

Enamel Erosion and Severe Tooth Wear in Children and Adults with Prader-Will Syndrome

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For years, it has been noted that individuals with Prader-Willi syndrome (PWS) have problems with saliva production resulting in dental caries/cavities, loss of enamel and severe tooth wear. Recent studies on "Salivary Flow and Oral Abnormalities in Prader-Willi Syndrome" as well as the study on "Severe Tooth Wear in Prader-Willi Syndrome: A Case-control Study" done by Saeves, Nordgarden, Espelid and Storhaug (2010 and 2012) from Oslo, Norway continue to support and validate these findings. The challenge now facing those with PWS is what to do to prevent and/or manage these problems. The following resource provides an overview of these dental problems along with some possible approaches.

ENAMEL EROSION is the wearing down the protective coating (enamel) of the teeth.

When enamel wears down, microscopic channels in the tooth open up and become exposed with this problem complain of discomfort and pain.

However, since persons with PWS have an altered pain response they may not experience this sensation.

Signs:

- Translucency of the enamel
- Darkening or discoloration of the teeth
- Pain or cold sensitivity (may not always be reported in persons with PWS)

Common Causes:

- Abnormal salivation
- Diet high in sugars and acid

EXAMPLES OF FOODS AND BEVERAGES WITH HIGH ACIDITY: Soft drinks, sport drinks, fruit juices, lemonade, coffee, tomatoes, strawberries. (Citric acid, phosphoric acid, ascorbic acid and a few ingredients to watch for in foods.)

- Grinding of the surfaces of teeth
- Health conditions including gastric reflux
- Medications (asprin, antihistamines and some vitamins)

Prevention:

- Drink water. Limit soft drinks, sport drinks, juices and coffee in moderation. Dilute juices with water.
- Swish your mouth out with water or brush your teeth after drinking or eating items high in acid.
- Do not sip on beverages for extended periods of time.
- Do not drink or eat high acid beverages/food in the evening after supper.
- Use a straw to keep acids away from teeth
- Brush with fluoride toothpaste. Minimize swallowing. (Too much fluoride can cause problems like enamel fluorosis. This condition can occur in children and causes defects in the enamel of the teeth. Ingesting large amounts of fluoride can be toxic and cause nausea, stomach pain and/or vomiting. It may not be quickly detected in person with PWS).
- Get regular dental checkups and cleanings - at least every 6 months.
- Talk to your dentist about daily fluoride mouthwash if there is a history of cavities (Use as a rinse; do not swallow). If needed - apply with Q-tip.
- Ask the dentist if sealants may be helpful in preventing enamel erosion and tooth decay.

Treatment:

- Once lost, enamel cannot be replaced. Treatment of tooth enamel loss depends on the underlying problem. If a person with PWS is found to have a sudden loss of tooth enamel, testing should be done to determine if a medical condition is present (May require special diet and medication intervention).

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SEVERE TOOTH WEAR / GRINDING (also called bruxism) occurs most commonly at night. When teeth grinding occurs on a regular basis, teeth can be damaged and other oral complications can arise. Often seen in both children and adults with PWS.

Causes:

- Exact cause is unknown.
- Often contributed to stress and/or abnormal bites

Treatment:

- Mouth bite guard - best if individually fitted by a dentist. Used most commonly while the person sleeps. May require incentive program for compliance.
- Avoid or cut back on foods and drinks that contain caffeine, such as colas, chocolate, and coffee.
- Avoid alcohol. Grinding tends to intensify after alcohol consumption.
- Discourage chewing on pencils or pens or anything that is not food. Minimize chewing gum. It allows jaw muscles to get used to clenching and makes it more likely to grind teeth.
- Work with person with PWS to learn not to clench or grind his/her teeth. Have him/her practice relaxing jaw muscles. (Try holding a warm washcloth against the cheek in front of the earlobe)
- Include plenty of water. Dehydration may be linked to teeth grinding.

