FLUORIDE SUPPLEMENTS

sodium fluoride (oral)

- Flu-A-Day, Flu-Rite, Lactofluor, Pharmacid, Phon-Flo, Solo-Flo

fluoride (topical)

ACT, Fluorigard, Fluorinse, Gel-Kam, Gel-Tin, Prevident, Stop, Thera-Flur

Classification

Therapeutic: dental caries prophylactic agents
Pharmacologic: minerals/electrolytes

Indications

Prevention of dental caries in children where insufficient fluoride is available in drinking water.

Action

Fluoride becomes incorporated into bone and teeth, where it serves to stabilize crystalline matrix. It promotes remineralization and may retard the growth of dental plaque. The presence of fluoride on the enamel surface of teeth promotes resistance to acid and prevents caries by interrupting the cariogenic microbial process.

Therapeutic Effects:

- Decreased incidence of dental caries in children.

Pharmacokinetics

Absorption:

- Topical fluoride is taken up by enamel and plaque. Acidulated solutions are taken up by enamel to a greater extent than neutral solutions. Well absorbed after oral administration.

Distribution:

- Stored in bone and developing teeth. Readily crosses the placenta; small amounts enter breast milk.

Metabolism and Excretion:

- 50% excreted unchanged by the kidneys. Small amounts excreted in feces and sweat.

Half-life:

Unknown.

Route/Dosage

Oral Fluoride—Fluoride Content of Drinking Water 0.3 ppm

PO (Adults and Children 16 yr): No supplementation.

PO (Children 6–16 yr): 1 mg/day.

PO (Children 3–6 yr): 0.5 mg/day.

PO (Children 6 mo–3 yr): 0.25 mg/day.

PO (Children 6 mo): No supplementation.

Oral Fluoride—Fluoride Content of Drinking Water 0.3–0.6 ppm

PO (Adults and Children 16 yr): No supplementation.

PO (Children 6–16 yr): 0.5 mg/day.

PO (Children 3–6 yr): 0.25 mg/day.

PO (Children 6 mo): No supplementation.

Topical Fluoride

Topical (Adults and Children 12 yr): Dental rinse or gel – 10 mL/day. (Previ-

dent and Fluorinse are used once weekly.) Cream — brush teeth with cream once daily. (Cre-

nent — 1 lozenge daily.)

Topical (Children 6–12 yr): Dental rinse or cream – 5–10 mL/day. (Fluorin-

esse is used once weekly.) Cream — brush teeth with cream once daily.

Contraindications/Precautions

- Hypersensitivity.
- Dietary sodium restriction.
- Where fluoride in drinking water exceeds 0.7 parts per million (ppm).
- Some products contain tar-

trazine and other additives; avoid use in patients with known intolerance.
- Children <3 yr or when fluoride in drinking water exceeds 0.3 ppm (for 1 mg tablets). Children

<6 yr (for 1 mg/5 mL rinse).

Use Cautiously in:

- Situations in which fluoride content of water is unknown.

Adverse Reactions/Side Effects

GI:

- Nausea, vomiting.

Derm:

- Atopic dermatitis.

Misc:

- Mottling of teeth (toxicity).

Interactions

Drug-Drug:

- Products containing calcium, aluminum, or magnesium decrease absorption.

Drug-Food:

- If taken concurrently with dairy foods, calcium fluoride will form and fluoride will not be absorbed.

Contraindicated in:

- Hypersensitivity.
- Dietary sodium restriction.
- Where fluoride in drinking water exceeds 0.7 parts per million (ppm).
- Some products contain tar-

trazine and other additives; avoid use in patients with known intolerance.
- Children <3 yr or when fluoride in drinking water exceeds 0.3 ppm (for 1 mg tablets). Children

<6 yr (for 1 mg/5 mL rinse).

Use Cautiously in:

- Situations in which fluoride content of water is unknown.

Adverse Reactions/Side Effects

GI:

- Nausea, vomiting.

Derm:

- Atopic dermatitis.

Misc:

- Mottling of teeth (toxicity).

Interactions

Drug-Drug:

- Products containing calcium, aluminum, or magnesium decrease absorption.

Drug-Food:

- If taken concurrently with dairy foods, calcium fluoride will form and fluoride will not be absorbed.

Route/Dosage

Oral Fluoride—Fluoride Content of Drinking Water <0.3 ppm

PO (Adults and Children 16 yr): No supplementation.

PO (Children 6–16 yr): 1 mg/day.

PO (Children 3–6 yr): 0.5 mg/day.

PO (Children 6 mo–3 yr): 0.25 mg/day.

PO (Children 6 mo): No supplementation.

Oral Fluoride—Fluoride Content of Drinking Water 0.3–0.6 ppm

PO (Adults and Children 16 yr): No supplementation.

PO (Children 6–16 yr): 0.5 mg/day.

PO (Children 3–6 yr): 0.25 mg/day.

PO (Children 6 mo): No supplementation.

Topical Fluoride

Topical (Adults and Children 12 yr): Dental rinse or gel – 10 mL/day. (Previ-

dent and Fluorinse are used once weekly.) Cream — brush teeth with cream once daily. (Cre-

nent — 1 lozenge daily.)

Topical (Children 6–12 yr): Dental rinse or cream – 5–10 mL/day. (Fluorin-

esse is used once weekly.) Cream — brush teeth with cream once daily.

Contraindications/Precautions

- Hypersensitivity.
- Dietary sodium restriction.
- Where fluoride in drinking water exceeds 0.7 parts per million (ppm).
- Some products contain tar-

trazine and other additives; avoid use in patients with known intolerance.
- Children <3 yr or when fluoride in drinking water exceeds 0.3 ppm (for 1 mg tablets). Children

<6 yr (for 1 mg/5 mL rinse).

Use Cautiously in:

- Situations in which fluoride content of water is unknown.

Adverse Reactions/Side Effects

GI:

- Nausea, vomiting.

Derm:

- Atopic dermatitis.

Misc:

- Mottling of teeth (toxicity).

Interactions

Drug-Drug:

- Products containing calcium, aluminum, or magnesium decrease absorption.

Drug-Food:

- If taken concurrently with dairy foods, calcium fluoride will form and fluoride will not be absorbed.
NURSING IMPLICATIONS

Assessment

● Examine teeth for staining or mottling periodically. Notify dentist if this occurs.

Potential Nursing Diagnoses

Deficient knowledge, related to medication regimen (Patient/Family Teaching)

Implementation

● Drops may be administered undiluted orally or mixed with food or fluids.

● Do not administer sodium fluoride within 2 hr of milk or other dairy products, as this will cause decreased absorption of sodium fluoride.

Patient/Family Teaching

● Instruct patient to take fluoride supplement as directed, according to directions included with each preparation.

● Rinses and gels are most effective if used immediately after brushing or flossing, and just before sleep. Instruct patient to rinse any excess do not swallow. Patient should not eat, drink, or rinse mouth for 30 min after application.

● Instruct patient to use dental cream in place of toothpaste and brush teeth for 2 minutes, preferably at bedtime.

● Advise patient to keep fluoride out of reach of children.

● Encourage patient to have routine dental examinations to monitor dental hygiene.

Evaluation/Desired Outcomes

● Prevention of dental caries.

Why was this drug prescribed for your patient?