Hammertoe Correction with K-wire Fixation in 2,698 Toes
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Background
Kirschner wire (K-wire) fixation for correction of hammertoe deformity is a common, low cost method for fixation of hammertoes after proximal interphalangeal (PIP) arthroplasty or fusion. Complications for this procedure include pin tract infection, pin migration, pin bending or breakage, and recurrence of deformity. This study reviews a large experience utilizing K-wire stabilization for hammertoe correction.

Methods
All hammertoe corrections performed by a single surgeon from 1999-2013 were retrospectively reviewed. A resection arthroplasty of the PIP joint or PIP fusion was performed and fixed with a K-wire. Followup duration, preoperative diagnosis, pin duration, concomitant procedures, recurrence rates, and complications were reviewed and analyzed.

Results
1,115 operations were performed on 876 patients, with correction of 2,698 hammertoes. There were 709 female and 167 male patients, average age 57.5 (range, 14 to 88) years, followed for an average of 20.8 months (range, 27 days to 12.7 years). Complications included 94 (3.5%) pin migrations, nine (0.3%) pin tract infections, and two (0.1%) pin breakages. There were 150 (5.6%) recurrent deformities and 94 (3.5%) toes required revision hammertoe surgery. Malalignment was noted in 55 (2.1%) toes. Vascular compromise occurred in 16 (0.6%) toes with 10 (0.4%) requiring an amputation. There were 94 (3.5%) toes that required a revision surgery due to symptomatic recurrence of deformity. The expected rates and rate ratios (rr) of patients requiring revision hammertoe correction, when compared to the study population as a whole, was statistically significantly higher in patients who: underwent an MTP capsulotomy 3.10 vs 0.97 (rr=3.20) and those who experienced a K-wire related complication 5.10 vs 1.80 (rr=2.84).

Conclusions
K-wire fixation for the treatment of hammertoe deformities led to good maintenance of correction with a relatively low complication rate and remains an effective, low cost, method of fixation for hammertoe correction.