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*Supplemental support*



- ▶ immune system can't clear
- ▶ antimicrobial resistant
- ▶ systemic / topical
- ▶ **frequent debridement critical**

Baseline in wound management strategies, Rhodes CD, Wolcott RD, Percival SL. *J Wound Care*. November 2008;17(11).

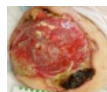
- no power brushes
- hard and medium hand brushes
- string floss
- wooden picks / toothpicks
- oral irrigators invented
- some site-specific brushes

- modern power brushes introduced
- Keyes technique
- fluoride alternatives

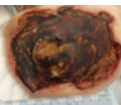
- airway management
- antibiotic awareness
- super bugs
- prebiotics
- probiotics
- anti-infective iodine

[illegible]

Day of admission



2 months -  
traditional wound healing

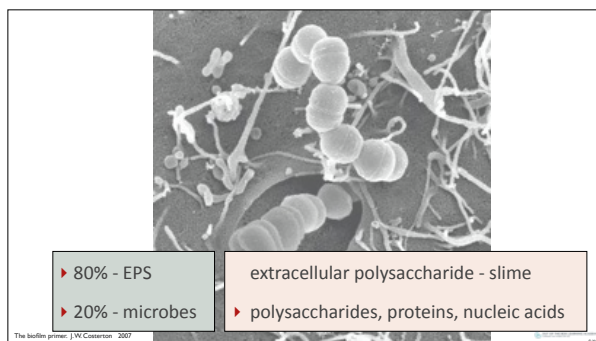


5 days -  
after desiccation gel

- Goals
  - create dry tissue
  - reduce wound dressing pain
  - stabilize healing
  - manage at home

This aerial photograph shows a rugged coastline with numerous dark, rounded rocks of varying sizes protruding from the water. A small, light-colored boat is visible in the lower-left portion of the frame, near a cluster of rocks. The water surface is relatively calm, reflecting the sky.

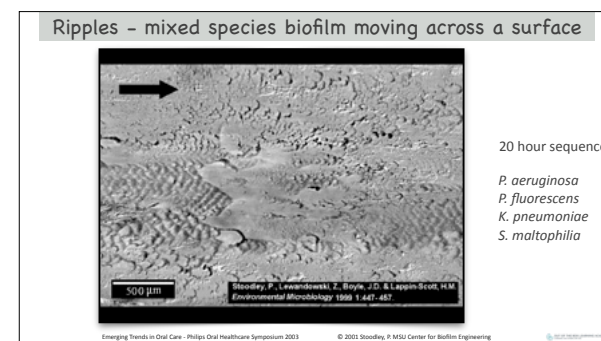
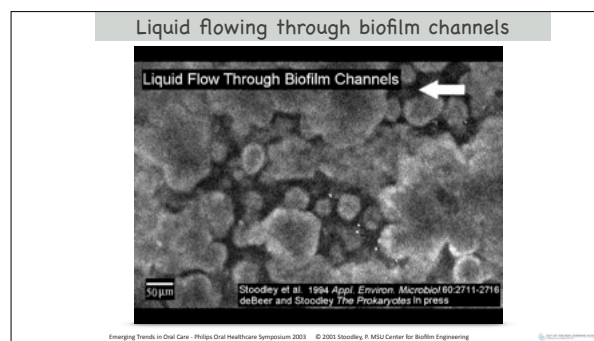
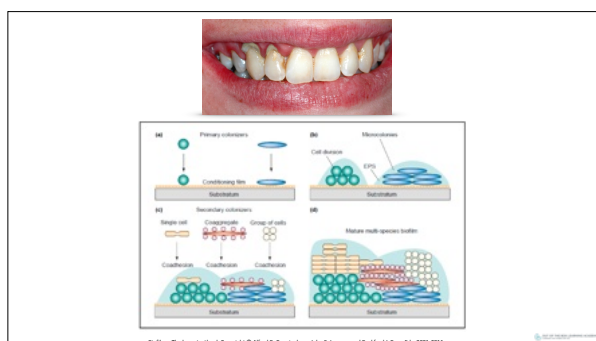
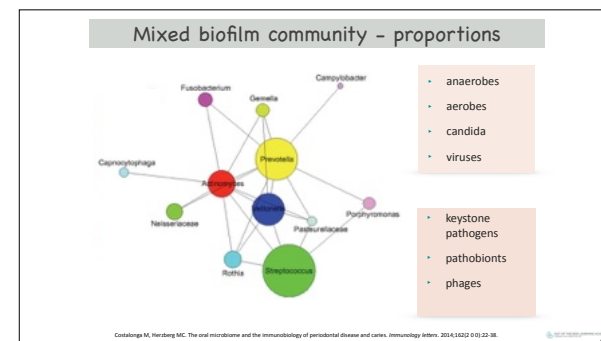
- The biofilm primer. J.W. Costerton 2007



### Biofilm facts

- ▶ rapid regeneration via signaling
- ▶ *tenacious - difficult to remove mechanically*
- ▶ resistant - immune system / antimicrobials
- ▶ *high adhesion to saliva-coated enamel*

The biofilm primer: J.W. Costerton 2007  
Maddipati K. et al. Oral biofilms, and periodontal infections, and systemic disease. Ann Clin Microbiol 2012; 20(2): 209-214.  
Veerarajulu, Chen S. et al. Adhesion forces and composition of planktonic and adhering oral microorganisms. J Dent Res 2013; 92(10): 1044-1054.



### Viscoelastic Properties of *S. aureus* Biofilm

Flow

Rupp, C., Stoodley, P., Wilson, S.

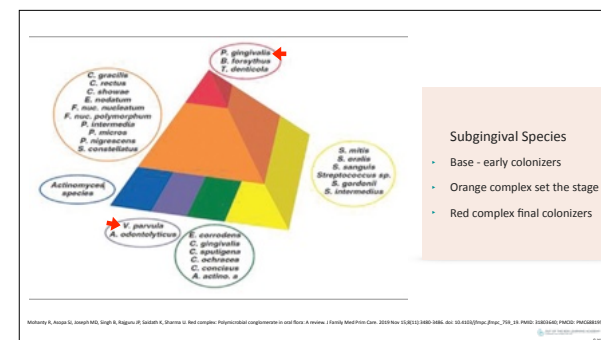
common on skin  
oral, nasal, vaginal flora

opportunistic pathogen  
nosocomial infections

Emerging Trends in Oral Care - Philips Oral Healthcare Symposium 2003  
Rupp C, Fox C, and Stoodley P. "Viscoelasticity of biofilms: a review of the role of the biofilm in disease and its role in the host response." Appl Environ Microbiol. 2005; 71(8):2175-2176.

### Understanding the trouble makers - microbial defenses that make it hard to treat disease

Take a closer look



2026 Desiccation Therapy - A new frontier in managing dysbiotic periodontal disease - UOR - Anne Guignon, RDH, MPH, CSP.key - June 8, 2026

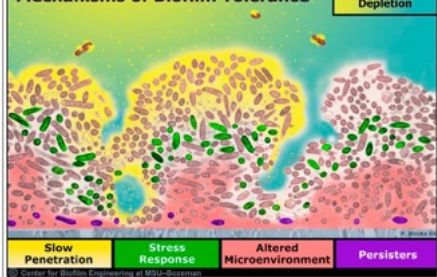


- **surface microbes - most active**
- most susceptible - antimicrobials/host defenses
- **deeper layers - sheltered**
- less metabolically active
- more resistant - antimicrobial therapies
- **can reconstitute biofilm (persisters)**

Biofilms in wounds management strategies. Rhodes DO, Wolcott RD, Percival SL. *J Wound Care*. November 2008;17(11):36-48.

Oxygen contours measured with a microelectrode show oxygen penetrating the channels (open areas) around the biofilm microcolonies (brown) visualized by CSUM. The anaerobic (oxygen depleted) areas occurred in the center of the microcolonies, not at the base of the biofilm as was expected when biofilms were generally assumed to be flat layers.

## Antimicrobial



<https://bitfilm.roozara.edu/cultmedia/images/index.htm>

- ▶ adaptive
- ▶ resistant to
  - ultraviolet light
  - biocides
  - antibiotics
  - host defenses
- ▶ **biofilm management requires multiple, concurrent strategies**

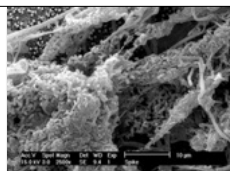
Biofilm in wound management strategies Rhodes DD, Wilcott RD, Percival SL. [Wound Care, November 2008, 17(1)]



- as compared planktonic
  - to antibiotics and biocides
- biofilm-related infections**  
*can't be treated with conventional antibiotic therapy*

Sauer K, Thatcher E, et al. *Biofouling* 2009;25(1):45-54

[http://www.zpr.org/sections/health-shots/2016/09/08/492965889/watch-bacteria-invade-antibiotics-and-transform-into-superbugs?utm\\_campaign=storyshare&utm\\_source=twitter.com&utm\\_medium=social](http://www.zpr.org/sections/health-shots/2016/09/08/492965889/watch-bacteria-invade-antibiotics-and-transform-into-superbugs?utm_campaign=storyshare&utm_source=twitter.com&utm_medium=social)



- ▶ **anaerobes** - chronic wounds
- ▶ **molecular techniques**
- ▶ **diverse populations**

- barrier to healing
- susceptible to contamination
- available substrate
- surface for attachment



- ▶ fosters dysbiotic growth
- ▶ selects for certain pathogens

- ▶ dysbiosis and inflammation support each other
- ▶ control of inflammation - critical

Hajishengallis G. Immunomicrobial pathogenesis of periodontitis: keystones, pathobionts, and host response. *Immunol.* 2014 Jan;35(1):3-11.

- ▶ tip the balance to dysbiosis
- ▶ pro-inflammatory microbial community
- ▶ **elicit non-resolving, tissue-destructive host response**

Hajishengallis G., Lamont RJ. Beyond the red complex and into more complexity: the polymicrobial synergy and dysbiosis (PSD) model of periodontal disease etiology. *Mol Oral Microbiol.* 2012 Dec; 27(5):407-19.

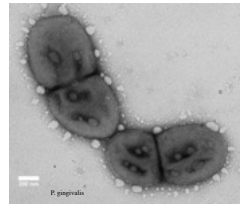
## Think dysbiosis!.....human climate change



- unbalanced microbial community
- microbes compete for resources
- pathogen dense

- impaired ecological environment
- weakened immune system
- keystone pathogens

## Polymicrobial synergy - dysbiosis (PSD) - model of periodontal disease etiology

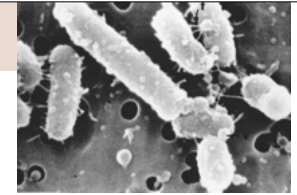


### Keystone pathogen

#### *P. gingivalis*

- low abundance microbe
- modulates host response
- impairs host immune system

## Inflammation



### *P. gingivalis*

- 4 hours after scaling
- early, middle and late stage biofilm

Thurnheer T, Bellasali G, Santoni N. Colonization of gingival epithelia by subgingival biofilms in vitro: Role of "red complex" bacteria. Arch Oral Biol. 2014 Sep;59(9):977-86. Oral Biol. 2014 Sep;59(9):977-86.  
 Arora N, Mishra A, Chugh S. Microbial role in periodontitis: Have we reached the top? Some emerging bacteria other than red complex. J Indian Soc Periodontol. 2014 Jan;18(1):9-13.  
 Mahendran L, Mahendran S. Prevalence of periodontopathogenic bacteria in subgingival biofilms and attachment of patients undergoing coronary revascularization surgery. J Indian Soc Periodontol. 2013 Nov;17(5):719-24.

## Polymicrobial synergy - dysbiosis (PSD) - model of periodontal disease etiology



### Keystone pathogen -

#### *P. gingivalis* (Pg)

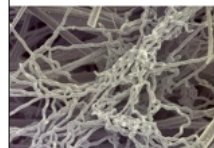
### creates pathobionts

- elevates community virulence
- sugar capsule
- hides proteins from immune system

## Polymicrobial synergy



*P. gingivalis*

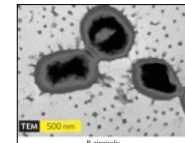


*T. denticola*

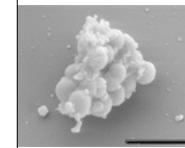
### *P. gingivalis* and *T. denticola*

- superficial layers - subgingival plaque
- chronic periodontitis lesions
- increase biomass and thickness

## The con artist - *P. gingivalis*



*P. gingivalis*



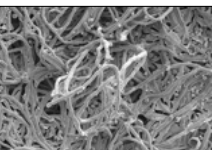
*V. parvula*

### *P. gingivalis* - needs growth molecules initially

- "borrows" from *Veillonella parvula*
- *V. parvula* produces heme - iron source for *Pg*
- removing *V. parvula* stopped *Pg* growth
- target the accessory pathogen?

Frey AM, Sator M, Phares C, Horne K, Unkenroth J, Sponer DH, Huber L, Stollhew D, Sharma A, Stafford G. Characterisation of Porphyromonas gingivalis isolates and duration of its role in host-pathogen interactions. Microbiology (Reading). 2019 Nov;163(11):1181-1197. doi: 10.1099/mic.0.000851.

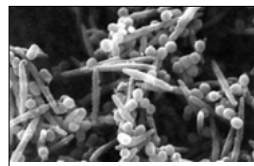
## Synergy *T. denticola* (Td)



*T. denticola* from a periodontal pocket

- motile
- creates pores - biofilm matrix
- moves through highly viscous environment
- pores enhance nutrient flow

## *Fusobacterium nucleatum* (Fn)



- anaerobic oral commensal
- perio and endo pathogen
- increases - disease severity, inflammation, pocket depth
- higher in smokers, diabetics

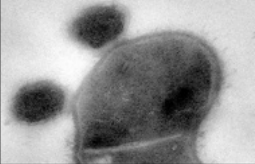
Han YW. *Fusobacterium nucleatum*: a commensal-turned pathogen. Current opinion in microbiology. 2015;0:141-147.

## First parasitic relationship discovered



- *Bdellovibrio* - RNA fragment
- 700 genes - can't make amino acids
- lives on *Actinomyces odontolyticus* (2,200 genes)
- nutrients from host, kills host, holes in *A. odontolyticus*

Coghlan A. New life form discovered in saliva is linked to human disease. <https://www.newscientist.com/article/2004902-new-life-form-discovered-in-saliva-is-linked-to-human-disease>



### Parasitic outcomes?

- *A. odontolyticus* evades macrophages
- resistant to streptomycin
- **high concentration - periodontitis** and *cystic fibrosis*

Coghlan A. New life form discovered in saliva is linked to human disease. [https://www.researchgate.net/publication/2294982\\_new-life-form-discovered-in-saliva-is-linked-to-human-disease](https://www.researchgate.net/publication/2294982_new-life-form-discovered-in-saliva-is-linked-to-human-disease)

### Dysbiosis – elicits non-resolving, tissue-destructive host response

symbiosis = homeostasis = health

dysbiosis = inflammation = disease

pathobiont expansion    reduced diversity    loss of beneficial microbes

Peeters C, Staud A. Infecting dysbiosis and its influence on host immunity and disease. Cellular Microbiology. 2004;5(2):153-160. Hyslopworth G, Lerner H. Beyond the red complex and into more complexity: the polymicrobial synergy and dysbiosis (PSD) model of periodontal disease etiology. J Clin Invest. 2012;122(10):3457-68.

### A history lesson.....

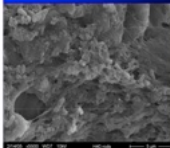


### Or a lesson in current events

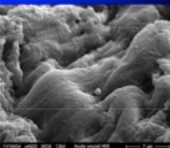


### Biofilms Identified in 60% of Biopsies of Chronic Wounds but in Only 6% of Acute Wounds

#### Biofilm!



#### Acute Wound



Garth James et al, Wound Repair Regen, 2008

Photographs by Randy Wikstrom

<http://www.woundcare.com/2008/05/20/20080520schultz20modif202020compressed-1.pdf> Link no longer available

### Periodontal Staging and Grading

**STEP 1** Access level of disease

Full-mouth probing depths and clinical attachment loss

Full-mouth radiographs

Missing teeth

**STEP 2** Evaluate disease

Can use radiographic evidence of bone loss in combination with probing depths

If clinical attachment loss measurements are unavailable

youtube.com/watch?v=v4u-M9IUBcA

### Periodontal Staging and Grading

**Stage I**

Incipient periodontitis

Bone loss: coronal third (1/3rd of the root)

Probing depths < 4mm

**Stage II**

Progression beyond incipient periodontitis

Bone loss: coronal third (1/3rd of the root)

Probing depths < 5mm

**Stage III, IV**

Tooth loss or removal

Deep vertical bony defects

Deep furcation involvement

**Grade**

Rate of periodontitis progression

Responsiveness to standard therapy

Potential impact on systemic health

youtube.com/watch?v=v4u-M9IUBcA

### Periodontal Diagnosis - Staging and Grading

#### Measure and Record

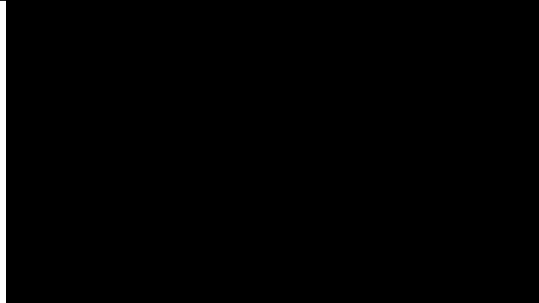
- bone loss
- inflammation
- bleeding
- suppuration
- mobility
- probing depth
- attachment loss



Gum Recession

#### Submit - Include data

- percentage of total teeth
- identify worst site
- diagnosis
- detailed description
- pictures
- narratives
- medical necessity



[http://www.abc.com/health/shot/2016/09/08/09295839/watch-bacteria-invade-antibiotics-and-transform-into-superbugs?utm\\_campaign=storyshare&utm\\_source=twitter.com&utm\\_medium=social](http://www.abc.com/health/shot/2016/09/08/09295839/watch-bacteria-invade-antibiotics-and-transform-into-superbugs?utm_campaign=storyshare&utm_source=twitter.com&utm_medium=social)

### Microbial modification – clinical limitations



- dull hand instruments
- power scaling generator
- worn insert tips
- limited insert designs
- clinician skill
- time frame
- access to area
- patient cooperation

## Patient limitations



- perception of value
- poor restorations
- residual deposits
- microbial persisters
- immune system
- home care
- habits / commitment
- tools / costs and time

## Clinical indications - desiccation therapy



- perio debridement
- NSPT
- heavy bleeding
- complex anatomy
- furcations
- limited access
- edematous tissue
- tenacious deposits
- heavy stain
- failing implants
- chronic lesions
- exudate



- red sulfonated phenolic gel with sulfuric acid
- hydroscopic - absorbs water from organic matrix
- not an antibiotic
- desiccation (dehydration) denatures biofilm structure
- FDA approved adjunct

## Ethics require



- disclose all potential procedures
- all risks and benefits
- no treatment — an option
- allergies

## Periodontal Debridement by YOUNG

**INDICATIONS FOR USE:** PeriodOT Biofilm Debridement is indicated for the following uses:

- 1) Chronic Periodontitis Treatment Procedures:** PeriodOT Biofilm Debridement is indicated for use as an adjunctive debridement agent of tooth root surfaces during periodontal maintenance procedures to help with the removal of contaminated debris from the sulcus.
- 2) Root Canal Cleaner Procedures:** PeriodOT Biofilm Debridement is indicated for use as an adjunctive agent of root canal systems and adjacent tooth surfaces during standard professional dental procedures to enhance the removal of post instrumentation dental debris and smear layer within the root canal system.
- 3) Caries Restoration Procedures:** PeriodOT Biofilm Debridement is indicated for use as an adjunctive agent of exposed dentin surfaces in cavity preparations to assist in the removal of contaminated debris and smear layer.

**DESCRIPTION:** PeriodOT Biofilm Debridement is a topical, non-invasive, liquid or gel that contains sulfonated phenolics and sulfuric acid, which act as desiccants when applied to the surface of tissues as a concentrated solution. Incident contact with any oral tissue will cause it to immediately "dry out," and the tissue rehydrates itself.

**GENERAL DIRECTIONS:** Prior to any treatment with PeriodOT, dry the surface to be treated with air or gauze. Read the Precautions below. PeriodOT Biofilm Debridement is to be delivered directly with an irrigation syringe or other means chosen by the dental practitioner to aid in the clearing of tooth surfaces post-instrumentation. Depending on the clinician's preference, a blunt-tipped irrigation syringe or a closed and side-port needle may be used for product application. The product is typically applied irrigated back and forth as delivered in a continuous stream for less than one minute (usually 10-30 seconds) depending on the clinical situation, and then is removed with a high-speed evacuator followed by a water rinse. In all dental situations, it should generally start with the deepest portion of tooth surface and be irrigated thoroughly to the most superficial areas. Utilize dental barriers (rubber dam, cotton rolls) during application to avoid with product location and control. **Exposure and water flush in irrigated area may reduce the effectiveness of PeriodOT Advanced Dental Debridement.** PeriodOT Biofilm Debridement may be delivered directly at the start of the cleaning to replace the thick and sticky cleaning PeriodOT Biofilm Debridement by thoroughly irrigating the area with water and evacuate with suction. Removal of the product is required to stop the clearing process. NOTE: If the patient has not been given a local anesthetic, the product may elicit a stinging sensation during application until it is rinsed off. Prior to any treatment with PeriodOT, dry the surface to be treated with air or gauze. Read the Precautions below.

**DIRECTIONS FOR INDICATED CLINICAL PROCEDURES**

**(A) Periodontal Debridement Procedures (Scaling and Root Planing):** PeriodOT Biofilm Debridement is applied to the periodontal sulcus using an irrigation syringe with a blunt-tipped cannula following tooth root abradement to remove residual debris and calculus. The tip of the cannula is placed at the bottom of the sulcus and the product is delivered for 10-30 seconds until it rises to the gingival margin. The product overflows and tissue debris are captured and removed at the gingival margin by high-speed evacuation. The sulcus is then rinsed with water and the periodontal debridement procedure is then completed according to established protocols.

- isolate / dry
- topical delivery
- base of pocket to margin
- less than 1 min
- HVE then rinse

**(B) Root Canal Cleaner Procedures:** PeriodOT Biofilm Debridement is to be used topically only with an irrigation syringe or oral chosen by the dental practitioner to be irrigated into the root canal for endodontic treatment. As with any irrigation, it should not be used with the deepest portion of the canal and be irrigated thoroughly to the most superficial area. Product is applied for up to one minute. Residual product is then immediately flushed from the cavity with water flow according to established protocols.

**(C) Caries Restoration Procedures:** PeriodOT Biofilm Debridement is applied into the cavity space with an irrigation syringe following excavation of carious dentin. The product is delivered to the base of the cavity for 10-30 seconds, as with all surfaces of the cavity have been rinsed with product overflows and debris are captured by continuous suction evacuation. Residual product is then immediately flushed from the cavity with a water flow. The cavity restoration is then completed according to established protocols.

**WARNINGS:** Keep out of sight and reach of children. Do not use if the patient is allergic to any material containing sulfur in any form. Prolonged application time should be avoided. It is important to use high-speed evacuation to remove the product at all times. Remove the area that does not need to be treated. Avoid eye contact. If eye exposure occurs, immediately remove any trace, and irrigate eyes for at least 15 minutes with lukewarm water. After removing a "large patch" of debris, it is best to avoid the treated area for several days and any other areas that may have been touched by PeriodOT. This white patch may fade off during the healing process, which is normal.

**PRECAUTIONS:** PeriodOT Biofilm Debridement is for use in the oral cavity only. Safety and effectiveness are proven in adults and children under the age of 18 who have not used PeriodOT Biofilm Debridement may damage soft tissue or enamel if misapplied. When treating a patient with PeriodOT, be sure to thoroughly rinse and treat all of the PeriodOT from the treatment area. When utilizing PeriodOT for periodontal treatment and/or root canal debridement, it is recommended to use water and all of the PeriodOT before beginning your next procedure. That is, PeriodOT should be irrigated thoroughly and then the patient should be irrigated with water. If a patient has an allergic reaction to PeriodOT Biofilm Debridement, it is recommended to wait at least 48 hours before placement or beginning treatment. PeriodOT Biofilm Debridement is recommended for use when using contact gel or composite. PeriodOT Biofilm Debridement is intended to be used in its original viscous state. Diluting with water and/or combining PeriodOT Biofilm Debridement with another product will render the product ineffective and potentially harmful. A single PeriodOT Biofilm Debridement procedure is done using procedures, it is applied and removed completely prior to application of the etching solutions.

**ADVERSE REACTIONS:** PeriodOT Biofilm Debridement may cause local irritation upon administration. If excess irritation occurs, discontinue use. Contact your dentist with name and amount used to be removed.

**HOW SUPPLIED:** 1 oz. pre-filled gel or liquid in an irrigation syringe. Store at room temperature, 15°-30°C or 59°-86°F.

**CONTENTS:** 1 oz. (30 mL) PeriodOT Biofilm Debridement. Contains: 10% Hydroxyphenylphenylsulfonic Acid, Sulfuric Acid, Water and FDC 214 380. Gel contains Colloidal Silica.

**For Professional Use Only, Single Use Single Treatment.**

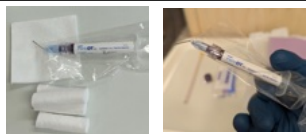
REF 100277, 100278, 100279, 100280

MA 216-6

Manufactured by: Young Innovations  
© 2012 Young Innovations, LLC  
2012 018-0184 - www.younginnovations.com

- sulfur allergy
- red dye #40
- focused delivery
- blanching
- HVE then rinse thoroughly
- do not dilute
- single use only

## Prepping for success



- syringe - attach tip securely
- baggie barrier
- set on 2 x 2
- barrier supplies - cotton rolls, dry aids, mouth prop
- 23 gauge syringe needle
- 7mm marking
- bent canula
- rounded tip end

Jesi Adams, RDH - Scottsbluff, NE

## Specific technique - work in segments



- natural teeth
- restorations
- failing implants
- mouth prop / cheek retractors
- isolate area
- gauze, dry angles, cotton rolls
- dry thoroughly BEFORE APPLYING

## Method of action



- Sucks water out of biofilm and organic matter
- disregulates protein chains
- denatures organic matter
- creates a coagulant mess
- deposits - crumble, peel off, detach



## Desiccation gel – chemistry in action

- rapid action
- builds up layers
- self limiting action

- hydrophilic
- strong affinity to hydrogen molecules in water
- precise patented chemistry

Photo courtesy of Julia Campbell, RDH

## Specific technique – work in segments



- apply gel
- supra or subgingivally
- start timer
- limit time - 30 seconds

- wipe off gel
- high speed suction
- rinse - water stream
- initiate scaling
- reapply if needed

Photo courtesy of Sylvia Antonelli, RDH Tuxedo Community College - 2021 CT



## Desiccation therapy – outcomes

- Promote wound healing
- Reduce red complex / persisters

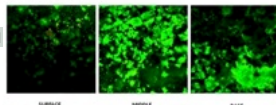
- disrupt biofilm EPS
- disaggregate biofilm
- hemostatic - reduces bleeding
- desiccates necrotic tissue
- reduce edema
- stop localized inflammation

Photo courtesy of Sylvia Antonelli, RDH Tuxedo Community College - 2021 CT

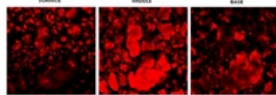
## USC Oral Microbial Biofilm Disruption Assays

### Oral Tissue Decontaminant

#### Biofilm - untreated

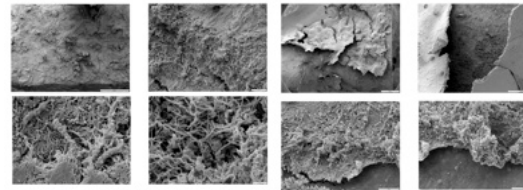


#### Biofilm - treated Complete kill



JW Costerton - USC Biofilm Center - 2004 - 2007

## Desiccation gel at work – biofilm on root surface



Before: Thick and firmly bound to root

After: Dried and lifted away from root

#### Biofilm - rinsed with saline

#### Biofilm - treated with desiccant

JW Costerton - USC Biofilm Center - 2004 - 2007

## Chalk vs flint



Chalk is a soft, white, porous, sedimentary carbonate rock.

A soft form of limestone that is not well cemented and thus is often powdery and brittle.



Flint is a microcrystalline rock made of silica and is considered to have begun forming soon after the deposition of chalk.

The silica replaces the original chalk carbonate grain by grain.

<https://www.geolsoc.org.uk/Education-and-Careers/Ask-a-Geologist/Earth-Materials/Flint-Formed-in-Chalk>

## Pro tips

- burnished deposits - roughen up with a file
- implants....use liquid - flow into threads
- temporary tissue blanching
- fluid release - will rehydrate
- reapply as needed



## Is there any limit to how often to use desiccation?

Apply as often as needed.



- 3 sequential applications
- same day - 30-60 seconds

- applied to deposit only
- no tissue blanching

Julia Campbell, RDH  
Augusta, SC

## Anticipated outcomes



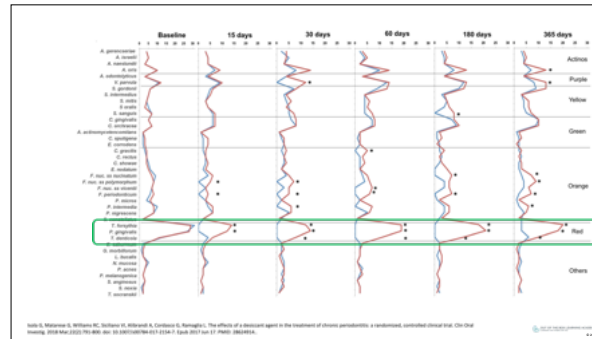
- reduce bacteremia risk
- deposits detach
- eliminate red complex / persisters
- create a hostile environment for pathogens
- inhibits pathogen regrowth

- the application of the gel with phenolic sulfonate and sulfuric acid ingredients
- adjunctive therapy to non-surgical periodontal therapy
- shown to improve clinical and microbiological parameters
- compared to non-surgical periodontal therapy alone

- 2015 - UD or UD plus desiccant gel
- 2018 / 2026 / 2026 -  
SRP or SRP plus desiccant gel

- randomized
- split mouth
- 3, 6, or 12 mo

- decrease probing depths
- less BOP
- improved CAL
- reduce inflammatory markers

[illegible]

- ▶ interprox stain
- ▶ sub ging calculus
- ▶ 6 mm - 2/3 and 14/15
- ▶ minimal bleeding

- ▶ stain layers peeled off
- ▶ calculus chunks popped off
- ▶ no anesthesia / then topical
- ▶ scaling more comfortable



Derek's follow  
up experience -  
revelations

- ▶ interprox 2/3 - vertical defect
- ▶ 8-9 mm - some horizontal loss
- ▶ **New plan**
- ▶ 3 mo PMT
- ▶ desiccation and laser therapy

- re-eval after 6 months
- surgical intervention ?
- using multiple home modalities**

- rock hard sub cal
- 1-3 mm probe
- 3 areas required retreat

- deposit crumbled
- calculus felt gummy
- no scraping sound
- no soft tissue discomfort
- slight sour taste



Dana Patterson, RDH, BS  
DeBaca Family Practice Dental Clinic  
Fort Sumner, New Mexico

- ▶ skinniest scaler was too fat
- ▶ could see calculus - feel it with floss
- ▶ even my 11/12 explorer was too thick
- ▶ placed PerioDT - waited 30 seconds
- ▶ rinsed and flossed - BAM! 🌟

*I couldn't believe that after the PerioDT,  
I could not feel anything when I flossed!*

- 50 year old female
- severely rotated teeth - impossible access
- rock hard deposit

- ▶ liquid flowed interproximally better than gel
- ▶ gained interprox access

Photo courtesy of Julie Campbell, RDH  
Augusta, SC

root surface felt pretty good to the explorer

but tissue was always 'cranky'



Used the PeriodDT

I only thought the roots were smooth before! Now they really felt great!

***"Having PerioDT is like having a periodontist in your pocket!"***

Dana Patterson, RDH, BS  
DeBaca Family Family Practice Dental Clinic  
Fort Sumner, New Mexico

Stain, stain...  
.....go away!



- ▶ last visit - 3+ years
- ▶ smoker

- layers and layers of calculus and stain

Jesi Adams, RDH, BSDH  
Crestedhill, Arkansas

### Should have been a slam dunk.....still homecare issues



- young male
- no health issues
- improved homecare - initial post visit
- 8 wk re-eval
- hvy plaque / visible inflam / new calculus
- disappointing case / seemed motivated

Julie Campbell, RDH  
Augusta, SC

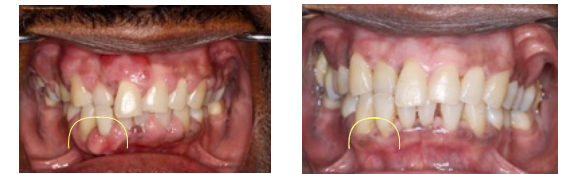


- 78 year old male
- last visit 4+ years ago
- no tobacco use
- diabetic - A1C 6.4
- bleeding - no exudate
- 7mm max probe
- daily WaterPik

- DT liquid applied after scaling
- 30 sec application
- ultrasonic - rinsed / flushed
- photos taken minutes apart

Susan Furkin, RDH  
September 4, 2026  
St. Louis, MO

### Calcium channel blocker blues - Best Case Ever!



- 5 years - calcium channel blocker
- changed meds prior to Tx
- stage 3, Grade B exudate everywhere
- palpation - exudate seeped everywhere

- multiple PerioDT applications during SRP
- 3 mo follow up photo
- pt diligent - home care - super compliant

Julie Campbell, RDH  
Augusta, SC

### Pristine - Best Case Ever! 3 mo PMT - Zero BOP



Julie Campbell, RDH  
Augusta, SC

### Nicole's Peri-implantitis Treatment



- Case presentation - #8 implant
- placed 5 yrs prior
- likely outside boney envelope

- Surgical intervention
- bone grafting completed - minimal benefit
- unpredictable

#### Goal

- reduce biofilm burden
- reduce inflammation

Nicole Fortune, MBA, RDH

### Nicole's non-surgical approach to halt inflammatory response

Nicole Fortune MBA RDH



#### Clinical treatment

- endoscopy evaluation
- surface debridement - glycine powder air polishing
- applied desiccant
- Nd:YAG laser therapy

#### Tissue response

- immediate shrinking / tightening

#### Outcome over next year

- appeared to halt inflammatory breakdown
- patient prepared financially
- remove/reconstruct area / replace implant

### Unexpected outcomes

### Fixed lingual retainer



- 25 y.o. male
- last recare - 5 years ago



Susan Furkin, BA, RDH  
St. Louis, MO  
March 1, 2026

### I work at a clinic in a nursing home with mod to severe biofilm especially with dementia patients- would be this be beneficial?



- complex patient hx
- 3mo recall
- exam took longer than expected
- applied PerioDT - one quad

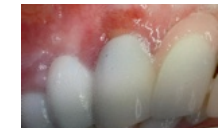
- ran out of time to scale
- reappointed - one weeks later
- deposit was nearly gone in quad

Jess Adams, RDH, RSDH  
Scottsbluff, Nebraska

### Julie's perio experience



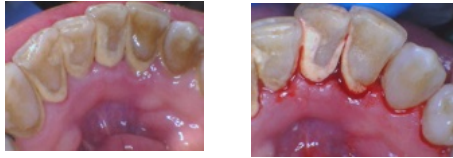
- multiple offices / dental school
- dx inflammatory fibrous hyperplasia



- desiccation gel
- piezo ultrasonic debridement
- one week later

Photos courtesy of Julie Campbell, RDH

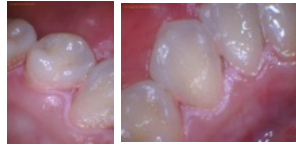
### Do we need to rethink the plan?



- last hyg - 3 years
- 2 applications
- airflow only
- non-smoker
- one min each
- erythritol only

Jess Adams, RDH, BSDH  
Scottsdale, Nebraska

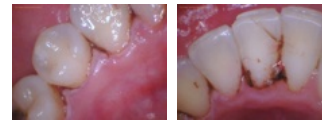
### After first application - Done?



### Final result



### Second application - Wow!



Susan Furtak, RDH  
St. Louis, MO

### Desiccation gel - chemistry in action



- rapid action
- builds up layers
- self limiting action

hygroscopic

- strong affinity to hydrogen molecules in water
- precise patented chemistry

Photo courtesy of Julie Campbell, RDH

### Special situations Clinical challenge



- anxious patients
- sensory disorders
- touch/noise/odors
- medically complex

- med/surg prep
- mission trips
- perio surgery

Wang H, Kulkarni M, Williams T. Dental anxiety in 18-year-old teenagers in 1996 and 2016. *Acta Odontol Scand*. 2020;68(7):511-519. 10.1111/aos.14316.  
Lambert M, Witter D, Eick J, et al. Social correlates of gagging and dental anxiety. *Community Dent Health*. 2012;29(2):100-106.

### Top benefits

- antibiotic free
- reduced systemic microbial overload
- long-term pathogen suppression
- fewer ergonomic issues
- beneficial billable service
- patient comfort - reduced anesthesia



44 years full time  
owned her equipment  
two hand surgeries  
8 mo recovery time/hand

Renee Marchant, RDHAP  
Santa Rosa, CA



- 1st 20 yrs - hand scaling
- sharpened during every appt
- 4 days a week

- next 24 yrs - 90% power scaling
- super light grasp
- had own equipment

- surgery at year 40 - painful
- two hand surgeries
- 8 mo recovery time each hand

Renee Marchant, RDHAP  
Santa Rosa, CA

### Patient benefits

- comfort
- thorough debridement
- reduce office visits
- patient dollars
- eliminate antibiotics - local and systemic



### Practice benefits

- improves trust
- positive reputation
- case acceptance
- referrals
- efficient appt time
- reduced anesthesia
- reduced cancellations
- easier scheduling
- improved bottom line
- increased revenue



ADA Code Maintenance Committee

- create/revise/delete CDT procedure codes
- review codes annually

## CDT procedure coding vs billing

**Procedure codes - diagnosis based**

- procedure based on diagnosis
- record all clinical treatment
- some procedures - no codes
- procedure, not products

**Billing - Contract driven**

- not based on diagnostics
- 3rd party contracts
- business arrangement
- reimbursement varies

[https://www.ada.org/~/media/pressroom/ada/ada-2023-04-15-ada-code-maintenance-reporting-full-mouth-distribution\\_2023-en.pdf?source=ada-2023-04-15-ada-code-maintenance-reporting-full-mouth-distribution\\_2023-en.pdf](https://www.ada.org/~/media/pressroom/ada/ada-2023-04-15-ada-code-maintenance-reporting-full-mouth-distribution_2023-en.pdf?source=ada-2023-04-15-ada-code-maintenance-reporting-full-mouth-distribution_2023-en.pdf)

## Procedural Codes - Derek vs Anne

interprox stain

- sub ging calculus
- 6 mm - 2/3 and 14/15
- isolated SRP - Derek

**D4999**  
Desiccation therapy  
Hx - mild HBP / AFib Wolf MiniMaze  
mild OSA / CPAP - daily: Water Pik, HydroSonic Pro, Closys, BioGaia probiotics, Perio Protect therapeutic trays, Bite guard

rock hard sub cal

- 1-3 mm probe
- 3 areas required retreat
- prophy - Anne

**D1999**  
Desiccation therapy  
Hx - mild OSA / CPAP  
HydroSonic Pro, Water Pik, PerioProtect therapeutic trays, Bite guard

## Making it hard on the bad bugs..... encouraging healthier microflora

## Professional adjuncts

## Daily biofilm destruction

## Now what are you going to do?

**YOUNG INNOVATIONS**

THANK YOU!

anne@anneguignon.com