

What Do Dental Teams Need to Know About Antibiotic Prophylaxis Prior to Invasive Dental Procedures in Patients With Total Joint Replacement (TJR)?

- Dental procedures pose no greater risk for systemic bacteremia than activities of daily living, such as brushing your teeth or eating.
- The use of antibiotic prophylaxis is not recommended. The use of antibiotic prophylaxis poses unnecessary risk of adverse drug reactions and/or antibiotic resistance.
- Recommendations for antibiotic prophylaxis should be considered individually for each patient, depending on their medical history.
- Following is a summary of the literature supporting this public health recommendation:

Year

Key Points

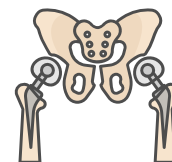
2025

In 2024 & 2025, the American Academy of Orthopaedic Surgeons (AAOS) released a new Clinical Practice Guideline (1) and Appropriate Use Criteria (2) for prophylaxis. It is generally not recommended to screen patients, prophylactically rinse prior to procedure or use antibiotic prophylaxis prior to invasive dental procedures. However, time between surgery and treatment is recommended. See online portal for more information: https://www.orthoguidelines.org/topic?id=1050&tab=all_guidelines



2024

A retrospective cohort study of 10,894 patients evaluated antibiotics prior to dental procedures and the association between dental procedures and periprosthetic joint infection (PJI). Routine antibiotics prior to dental procedures were not shown to affect the risk of late-presenting PJI. These findings suggest that routine antibiotic prophylaxis before dental procedures is not necessary after total hip and total knee arthroplasty (THA/TKA).(3)



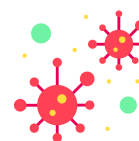
2023

An analysis of 2,344 patients who were admitted with late periprosthetic joint infections (PJI) noted no relationship with prior dental procedures. Authors' conclusion: "In the absence of benefit, the continued use of antibiotic prophylaxis poses an unnecessary risk to patients from adverse drug reactions and to society from the potential of antibiotic prophylaxis to promote development of antibiotic resistance. Dental antibiotic prophylactic use to prevent late PJI should, therefore, cease."(4)



2022

Antibiotic prophylaxis is not utilized in the UK. An analysis of dental records for more than 9000 British patients admitted for treatment of late PJI showed no significant association between invasive dental procedures and subsequent late PJI. (5)



References

- 1 - American Academy of Orthopaedic Surgeons/American Association of Hip and Knee Surgeons Prevention of Orthopaedic Implant Infection in Patients Undergoing Dental Procedures Evidence-Based Clinical Practice Guidelines. www.aaos.org/dentalppxcpg. Published 11/18/2024
- 2 - American Academy of Orthopaedic Surgeons, Prevention of Orthopaedic Implant Infection in Patients Undergoing Dental Procedures, Appropriate Use Criteria. <https://www.aaos.org/dentalppxauc>. Published 06/06/2025.
- 3 - Simon SJ, Aziz AA, Coden GS, Smith EL, Hollenbeck BL. Antibiotic Prophylaxis Prior to Dental Procedures After Total Hip and Knee Arthroplasty Does Not Decrease the Risk of Periprosthetic Joint Infection. J Arthroplasty. 2024 Feb 22:S0883-5403(24)00145-1. doi: 10.1016/j.arth.2024.02.046. Epub ahead of print. PMID: 38401610.
- 4 - Thornhill MH, Gibson TB, Pack C, Rosario BL, Bloemers S, Lockhart PB, Springer B, Baddour LM. Quantifying the risk of prosthetic joint infections after invasive dental procedures and the effect of antibiotic prophylaxis. J Am Dent Assoc. 2023 Jan;154(1):43-52.e12. doi: 10.1016/j.adaj.2022.10.001. Epub 2022 Dec 2. PMID: 36470690.
- 5 - Thornhill MH, Crum A, Rex S, Stone T, Campbell R, Bradburn M, Fibisan V, Lockhart PB, Springer B, Baddour LM, Nicholl J. Analysis of Prosthetic Joint Infections Following Invasive Dental Procedures in England. JAMA Netw Open. 2022 Jan 4;5(1):e2142987. doi: 10.1001/jamanetworkopen.2021.42987. PMID: 35044470; PMCID: PMC8771300.



Michigan Antibiotic
Resistance Reduction Coalition

