

SH25: What is the role for dental prophylaxis after shoulder replacement? Should other invasive procedures be prophylaxed (Colonoscopy, cystoscopy, etc)?

Liaison: Benjamin Zmistowski

Lead delegate: Chris Kilfto

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Response: There is insufficient shoulder-specific data to answer this question. There is insufficient evidence to support routine use of antibiotics for dental or other invasive procedures following total hip or knee arthroplasty.

Strength of Recommendation: Limited.

Delegate Vote: 48 (98%) agree; 0 disagree; 1 (2%) abstains

Rational: The question of routine prophylaxis is a common one that orthopaedics face from not only patients but dentists. A comprehensive literature review was performed to identify all studies on dental prophylaxis after shoulder replacement. Searches for the terms “shoulder replacement”, “dental”, “postoperative” and “infection” were performed using the search engines PubMed and Google Scholar which were searched through February 2018. Inclusion criteria for our systematic review were all English studies (Level I-IV evidence) that reported on antibiotic prophylaxis, or lack thereof, in patients undergoing dental procedures. Exclusion criteria were non-English language articles, nonhuman studies, retracted papers, case reports, review papers, studies with less than <10 patients in the sample size, studies without clinical follow-up/infection rates, and technique papers without patient data. PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) criteria were followed. Thirty articles met inclusion and exclusion criteria and were reviewed. Due to the difficulty of high level studies in relation to the low numbers of shoulder infections and chronicity of the infection from dental procedures and patient compliance, few high level studies have been performed.

There is one large database study that looked not specifically at the timing of dental procedures and antibiotic prophylaxis, but on the presence of dental pathology prior to a total shoulder. Overall, the paper showed higher medical complications and some surgical specific complications like dislocation and mechanical loosening, but 90 day readmissions were not statistically different and the study did not evaluate prophylaxis. [1]

The AAOS clinical practice guidelines also looked at the topic of dental prophylaxis for lower extremity arthroplasty. They concluded that there is insufficient evidence to recommend antibiotics for dental procedures after total hips and total knees. They also had inconclusive evidence to recommend for topical antibiotics for dental work in patients with lower extremity arthroplasty.[2]

REFERENCES

1. Gordon, A.M., et al., *The influence of prior dental pathology on medical complications and peri-prosthetic joint infections following primary shoulder arthroplasty*. Eur J Orthop Surg Traumatol, 2023. **33**(5): p. 1913-1919.

2. Watters, W., 3rd, et al., *Prevention of Orthopaedic Implant Infection in Patients Undergoing Dental Procedures*. J Am Acad Orthop Surg, 2013. **21**(3): p. 180-9.