

Caries Management Protocol

Dental Caries

Dental caries is a complex oral bacterial infection that causes cavities (tooth decay)

Bacteria + Nutrients (food and beverage, except water) = Acid Production (decrease pH)

Acidic conditions result in demineralization (tooth damage)

Healthy saliva (increase pH + minerals) = Remineralization (tooth repair)

Cavities occur when demineralization (tooth damage) is greater than remineralization (tooth repair)

Caries Risk Factors & Biofilm Challenge

Increases caries risk	Decreases caries risk
High bacteria count (plaque buildup)	Low bacteria count
Harmful bacteria	Healthy bacteria
Frequent consumption of nutrients	Infrequent consumption of nutrients
Unhealthy diet	Healthy diet
Unhealthy saliva (acidic, dry mouth)	Healthy saliva (basic, abundance)

Disease Indicators

- Cavities present in the mouth shows a history of dental caries, but does not mean the disease is currently active
- Cavities that have been increasing in size and numbers is a sign of active decay
- Good oral hygiene (tooth brushing and flossing) is only one small component to caries management
- Our diet and the products we use actually is more critical

Healthy Diet

- Consumption of food and/or beverage no more than 4-5 per day and in short intervals
- Heathy snacks: fresh fruit/vegetables, arginine rich food, aged cheese, Cheddar Easy Cheese, nuts/seeds
- Healthy Beverages: water, whole milk, licorice, tea
- Arginine rich foods: seafood, poultry, red meat, dairy, spinach, legumes, nuts & seeds
- Healthier Sweet Treats: chocolate, peanut M&Ms, whole fruit, Basic Bites, xylitol

Unhealthy Diet

- Consumption of food and/or beverage more than 4-5 per day and consumed with extended time
- Unhealthy snacks: dried fruits, sticky sweets, carbohydrates (chips & cracks)
- Unhealthy beverage: coffee, juice, soda, energy drinks
- Less Healthy Sweet Treats: caramel, taffy, gummy and sour candies

Five Treatment Components

- **pH neutralization:** Reduces growth and acid production of cariogenic bacteria, supports healthy bacteria growth
- **Antibacterial:** Significantly reduces total bacterial levels when high levels are identified
- **Fluoride:** Aids in remineralization and inhibits acid production of cariogenic bacteria
- **Xylitol:** Reduces growth and acid production of cariogenic bacteria
- **Nano HA (Ca PO4):** Aids in remineralization with nano particles of hydroxyapatite

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Oral Hygiene Devices

Toothbrushes

Manuel Toothbrush

Recommend *extra soft* to prevent trauma to the gums and recession

Nimbus: www.nimbusdental.com

Improve Toothbrush: deep v-groove design

Electric Toothbrush

Oral-B: www.oralb.com

SonicCare: www.usa.philips.com

Quip: www.getquip.com

End-Tuff Toothbrush

Designed for hard to reach areas

Made by GUM, Oral-B, and Butler

Floss

Cocofloss

www.cocofloss.com

Crafted with soothing coconut oil, naturally aromatic fruit oils, and vegan wax

Antimicrobial and anti-inflammatory

Hyden Floss

www.haydeb.com

fits tight contacts and shred proof

expanding microfibers provide a deep clean

completely vegan

Oral-B Super Floss

Ideal for bridges, braces, and wide spaces

Oral Irrigators

Waterpik: www.waterpik.com

Sonicare Airfloss: www.usa.philips.com

Ideal for dental implants, braces, and areas that act as food traps

Toothpicks

Opalpix: <https://www.ultradent.com>

TePe EasyPick: www.tepeusa.com

Easily cleans in tight access, including tight contacts and braces

Massages tissue while cleaning teeth

Interproximal Brushes

TePe Interdental Brushes: www.tepeusa.com

GUM Go-Betweens

Dentix Easy Brush

Easy to clean between large spaces

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Recommended Oral Hygiene Products

“Rinse, Brush, Swish, Spit”

Toothpaste

Prescription Toothpaste

CariFree CTx4 5000: www.carifree.com (\$12)

- Best Product: pH neutralization, high fluoride concentration, xylitol, nano HA, low abrasive

Clinpro 5000: high fluoride concentration, pH neutralization, low abrasive

Prevident 5000: high fluoride concentration, pH neutralization, medium abrasive

Over-the-Counter Toothpaste

CariFree CTx4 1100: pH neutralization, fluoride, xylitol, nano HA, low abrasive (**Amazon for ~\$16**)

Sensodyne ProNamel: pH neutralization, low abrasive, reduce tooth sensitivity, no SLS

Tom’s of Maine – Rapid Relief Sensitive: Arginine

Livonex Toothpaste: uses activated edathamil, a patented formulation that breaks down existing plaque

Baking Soda: increases pH, low abrasive

Fluoride Free / Children

CariFree CTx3: pH neutralization, xylitol, nano HA, low abrasive (Amazon for ~\$15)

- Grape flavor: all natural and no sodium lauryl sulfate

Spry

- **Kid’s Tooth Gel:** all natural, xylitol, no sodium lauryl sulfate

- **Fluoride Free Toothpaste:** xylitol, no sodium lauryl sulfate

Whitening gel

10% carbamide peroxide tooth whitening gel (www.amazon.com)

Brush a small amount on teeth and rinse

Whitens teeth and kills bacteria

Adjunctive Fluoride Therapy / Tooth Sensitivity

Varnish: inhibits bacteria growth, hardens teeth

Silver Diamine Fluoride: kills bacteria, hardens teeth, arrests cavity (stops progression of tooth decay)

MI Paste Plus: pH neutralization, inhibits bacteria growth, hardens teeth, reduces tooth sensitivity

Erosion Management

MI Paste Plus: pH neutralization, fluoride, xylitol, Recaldent (CPP-ACP, **derived from cow milk**)

MI Paste: pH neutralization, xylitol, Recaldent (CPP-ACP, **derived from cow milk**)

- Tooth whitening (reduces tooth sensitivity and restores luster)

- Helps in remineralization and reduces risk of white spot lesions

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Mouth Rinses

Prescription

Carifree CTx4 Treatment Rinse: antibacterial (Sodium Hypochlorite), pH neutralization, fluoride, xylitol breath

OTC Mouth Rinse

Carifree CTx3 Maintenance Rinse: pH neutralization, fluoride, xylitol (Amazon for ~\$16)

Act Anticavity Rinse: pH neutralization, no alcohol (good for dry mouth)

ProFresh: alcohol and flavor free, antibacterial (Chlorine Dioxide), freshens bad breath

PerioScience AO ProRinse Natural: an all-natural, alcohol free, high pH (7.75), antioxidants, xylitol, and essential oils (Amazon for ~\$18.50)

Synedent & Moisyn by Prisyna: alcohol & fluoride free w/ xylitol, neutral pH, & naturally derived

- Synedent & Synedent FLX: oral hygiene and cavity prevention
- Moisyn: Dry mouth
- Contains Arginine: an essential amino acid that increases pH and retains moisture
- Contains Chitosan: attracts moisture, cleans and removes impurities, restores healthy mouth function
- **Shellfish allergy caution:** Chitosan derived from shells of shrimp

Bleach Rinse

- Combine 2 teaspoons bleach with 4 oz (1/2 cup) water, two to three times per week
- Need to mix fresh, overtime the effectiveness is reduced after being diluted
- Alternative: **Dankin’s Solution Half Strength** (Prediluted Sodium Hypochlorite 0.25%)
- Alternative: **Hydrogen Peroxide** (foams and improved taste)
- Can mix with **Powdered Xylitol**, **Grapefruit Seed Extract**, **Mouth Rinse** for improved taste
- May also be used in Oral Irrigator, but may reduce lifetime of Oral Irrigator and voids warranty

Dry mouth

CariFree: tooth gel, mouth rinse, mouth spray

PerioSciences AO Provantage Gel & AO ProRinse Natural Rinse: essential oils & antioxidants

Spry: moisturizing mouth spray

Moisyn by Prisyna: Alcohol & Fluoride free mouth rinses w/ xylitol, neutral pH, & naturally derived

3M Xerostomia Relief Spray: Lipid-based OGT technology moistens and lubricates the mouth

Prilocarpine Prescription Lollipops: Stimulates saliva for severe dry mouth cases

Xylimelts: adhering discs, day and nighttime use

Oramoist: adhering discs, day and nighttime use

Salese & Dentiva by Nuvora: Oral soft lozenges that contains Xylitol, Baking Soda, ACP, and essential oils

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