Hot Topics in Periodontology

Oklahoma Dental Association
Oklahoma City, OK
April 25, 2014

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http://www.dent.unc.edu/depts/academic/ecol/programs/allied/dh/msdh/
Evidence-based publications/websites for information on products/treatments

   AAP Statement on the Efficacy of Lasers in the Non-Surgical Treatment of Inflammatory Periodontal Disease, J Periodontol, April 2011
   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

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
10. Cochrane Collaboration: www.cochrane.org
12. American Heart Association: www.americanheart.org
Informative Corporate Websites

13. Procter & Gamble Company: [www.dentalcare.com](http://www.dentalcare.com)
   Journal of Contemporary Dental Practice
15. OraPharma, Inc: [www.arestin.com](http://www.arestin.com)

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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

Evaluating Evidence
**Chemotherapeutic agent:** chemical substance that provides a clinical therapeutic benefit. 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.

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

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

**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. In dentistry, antiseptics are widely used as the active ingredient in antiplaque and antigingivitis mouthrinses and dentifrices.

**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.

References:

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™, Lavoris™, 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:** Masts 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:

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
  - Biodegradeable
  - 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
  - Biodegradeable
  - 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; Biodegradeable
  - 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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• 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


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Free Patient Resources:

American Diabetes Association: Cardiovascular Disease Toolkit
http://professional.diabetes.org/ResourcesForProfessionals.aspx?typ=17&cid=60459

All about Pre-diabetes
Getting the Very Best Care for your Diabetes
Taking Care of Type 2 Diabetes
All About Your Blood Glucose for People with Type 2 Diabetes
All About Insulin Resistance
Protect Your Heart: Make Wise Food Choices
Protect Your Heart: Choose Fats Wisely
Protect Your Heart: Cook with Heart Healthy Foods
Protect your Heart: Check Food Labels to Make Heart-Healthy Choices
Protect Your Heart by Losing Weight
Recognizing and Handling Depression for People with Diabetes
Treating High Blood Pressure in People with Diabetes
Taking Care of Your Heart
Know the Warning Signs of a Heart Attack
All About Stroke

National Institutes of Health / National Institute of Dental and Craniofacial Research
http://www.nidcr.nih.gov/OralHealth/

Burning Mouth Syndrome
Cancer Treatment and Oral Health
Cleft Lip and Palate
Developmental Disabilities and Oral Health
Diabetes and Oral Health
Dry Mouth (Xerostomia)
Fillings (Amalgams)
Fluoride
Genetics
Gum (Periodontal) Diseases
Heart Disease and Oral Health
HIV/AIDS
Oral Cancer
Organ Transplantation and Oral Health
Pain (oral, facial)
Pregnancy and Oral Health
Saliva and Salivary Gland Disorders
Sjögren's Syndrome
Spit (Smokeless) Tobacco
Taste Disorders
TMJ (Temporomandibular Joint and Muscle Disorders)
Tooth Decay (Caries)