First Edition

Quality Resource Guide

Dental Considerations for Patients with a Prosthetic Joint Replacement

Author Acknowledgements

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Educational Objectives

Following this unit of instruction, the learner should be able to:

1. Differentiate early from late prosthetic joint infections.
2. Cite current literature regarding the efficacy of antibiotic pre-medication in preventing prosthetic joint infections.
3. Discuss the rationale for obtaining dental clearance prior to patients receiving prosthetic joints.
4. Describe the bacteria commonly cultured from prosthetic joint infections.
5. Compare and contrast hematogenous acquired prosthetic joint infections with bacterial endocarditis.
6. Analyze the tenets of evidence-based dentistry and how they impact antibiotic prescribing decisions.

MetLife designates this activity for **1.0 continuing education credits** for the review of this Quality Resource Guide and successful completion of the post test.

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Introduction

About one million knee and hip joint replacements are performed annually in the United States. As the population's average age continues to increase, the anticipated number of replacements is estimated to expand to 2 million by 2030.[1] The incidence of prosthetic joint infections (PJI) varies by country and hospital. However, 2017 data reported that hip and knee prostheses placed in the United States become infected 2.1% and 2.3% of the time.[2] The economic burden of PJI in the United States is impressive, estimated to be $1.62 billion in 2020.[3] Infections are also associated with significant morbidity and even mortality.

It is essential to differentiate infections that occur early, within three months of total joint replacement (TJR), from those that occur later. Early infections typically stem from the initial surgery, with local skin bacteria contaminating the implant and appearing as the primary causative agents in cultures. These infections, most often due to *Staphylococcus aureus,* present with sudden pain, redness and swelling. Three months post-implantation and beyond, late infections usually have a slow, indolent onset with a presumed hematogenous etiology from a distant site. Although skin-inhabiting *Staphylococcus* are still the most often cultured species in such late infections,[4] the common oral bacteria of the *Streptococcus viridans* group (*Streptococcus anginosus, mitis, sanguinis, salivarius,* and *mutans*) are sometimes noted. Thus, oral bacteria entering the blood and seeding the implant have been thought to be a possible cause of PJI. These findings spawned the controversial concept of giving the patient prophylactic antibiotics prior to undergoing invasive, bacteremia-causing dental procedures, purportedly to reduce the possibility of late PJI.

There are no indications to delay elective dental procedures for a specific period of time following TJR like there are for other situations, such as implantation of cardiac stents or medical events, such as strokes or myocardial infarctions.

Prevention

Orthopedic surgeons strive to prevent PJI by improving their surgical techniques and mitigating modifiable known risk factors. In their recent consensus guidelines with 260 references,[5] the American Academy of Orthopedic Surgeons describes recommended operative procedures (proper antibiotics, topical antiseptics, fastidious surgical techniques). It defines potentially modifiable conditions unique to the patient. Those risk factors include obesity, diabetes, smoking, and immunosuppression. Interestingly, poor dental health is mentioned as a possible risk factor for subsequent PJI but is noted to be of "unclear effect," with more research needed.

A novel paper involving 511 patients looked at how many had an active dental infection at the time of joint replacement.[6] Overall, 18.5% of patients had an active dental infection, with a higher proportion noted in males and smokers. However, no definitive studies have shown that eliminating an active oral infection or obtaining dental "clearance" before receiving a TJR reduces the risk of developing a subsequent PJI. Many orthopedic surgeons advise their patients to obtain dental clearance before a TJR procedure, a standard practice at many academic medical centers nationwide.*

* A sample dental clearance form is found in the Supplement at the end of this Guide.

The Pre-Medication Journey

The first paper regarding antibiotic pre-medication (AP), co-written by the American Dental Association (ADA) and the American Academy of Orthopedic Surgeons (AAOS), was published in 1997.[7] It recommended antibiotic pre-medication prior to performing invasive (bacteremia-producing) dental procedures on immunocompromised patients, especially during the first two years following implant placement. The document was slightly modified in 2003 and again, with input from multiple dental and medical organizations, in 2012. The 2012 revision broached the critical finding that bacteremias occurring during invasive dental procedures have not been causally linked to subsequent PJI. Reduction of bacteremias through the use of antimicrobials likely does not reduce PJIs.

To further clarify the dental profession's perspective, the ADA's Council on Scientific Affairs convened a panel of experts to provide the dental professional with a more specific and practical set of guidelines, published in 2015. These concluded: "in general, prophylactic antibiotics are not recommended prior to dental procedures to prevent prosthetic joint infections."[8]

In 2016, the AAOS (with input from the ADA) published online on their appropriate use criteria web page an interactive tool entitled "Management of Patients with Orthopaedic Implants Undergoing Dental Procedures".[9] It was designed to guide clinicians in determining whether pre-medication was indicated and had questions assessing the patient's immune status, whether the joint prosthesis was in place more or less than one year, and how likely the dental procedure was to induce a bacteremia. Depending on the answers (64 possible combinations), the application concluded that prescribing prophylactic antibiotics: "is appropriate", "may be appropriate", or "rarely is appropriate".

Although there continues to be debate among some healthcare professionals concerning the risks versus benefits of antibiotic premedication, the contemporary trend is to recommend its use much less often, especially compared to older guidelines.

What About Other Bacteremia Inducing Procedures?

An invasive procedure in the gastrointestinal (GI) tract induces bacteremia. However, antibiotic prophylaxis is not recommended by the American Academy of Orthopedic Surgeons, the American Society for Gastrointestinal Endoscopy, or the American Society of Colon and Rectal Surgeons for patients with prosthetic joints undergoing endoscopic or other GI tract bacteremia-

inducing invasive procedures.[10] This is because data supporting any benefit is limited, with the many risks of unnecessary prescriptions well established.

Endocarditis *versus* Prosthetic Joint Infections

Since 1955, the American Heart Association (AHA) has recommended that patients at increased risk for infectious endocarditis (IE) receive antibiotic prophylaxis (AP) before undergoing bacteremia-producing procedures, including bacteremia-inducing dental procedures. These recommendations were last updated in 2007 to recommend AP only for those patients with the highest risk of morbidity from IE, reducing the number of patients needing AP by ~ 90%. When cultured, 20% to 54% of IE cases are associated with mouth-dwelling Streptococcus viridans, and an important recent paper found poorer oral health in patients with diagnosed IE compared to a cohort with more professional dental visits and better oral health.[11]

In contrast to IE, cultures from PJI rarely contain bacteria known to exist in the mouth, with oral streptococci discovered only 3-5% of the time.[12] Most experts now believe that IE from oral bacteria is much more likely to be caused by the daily bacteremias associated with chewing, toothbrushing, and flossing than from a brief bacteremia-inducing dental visit. A recent, albeit retrospective, paper concluded that AP prior to the performance of bacteremia-inducing dental care may reduce the incidence of IE, supporting the recommendations of the 2007 AHA guidelines.[13]

What are the Risks of Prescribing Prophylactic Antibiotics?

Many dentists and orthopedic surgeons still advocate AP because of their concern of possible litigation (practicing defensive medicine) or their under-appreciation of the associated costs and risks. Known severe adverse drug reactions, even with just one pre-operative dose, include *Clostridium difficile* infections, anaphylaxis, and the development of drug-resistant bacteria.

Using retrospective and only voluntary reporting of adverse reactions, French investigators estimated the incidence of anaphylaxis to Amoxicillin when prescribed by dentists for pre-medication to be 1/57,000.[14] Another study estimated that when clindamycin is used for AP, there would be 13 fatal and 149 non-fatal reactions/million prescriptions, predominantly due to *Clostridium difficile* infection.[15] The American Heart Association no longer recommends Clindamycin for IE prophylaxis.

Relative to cost, a 2010 paper estimated the annual fee of providing AP for orthopedic implants in the United States was approximately $59,640,000.[16] Finally, the risk of indiscriminate antibiotic use relative to contributing to the serious public health problem of antimicrobial resistance was detailed in a recent "white paper" co-written by the U.S. Centers for Disease Control and the United Kingdom Science & Innovation Network.[17]

Current Thinking

Many countries have national health policies that address specific topics, including the need to prescribe antibiotic pre-medication for patients with prosthetic joints. Australia, Brazil, Canada, Denmark, France, the Netherlands, New Zealand, Norway, Portugal, Taiwan and the United Kingdom currently advise against routine pre-medication, with many recent publications supporting this view. While it is well known that invasive dental care can cause bacteremias, there is little, if any, data to suggest that such bacteremias cause late PJI. Moreover, no convincing data suggests that antibiotic prophylaxis given before such care would mitigate risks.

Two recent papers, one using big data from the United States[18] and another from England,[19] analyzed patients with confirmed cases of late PJI. Recent dental visits were correlated with a diagnosis of PJI, attempting to find a temporal link while also evaluating whether AP was utilized. The United States paper evaluated 2,344 PJI patients and found no correlation between recent (within three months) invasive dental care and PJI compared to the 12-month preceding control period. There was no variation in PJI incidence comparing groups where AP was used or not. The paper from England looked at 9,427 patients with late PJI and their dental care during the preceding fifteen months. The authors noted that the patients received less dental care during the three months before the PJI diagnosis, refuting any temporal correlation. Also, no potentially confounding variable from antibiotics existed, as AP is not recommended before dental care in England for patients with prosthetic joints. These two papers were from the same group of authors. However, another group summarized the current literature and concluded that "the best available evidence shows that dental procedures are not associated with a PJI".[20] They advised that orthopedic surgeons, pharmacists, dentists, and local antibiotic stewards collaborate to reduce unnecessary prescriptions.

Evidence-Based Care

Ideally, we employ evidence-based decision-making in all that we do as dental providers. This entails knowing and using the best available non-biased science, valuing the experience and expertise of the clinician, and finally respecting the patient's needs and preferences.

A few clinicians and an occasional paper still support the routine use of AP, yet one can also find articles where patients developed PJI despite using AP.[21] In addition, a recently published report found amoxicillin was ineffective as a pre-med (did not prevent bacteremia) a surprisingly high 46% of the time.[22] Given the lack of an association between bacteremia-induced dental care and PJI, the tenuous efficacy of AP to prevent PJI, and the harms associated with antibiotic administration, the administration of AP to prevent PJI in the dental setting is not justified.

For the patient who is convinced that AP works, insists antibiotics be prescribed, and would be anxious, ill-tempered and even seek treatment from another clinician if their needs and preferences for AP are not honored, the clinician should attempt to educate them. Patient demand is not a justifiable reason to prescribe an antibiotic.

If the patient or their physician continues to insist on the administration of an unjustified AP regimen, it is recommended that the managing physician provide the prescription.[8]

Conclusions

In the future, a multi-center prospective randomized trial may prove that AP prevents PJI in some patients. However, no compelling study suggesting efficacy has been performed to date, and there are well-proven risks and costs to the practice. Current evidence suggests that the risks associated with giving AP to patients with prosthetic joints outweigh any benefit in reducing the risk of developing PJI, and evidence-based practice recommends that AP should rarely, if ever, be used to prevent PJI following bacteremia-inducing dental care.

A potential exception could be a patient with exceptional co-factors (being remarkably immunocompromised, having an orthopedic implant or anatomic anomaly with unusual susceptibility to infection, and undergoing an atypical "dirty" invasive procedure such as extracting multiple infected teeth). For the vast majority of patients, their dental, medical, and pharmaceutical healthcare practitioners should reinforce that conscientious personal oral hygiene procedures and frequent professional visits to minimize bacteremias are the best ways to reduce one's risk of developing a PJI.

Dentists are responsible for determining the best care for patients, including the appropriate use of antibiotics. Long-held practice patterns are challenging to change, but the most recent evidence shows that patients who have prosthetic joints should be educated about why AP is not only unnecessary but also potentially harmful.

Supplement

Total Joint Replacement Dental Consult

(Patient is to give this consult form to their dental care provider and return signed copy.)

We would like to schedule _____ for a total hip/knee replacement with Dr._____. Due to the risk of an infection with this procedure, we are asking the patient to undergo a full dental clearance. Please provide the following services:

1. A detailed dental and radiographic examination, identifying conditions that might increase risk of infections and possible bacteremias.

2. Extract all unreasonable teeth or any tooth with a poor or hopeless prognosis (consider these guidelines for dental extractions)
    a. Full mouth extractions may be indicated in patients who cannot or will not commit to good dental health care practices
    b. Extractions are indicated in areas of severe periodontal bone loss, whether localized or generalized. Proper periodontal treatment generally involves too much time or variability to predictably provide the desired pre-therapy state of stable oral health.
    c. Extraction would be indicated for any teeth with periapical pathology that cannot receive timely, appropriate endodontic therapy.

3. Assess appliances (complete/partial dentures) for proper fit. Remove/reduce sources of irritation & friction.

4. Oral hygiene program: instruct on proper brushing, flossing, and frequency of care.

5. Return to office appointments for oral health monitoring and assessment of oral hygiene compliance.
    a. Schedule return visits at 3-6 months frequency as most appropriate for this patient.
    b. Repeat films if a problematic situation exists which the dentist feels is appropriate to monitor.
    c. Reassess for good appliance fit.
    d. Assess compliance with oral hygiene program.

Please fill out the following and fax/scan/email back to ### ### ####. Please feel free to call our office with any concerns/questions:

TO BE COMPLETED BY THE DENTIST PERFORMING THE BASELINE EXAM:

Patient has adequate/stable oral health and is acceptable risk for a total joint replacement ◯

Patient will require extraction/further invasive procedure; following procedure, wait-4 weeks until healing process is completed to proceed with surgical intervention: ◯

Comments: _____

Dental Care Provider's signature: _____Date:_____

Dental Care Provider's name (print)_____Phone:_____

References

1. Sloan M, Premkumar A, Sheth NP. Projected Volume of Primary Total Joint Arthroplasty in the US, 2014 to 2030. J Bone Joint Surg Am 2018; 100:1455.
2. Premkumar A, Kolin DA, Farley KX, et al. Projected economic burden of periprosthetic joint infection of the hip and knee in the United States. J Arthroplasty 2021; 36(5): 1484-1489.
3. Kurtz, S.M., Lau, E., Watson, H., Schmier, J.K., Parvizi, J. Economic Burden of Periprosthetic Joint Infection in the United States. The Journal of Arthroplasty. 2012;27(9): 61-65.
4. Beam E, Osmon D. Prosthetic Joint Infection Update. Infect Dis Clin North Am 2018; 32:843.
5. American Academy of Orthopaedic Surgeons Evidence- Based Clinical Practice Guideline for Diagnosis and Prevention of Periprosthetic Joint Infections www.aaos.org/pjicpg Published March 11, 2019.
6. Kohler JG, Holte AJ, Glass NA, Bedard NA, Brown TS. Dental Screening in Elective Total Joint Arthroplasty: Risk Factors for Failure. J Arthroplasty. 2021;36(5):1548-1550.
7. Whall CW. American Dental Association; American Academy of Orthopaedic Surgeons. Advisory statement. Antibiotic prophylaxis for dental patients with total joint replacements. J Am Dent Assoc 1997; 128:1004–8.
8. Sollecito TP, Abt E, Lockhart PB, et al. The use of prophylactic antibiotics prior to dental procedures in patients with prosthetic joints: evidence-based clinical practice guideline for dental practitioners--a report of the American Dental Association Council on Scientific Affairs. J Am Dent Assoc 2015; 146:11–6 e8.
9. American Academy of Orthopaedic Surgeons Appropriate Use Criteria for the Management of Patients Undergoing Dental Procedures www.aaos.org/dentalauc. Published September 23, 2016.
10. ASGE Standards of Practice Committee; Khashab MA, Chithadi KV, Acosta RD, Bruining DH, Chandrasekhara V, Eloubeidi MA, Fanelli RD, Faulx AL, Fonkalsrud L, Lightdale JR, Muthusamy VR, Pasha SF, Saltzman JR, Shaukat A, Wang A, Cash BD. Antibiotic prophylaxis for GI endoscopy. Gastrointest Endosc. 2015 Jan;81(1):81-9.
11. Lockhart PB, Chu V, Zhao J, Gohs F, Thornhill MH, Pihlstrom B, Mougeot FB, Rose GA, Sun YP, Napenas J, Munz S, Farrehi PM, Sollecito T, Sankar V, O'Gara PT. Oral hygiene and infective endocarditis: a case control study. Oral Surg Oral Med Oral Pathol Oral Radiol. 2023 Sep;136(3):333-342.
12. Springer BD, Baddour LM, Lockhart PB, Thornhill MH. Antibiotic Prophylaxis for Prosthetic Joint Patients Undergoing Invasive Dental Procedures: Time for a Rethink? J Arthroplasty. 2022 Jul;37(7):1223-1226.
13. Thornhill MH, Gibson TB, Yoon F, et al. Antibiotic Prophylaxis Against Infective Endocarditis Before Invasive Dental Procedures. J Am Coll Cardio. 2022;13;80(11):1029-1041.
14. Cloitre A, Duval X, Tubiana S, Giraud P, Veyrac G, Nosbaum A, Gouraud A, Mahé J, Lesclous P. Antibiotic prophylaxis for the prevention of infective endocarditis for dental procedures is not associated with fatal adverse drug reactions in France. Med Oral Patol Oral Cir Bucal. 2019 May 1;24 (3):e296-304.
15. Thornhill MH, Dayer MJ, Prendergast B, Baddour LM, Jones S, Lockhart PB. Incidence and nature of adverse reactions to antibiotics used as endocarditis prophylaxis. J Antimicrob Chemother. 2015;70:2382-8.
16. Little JW, Jacobson JJ, Lockhart PB; American Academy of Oral Medicine. The dental treatment of patients with joint replacements: a position paper from the American Academy of Oral Medicine. J Am Dent Assoc. 2010 Jun;141(6):667-71.
17. Initiatives for addressing antimicrobial resistance in the environment : current situation and challenges. Centers for Disease Control and Prevention (US); UK Science & Innovation Network. : International Environmental Antimicrobial Resistance Forum. https://wellcome.org/sites/default/files/antimicrobial-resistance-environment-report.pdf. April, 2018.
18. 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.
19. 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)
20. Goff DA, Mangino JE, Glassman AH, Goff D, Larsen P, Scheetz R. Review of Guidelines for Dental Antibiotic Prophylaxis for Prevention of Endocarditis and Prosthetic Joint Infections and Need for Dental Stewardship. Clin Infect Dis. 2020 Jul 11;71(2):455-462.
21. Olson LB, Turner DJ, Cox GM, Hostler CJ. Streptococcus salivarius Prosthetic Joint Infection following Dental Cleaning despite Antibiotic Prophylaxis. Case Rep Infect Dis. 2019 Apr 21.
22. Danilkowicz RM, Lachiewicz AM, Lorenzana DJ, Barton KD, Lachiewicz PF. Prosthetic Joint Infection After Dental Work: Is the Correct Prophylaxis Being Prescribed? A Systematic Review. Arthroplast Today. 2021 Jan 9;7:69-75.

POST-TEST

Internet Users: This page is intended to assist you in fast and accurate testing when completing the "Online Exam."
We suggest reviewing the questions and then circling your answers on this page prior to completing the online exam.

(1.0 CE Credit Contact Hour) Please circle the correct answer. 70% equals passing grade.

1. **The bacterium most often cultured from prosthetic joint infections is:**
   a. *Staphylococcus aureus*
   b. *Streptococcus pyogenes*
   c. *Clostridium difficile*
   d. *Streptococcus mutans*

2. **All the following statements are false ***EXCEPT*** one. Indicate the ***TRUE*** statement:**
   a. Pre-operative antiseptic mouth rinses have been shown to cause *Clostridium difficile* infections.
   b. Clindamycin is more antigenic than Amoxicillin.
   c. Antibiotic pre-medication is recommended for patients with prosthetic joints before colonoscopy.
   d. Most prosthetic joint infections within the first three months after surgery are from bacteria on the skin.

3. **All of the following are components of practicing evidence-based care except one. Indicate the exception:**
   a. Considering the wishes of the patients
   b. Ranking the treatment options with respect to out-of-pocket expenses
   c. Knowing the latest scientific studies relative to the treatment
   d. Valuing the experience of the clinician

4. **Most experts feel that antibiotic pre-medication is more indicated for possibly preventing bacterial endocarditis rather than prosthetic joint infections because:**
   a. The mortality from dental bacteremia-induced endocarditis is much higher compared to prosthetic joint infections.
   b. *Clostridium difficile* infections secondary to the antibiotics used to prevent endocarditis are extremely rare.
   c. Oral residing bacteria are cultured from endocarditis patients much more than those with prosthetic joint infections.
   d. Prosthetic joint infections only occur for the first two years post-implantation, while prosthetic valve patients are at risk for life.

5. **Which antibiotic is most often associated with potentially fatal *Clostridium difficile* super-infections?**
   a. Amoxicillin
   b. Cefazolin
   c. Clindamycin
   d. Azithromycin

6. **What is the best estimate for the lifetime risk of a knee or hip prosthetic joint infection?**
   a. 0.1-0.3%
   b. 0.5-1.0 %
   c. 2.0-3.0%
   d. 4.0-7.0%

7. **The following are known risk factors for prosthetic joint infections ***EXCEPT*:**
   a. Hypertension
   b. Obesity
   c. Poor glycemic control
   d. Smoking

8. **Most experts now believe that bacterial endocarditis cultured positive for oral bacteria (*Streptococcus viridans*) is caused by what factor?**
   a. Failure to premedicate
   b. Pre-medication with incorrect antibiotics (Cephalosporins)
   c. Bacteremias from daily eating and brushing, especially in a patient with a compromised dentition and inadequate oral hygiene
   d. Especially virulent bacteremias that occur from multiple dental extractions performed in one visit

9. **All of the following are rational reasons for ***NOT*** premedicating patients with prosthetic joints before providing invasive dental care, except one:**
   a. Risk of causing pseudomembranous colitis
   b. Risk of anaphylactic reactions
   c. Risk of a lawsuit, as not pre-medicating goes against the latest ADA guidelines
   d. Risk of developing antibiotic-resistant bacteria in the patient and environment

10. **Which statement best summarizes recent articles looking at dental care provided before patients were diagnosed with prosthetic joint infections?**
    a. Invasive dental care was typically noted to occur three months before the subsequent joint infection and was proven to have a statistically significant correlation.
    b. Patients not given pre-medication before invasive care had a significantly higher rate of joint infections than those with pre-medication.
    c. Patients receiving multiple extractions but no other procedures were noted to be at increased risk for joint infections.
    d. There was no correlation between recent dental care and subsequent prosthetic joint infections.

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