

# 6<sup>th</sup> Annual Surgeons & Orthopedics Conference & Expo

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## Pulling harder than the hamate tolerates

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**Purpose:** Comprising two to four percent of all carpal fractures, hamate hook fractures are rare injuries. Climbing athletes seem to be affected more frequently than others as they strain their passive and active anatomical structures of their hands and fingers to maximum during training or competing. This stress is transmitted to the hook of the hamate by tightened flexor tendons, which create a high contact pressure to the ulnar margin of the carpal tunnel. Injuries of the hamate hook, caused by other than external impact but by contact pressure of the anatomical structures, are rare and occur during climbing nearly exclusively.

**Methods:** We now diagnosed 12 athletes with diffuse pain in the wrist joint, which occurred during or after climbing. Radiographs and/or CT revealed fractures in the hamate bones in most of the patients; as other diagnoses such as inflammation, tumor or injuries could be largely excluded, we classified those fractures of hamate as due to overload. The therapy consisted of consequent stress reduction.

**Results:** Follow-up investigations showed satisfying healing tendencies and all athletes were free of symptoms after a time span of  $10.7 \pm 5.1$  (6–24) weeks. Resection of the hamate hook was necessary in three patients. They all regained their pre-injury climbing level.

**Conclusion:** Climbers with an unspecific, diffuse pain in the wrist need to be examined with Radiograph and – if unclear – CT and/or MRI to detect or exclude the diagnosis of hamate fracture to avoid severe complications like ulnar nerve irritation and flexor tendon rupture.

## Biography

Christoph Lutter currently works as a Research Fellow at the C V Path Institute in Washington DC. His research focus is rock climbing related injuries of the upper extremities and the hand (such as UEDVT, pulley injuries, injuries of the carpal bones).

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