

# Autologous fat injection for treatment of carpometacarpal joint osteoarthritis of the thumb - a promising alternative

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## Abstract

Classical surgical options for osteoarthritis of the thumb carpometacarpal joint irreversibly destroy the normal anatomy of the wrist. Although overall satisfaction rates with these procedures are high, time to achieve normal hand function and ability to work may take 12-16 weeks. Therefore a non-ablative less invasive surgical option would be interesting. We injected adipose tissue into the thumb carpometacarpal joint in a pilot study. Average preoperative pain according to a VAS was 7.4 in action and 3.8 during rest. It was reduced considerably to 2.2 in action and 0 during rest after 1 month and to 2.4 and 0.8, respectively, 3 months after surgery. The reduction of pain in action was statistically significant 1 month after injection ( $p=0.042$ ). Average grip strength was 78% and pinch grip strength was 74% in comparison to the healthy side preoperatively, 89% and 80% one month postoperatively and 93% and 89%, respectively, 3 months postoperatively. An average DASH score of 58 preoperative was reduced to 36 after 1 month and 33 after 3 months. The amelioration of hand function was statistically significant ( $p=0.042$  and  $p=0.043$ ). There were no side effects and all patients were satisfied. These preliminary results are promising. Adipose tissue injection seems to be an alternative to consider, especially as it does not exclude classical surgical options in cases of failure.

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