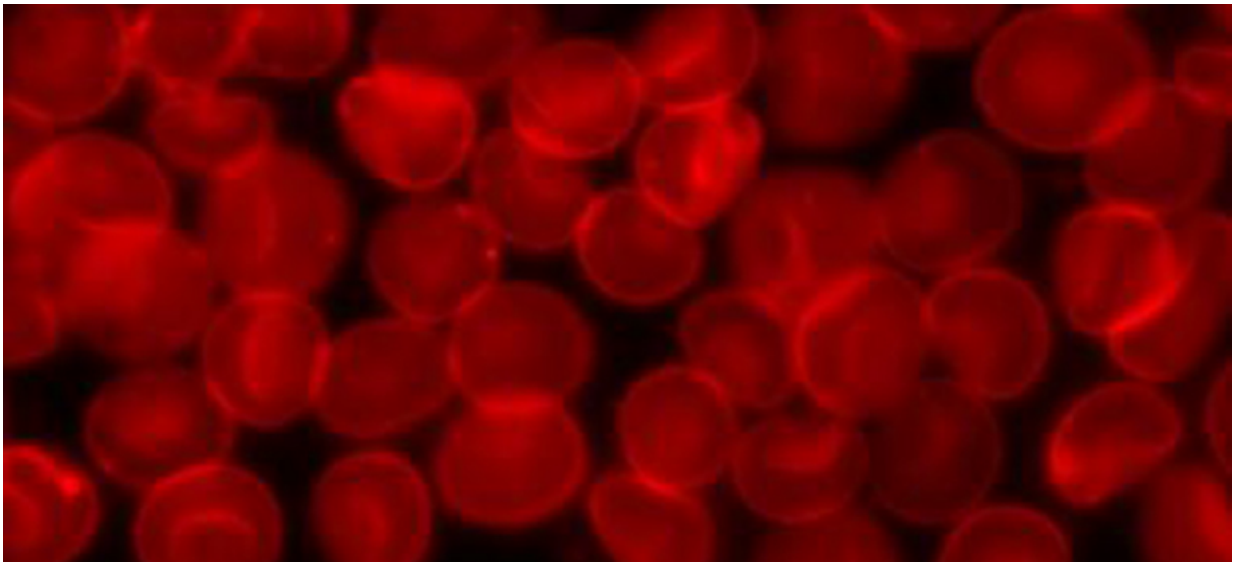


# Blood type O patients may have higher risk of death from severe trauma

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Blood type O is associated with high death rates in severe trauma patients, according to a study published in the open access journal *Critical Care* that involved 901 Japanese emergency care patients.

Researchers at Tokyo Medical and Dental University Hospital, Japan found that [severe trauma](#) patients (those with an injury that has the potential to cause long-term disability or [death](#)) with blood type O had a death rate of 28%, compared to a rate of 11% in patients with other

blood types.

Dr. Wataru Takayama, the corresponding author said: "Recent studies suggest that blood type O could be a potential risk factor for hemorrhage (bleeding in large quantities). Loss of blood is the leading cause of death in patients with severe [trauma](#) but studies on the association between different blood types and the risk of trauma death have been scarce. We wanted to test the hypothesis that trauma survival is affected by differences in blood types."

Patients with blood type O have been shown to have lower levels of von Willebrand factor, a blood clotting agent, than those with other blood types. Lower levels of von Willebrand factor may be linked to higher levels of haemorrhage. The authors suggest that a lower level of the factor is a possible explanation for the higher death rate in trauma patients with blood type O. Wataru Takayama said: "Our results also raise questions about how emergency transfusion of O type red blood cells to a severe trauma patient could affect homeostasis, the process which causes bleeding to stop, and if this is different from other blood types. Further research is necessary to investigate the results of our study and develop the best treatment strategy for severe trauma patients."

The authors used data from medical records of 901 patients with severe trauma who had been transported to either of two tertiary emergency critical care medical centers in Japan during 2013 to 2016.

The authors caution that all the [patients](#) whose data was analyzed in this study were Japanese and therefore there is a need for further research to understand if the findings apply to other ethnic groups. Additionally, there was no evaluation of the impact of the individual blood types A, AB or B on severe trauma death rates. Instead, the authors compared type O to non-O [blood type](#) which may have diluted the effect of individual [blood](#) types on patient survival.

**More information:** Wataru Takayama et al, The impact of blood type O on mortality of severe trauma patients: a retrospective observational study, *Critical Care* (2018). [DOI: 10.1186/s13054-018-2022-0](https://doi.org/10.1186/s13054-018-2022-0)

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