

Extended oral antibiotics after primary hip or knee arthroplasty alter the microbiology of subsequent periprosthetic joint infections



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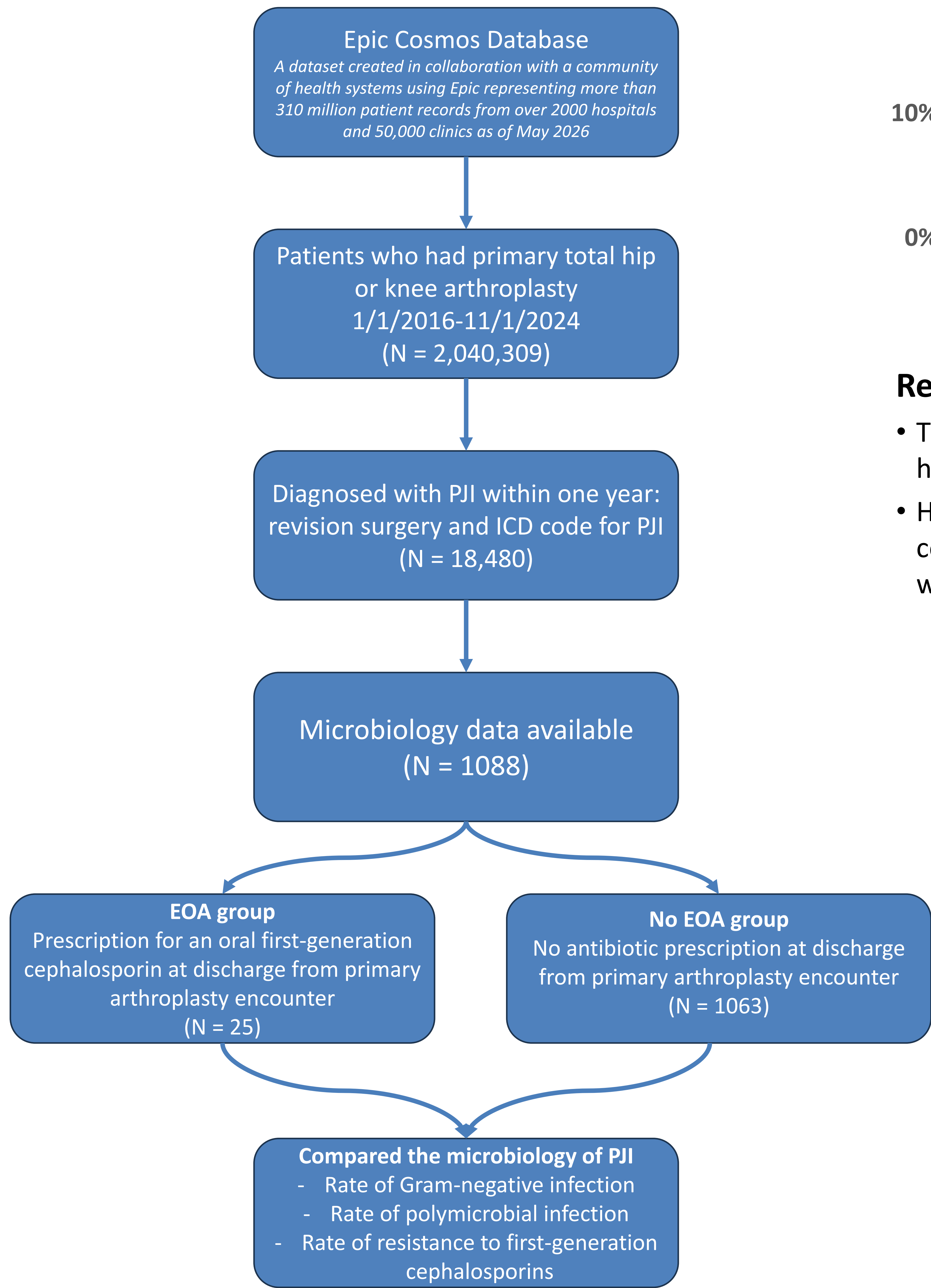
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Introduction and Aims

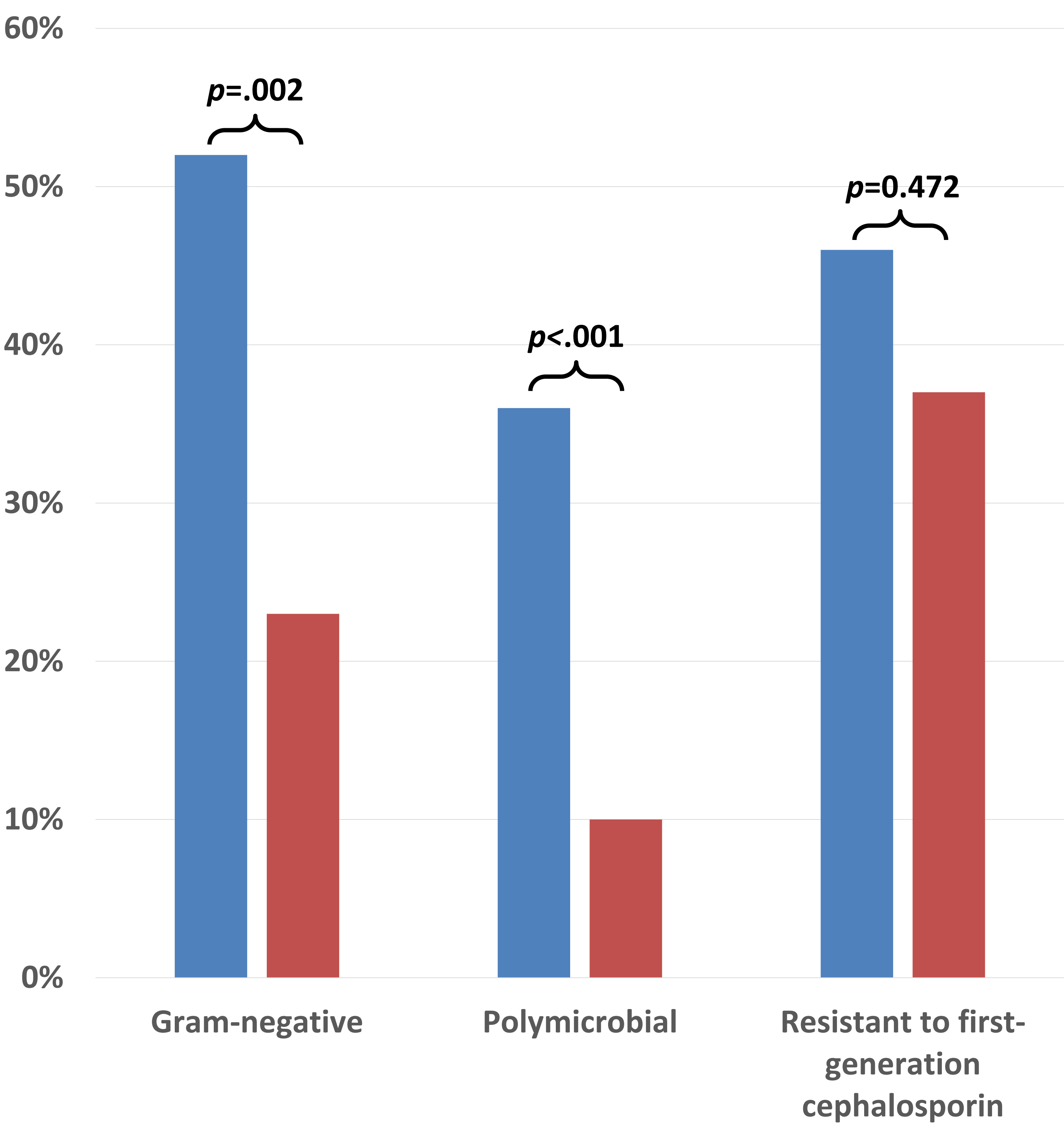
The practice of prescribing an extended course of oral antibiotics (EOA) after primary hip or knee arthroplasty (THA, TKA) has become increasingly common, based on observational data that in some high-risk patients this practice may reduce the risk of periprosthetic joint infection (PJI). One potential harm of this practice is that the excess antibiotic exposure will predispose patients to infection with more difficult-to-treat organisms.

→ We sought to determine whether the use of EOA, specifically with a first-generation oral cephalosporin, would be associated with a change in the microbiology of subsequent PJI within one year.

Methods



Microbiology of subsequent PJI Comparing those who received EOA to those who did not



Results

- The prevalence of Gram-negative and polymicrobial PJI was higher in the group that received EOA.
- However, patients who received EOA with a first-generation cephalosporin were not significantly more likely to have a PJI with an organism resistant to those antibiotics.

Conclusion and Discussion

- Patients who were prescribed EOA had significantly different microbiology of their subsequent PJI.
- While our data does not indicate whether this shift led to worse outcomes, it is a useful reminder that antibiotic exposure alters a patient's microbiome, and therefore the organisms causing their infections.

Further Reading

- Rainey JP, et al. Postoperative Oral Antibiotics Continue to Increase in Prevalence Without Associated Improvements in One-Year Periprosthetic Joint Infection Rates. J Arthroplasty. 2026 Sep;41(9S1):S314-S318.
- Raju A, et al. No Improvement in Infection or Complication Rate With Extended Oral Antibiotic Prophylaxis After Primary Total Joint Arthroplasty. J Arthroplasty. 2026 May 22:S0883-5403(26)00561-9.

