

LONG-TERM REVISION RISK FOLLOWING PRIMARY TOTAL ELBOW REPLACEMENT: A NATIONWIDE POPULATION BASED COHORT STUDY OF 8682 CASES FROM HOSPITAL EPISODE STATISTICS DATA

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Purpose:

Because the NJR has only been recording total elbow replacements (TER) since 2012, we used a much larger data set from Hospital Episode Statistics (HES) to establish real-world estimates of revision risk following TER surgery.

Methods:

We analysed data for all TERs recorded in HES between 1998 and 2017, including only patients aged 18 and older. The primary outcome was implant revision risk (Kaplan-Meier method) at 5, 10 and 15 years. The secondary outcome was standardised annual incidence of TER procedures. Results were stratified by indication.

Results:

8682 TERs with a median follow-up of 6.4 years (IQR 3.1 to 10.5) were included. The median age was 68 (59 to 76) and 6299 procedures were performed in women. Indications for surgery were: inflammatory 3921, osteoarthritis (OA) 1605, acute trauma 1588, trauma sequelae 509, other 1059. The overall annual incidence of TER increased marginally from 1.1 per 10⁵ to 1.2 per 10⁵ over the study period but halved for inflammatory indications. 914 TERs were revised and a further 739 required other elbow operations. At 5, 10 and 15 years, overall revision rates were 8.1%, 13.7% and 20.0%. Revision rates by indication at 10 years were: acute trauma 8.8%, inflammatory 12.3%, OA 16.8%, other 18.2%, trauma sequelae 20%. Infection was the indication for 21% of these first-time revisions. Frequent non-revision operations included fracture fixations, washouts/debridements and ulnar nerve procedures.

Conclusion:

Overall rates of primary TER surgery have remained static over a 19-year period, but acute trauma is now a more common indication than inflammatory arthropathy. Revision rates are higher than those from designer series, but similar to those from arthroplasty registries. More research on adverse events is needed in order to reliably inform patients on expected outcomes, while prospectively collected NJR data will be important in assessing outcome variations between different implants.