Hospital Dentistry

Eight Things Dentists and Patients Should Question by The Canadian Association of Hospital Dentists Last updated: March 2018



Don't use opioids for post-operative dental pain until optimized dose of Nonsteroidal Anti-Inflammatory Drugs (NSAIDs)/Acetaminophen has been used.

For post-operative dental pain, the dose and frequency of a non-opioid (ibuprofen and/or acetaminophen) analgesic should be optimized. If this is not sufficient for managing pain then an opioid may be considered. If an opioid analgesic is appropriate consider limiting the number of tablets dispensed.



Don't prescribe antibiotics for irreversible pulpitis (toothache).

Irreversible pulpitis or toothache occurs when the soft tissue and nerve inside the tooth (the dental pulp) becomes damaged as a result of decay, trauma or large fillings. The intense pain is caused by inflammation of the dental pulp and the tissue surrounding the root – not by infection. Because this is not an infection, antibiotics do not relieve the pain and should not be used. Treatment for this condition is the removal of the damaged or diseased dental pulp, either through root canal therapy or extraction of the tooth. Inflammatory dental pain is best managed by non-steroidal inflammatory drugs.



Don't routinely prescribe antibiotics for acute dental abscess without signs of systemic involvement.

Acute dental abscess is a localized infection that occurs as the result of an untreated infection of the dental pulp. The abscess should be drained and the tooth treated with root canal therapy or extraction of the tooth. Antibiotics are of no additional benefit. In the event of systemic complications (e.g., fever, lymph node involvement or spreading infection), or for an immunocompromised patient, antibiotics may be prescribed in addition to drainage of the tooth.



Infections of orthopedic implants are uncommon events and are rarely caused by bacteria found in the mouth. Although dental procedures such as extractions cause transient bacteremia, most bacteremia of oral origin occurs with activities of daily living, including brushing, flossing and chewing. There is no reliable evidence that antibiotics prior to dental procedures prevents prosthetic joint infections. Patients should not be exposed to the adverse effects of antibiotics when there is no evidence of benefit.



Don't give prophylactic antibiotics to patients with non-valvular cardiac or other indwelling devices.

There is no convincing evidence that oral bacteria from dental procedures cause infections of the following devices at any time after implantation: pacemakers; implantable defibrillators; ventriculoatrial shunts; devices for patent ductus arteriosus, atrial septal defect, and ventricular septal defect occlusion; peripheral vascular stents; prosthetic vascular grafts; hemodialysis shunts; coronary artery stents; dacron parotid patches; chronic indwelling central venous catheters. Antibiotic prophylaxis is recommended for patients with these devices if they undergo incision and drainage of infection at other sites (e.g., abscess).



Don't prescribe radiographs without indication.

Dental x-rays are an important and necessary tool to diagnose and monitor oral-facial disorders and dental diseases. The need for x-rays should be determined on an individual basis for each patient, based on medical and dental history, clinical findings and risk assessment, rather than on a routine basis.

Don't replace fillings just because they are old.

Dental restorations (fillings) fail due to excessive wear, fracture of material or tooth, loss of retention, or recurrent decay. The larger the size of the restoration and/or the greater the number of surfaces filled increases the likelihood of failure. Restorative materials have different survival rates and fail for different reasons, but age should not be used as a failure criteria. Drilling to remove and replace fillings can weaken teeth. If feasible, repair of small defects, rather than replacement of a filling, can save tooth structure and increase the lifespan of restorations at a low cost.



Don't remove mercury-containing dental fillings unless the restoration has failed.

Mercury-containing dental fillings release small amounts of mercury. Randomized clinical trials demonstrate that the mercury present in fillings does not produce illness. Removal of such fillings is unnecessary, expensive and subjects the individual to absorption of greater doses of mercury than if left in place. Furthermore, placement of composite resin restorations are known to cause a transient increase in urinary Bisphenol-A levels, for which there are unknown health effects and high quality evidence suggests higher failure rates in composite resins versus filling restorations.

How the list was created

A working group of dentists from Canadian Association of Hospital Dentists (CAHD) members with both hospital-based and private practice experience, representing geographic, gender and years in practice diversity was created. The American Dental Association (AMA) Choosing Wisely list was reviewed to determine if items were relevant and addressed issues that the group considered to be of high importance. A list of 25 recommendations was generated and using an iterative process, the recommendations were discussed, duplicates (there was significant duplication and overlap) were removed, and consensus was obtained to create the final list of eight items. The draft list was sent to all individual CAHD members and 17 national dental organizations and specialty groups for feedback. The final list was reviewed and endorsed by the CAHD Board of Directors in February of 2018.

Sources

Bailey E, et al. Ibuprofen and/or paracetamol (acetaminophen) for pain relief after surgical removal of lower wisdom teeth. Cochrane Database Syst Rev. 2013 Dec 12;(12):CD004624. PMID: 24338830.

Haas DA. An update on analgesics for the management of acute postoperative dental pain. J Can Dent Assoc. 2002 Sep;68(8):476-82. <u>PMID: 12323103</u>. Moore P, et al. <u>Benefits and harms associated with analgesic medications used in the management of acute dental pain</u> [Internet]. 2018 Apr [cited 2018 Apr].

Agnihotry A. Antibiotic use for irreversible pulpitis. Cochrane Database Syst Rev. 2016 Feb 17;2:CD004969. PMID: 26886473. Cope A, et al. Systemic antibiotics for symptomatic apical periodontitis and acute apical abscess in adults. Cochrane Database Syst Rev. 2014 Jun 26;(6):CD010136. PMID: 24967571.

Sutherland S et al. Emergency management of acute apical periodontitis in the permanent dentition: a systematic review of the literature. J Can Dent Assoc. 2003 Mar;69(3):160. PMID: 12622880.

Cope A, et al. Systemic antibiotics for symptomatic apical periodontitis and acute apical abscess in adults. Cochrane Database Syst Rev. 2014 Jun 26;(6):CD010136. PMID: 24967571.

Matthews DC, et al. Emergency management of acute apical abscesses in the permanent dentition: a systematic review of the literature. J Can Dent Assoc. 2003 Nov;69(10):660. PMID: 14611715.

Berbari E, et al. Dental procedures as risk factors for prosthetic hip or knee infection: a hospital-based prospective case-control study. Clin Infect Dis. 2010 Jan 1;50(1):8-16. PMID: 19951109.

Canadian Agency for Drugs and Technologies in Health. Antibiotic Prophylaxis in Patients with Orthopedic Implants Undergoing Dental Procedures: A Review of Clinical Effectiveness, Safety, and Guidelines. CADTH Rapid Response Reports. 2016 Feb. PMID: 27030856.

Morris A, et al. Recommendations for antibiotics in patients with joint prosthesis are irresponsible and indefensible. J Can Dent Assoc. 2009 Sep;75(7):513-5. PMID: 19744360.

Sollecito TP, 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 Jan;146 (1):11-16.e8. PMID: 25569493. Sutherland, S. Science over dogma: Dispelling myths about dental antibiotic prophylaxis for patients with total joint replacements [Internet]. 2018 Feb [cited 2018 Mar 12].

Related Resource:

Consensus Statement: Dental Patients with Total Joint Replacement

Baddour L, et al. Nonvalvular cardiovascular device-related infections. Circulation. 2003 Oct 21;108(16):2015-31. PMID: 14568887. Hong C, et al. Antibiotic prophylaxis for dental procedures to prevent indwelling venous catheter-related infections. Am J Med. 2010 Dec;123(12):1128-33. PMID: 20961528.

American Dental Association et al. <u>The Selection of Patients for Dental Radiographic Examinations</u> [Internet]. Reviewed 2012 [cited 2018 Feb 20]. Canadian Dental Association (CDA). <u>CDA Position on Control of X-Radiation in Dentistry</u> [Internet]. 2015 [cited 2018 Feb 20].

Related Resource

Image Gently

Blum IR et al. Factors influencing repair of dental restorations with resin composite. Clin Cosmet Investig Dent. 2014 Oct 17;6:81-7. <u>PMID: 25378952</u>. Gordan VV, et al. Alternative treatments to replacement of defective amalgam restorations: results of a seven-year clinical study. J Am Dent Assoc. 2011 Jul;142(7):842-9. PMID: 21719808.

Lynch CD et al. Student perspectives and opinions on their experience at an undergraduate outreach dental teaching centre at Cardiff: a 5-year study. Eur J Dent Educ. 2010 Feb;14(1):12-6. PMID: 20070794.

Mjör IA et al. Failure, repair, refurbishing and longevity of restorations. Oper Dent. 2002 Sep-Oct;27(5):528-34. PMID: 12216574.



Canadian Dental Association (CDA). CDA Position on Dental Amalgams [Internet]. Reviewed 2014 Mar [cited 2018 Feb 20].

Maserejian NN, et al. Changes in urinary bisphenol A concentrations associated with placement of dental composite restorations in children and adolescents. J Am Dent Assoc. 2016 Aug;147(8):620-30. PMID: 27083778.

National Center for Toxicological Research, U.S. Food and Drug Administration. White Paper: FDA Update/Review of Potential Adverse Health Risks Associated with Exposure to Mercury in Dental Amalgam [Internet]. 2009 [cited 2018 Feb].

Nicolae A et al. Dental amalgam and urinary mercury concentrations: a descriptive study. BMC Oral Health. 2013 Sep 9;13:44. <u>PMID: 24015978</u>. Rasines Alcaraz MG et al. Direct composite resin fillings versus amalgam fillings for permanent or adult posterior teeth. Cochrane Database Syst Rev. 2014 Mar

31;(3):CD005620. PMID: 24683067.

Rathore M, et al. The Dental Amalgam Toxicity Fear: A Myth or Actuality. Toxicol Int. 2012 May-Aug; 19(2): 81–88. PMCID: PMC3388771. Sandborgh-Englund G, et al. Mercury in biological fluids after amalgam removal. J Dent Res. 1998 Apr;77(4):615-24. PMID: 9539465.

About the Canadian Association of Hospital Dentists

The Canadian Association of Hospital Dentists (CAHD) is a proud partner of the Choosing Wisely Canada campaign. As the national voice of Canadian hospital-affiliated dentists, CAHD's mission is to promote the highest standards of evidence-based oral health care, advance dental education in academic health sciences centres, encourage collaborative research and advocate for access to care for Canadians with complex needs who require dental care in hospital settings.





About Choosing Wisely Canada

Choosing Wisely Canada is a campaign to help physicians and patients engage in conversations about unnecessary tests, treatments and procedures, and to help physicians and patients make smart and effective choices to ensure high-quality care.

🖶 ChoosingWiselyCanada.org | 🔀 info@ChoosingWiselyCanada.org | 🎔 @ChooseWiselyCA | f /ChoosingWiselyCanada