

Differential diagnosis for dentin hypersensitivity

50% of sensitivity sufferers don't report their pain¹

To screen your patients for dentin hypersensitivity, ask these questions:

- 1. Do you avoid any foods, beverages, or activities due to sensitivity in your teeth?
- 2. Do you avoid brushing or flossing any of your teeth due to sensitivity?
- 3. Can you let me know if you feel any sensitivity during your appointment?

If patients respond yes to any of these questions, continue with the assessment below.



*This list does not include all possible causes of dental sensitivity.

References: 1. Colgate-Palmolive. Market research through Zapera. Data on file. 2009. 2. Amarasena N, Spencer J, Ou Y, Brennan D. Dentine hypersensitivity in a private practice patient population in Australia. J Oral Rehabil. Jan 2011;38(1):52-60.



Patient management for DHS

Discuss treatment and prevention of dentin hypersensitivity (DHS)



Educate patients about risk factors:

- Aggressive/incorrect brushing
- () Acidic foods and beverages
- Using a medium or firm bristle toothbrush
- Frequent vomiting/GERD
- ^① Teeth grinding or clenching
- Periodontal treatment



In-office treatment options

Apply for instant relief* in practice¹

Apply **Colgate® Professional Sensitivity Relief Serum** to sensitive area and massage gently for 1 minute.

• **Pro-Argin**[®] technology binds to negatively charged dentin surface like a magnet

Relief in-office for dentin and post-operative sensitivity

Apply **PreviDent® Varnish** to relieve sensitivity quickly and easily.

- 1. Lightly dry the tooth surface
- 2. Give the varnish a quick stir
- 3. Paint a thin, even coat on the tooth surface
- 4. Wipe the brush with gauze before re-dipping into the varnish







Pro-Argin[®] technology

occludes tubules

5% Sodium Fluoride (22,600 ppm F⁻)

Follow-up and recare

- Evaluate patient's response to treatment
- If patient's discomfort is abating, continue current in-office and at-home recommendations. and at-home recommendations
- If sensitivity persists, review diagnosis to rule out other causes of sensitivity

*For instant relief, apply as directed to the sensitive tooth and gently massage for 1 minute.

- [†]Provides superior sensitivity relief compared with conventional sensitive toothpastescontaining 5% potassium nitrate.
- *Lasting relief with continued 2X daily brushing. Toothpaste also fights cavities. *Vs a soft, ordinary flat-trimmed toothbrush with end-rounded bristles.

References: 1. Ayad F, Ayad N, Delgado E, et al. Comparing the efficacy in providing instant relief of dentin hypersensitivity of a new toothpaste containing 8.0% arginine, calcium carbonate, and 1450 ppm fluoride to a benchmark desensitizing toothpaste containing 2% potassium ion and 1450 ppm fluoride, and to a control toothpaste with 1450 ppm fluoride: a three-day clinical study in Mississauga. Canada. *J Clin Dent.* 2009;20(4):115-122.
2. Colgate-Palmolive. Boneta et al. Data on file. 2009.

For more information, visit colgateprofessional.com

Send patients to colgate.com



Demonstrate proper tooth brushing techniques



Offer diet counseling

Share instructive link: https://youtu.be/HoRrWfhBhOE

Avoid highly acidic foods, which may erode enamel. Limit soda, juice, and sports and energy drinks to meal times.

At-home recommendations

Superior and long lasting sensitivity relief

Recommend Colgate[®] Professional Sensitivity Relief Serum for twice daily use

Soft-bristled toothbrush

A soft-bristled toothbrush cleans as effectively as a firm brush and is gentle to the gums and exposed root surfaces.

Recommend Colgate[®] Slim Soft toothbrush with ultra-soft 17x slimmer^s bristles to gently reach between teeth and along gumline.

Over-the-counter toothpaste for daily use

Recommend 2X daily brushing with Colgate® Sensitive for daily relief.*

(For your patients who need a mutli-benefit toothpaste, recommend **Colgate Total**^{sF} which includes sensitivity relief).

Colaate Sensitive



Colgate® Sensitive toothpaste

Colgate Total^{sF} toothpaste

High fluoride toothpaste

For patients with moderate-to-high caries risk, recommend PreviDent[®] 5000 ppm Sensitive, which prevents caries and helps reduce painful tooth sensitivity.





1.1% Sodium Fluoride, 5% Potassium Nitrate









PreviDent® Varnish

PreviDent® 5% Sodium Fluoride Varnish is a topical fluoride for the treatment of dentin and post-operative sensitivity.

The contraindications are ulcerative gingivitis and stomatitis. Edematous swellings and nausea have been reported only in rare instances in some fluoride varnish products, especially after application to extensive surfaces. Dyspnea, although extremely rare, has occurred in asthmatic children.

PreviDent[®] 5000ppm Sensitive

DESCRIPTION: Self-topical neutral fluoride toothpaste containing 1.1% (w/w) sodium fluoride and 5% potassium nitrate.

Active Ingredients: Potassium nitrate 5%, Sodium fluoride 1.1% (w/w)

Inactive Ingredients: water, hydrated silica, sorbitol, PEG-12, carrageenan, sodium lauryl sulfate, flavor, poloxamer 407, cocamidopropyl betaine, sodium saccharin, mica, sodium hydroxide, titanium dioxide, D&C yellow no. 10, FD&C blue no. 1

CLINICAL PHARMACOLOGY: Frequent topical applications to the teeth with preparations having a relatively high fluoride content increase tooth resistance to acid dissolution and enhance penetration of the fluoride ion into tooth enamel.

INDICATIONS AND USAGE: A dental caries preventive and sensitive teeth toothpaste; for twice daily self-applied topical use, followed by rinsing. Helps reduce the painful sensitivity of the teeth to cold, heat, acids, sweets or contact in adult patients and children 12 years of age and older. It is well established that 1.1% sodium fluoride is safe and extraordinarily effective as a caries preventive when applied frequently with mouthpiece applicators.^{1,4} PreviDent® 5000 Sensitive brand of 1.1% sodium fluoride toothpaste with 5% potassium nitrate in a squeeze bottle is easily applied onto a toothbrush. This prescription toothpaste should be used twice daily in place of your regular toothpaste unless otherwise instructed by your dental professional. May be used in areas where drinking water is fluoridated since topical fluoride cannot produce fluorosis. (See WARNINGS for exception.) **CONTRAINDICATIONS:** Do not use in pediatric patients under age 12 years unless recommended by a dentist or physician.

WARNINGS: Not for systemic treatment – DO NOT SWALLOW. Keep out of reach of infants and children. Children under 12 years of age, consult a dentist or physician. Note: Sensitive teeth may indicate a serious problem that may need prompt care by a dentist. See your dentist if the problem persists or worsens. Do not use this product longer than 4 weeks unless recommended by a dentist or physician.

PRECAUTIONS: General: Not for systemic treatment. DO NOT SWALLOW.

Carcinogenesis, Mutagenesis, Impairment of Fertility: In a study conducted in rodents, no carcinogenesis was found in male and female mice and female rats treated with fluoride at dose levels ranging from 4.1 to 9.1 mg/kg of body weight. Equivocal evidence of carcinogenesis was reported in male rats treated with 2.5 and 4.1 mg/kg of body weight. In a second study, no carcinogenesis was observed in rats, males or females, treated with fluoride up to 11.3 mg/kg of body weight. Epidemiological data provide no credible evidence for an association between fluoride, either naturally occurring or added to drinking water, and risk of human cancer.

Fluoride ion is not mutagenic in standard bacterial systems. It has been shown that fluoride ion has potential to induce chromosome aberrations in cultured human and rodent cells at doses much higher than those to which humans are exposed. In vivo data are conflicting. Some studies report chromosome damage in rodents, while other studies using similar protocols report negative results.

Potential adverse reproductive effects of fluoride exposure in humans has not been adequately evaluated. Adverse effects on reproduction were reported for rats, mice, fox, and cattle exposed to 100 ppm or greater concentrations of fluoride in their diet or drinking water. Other studies conducted in rats demonstrated that lower concentrations of fluoride (5 mg/kg of body weight) did not result in impaired fertility and reproductive capabilities. **Pregnancy: Teratogenic Effects:** *Pregnancy Category B*

It has been shown that fluoride crosses the placenta of rats, but only 0.01% of the amount administered is incorporated in fetal tissue. Animal studies (rats, mice, rabbits) have shown that fluoride is not a teratogen. Maternal exposure to 12.2 mg fluoride/kg of body weight (rats) or 13.1 mg/kg of body weight (rabbits) did not affect the litter size or fetal weight and did not increase the frequency of skeletal or visceral malformations. There are no adequate and well-controlled studies in pregnant women. However, epidemiological studies conducted in areas with high levels of naturally fluoridated water showed no increase in birth defects. Heavy exposure to fluoride during *in utero* development may result in skeletal fluorosis which becomes evident in childhood.

Nursing Mothers: It is not known if fluoride is excreted in human milk. However, many drugs are excreted in milk, and caution should be exercised when products containing fluoride are administered to a nursing woman. Reduced milk production was reported in farm-raised fox when the animals were fed a diet containing a high concentration of fluoride (98-137 mg/kg of body weight). No adverse effects on parturition, lactation, or offspring were seen in rats administered fluoride up to 5 mg/kg of body weight.

Pediatric Use: Safety and effectiveness in pediatric patients below the age of 12 years have not been established. Please refer to the CONTRAINDICATIONS and WARNINGS sections.

Geriatric Use: Of the total number of subjects in clinical studies of 1.1% (w/v) sodium fluoride, 15 percent were 65 and over, while 1 percent were 75 and over. No overall differences in safety or effectiveness were observed between these subjects and younger subjects, and other reported clinical experience has not identified differences in responses between the elderly and younger patients, but greater sensitivity of some older individuals cannot be ruled out. This drug is known to be substantially excreted by the kidney, and the risk of toxic reactions to this drug may be greater in patients with impaired renal function. Because elderly patients are more likely to have decreased renal function, care should be taken in dose selection, and it may be useful to monitor renal function.⁵

ADVERSE REACTIONS: Allergic reactions and other idiosyncrasies have been rarely reported.

OVERDOSAGE: Accidental ingestion of large amounts of fluoride may result in acute burning in the mouth and sore tongue. Nausea, vomiting, and diarrhea may occur soon after ingestion (within 30 minutes) and are accompanied by salivation, hematemesis, and epigastric cramping abdominal pain. These symptoms may persist for 24 hours. If less than 5 mg fluoride/kg body weight (i.e., less than 2.3 mg fluoride/lb body weight) have been ingested, give calcium (e.g., milk) orally to relieve gastrointestinal symptoms and observe for a few hours. If more than 5 mg fluoride/kg body weight (i.e., more than 2.3 mg fluoride/lb body weight) have been ingested, induce vomiting, give orally soluble calcium (e.g., milk, 5% calcium gluconate or calcium lactate solution) and immediately seek medical assistance. For accidental ingestion of more than 15 mg fluoride/kg of body weight (i.e., more than 6.9 mg fluoride/lb body weight), induce vomiting and admit immediately to a hospital facility. A treatment dose (a thin ribbon) of PreviDent® 5000 Sensitive contains approximately 2.5 mg fluoride. A 3.4 FL OZ (100 mL) bottle contains approximately 575 mg fluoride.

DOSAGE AND ADMINISTRATION: Follow these instructions unless otherwise instructed by your dental professional:

1. Adults and children 12 years of age or older: Apply at least a 1 inch strip of PreviDent® 5000 Sensitive onto a soft bristle toothbrush. Brush teeth thoroughly for at least 1 minute, expectorate, and rinse mouth thoroughly. 2. Use twice a day (morning and evening) or as recommended by a dentist or physician. Make sure to brush all sensitive areas of the teeth. Children under 12 years of age: Consult a dentist or physician.

HOW SUPPLIED: 3.4 FL OZ (100 mL) in plastic bottles. Mild Mint: NDC 0126-0070-61

STORAGE: Store at Controlled Room Temperature, 68-77oF (20-25oC)

REFERENCES: 1. American Dental Association, Accepted Dental Therapeutics Ed. 40 (Chicago, 1984): 405-407. 2. H.R. Englander et al., JADA 75 (1967): 638-644. 3. H.R. Englander et al., JADA 78 (1969): 783-787. 4. H.R. Englander et al., JADA 83 (1971): 354-358. 5. Data on file. Colgate Oral Pharmaceuticals.

Questions? Comments? Please Call **1-800-468-6502** <u>www.colgateprofessional.com</u>