

## **Non-operative Success of Treating Midfoot and Transverse Tarsal Joint Osteoarthritis**

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**INTRODUCTION:** Midfoot arthritis is a commonly encountered clinical entity. A common conservative treatment strategy for the condition is cortico-steroid injections, which are often done under fluoroscopic or ultrasound guidance to improve injection accuracy. Operative intervention is sometimes performed, although nonunion rates and continued pain after surgery are significant surgical risk factors. This study aims to quantify the effectiveness of fluoroscopic-guided injections into the midfoot and transverse tarsal joints to treat symptomatic arthritis.

**METHODS:** We reviewed the records of 132 patients (155 feet), who were diagnosed with midfoot arthritis between 2015 and 2019. Conservative management included periodic fluoroscopic-guided steroid injections at an academic medical center administered by a single fellowship-trained foot and ankle surgeon. These joints were identified by computed tomography (CT scan) prior to performing any injections to assist with targeting the appropriate joints. Mean age was 62.7 years and mean BMI was 30.9 kg/m<sup>2</sup>. Twenty-five feet (16.1%) eventually underwent surgical treatment, and one of those (4.0%) underwent reoperation.

### **RESULTS:**

On average, each foot received 3.1 (range, 1-21) injections over the course of 1.1 years (range, 0-5.5) years, although injection count did not differ between the surgical and conservative cohorts (operative=3.9, non-operative=3.0;  $p=.147$ ). Of the 95 feet (61.3%) that received more than one injection, mean duration of injection treatment was 21.6 (range, 0.9-67.4) months. Injection treatment duration did not differ between cohorts when including (operative=14.8 months, non-operative=12.9 months;  $p=.595$ ) or excluding (operative=21.8 months, non-operative=21.6 months;  $p=.952$ ) cases undergoing only one injection. Of those that underwent surgery, 14 feet underwent surgery within one year of starting injections, three within 1-2 years, five within 2-3 years, and three within 3+ years.

**DISCUSSION AND CONCLUSION:** Overall, fluoroscopic-guided injections appear to be an effective treatment strategy for the non-operative treatment of midfoot and transverse tarsal joint arthritis, as only 16.1% of our cohort failed conservative treatment and required surgery. Therefore, although not always successful, non-operative treatment with fluoroscopic guidance injections is able to provide patients relief for an extended period.