Guidelines for Implementing Antibiotic Stewardship in Dental Industry

Clinicians as effective communicators of evidence

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Conflict of interest

- Senior Director, ADA Evidence Synthesis and Translation Research
- Member/close collaborator:

Cochrane review and methods groups:

- Oral Health
- Wounds
- GRADEing (Applicability and recommendation methods)
- Patient reported outcomes
- Member of the GRADE working group
- No financial conflict of interest

Objectives

- Describe current trends for antibiotic use in dentistry
- Describe most important challenges preventing the dental community from implementing appropriate antibiotic stewardship
- Highlight current efforts to facilitate the implementation of antibiotic stewardship in dentistry

About the American Dental Association



- Advocates for public health and promotes the art and science of dentistry
- Together with our 163,000+ members, driving dentistry forward for 160 years.

Mission

Empowering the dental profession to achieve optimal health for all.

Antibiotic overprescription

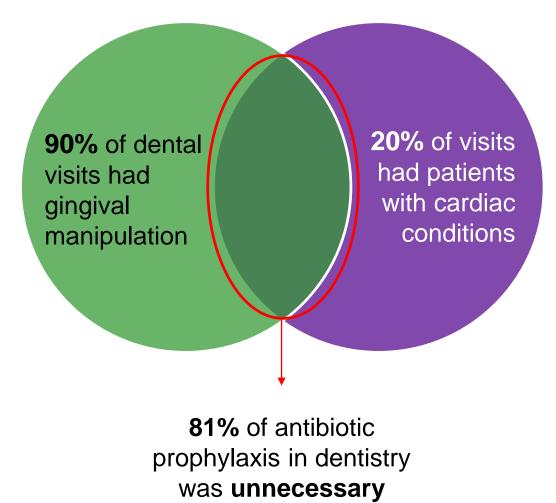
Network Open...

Assessment of the Appropriateness of Antibiotic Prescriptions for Infection Prophylaxis Before Dental Procedures, 2011 to 2015

Katie J. Suda, PharmD, MS; Gregory S. Calip, PharmD, MPH, PhD; Jifang Zhou, MD, MPH; Susan Rowan, DDS; Alan E. Gross, PharmD, BCPS, BCIDP; Ronald C. Hershow, MD; Rose I. Perez, BS; Jessina C. McGregor, PhD; Charlesnika T. Evans, MPH, PhD

OBJECTIVE To assess the appropriateness of antibiotic prophylaxis before dental procedures using Truven, a national integrated health claims database.





- Suda KJ, et al. Assessment of the Appropriateness of Antibiotic Prescriptions for Infection Prophylaxis Before Dental Procedures, 2011 to 2015. JAMA Netw Open. 2019 May 3;2(5):e193909.

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- Slide from Suda K. 2019 IADR Annual Conference , Vancouver

Core elements of outpatient antibiotic stewardship



Commitment: demonstrated dedication to and accountability for optimizing antibiotic prescribing and patient safety



Action for policy and practice: implement at least one policy or practice to improve antibiotic prescribing, assess whether it is working, and modify as needed

Tracking and reporting: monitor antibiotic prescribing practices and offer regular feedback to clinicians or have clinicians assess their own antibiotic use



Education and expertise: provide educational resources to clinicians and patients on antibiotic prescribing and ensure access to needed expertise on antibiotic prescribing Limited tools are available for general and specialty dental practitioners

FDI - Antibiotic stewardship in dentistry

The need for global guidance on antibiotic stewardship in dentistry

Susan Sanderson, OBE, (left), President, British Dental Association and Professor David M Williams (right), Professor of Global Oral Health, Queen Mary University of London, UK

Almost 10% of antibiotics are prescribed by dentists, who should therefore be involved in the development and implementation of national action plans to counter antibiotic resistance. Prescribing decisions are normally made by dentists without restriction or prescribing guidance, which can lead to over-prescribing. Optimizing the use of antibiotics in dentistry therefore requires global attention to achievable and consistently disseminated stewardship policies. The FOI World Dental Federation is active in raising awareness of the need for effective stewardship by dentists and it acts as a resource for National Dental Associations in the implementation of guidelines on appropriate prescribing by dentists.

t is estimated that up to 10% of antibiotics are prescribed used as first-line treatments rather than the prescription of in primary care dentistry. Consequently, dentistry must be antibiotics.

I taken into account in the development of any policy relating to antibiotic resistance and dentists must be involved in the development and implementation of national action plans. Indeed, dentists and their teams are a valuable resource the daily provision of dental services presents opportunities where dentists not only improve their own prescribing, but

also assist the wider health community to educate and advise patients and the public about the risks of inappropriate use of antibiotics and prevention of oral disease (1). Adopting such an approach is in line with the VHO Global Action Plan. Objective active to see a datimicrobial medicines in human and animal health includes the implementation of Antibiotic Stewardship (ABS) programmes in all settings (2).

Stewardship (ABS) programmes in all settings (2). between 2013 and 2017, with an 3.8% decrease from 2016 to Optimizing the use of antibiotics in dentistry requires global attention to achievable and consistently disseminated prescribing practices in primary care dentistry. Patients who stewardship policies. The principles of effective stewardship suffer dental pain, whether from an inflamatory source or are laid out in Table 1. Primary care dentists are largely an infection, invariably present unscheduled and distressed. independent prescribing guidance, if it exists, varies from Furthermore, prescribing guidance, if it exists, varies from are lated out on the prescribing of antibiotics in dential book. These hurdles are clargely practice remains to be confronted in some countries although, and distress of the patient who, understandably, believes in others, good progress is being made. For example, it that antibiotics will solve their problem and would certainly bas been estimated that 81% of prescriptions were issued prefer tablets to a more appropriate clinical intervention

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Guidelines	 Establish national ABS guidelines for dentistry – international ones can be adapted Make available updated evidence-based guidelines on infection management in dental practice (prevention, diagnosis, treatment) (7, 8, 9) 			
Education of dental teams	Best if associated with other ABS interventions			
	 There should be: Consistency of AMR teaching in undergraduate curricula CPD available throughout professional life in contextualised infection management to include antibiotic prescribing, stewardship, feedback mechanisms 			
	Communication skills must be taught to achieve: • Management of patients' perceptions, concerns, beliefs and expectations • Management of clinicians' own behavioural tendencies			
Audit and feedback	Clinicians benefit from quantitative and qualitative data on own prescribing practices			
	Monitoring in several ways: • Automated surveillance and feedback via electronic data (10) • Manual data collection by dental teams via clinical record card review (11, 12)			
Education material for	• As members of wider healthcare community, dentists can assist in delivering AMR messages			
patients	Messaging specific to oral health should include (13) • "Antibiotics don't cure toothache" • Pain relief often best achieved with analgesia. Dentists are first line of care for dental problems • Prevention of oral disease reduces the likelihood of oral infections			



Action for policy and practice: implement at least one policy or practice to improve antibiotic prescribing, assess whether it is working, and modify as needed

COVER STORY

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

Thomas P. Sollecito, DMD, FDS RCSEd; Elliot Abt, DDS, MS, MSc; Peter B. Lockhart, DDS. FDS RCSEd. FDS RCPS; Edmond Truelove, DDS, MSD: Thomas M. Paumier, DDS: Sharon L. Tracy, PhD; Malavika Tampi, MPH; Eugenio D. Beltrán-Aguilar, DMD, MPH, MS, DrPH; Julie Frantsve-Hawley, PhD

n 2012, a panel of experts representing the American Academy of Orthopaedic Surgeons (AAOS) and the



Types of Studies Reviewed. The 2014 Panel based the current CPG on literature search results and direct evidence contained in the comprehensive sys-American Dental (ADA) (the 2012 Panel) published a systematic review practice guideline

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ABSTRACT

Background. A panel of experts (the 2014 Panel) convened by the American Dental Association Council on Scientific Affairs developed an evidence-based clinical practice guideline (CPG) on the use of prophylactic antibiotics in patients with prosthetic joints who are undergoing dental procedures. This CPG is intended to clarify the "Prevention of Orthopaedic Implant Infection in Patients Undergoing Dental Procedures: Evidence-based Guideline and Evidence Report," which was developed and published by the American Academy of Orthopaedic Surgeons and the American Dental Association (the 2012 Panel).

tematic review published by the 2012 Panel, as well as the results from an updated literature search. The 2014 Panel identified 4 case-control studies. Results. The 2014 Panel judged that the current best evidence failed to demonstrate an association between dental procedures and prosthetic joint infection (PII). The 2014 Panel also presented information about antibiotic resistance, adverse drug reactions, and costs associated with prescribing antibiotics for PJI prophylaxis. Practical Implications and Conclusions. The 2014 Panel made the following dinical recommendation: In general, for patients with prosthetic joint implants, prophylactic antibiotics are not recommended prior to dental procedures to prevent prosthetic joint infection. The practitioner and patient should consider possible clinical circumstances that may suggest the presence of a significant medical risk in providing dental care without antibiotic prophylaxis, as well as the known risks of frequent or widespread antibiotic use. As part of the evidence-based approach to care, this clinical recommendation should be integrated with the practitioner's professional judgment and the patient's needs and preferences. Key Words. Antibiotic prophylaxis; evidence-based dentistry; practice guidelines; prostheses; joint replacement. JADA 2015:146(1):11-16

http://dx.doi.org/10.1016/j.adaj.2014.11.012

Evidence-based clinical practice guideline on the use of antibiotics for the emergency management of symptomatic irreversible pulpitis, symptomatic apical periodontitis, and localized acute apical abscess:

A report from the American Dental Association

November 2019 JADA

Evidence-based clinical practice guideline on the use of antibiotics for the emergency management of dental pain and swelling:

A report from the American Dental Association

2019 Emergency medicine Journal

nical recommendations for the urgent management of symptomatic irreversible pulpitis with or without symptomatic apical apical periodontitis, and pulp necrosis and localized acute apical abscess.

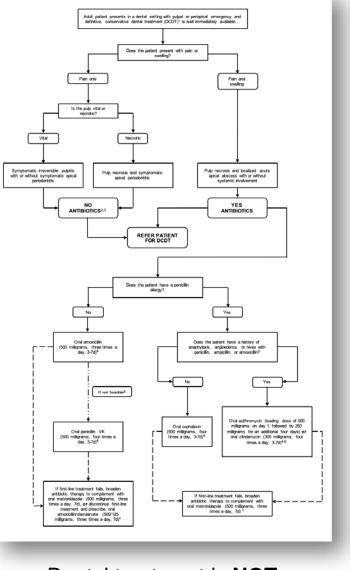
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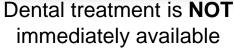
Key recommendations

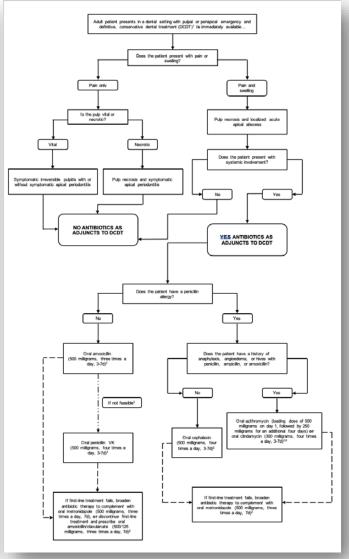
- Multidisciplinary expert panel
- Supported by a systematic review of the literature including patient-important outcomes
- Systematic review on patients' values, preferences, perceptions and expectations
- Algorithms to facilitate the implementation of recommendations
- Accompanying material: "For the patient" page

Clinical pathways for the treatment of Symptomatic irreversible pulptis with or without symptom immunocompetent adults presenting with dental pain and swelling

* 2019 Evidence-based clinical practice guideline on the use of antibiotics for the emergency management of symptomatic irreversible pulpitis, symptomatic apical periodontitis, and localized acute apical abscess: A report from the American Dental Association







Dental treatment **IS** immediately available

While in medicine...

Viral Antibiotic

in dentistry...

Dental Infection Antibiotic

... almost all are caused by bacteria



Education and expertise: provide educational resources to clinicians and patients on antibiotic prescribing and ensure access to needed expertise on antibiotic prescribing

"Antibiotics don't cure toothache"

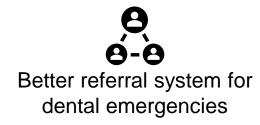
Implementation of shared decision-making

Coordination with other health professionals

Adopting specific messaging for dentistry



Desirable and undesirable consequences clearly defined



NSAIDs

Enhancing alternative messages



Clinicians and patients partnering to achieve better outcomes



Collaboration with medical specialties

In summary

- Dentists 10% of total antibiotics prescriptions
- 81% of antibiotic prophylaxis in dentistry (2011-2015) was unnecessary
- Dentists need tools to effectively implement stewardship initiatives in practice
- The ADA is focusing efforts on:
 - Evidence-based clinical practice guidelines
 - Appropriate messaging for patients and clinicians
 - Implementation of shared decision-making
 - Better coordination with other health professionals