20-Year Complication, Revision, and Reoperation Rates Following over 150,000 Hallux Valgus Bunion Operations in England

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INTRODUCTION:
Hallux valgus surgery is common, with variable recurrence rates of 4 – 78% reported in multiple case series. Any further surgery for forefoot pathology is costly both to individuals and healthcare systems. The aim of this study was to understand the rate of revision surgery, further forefoot surgery and 90-day risks of bunion surgery in England.
METHODS: An England population cohort study of 152,061 operations was performed using the Hospital Episode Statistics database, linked to ONS mortality data (1998-2023). The primary outcome was Kaplan-Meier curve analysis of revision surgery free survival of bunion surgery. Secondary outcomes included the risk of 90-day complications and any further re-operation to the same 1st MTP joint or forefoot. Cox proportional hazard modelling was used to identify those at highest risk of further surgery.
RESULTS: The overall revision-free survival was 93.1% at 20 years. Revision rates were significantly higher among females (HR 1.12, 95%CI: 1.05-1.21), white patients (HR 1.65 95%CI: 1.39 - 1.97), patients aged 40-59 years (HR 2.2, 95%CI: 1.62 - 3.01), and those from the most deprived socioeconomic group (HR 1.52, 95%CI: 1.41- 1.64). Within 20 years, 4.6% of patients underwent revision hallux valgus surgery, whereas only 2.6% proceeded to 1st MTPJ fusion. Females were more likely to get a revision surgery, whereas males were more likely to undergo revision to fusion. The 90-day mortality rate following hallux valgus surgery was 0.053%.
DISCUSSION AND CONCLUSION: This study shows that hallux valgus correction in England is safe and has a low risk of further intervention. This is the largest retrospective cohort to date and illustrates that for the vast majority of cases, traditional hallux valgus surgery represents a mono-therapy with a low revision rate and few complications.