Time to Conversion of Hemi/total Shoulder Arthroplasty to Reverse Total Shoulder Arthroplasty; A Systematic Review of Longevity and Factors Influencing Conversion

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**Introduction**

- The need for conversion to reverse total shoulder arthroplasty (RTSA) can be expected to increase given the number of primary total shoulder arthroplasty (TSA) performed among an increasingly active population.
- The primary purpose of this study was to determine the average time from hemiarthroplasty (HA) and TSA to conversion RTSA.
- The secondary purpose of this study was to determine the factors leading to conversion to RTSA.

**Methods**

- This study was conducted in accordance with the Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) statement.
- Cochrane Database of Systematic Reviews, the Cochrane Central Register of Controlled Trials and PubMed (1980-present) and MEDLINE were searched in August 2019 using the terms: "((total shoulder arthroplasty) OR total shoulder replacement) AND conversion".
- Inclusion criteria for articles were as follows: outcomes studies reporting of conversion of a HA or TSA to RTSA with a follow up of greater than 24 months, English language, and human studies.

**Results**

- From the 100 studies that were initially retrieved, 3 ultimately satisfied the inclusion criteria.
- The weighted mean time to conversion of HA/TSA to RTSA was 36.8 months.
- Rotator cuff failure was the indication for conversion in 66% of cases (65/99), while component loosening (glenoid or humeral stem) was the indication in 14% (14/99) of cases.

**Conclusion**

- Time to conversion of HA/TSA to RTSA is reported to be 36.8 months on average.
- The most common indication for conversion to RTSA was rotator cuff failure.
- Evaluating pre-operative rotator cuff integrity is crucial when performing a primary HA or TSA.

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