Mechanical & Chemical Plaque Removal: Understanding the Different Efficacies for Patient Education

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Evolution of Toothpaste – Fluoride Systems

1950s
Caries (fluoride)

Caries + Sensitivity

1960s
Caries + Cosmetic

Caries + Antibacterial

1990s
Multi-Benefit

2000s
Focus: Gingival Health
Why toothpaste matters...

- Manual brushing removes 42% of plaque biofilm
- Average brushing is 46 seconds
- Only 10% of patients adhere to correct brushing methods.
- Toothpaste with SnF offers comprehensive benefits

*J of Clinical Dentistry, 2017*
# Therapeutic Dentifrices

Monographs regulate OTC dentifrices

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<th>Monograph</th>
<th>Active Ingredients</th>
<th>Mode of Action</th>
<th>Examples</th>
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<td>Anti-caries</td>
<td>Sodium Fluoride</td>
<td>Sub-surface Remineralization</td>
<td>Aquafresh Extreme Clean</td>
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<td></td>
<td>Monofluorophosphate</td>
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<td>Stannous Fluoride</td>
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<td>Anti-plaque</td>
<td>Triclosan</td>
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<td>Anti-gingivitis</td>
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<td>Dentinal Hypersensitivity</td>
<td>Strontium Chloride</td>
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<td>Potassium Nitrate</td>
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Smart Phone

- Phone Calls
- Text Messages
- E-mail
- Take Pictures & Video
- Surf the Internet
- Store/Listen to Music & Movies
- GPS
- Flashlight

Stannous Fluoride

- Caries Control
- Anti-Gingivitis
- Sensitivity Relief
- Plaque Control
- Calculus Control
- Whitening
- Fresh Breath
- Protection Against Acid Erosion
Business Use

Consumer Survey of Product Innovation 2019

VOTED PRODUCT OF THE YEAR

Crest GUM DETOXIFY
Neutralizes plaque bacteria, even around the gum line

FRUORIDE TOOTHPASTE FOR ANTICAVITY AND ANTIGINGIVITIS

DEEP CLEAN

NET WT 4.1 OZ (116 g)

CLINICALLY PROVEN HEALTHIER GUMS
99% OF GINGIVITIS PATIENTS SHOWED REDUCED GUM BLEEDING & INFLAMMATION IN 8 WEEKS
What makes Stannous different?
**Actions**
- Slows acid damage
- Kills and slows bacteria
- Helps occlude dentin
- Blocks harmful toxins

**Benefits**
- Anti-Cavity
- Anti-Erosion
- Anti-Sensitivity
- Anti-Gingivitis

**Net Effect**
Dental plaque forms above and below the gumline

- Gram Positive Aerobic Bacteria
- Gram Negative Anaerobic Bacteria

- Enamel
- Gingiva
- Dentin
- Bone
Targeting the Microbe/Host Interaction
Stain Mitigating Factors

Hydrogen Peroxide
Bleaches surface stains

Zinc Citrate, Silica
Also inhibits the formation of calculus and plaque
In VITRO DATA COMPARING TO SENSODYNE STANNOUS FLUORIDE TOOTHPASTE DEMONSTRATED THAT CREST STABILIZED STANNOUS FLUORIDE TOOTH PASTE DELIVERS:

- Greater deposition
- Greater tubule protection after a mechanical and acid resistance challenge

Crest Stabilized Stannous Fluoride toothpaste demonstrated better tubule occlusion efficiency and durability

Crest Gum and Sensitivity
Titanium Implants

Mucositis

Two weeks of good oral hygiene

Source: Dr. Amit Patel BDS MSc MclinDent RCSEng, UK
Proper formulation is critical to deliver all the benefits of stannous fluoride. Stabilize Sn$^{+2}$, Mitigate the stain of bioavailable Sn$^{+2}$, Make Sn$^{+2}$ bioavailable, Make the Sn$^{+2}$ and stain mitigator compatible for long-term stability.
Stannous Fluoride

Extremely complex chemistry: SnF₂

• It’s not on Wikipedia

SnF₂ → Sn⁺² and F⁻···just like NaCl → Na⁺ and Cl⁻

Right?

WRONG!!!
$\text{SnF}_2$ forms complexes with all ionic and polar species in the formulation:

- $\text{SnF}_2$
- $\text{SnF}_3^+$
- $\text{F}^-$
- $\text{SnF}[\text{Gluconate}]$
- $\text{Sn}[\text{Glconate}]$
- $\text{SnO(OH)}_2$
- Sn:$\text{Silica}$
- $\text{SnO}_2$
- $\text{Sn}^{+2}$
- $\text{N}^+$
- $\text{Zn}^{+2}$
- $\text{Sn}[\text{Polyphosphates}]$
Stannous Fluoride

• **Binds** to toxins (e.g., lipopolysaccharides)
• **Blocks** endotoxins’ reactivity with toll-like receptors
• **Blunts** inflammatory destruction to reduce/prevent gingivitis
CrissCross Bristles

Oral-B – The only brush with Cross Action bristles angled at 16° to actively penetrate deep between teeth

Removes up to 99% of plaque in hard-to-reach areas
GENTLE ON GUMS AND EFFECTIVE IN HARD TO REACH AREAS

- Compact brush head
- Feathered high-density bristles
- Multi-level bristles
- Easy reach neck
Oscillating-Rotating-Pulsating Technology

"Round for a Reason"

Professionally inspired small, round, designed, to follow tooth anatomy and morphology.
Power Brushes

Oscillating
move back and forth at a regular speed

Pulsating
a regular throbbing sensation
Handle + 8 Brush Head Refills for Improved Patient-Based Solutions

- Oral-B® Pro GumCare
- Oral-B® CrossAction™
- Oral-B® FlossAction™
- Oral-B® Precision Clean™

- Oral-B® Sensitive Gum Care
- Oral-B® 3D White™
- Oral-B® Interproximal Clean
- Oral-B® Ortho

Crest + Oral-B
Whitening Strip with Light Technology
TEST DRIVE
POWER BRUSH TRIAL PROGRAM

ASK TO TRY ORAL-B POWER TODAY
dentalcare.com
The trusted resource for dental professionals

Brought to you by

Crest + Oral-B