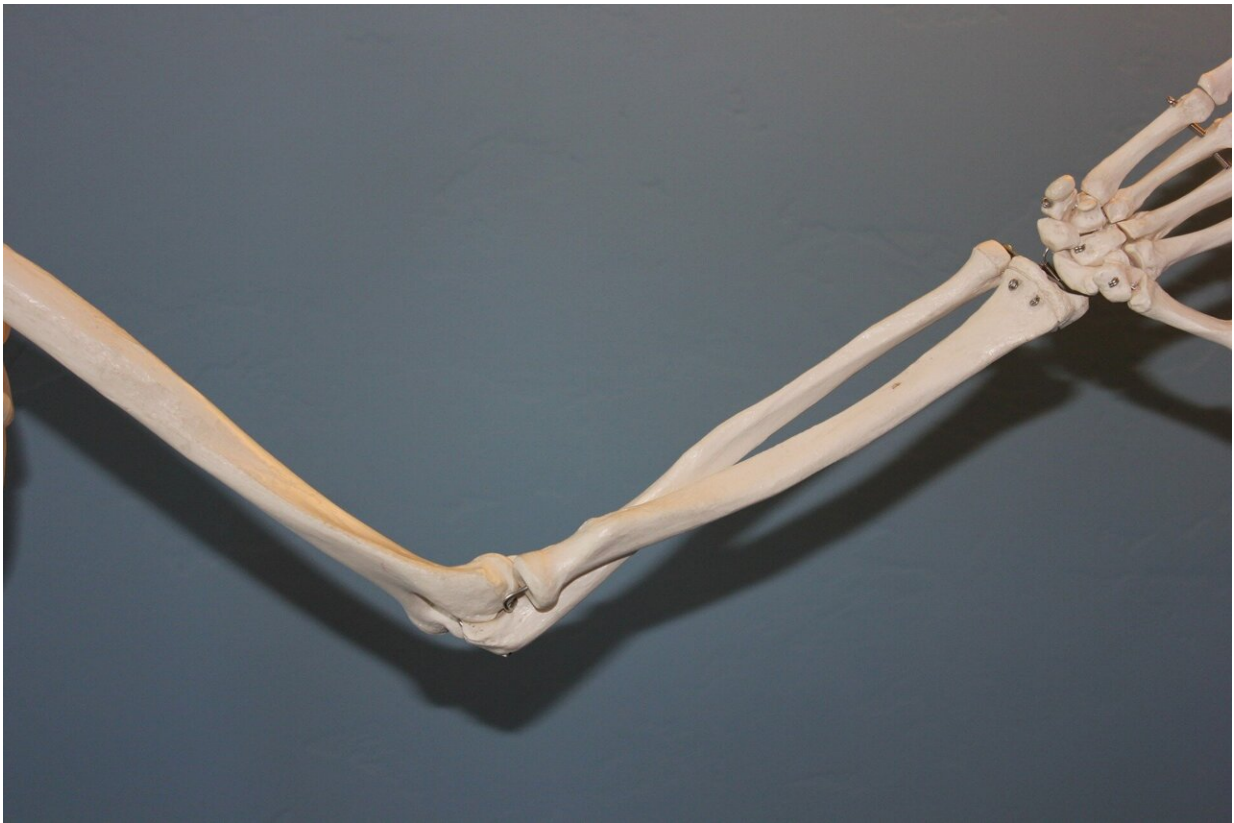


Tranexamic acid may lower heterotopic ossification risk after elbow trauma surgery

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For patients undergoing surgery for elbow trauma, treatment with the hemostatic drug tranexamic acid (TXA) is associated with a decreased incidence of heterotopic ossification (HO)—a common complication of

abnormal bone formation, reports a study in the *Journal of Bone and Joint Surgery*.

The findings "add new clinical evidence regarding the protective role of TXA with respect to the prevention of HO after elbow trauma," according to the report by Cunyi Fan, MD, Ph.D., of Shanghai Sixth People's Hospital Affiliated to Shanghai Jiao Tong University School of Medicine, China, and colleagues.

Fifty percent reduction in HO in patients receiving TXA

Heterotopic [ossification](#) refers to abnormal bone formation in the soft tissue. It is a common and potentially disabling complication following surgery for traumatic elbow fracture, with a reported prevalence of up to 40%. Inflammation is common after limb trauma and is an important factor in the initiation of HO.

TXA is increasingly used to reduce [blood loss](#) during [orthopedic surgery](#) and has been shown to reduce [inflammatory responses](#) postoperatively. Dr. Fan and colleagues reviewed their experience to determine whether the use of TXA is associated with a lower risk of HO.

The retrospective study included two matched groups of patients with a mean age of 44 years who underwent surgery for traumatic elbow fracture. One group received TXA during surgery and the other group did not. The incidence and severity of HO were compared between groups, including adjustment for other characteristics.

The overall rate of postoperative HO was 8.71% in patients who received TXA compared with 16.18% in those who did not. On adjusted analysis, the incidence of HO was reduced by half in the TXA group,

with an odds ratio of 0.49.

Anti-inflammatory effects of TXA may help to prevent HO

The incidence of clinically important HO, based on the presence of functional limitations, was 2.07% in patients who received TXA compared with 5.80% in those who did not. For this outcome, risk was reduced by two-thirds in the TXA group, with an odds ratio of 0.34. Tranexamic acid was associated with a lower risk of HO across patient subgroups with differing characteristics.

This study provides the first published evidence that using TXA during elbow trauma surgery can help lower the risk of postoperative HO. Previous reports have found that reducing inflammation can reduce HO formation—"indicating that the inflammatory response acts as a necessary starting factor for HO development," the researchers write. The authors discuss recent evidence suggesting the potential anti-inflammatory properties of TXA.

Dr. Fan and co-authors note the limitations of their retrospective analysis and highlight the need for larger studies, including those to assess laboratory markers of inflammation. In the meantime, the researchers conclude, "TXA prophylaxis may be an appropriate method for the prevention of HO following [surgery](#) for the treatment of [elbow](#) trauma."

More information: Hang Liu et al, Association Between Tranexamic Acid Use and Heterotopic Ossification Prevalence After Elbow Trauma Surgery, *Journal of Bone and Joint Surgery* (2023). [DOI: 10.2106/JBJS.22.01212](https://doi.org/10.2106/JBJS.22.01212)

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