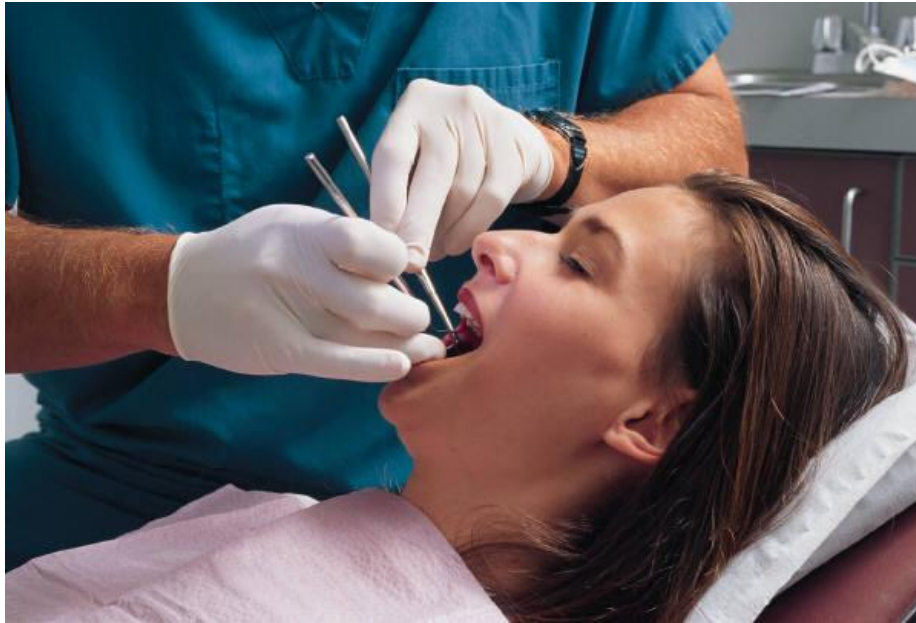


Hot Topics in Periodontology



**Manitoba Dental Association
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Evidence-based publications/websites for information on products/treatments

1. PubMed: www.pubmed.gov
2. American Academy of Periodontology: www.perio.org
Comprehensive Periodontal Therapy: A Statement by the American Academy of Periodontology. J Periodontol, July 2011
AAP Statement on the Efficacy of Lasers in the Non-Surgical Treatment of Inflammatory Periodontal Disease, J Periodontol, April 2011
Editor's Consensus Report: The American Journal of Cardiology and Journal of Periodontology Editors' Consensus: Periodontitis and Atherosclerotic Cardiovascular Disease. J Periodontol, July 2009
2008 Workshop on Inflammation; Inflammation and Periodontal diseases: A Reappraisal.
2003 Workshop on Contemporary Science in Clinical Periodontics
Position Papers:
The role of supra-and subgingival irrigation in the treatment of periodontal diseases. 2005
Implications of Genetic Technology for the Management of Periodontal Diseases- 2005
Systemic Antibiotics in Periodontics -2005
Current understanding of the role of microscopic monitoring, baking soda and hydrogen peroxide in the treatment of periodontal disease- 1998
Modulation of the host response in periodontal therapy- 2002
Sonic and ultrasonic scalers in periodontics. 2000
Treatment of plaque-induced gingivitis, chronic periodontitis, and other clinical conditions. 2001
Periodontal Maintenance-2003
Periodontal management of patients with Cardiovascular Disease-2002
Guidelines for Referral-2006
Academy Statements:
The Efficacy of Lasers in the Non-surgical Treatment of Inflammatory Periodontal Disease 2011
Comprehensive Periodontal Therapy 2010
Periodontal Management of the Pregnant Patient 2004
3. www.blackwellpublishing.com
J Clinical Periodontology
Periodontology 2000
International Journal of Dental Hygiene
4. National Institute of Dental and Craniofacial Research (NIDCR): www.nidcr.nih.gov
5. International/American Association for Dental Research:
www.dentalresearch.org
Advances in Dental Research
6. American Dental Association: www.ada.org
7. American Dental Hygienists' Association: www.adha.org
8. Canadian Dental Hygienists' Association: www.cdha.ca
9. Journal of Dental Hygiene <http://www.adha.org/publications/>
10. Cochrane Collaboration: www.cochrane.org
11. American Diabetes Association: www.diabetes.org and professional.diabetes.org
12. American Heart Association: www.americanheart.org

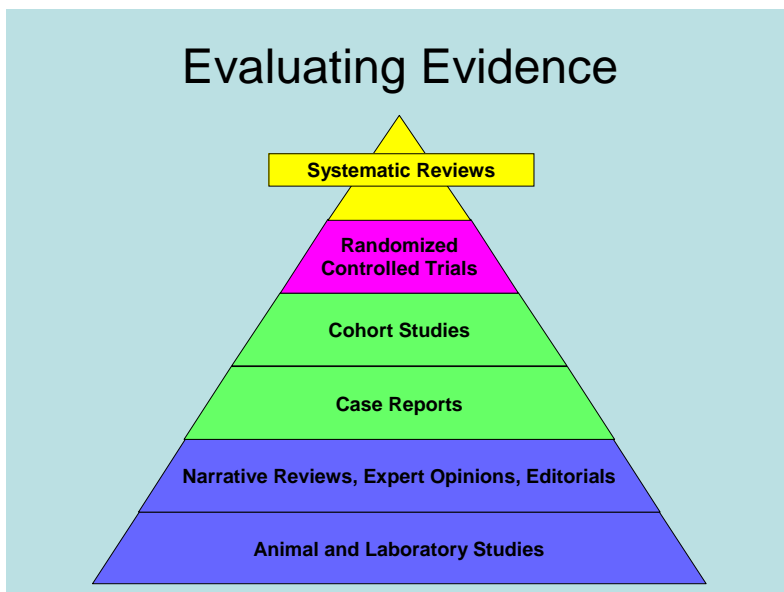
Informative Corporate Websites

13. Procter & Gamble Company: www.dentalcare.com
Journal of Contemporary Dental Practice
14. Colgate Oral Pharmaceuticals: www.colgate.com* White papers on oral-systemic health
15. OraPharma, Inc: www.arestin.com
16. Dimensions of Dental Hygiene: www.dimensionsofdentalhygiene.com
17. Johnson & Johnson McNeil-PPC, Inc. www.listerine.com
18. PerioSciences-- <http://www.periosciences.com/control/main>

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Definitions:

Evidence based practice: EB practice is an approach to the care and treatment of patients wherein the health professional includes the "conscientious, explicit, and judicious use of the most current, best evidence in making clinical decisions regarding the care of individual patients." Evidence-based practice is a process that restructures the way health professionals think about clinical problems. Traditionally, health professionals have placed high value on their accumulated personal knowledge and adherence to long-held standard practices when making clinical decisions. Conversely, an EB approach encourages the professional's integration of the resulting knowledge with clinical expertise and patient preferences to determine the best treatment for individual patients. EB practice therefore requires the blending of research knowledge with provider experience.¹⁻⁵



Chemotherapeutic agent: chemical substance that provides a clinical therapeutic benefit.⁶ Used to eliminate, reduce, or alter the effect of microorganisms in the oral cavity, preferably the pathogenic microorganisms, or to effect a change in the host response. They may be applied locally, orally or parenterally.⁷

Antimicrobial agent: chemotherapeutic agent that works by reducing the number of bacteria present.⁶

Antibiotics: naturally occurring, semisynthetic or synthetic types of antimicrobials agent that destroys or inhibits the growth of selective microorganisms, generally in low concentrations.⁶

Antiseptics: chemical antimicrobials agents that are applied topically or subgingivally to mucous membranes, wounds, or intact dermal surfaces to destroy microorganisms and inhibit their reproduction or metabolism.⁶ In dentistry, antiseptics are widely used as the active ingredient in antiplaque and antigingivitis mouthrinses and dentifrices.⁶⁻⁸

Substantivity: the ability of the agent to remain in an area or site and resist becoming diluted or washed away by gingival crevicular fluid or salivary action.⁶

References:

1. Ciancio SG: ADA Guide to Dental Therapeutics. 2007
2. Sackett D, Rosenberg W, Gray J, Haynes R, Richardson W: Evidence-based medicine: What it is and what it isn't. *Br Med J* 1996;312:71-72.
3. Niederman R, Badome R: Tradition-based dental care and evidence-based dental care. *J Dent Res* 1999;78(7):1288-1291.
4. Evidence based decision making. Forrest JF, Miller SA. In *Mosby's Dental Hygiene: Concepts, Cases and Competencies* by Daniel, Harst, and Wilder. Elsevier, 2008
5. Bader J, Ismail A, Clarkston J: Evidence-based dentistry and the dental research community. *J Dent Res* 1999;78(9):1480-1483.
6. Chemotherapeutics. Goldie M, Ciancio S, Wilder R. in *Mosby's Dental Hygiene Concepts, Cases and Competencies*. Daniel, Harst & Wilder. CV Mosby. St Louis, MO. 2008 2nd Ed.
7. Jolkovsky DL and Ciancio SB in *Clinical Periodontology*. Newman, Takei, Carranza. W.B. Saunders Co. Philadelphia, PA. 9th Ed. 2002.

Commonly used Antimicrobial Rinses:

Chlorhexidine: Product names: Peridex™*, Periogard™ PerioRx™

Active ingredient: CHX 0.12%

Mechanism of action: Rupture of the bacterial cell membrane and precipitation of the cytoplasmic contents.

Alcohol content: 11.6%; no alcohol in GUM CHX product

Advantages: Good substantivity

Disadvantages: extrinsic staining, temporary alteration in taste, increase in supragingival calculus

Usage: 15mL swished for 30 sec and expectorated; BID

Study results: 45-61% plaque and gingivitis reduction

Essential Oils: Product names: Listerine™ *

Active ingredient: 0.092% eucalyptol, 0.062% thymol, 0.06% methyl salicylate, 0.042% menthol.

Mechanism of action: Inhibits plaque formation and/or adhesion.

Alcohol content: 21.6-26.9%

Advantages: inhibits bacterial enzymes and reduces pathogenicity of plaque

Disadvantages: sloughing of mucosa with prolonged use, burning sensation, bitter taste, drying out of mucous membranes; poor substantivity

Usage: 20mL swished full strength for 30 sec and expectorated

Study results: 19-35% plaque reduction; 15-37% gingivitis reduction

*Please note that CHX rinses no longer carry the ADA Seal as only OTC products are now eligible for the ADA Seal.

Cosmetic Mouthrinses including CPC Rinses: Product names: Cepacol™, Scope™, Oxyfresh™, Oral B Antiplaque™, Listermint™, Lavioris™, Clear Choice™, BreathRx™ Crest Pro-Health™ (**anti-plaque**) Crest Invigorating Clean Multi-Protection Rinse™

Active ingredient: Zinc chloride (Listermint™), cetylpyridium chloride (0.045-0.07%)

Mechanism of action: Disrupts cell wall integrity

Alcohol content: 0-18%

Advantages: Masks oral odor (temporarily)

Disadvantages: Low substantivity, tooth staining in some patients, soft tissue irritation

Usage: Individual choice

Study results: 14% plaque reduction; 24% gingivitis reduction

Crest Pro-Health™ rinse has been granted the Canadian Dental Association Seal of Recognition.

Stannous Fluoride Gels: Product names: OmniGel™, GelKam™,

Active ingredient: Stannous fluoride (0.4%)

Mechanism of action: Interferes with bacterial metabolism.

Alcohol content: 0%

Disadvantages: ulceration of oral mucosa, tooth staining, extrinsic staining, temporary alteration in taste, increase in supragingival calculus

Usage: 2x daily

Study results: Weak short term clinical effects

Stannous Fluoride Rinses: Product names: PerioMed™, Perfect Choice®

Active ingredient: Stannous fluoride (0.63%)

Mechanism of action: Interferes with bacterial metabolism.

Alcohol content: 0%

Advantages:

Disadvantages: ulceration of oral mucosa, tooth staining, extrinsic staining, temporary alteration in taste, increase in supragingival calculus

Usage: Rinse daily

Study results: Weak short term clinical effects

References:

1. *ADA Guide to Dental Therapeutics*. 1998, 2002, 2004, 2007, 2009

Products for the Treatment of Chronic Periodontitis- Local Drug Delivery

Arestin™ OraPharma, Inc.

Minocycline hydrochloride (antibiotic)

FDA clearance

Longest study-9 months

Ease of application-easy

Characteristics:

- Broad spectrum-effective against periodontal pathogens

- Releases & maintains effective drug concentrations

- Biodegradable

- Clinical efficacy

- Adjunctive benefit to SC/RP

Cost: approximately \$10.59-\$16.03 per cartridge (1 site): Recommend charging \$25.00-30.00

www.arestin.com

Atridox® Zila, Inc.

Doxycycline hyclate (10%)

FDA Clearance

Longest study-9 months

Ease of application: easy-moderate

Characteristics

- Effective against periodontal pathogens

- Releases & maintains effective drug concentrations

- Biodegradable

- Clinical efficacy

Cost: approximately \$60.00 Syringe (approx. 5-7 sites)

PerioChip® Dexcel Pharma

Chlorhexidine (antiseptic)

FDA clearance

Longest study-9 months

Ease of application: easy

Characteristics:

- Effective against periodontal pathogens

- Releases/maintains effective drug concentrations

- Easy to use; Biodegradable

- Minimal risk for bacterial resistance

- Tested for use every 3 months if indicated

- Adjunctive benefit to SC/RP

Cost: approximately \$17.00 per Chip (1 site)

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**Comprehensive Periodontal Therapy—Updated in 2010: Available at
http://www.perio.org/resources-products/pdf/periodontal-therapy_statement.pdf**

- Scope of Periodontal Therapy
- Periodontal Evaluation
- Establishing a Diagnosis, Prognosis, and Treatment Plan
- Informed Consent and Patient Records
- Treatment Procedures
- Evaluation of Therapy
- Factors Modifying Results
- Periodontal Maintenance Therapy

Bacteria associated with periodontitis

- **Moderate evidence for etiology**
 - Campylobacter rectus
 - Eubacterium nodatum
 - Fusobacterium nucleatum
 - Prevotella intermedia
 - Peptostreptococcus micros
 - Streptococcus intermedius-complex
 - Treponema denticola
- **Strong evidence for etiology**
 - Aggregatibacter actinomycetemcomitans (Aa)
 - Porphyromonas gingivalis (Pg)
 - Tannerella forsythensis- (Tf)
 - (Bacteroides forsythus) (Bf)

Annals of Periodontology 1:928, 1996

Free Publications

1. Genco RJ and Williams RC. Periodontal Disease and Overall Health: A Clinician's Guide. 2010 <http://www.colgateprofessional.com/professionaleducation/Periodontal-Disease-and-Overall-Health-A-Clinicians-Guide/article>
2. Spolarich AE, Andrews L. An examination of the bleeding complications associated with herbal supplements, antiplatelet and anticoagulant medications. *J Dent Hyg.* 2007 <http://www.adha.org/jdh/articles/JDHHerbalSuppl.pdf>
3. Scientific American Oral and Whole Body Health. <http://www.dentalcare.com/search/index.htm>
4. Colgate White Papers. <http://www.colgateprofessional.com/app/ColgateProfessional/US/EN/Products/ProductItems/ColgateTotal/WhitePapers.cvsp>
5. ADA Policy on Evidence Based Dentistry. <http://www.ada.org/prof/resources/positions/statements/evidencebased.asp>
6. Mealey BL and Oates TW. Diabetes mellitus and periodontal diseases. *J Periodontol* 2006;77:1289-1303. <http://www.perio.org/resources-products/pdf/lr-diabetes.pdf>
7. Cobb C. Lasers in periodontics: a review of the literature. *Periodontol* 2006;77:545-564. <http://www.perio.org/resources-products/pdf/lr-lasers.pdf>
8. AAP Position Paper: Implications for genetic technology for the management of periodontal diseases. *Periodontol* 2005;76:850-857. <http://www.perio.org/resources-products/pdf/47-genetics.pdf>
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10. Gurenlian JR. The role of dental plaque biofilm in oral health. *J Dent Hyg.* Special Supplement 2007. http://www.adha.org/downloads/Antimicrobial_JDH_Supplement.pdf
11. DePaola LG, Eshenaur Spolarich A. Safety and efficacy of antimicrobial mouthrinses in clinical practice. *J Dent Hyg.* Special Supplement 2007. http://www.adha.org/downloads/Antimicrobial_JDH_Supplement.pdf
12. Asadoorian J. Strategies for incorporating antimicrobial mouthrinses into daily oral care. *J Dent Hyg.* Special Supplement 2007. http://www.adha.org/downloads/Antimicrobial_JDH_Supplement.pdf
13. Jared H, Boggess K. Periodontal Diseases and Adverse Pregnancy Outcomes: A Review of the Evidence and Implications for Clinical Practice. *J Dent Hyg* <http://www.adha.org/publications/index.html>
14. Cobb C. Microbes, inflammation, scaling and root planning, and the periodontal condition. *J Dent Hyg* 2008; 3-9.
15. Paquette DW, Ryan ME, Wilder RS. Locally delivered antimicrobials: clinical evidence and relevance. *J Dent Hyg* 2008; 10-15.
16. Sweeting LA, Davis K, Cobb CM. Periodontal treatment protocol (PTP) for the general dental practice. *J Dent Hyg* 2008; 16-25.
17. Gurenlian JR., Ball WL, Fontaine JL. Diabetes Mellitus: Promoting Collaborations Among Health Care Professionals. *J Dent Hyg* 2008; 83:1-13.
18. Rethman M. Inflammation and Periodontal Science: What we know now and What the Future may Hold. *Dimensions of Dental Hygiene* May, 2009.

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