

Survival of total hip replacements

Although total hip replacement is a successful procedure for many, there is potential for post-operative complications, such as bleeding, wound dehiscence, infection, and dislocation, among others.¹⁻⁴ Although most complications can be prevented or medically managed, the ultimate effects of these complications can compromise the prosthesis, resulting in early implant failure.⁵ However, not all early component failures are directly attributable to post-operative complications. As Jonathan Evans and colleagues⁶ report in *The Lancet*, given enough time in situ, all implants will eventually fail. Using a systematic review and meta-analysis, along with national joint registry data, they sought to answer the commonly asked question: how long does a hip replacement last?

In an analysis of the 44 included case series, contributing 13 212 total hip replacements, survival was 85.7% (95% CI 85.0–86.5) at 15 years, 78.8% (77.8–79.9) at 20 years, and 77.6% (76.0–79.2) at 25 years. The joint registry search yielded 92 series, containing data for 215 676 hip replacements. The pooled analysis indicated all-cause construct survivorship to be 89.4% (89.2–89.6) at 15 years, 70.2% (69.7–70.7) at 20 years, and 57.9% (57.1–58.7) at 25 years. While this report is a substantial contribution, it has some limitations. Only the Australian and Finnish national joint registries reported 15-year follow-up data, and only the Finnish registry had data for follow-up at 20 years and 25 years. A single country analysis can confound generalisability because different patient populations can have different survivorship outcomes. Therefore, similar studies to this one should be done using registries from other countries.

We commend Evans and colleagues for this study. What makes this study unique is the substantial review of the literature, combined with analysis of data from national joint registries, to answer a question asked by nearly all patients who receive hip replacements. Most other studies only report on small case series or data from a single source. Moreover, these results are particularly important because of the growing number of younger, more active patients receiving hip replacements, as well as increasing population ageing and life expectancy.^{7,8} In fact, lifetime risk of revision of

total hip replacements for patients aged 50–54 years is estimated to be 29%, but only 5% in patients aged 70 years.⁹ Much of the increased risk of revision is due to component wear. The findings from Evans and colleagues' study can therefore be used to more appropriately counsel patients, assess postoperative benchmarks, and plan potential revision surgeries. The study is essential reading for orthopaedic surgeons performing, and patients considering, total hip replacement.

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- 1 Healy WL, Iorio R, Clair AJ, Pellegrini VD, Della Valle CJ, Berend KR. Complications of total hip arthroplasty: standardized list, definitions, and stratification developed by The Hip Society. *Clin Orthop Relat Res* 2016; **474**: 357–64.
- 2 Knight SR, Aujla R, Biswas SP. Total hip arthroplasty—over 100 years of operative history. *Orthop Rev (Pavia)* 2011; **3**: e16.
- 3 Khanduja V. Total hip arthroplasty in 2017—current concepts and recent advances. *Indian J Orthop* 2017; **51**: 357–58.
- 4 Hwang SK. Experience of complications of hip arthroplasty. *Hip Pelvis* 2014; **26**: 207–13.
- 5 Delaunay C, Hamadouche M, Girard J, Duhamel A, Group TS. What are the causes for failures of primary hip arthroplasties in France? *Clin Orthop Relat Res* 2013; **471**: 3863–69.
- 6 Evans JT, Evans JP, Walker RW, Blom AW, Whitehouse MR, Sayers A. How long does a hip replacement last? A systematic review and meta-analysis of case series and national registry reports with more than 15 years of follow-up. *Lancet* 2019; **393**: 647–57.
- 7 Polkowski GG, Callaghan JJ, Mont MA, Clohisy JC. Total hip arthroplasty in the very young patient. *J Am Acad Orthop Surg* 2012; **20**: 487–97.
- 8 Skyttä ET, Jarkko L, Antti E, Huhtala H, Ville R. Increasing incidence of hip arthroplasty for primary osteoarthritis in 30- to 59-year-old patients: a population based study from the Finnish Arthroplasty Register. *Acta Orthop* 2011; **82**: 1–5.
- 9 Schreurs BW, Hannink G. Total joint arthroplasty in younger patients: heading for trouble? *Lancet* 2017; **389**: 1374–75.



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