Let's Talk 22q Teeth – Info for Families

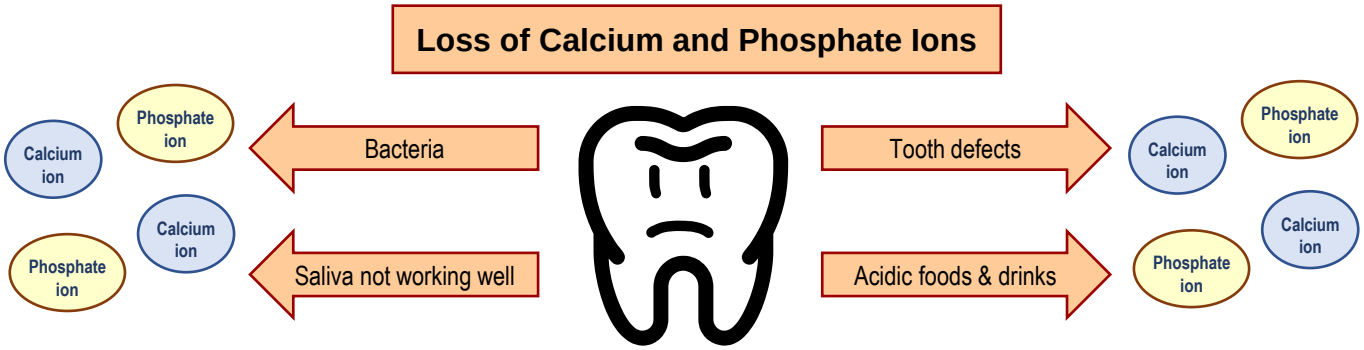
Teeth help us with chewing food, speaking, and giving a beautiful smile. Unfortunately, many individuals with 22q have poor teeth even when they have good cleaning habits. Many parents ask why their children always have cavities. This information sheet will tell you about:

- How the loss and gain of calcium and phosphate affect the enamel
- Common teeth problems in children with 22q11.2 deletion syndrome (22q11.2DS or 22q)
- Things parents can do to improve the children's dental health

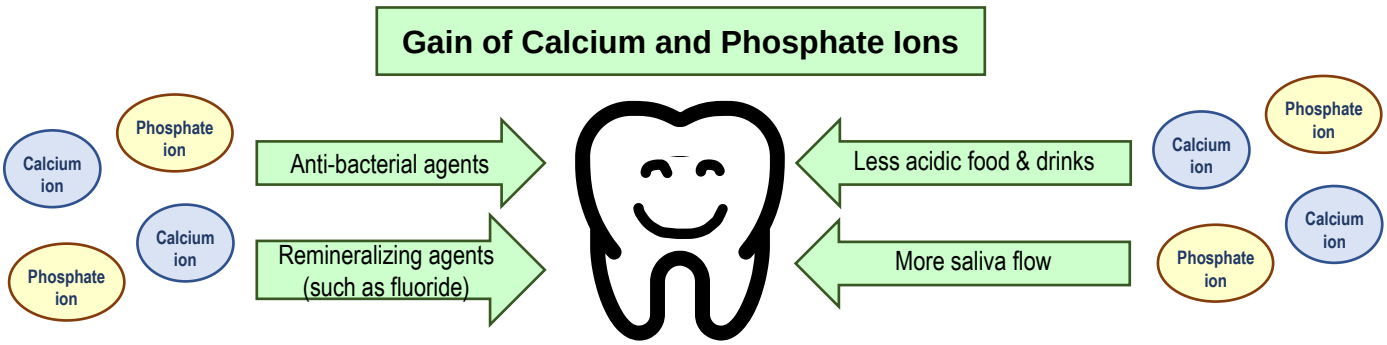
Losing and Gaining Calcium and Phosphate Ions

Enamel is the hard covering of the tooth. It protects the tooth when people chew, bite, crunch, and grind. It is what we see when we look at a tooth. Two important parts of the enamel are **calcium** and **phosphate ions**. Usually saliva can bring these ions to the enamel.

The **enamel loses calcium and phosphate ions** when **acid dissolves them away**. This process is called demineralization. The enamel gets **weaker**, and **cavities (holes) can form easily**. The loss of calcium and phosphate ions gets worse with bacteria (which produce acid), saliva not working well, tooth defects, and acidic foods and drinks.



The enamel can gain calcium and phosphate ions back when the mouth is less acidic. This process is called remineralization. The enamel gets **stronger**, and **cavities are less likely to form**. The gain of calcium and phosphate ions can be improved with using anti-bacterial agents, increasing the flow of saliva (using chewing gum with xylitol), using remineralizing agents (ask your dentist), and eating less acidic food and drinks.



For healthy teeth, we need to lose less and gain more calcium and phosphate ions.

Let's Talk 22q Teeth – Info for Families (continued)

Common Teeth Problems in Children with 22q

- **Cavities** are **holes in the teeth**, and the damage usually happens when **acid from bacteria breaks down the enamel.** Cavities are also called dental caries or tooth decay, and are very common in children with 22q. For more information, please see the section on **"Losing and Gaining Calcium and Phosphate Ions"** on the previous page.
- **Enamel hypoplasia** happens when the **enamel is flawed or incomplete**, and the teeth can get cavities more easily. A study showed that almost one-third of patients with 22q have enamel hypoplasia, which may explain why cavities are common in this group.
- **Hypomineralization** occurs when the **enamel does not have enough calcium and phosphate ions**, making it **weaker** and **easier to breakdown**. The teeth may also be discolored. Two studies showed that around half of the patients with 22q have teeth that have too little calcium and phosphate, which may explain why cavities are common in this group.
- **Teeth discoloration** occurs when the **color of the teeth changes** away from white (e.g. to brown, grey, yellow). The change can be caused by certain food and drinks (e.g. tea, coffee, soy sauce, tomato sauce, chocolates, etc.). It can also happen if the enamel wears away or if the teeth have issues.
- **Hypodontia** means missing one or more teeth as a result of developmental issues.

Keeping teeth healthy can be challenging for children with 22q.
Conditions that weaken the enamel are common, making it easier to have cavities.

Things Parents Can Do to Improve the Children's Dental Health

The goal is to lose less and gain more calcium and phosphate. The situation of each child is different, so it is important to create a dental health routine that works for the individual.

Drink water after food and whenever you are thirsty. If food is stuck in your mouth, **rinse with water**.
If the tap water in your area contains **fluoride**, that is even better.

Brush with fluoride toothpaste twice a day.
Really clean your teeth.
If your health situation allows, avoid eating or drinking for 2 hours after brushing.

Reduce acidic food & drinks

Chew **sugarless gum** to increase saliva flow and help clean the surface of the tooth.
Remember: Don't swallow the gum!

Go for a **dental appointment** at least twice a year.

Ask your dentist about

- The use of anti-bacterial and remineralizing agents
- The use of prescription toothpaste and mouth-rinse with fluoride

Ask your healthcare provider about

- Testing for calcium, vitamin D, and parathyroid hormone; see if any supplements are needed

22q International 22q11.2 Foundation

The mission of the International 22q11.2 Foundation is to improve the quality of life for individuals affected by chromosome 22q11.2 differences through family and professional partnerships.
This information is brought to you by the Foundation for educational purposes only. It is not intended to be taken as medical advice. If you have concerns, please talk to your dentist or your healthcare provider.

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