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## Antibiotics after Joint Replacement Surgery

“Do I need to take antibiotics before having my teeth cleaned?” is one of the most common questions asked of both dentists and surgeons after hip and knee replacement surgery. An infection of a total joint replacement is among the most catastrophic complications that can occur after surgery. Our goal is to help prevent such infections. Historically, patients were routinely told that they either needed “**antibiotics for life**” prior to having dental procedures, or that they needed “**antibiotics for the first two years**” after their joint replacement.

We want to offer guidance to advise our patients and their families, based on the latest recommendations from The American Academy of Orthopaedic Surgeons (AAOS), The American Dental Association (ADA), and The American Association of Hip and Knee Surgeons (AAHKS). An updated review published in 2015 found no association between dental procedures and prosthetic joint infections. Based on this, the 2015 ADA Clinical Practice Guideline now states, “**In general, for patients with prosthetic joint implants, prophylactic antibiotics are not recommended prior to dental procedures to prevent prosthetic joint infection.**”

Thus, we suggest the following guidelines:

### **For All Patients:**

Patients should **maintain daily oral hygiene**, with routine brushing and flossing, with mouthwash as needed. We generally suggest having an oral exam and dental cleaning prior to having joint replacement surgery, then waiting 6 months after surgery for the next routine cleaning.

### **For Healthy Patients (who have a normal immune system):**

Patients with a healthy immune system normally have a low risk of infection. The historical practice of giving routine antibiotic prophylaxis for most dental cleanings can be stopped, but may be continued if a patient has tolerated the antibiotic previously. **If invasive dental procedures** (such as tooth extraction, root canal, jaw surgery, etc.) are performed, then oral antibiotics can be considered at the discretion of the treating dentist.

### **For “High Risk” Patients:**

Some patients are at a higher risk of infection, and thus, antibiotic prophylaxis should be considered even for routine cleanings. For patients in the groups below, use of appropriate antibiotic prophylaxis is suggested.

1. Uncontrolled **diabetes mellitus**.
2. History of a **prior infected joint replacement** (prosthetic joint infection).
3. **Infection with HIV**, if there are high viral counts or infections from “AIDS” have been diagnosed.
4. Active chemotherapy being given for **cancer treatment**.
5. Immunosuppression after an **organ transplant** (such as with Prednisone, Cellcept, etc.)
6. Immunosuppression used for **autoimmune disease** (such as with Enbrel or Humira for RA).
7. Chronic immune system dysfunction (such as with chronic leukemia or lymphoma).

### **Antibiotic Selection:**

If the choice is made for antibiotic prophylaxis, the following preferred antibiotics and doses should be utilized, taken by mouth within one hour prior to the procedure. (Preferred drug and dose are underlined)

1. “Standard Protocol:”
  - **2 grams of amoxicillin (4 x 500mg capsules)**, cephalexin, or cephadrine.
2. “Allergy Protocol:” For patients allergic to amoxicillin or penicillins:
  - **600mg of clindamycin (2 x 300mg capsules)**.

### **Other Types of Common Procedures:**

- **“Non-Invasive” Procedures:**
  - If an examination or procedure does not involve making an incision in the skin, most patients do not require routine antibiotic prophylaxis. Examples of such procedures include a bladder scope (cystoscopy), colonoscopy, and routine vaginal and rectal exams.
- **“Invasive” Procedures:**
  - Skin Biopsies: If skin biopsies or Mohs surgery are performed in an office setting, oral antibiotics may be considered by the treating dermatology specialist.
  - Surgeries performed in an operating room environment (Such as Gallbladder, Appendix, Abdominal and Extremity surgery) routinely require intravenous (IV) antibiotic prophylaxis. These are given just prior to surgery for almost all patients having that procedure in order to prevent a surgical site infection.

### **Notes:**

- Every patient’s individual case should be discussed with their orthopaedic surgeon for guidance.
- If you suspect you might have an oral infection or dental abscess, it is important to seek treatment early.
- This document represents the current consensus opinion from the Faculty of Yale Orthopaedics, Division of Adult Reconstruction, and is subject to future revision.

### **References:**

1. Watters, W III, Rethman, MP, Hanson, NB, et al: AAOS-ADA Clinical Practice Guideline Summary: Prevention of Orthopaedic Implant Infection in Patients Undergoing Dental Procedures. Journal of the American Academy of Orthopedic Surgeons. March 2013; 21:180-189
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3. Antibiotic Prophylaxis Prior to Dental Procedures. American Dental Association; <https://www.ada.org/en/member-center/oral-health-topics/antibiotic-prophylaxis>
4. Preventing infection in your dentist’s office. American Association of Hip and Knee Surgeons; <http://hipknee.aahks.net/preventing-infection-in-your-joint-at-the-dentists-office/>
5. AAOS Appropriate Use Criteria Risk Calculator: [http://www.orthoguidelines.org/go/auc/auc.cfm?auc\\_id=224995](http://www.orthoguidelines.org/go/auc/auc.cfm?auc_id=224995)