

Background

A decade ago, a comprehensive study was conducted to investigate the causes and respective frequencies of revision surgery following total hip arthroplasty (THA) and total knee arthroplasty (TKA), using a complication-based analysis of arthroplasty registry data. The aim of the present study was to determine whether the indications and risks for revision have changed over the past ten years and to provide an updated analysis.

The hypothesis of the study was that the indications for revision surgery and their relative proportions have changed over the past decade. We hypothesized that recent advances in implant materials and design would lead to a decrease in aseptic loosening. However, an increase in revisions due to periprosthetic joint infection (PJI) was expected, as modern diagnostic techniques enable higher detection rates

Methods

The indications and rates of revision of total hip arthroplasties (THAs) and total knee arthroplasties (TKAs) were determined through a systematic review of national arthroplasty registries from seven countries. The study focused on a descriptive analysis, providing an updated overview without statistical significance testing.

Results

The most common reasons for revision following total hip arthroplasty (THA) were aseptic loosening (35.1%), infection (18.2%), dislocation/instability (15.9%), and periprosthetic fracture (11.4%). The most common reasons for revision following total knee arthroplasty (TKA) were infection (21.6%), aseptic loosening (18.3%), instability (14.1%), and unexplained pain (10.9%).

Septic complications rise, aseptic loosening declines in total joint arthroplasty: an updated global registry-based complication analysis.

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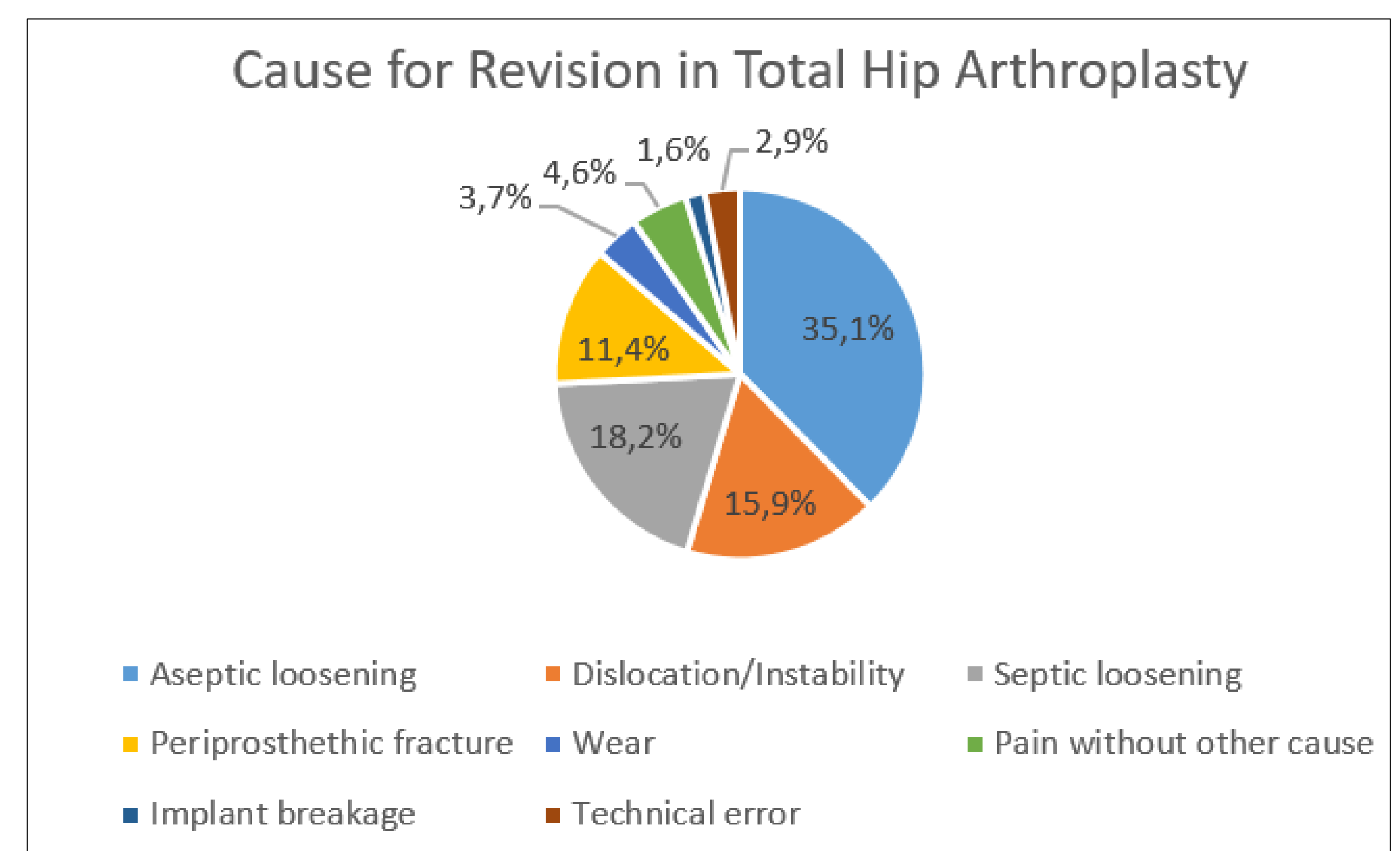


Fig 1.: Reasons for revision and their respective percentages in total hip arthroplasty

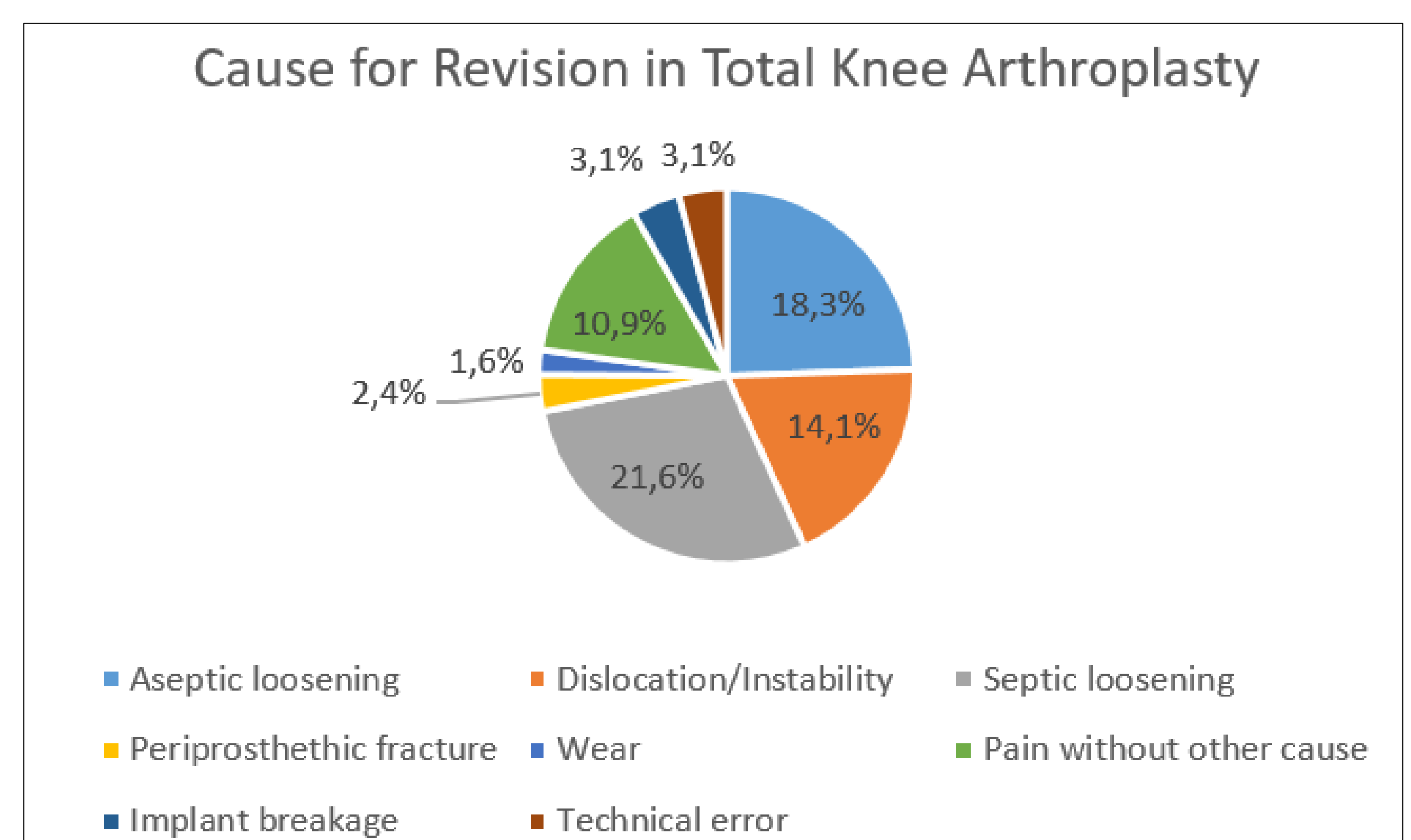


Fig 2.: Reasons for revision and their respective percentages in total knee arthroplasty

Conclusion

The results of this study demonstrated substantial shifts in the underlying causes of revision surgery over the past decade. Notably, septic complications emerged as the predominant reason for revision following total knee arthroplasty (TKA), increasing from 14.8% to 21.6%, and also became considerably more prominent as a cause of failure following total hip arthroplasty (THA), increasing from 7.5% to 18.2%.

Although aseptic loosening remains the leading cause of revision following THA, its relative proportion decreased for both hip arthroplasties (from 55.2% to 35.1%) and knee arthroplasties (from 29.8% to 18.3%).

This analysis highlights the changing distribution of indications for revision surgery and underscores the need for continued investigation and ongoing improvements in arthroplasty care.