



Prior Dental Infection Is Associated With Increased Complications Following Implant-Based Breast Reconstruction

Andrew Salib, BA, Victoria Kong, BS, Omar Allam, MD, Jake Moscarelli, BS, Samira Glaeser-Khan, BS, Jonathan Grauer, Michael Alperovich, MD.

Yale School of Medicine

Introduction

Background: Dental infections may cause transient bacteremia capable of seeding distant prosthetic material.

Implant-based breast reconstruction (IBBR) relies on a permanent prosthetic device, making it potentially vulnerable to hematogenous bacterial contamination.

Knowledge Gap: The effect of recent dental infection on postoperative outcomes after IBBR has not previously been studied.

Objective: To evaluate whether dental infection within 6 months prior to surgery is associated with increased postoperative complications after IBBR.

Methods

Study Design: Retrospective cohort study using the PearlDiver Mariner database (2010–2023).

Population: Adult women undergoing direct or delayed IBBR identified via CPT codes.

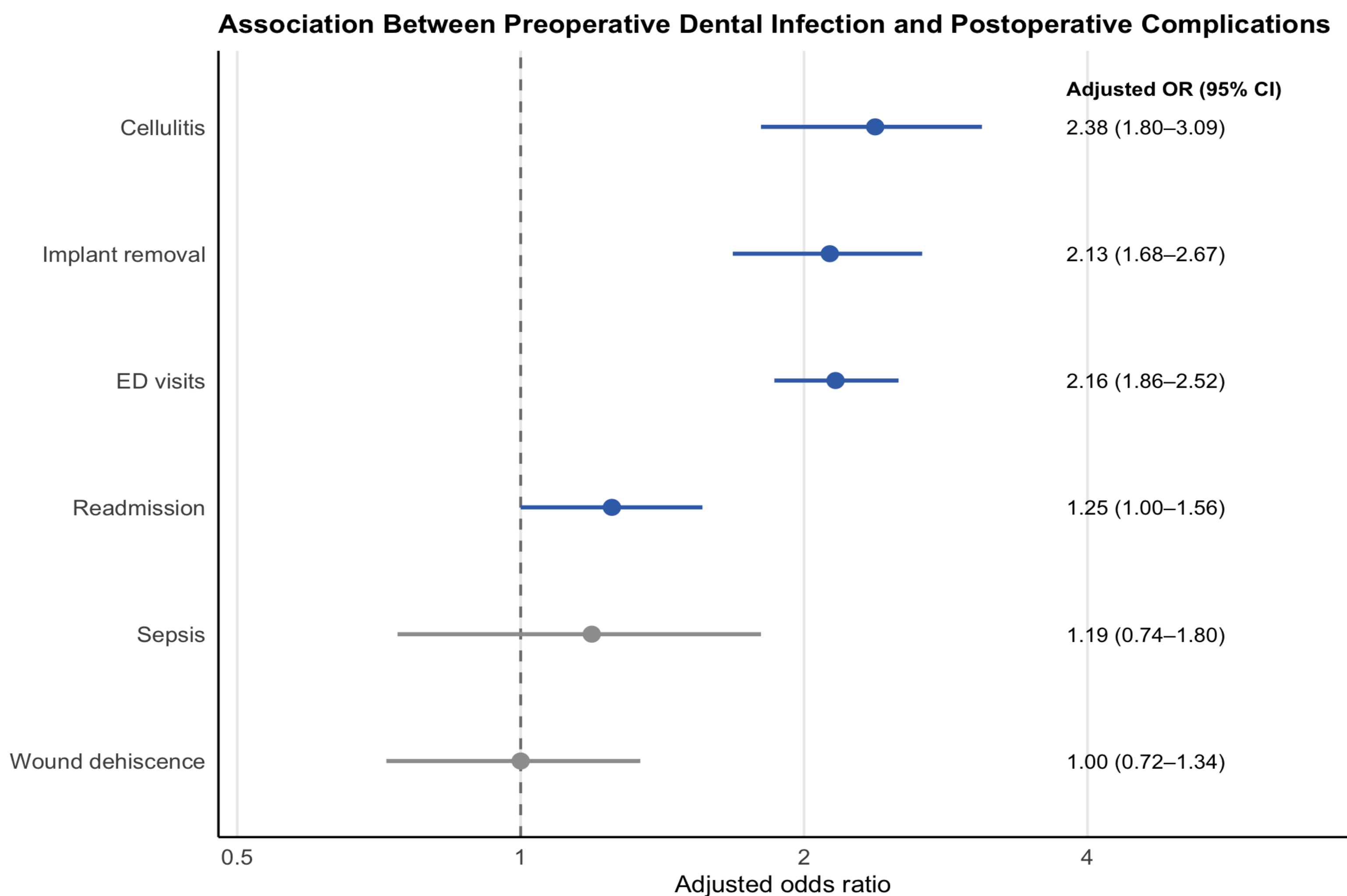
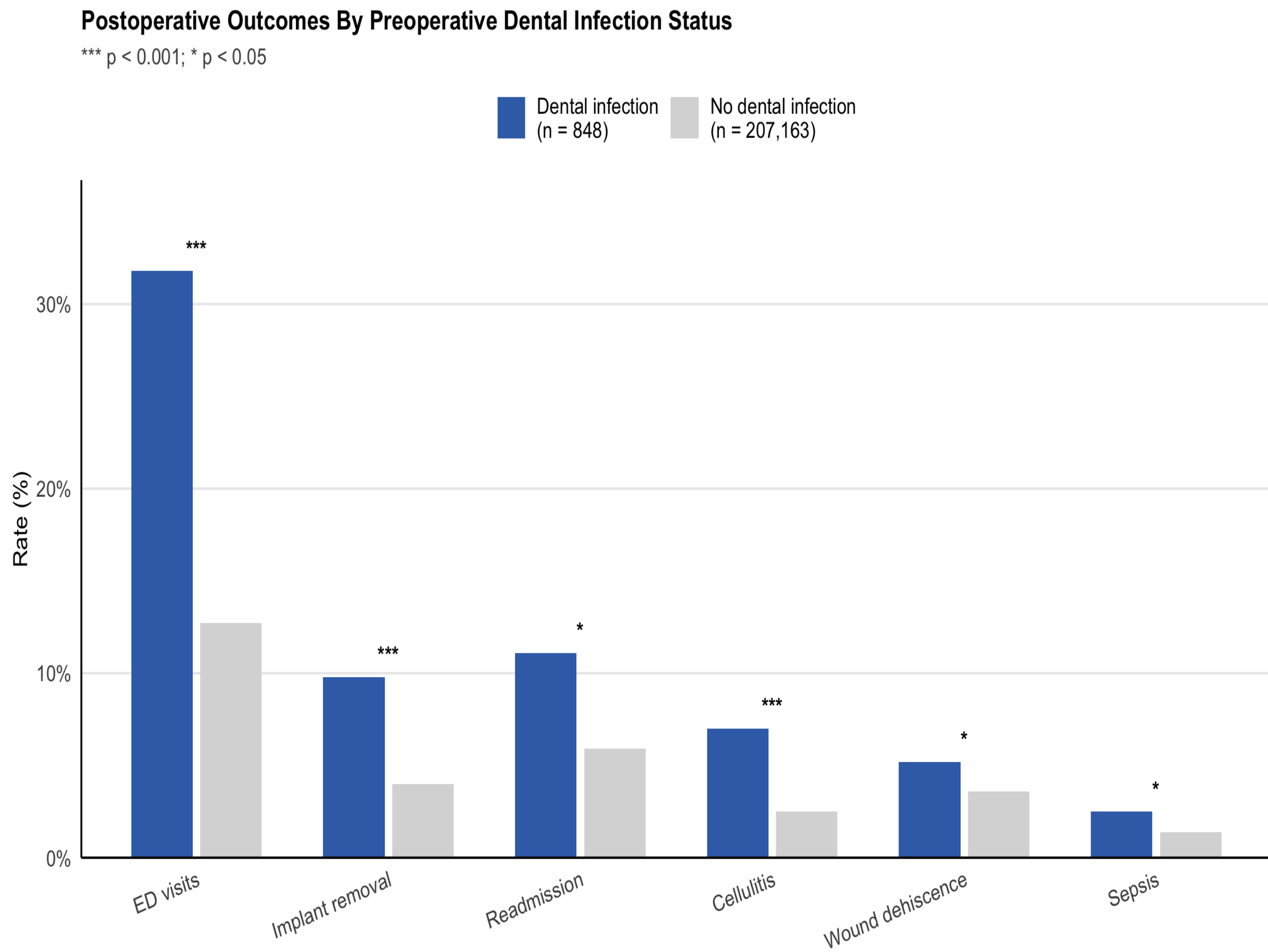
Excluded: patients inactive ≥ 90 days, prior radiation, or prior breast reconstruction.

Cohorts: Dental infection within 6 months prior to implant (n = 848) vs. no dental infection (n = 207,163).

Outcomes: Wound dehiscence, mastitis, sepsis, implant removal/revision, ED visits, hospital readmission.

Statistics: Univariate chi-squared testing. Multivariable logistic regression adjusted for age, obesity, tobacco use, diabetes, and Elixhauser Comorbidity Index.

Results



Discussion

Key Findings: Recent dental infection is associated with substantially increased postoperative morbidity after IBBR. Patients face elevated risk of:

- Cellulitis / surgical site infection
- Implant removal or revision
- Reoperation
- Emergency department visits
- Hospital readmission

Clinical Implications: Routine preoperative dental screening and treatment of active dental infection may represent a modifiable risk factor before IBBR.

Future Directions

- Prospective studies should determine whether delaying reconstruction until dental infection resolution improves postoperative outcomes.
- Future studies should additionally evaluate how antibiotics impact risk of seeding.