Redwood Pediatric Dentistry
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Fluoride vs. Hydroxyapatite Toothpaste

Both ingredients help rebuild and strengthen your child's teeth against daily acid attacks. They work a little differently, and knowing how can help you choose what is best for your family.

1 What Both Ingredients Do

- Every time your child eats or drinks, mouth bacteria make acids that pull minerals out of the enamel. This is called **demineralization**.
- Fluoride and hydroxyapatite both help put those minerals back, a process called **remineralization**.
- Both can be good choices. The right one depends on your child's **cavity risk** and your family's preferences.

2 Fluoride: Time-Tested Protection

- Fluoride helps repair enamel and makes it **more resistant to future acid attacks**.
- A pea-sized amount of toothpaste has **about 0.25 mg of fluoride**, similar to a cup of brewed tea. Your child should spit out the extra rather than swallow it.
- As with any substance, too much can be a concern for growing children. We recommend thinking about **total exposure**, including your water source and diet.
- **Fluoride varnish** is recommended in our office for children at moderate to high cavity risk because there is not yet an equally effective alternative.
  - Varnish forms a fluoride-rich protective layer and reduces cavities by roughly **30 to 40%** between visits.

3 Hydroxyapatite: A Gentle Alternative

- Hydroxyapatite is a **naturally occurring mineral** and the main building block of enamel and dentin.
- It supports remineralization and is a **good fluoride-free option**, especially for families with sensitivities or specific concerns.
- In a 1-year study of young children, a hydroxyapatite toothpaste protected against cavities **about as well as a low-fluoride toothpaste**.
- It is also **naturally whitening and desensitizing**.
- Research is still ongoing on how the tiny **nano** form (nano-hydroxyapatite) is processed by the body.
- We carry **Fygg nano-hydroxyapatite varnish** with xylitol and L-arginine.

4 The Science: Fluorapatite vs. Hydroxyapatite

- When fluoride is present, enamel can rebuild as **fluorapatite**, a tougher form of the mineral.
- Fluorapatite holds up to acid until the mouth reaches a **pH of about 4.5**, while hydroxyapatite starts to break down at **about 5.5**. That extra margin is real protection.
- At high enough levels, fluoride also **slows down cavity-causing bacteria** and may reduce plaque buildup.

5 Choosing What Is Right for Your Family

- Use **a smear the size of a grain of rice** for children under 3, and **a pea-sized amount** for ages 3 to 6. Brush twice a day.
- Some products **combine both ingredients**. CariFree is one brand that offers combination and pH-balancing options.
- Your child's cavity risk can change over time, so we will **review the best option at each checkup**.

Questions? We're Here to Help

If you would like to talk through which toothpaste or fluoride options are best for your family, just ask at your next visit or reach out anytime.

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