

Dry Mouth Syndrome During Chemotherapy: A dry mouth is an acidic mouth

Saliva is a complex bodily fluid that helps people taste, chew, swallow and digest their food. It also helps them speak more easily and maintains the delicate balance of flora in the oral cavity.

Salivary acid buffering refers to saliva's ability to neutralize acids produced in the mouth, preventing enamel demineralization and promoting oral health. This capacity is due to the presence of buffering agents like bicarbonate/carbonate ions, phosphate ions, and proteins in saliva. These agents help maintain a healthy pH balance in the oral environment, minimizing the effects of acid attacks on teeth.

The major salivary glands combined produce up to 1.5 liters — or more than six cups — of saliva each day. This accounts for up to 90% of our salivary secretions.

A study published by Lippincott showed that salivary flow rate decreased significantly during chemotherapy, and patients reported that the consistency of saliva became more viscous (2017). Higher viscosity is related to higher bacterial load.

A study by the National Institute of Health found that 48.1% of women undergoing chemotherapy for breast cancer reported dry mouth during treatment (2020).

Hyposalivation is usually only noticeable by the patient at a 50% decrease.

Saliva initiates taste perception so if saliva is reduced, some taste ability is lost. Less taste, less nutrition.

Let's talk about salivary pH.

A pH measure is a “snapshot in time” as it fluctuates during the day with pH being lower upon awakening in the morning.

Resting salivary pH in a healthy patient is normally 6.8 - 7.2

“Critical pH” refers to the point when dentin or enamel begins to break down.

The “critical pH” of dentin is 6.7

The “critical pH” of enamel is 5.0 - 5.5

Not all “dry mouth products” are truly therapeutic. It is important to know the pH.

Closys Mouth Rinse - pH 7.1
Therabreath Mouth Rinse - pH 9.2

Biotene Moisture Rinse - pH 5.4
OraCare Mouth Rinse - 4.8

Xylimelts Lozenges - 8.0

Therabreath Lozenges - pH 5.8

CT2X Mouth Spray - pH 9.1
Allday Spray - 7.0

ACT Dry Mouth Rinse - pH 6.3
Biotene Moisture Spray - pH 6.1

Other good oral health products that neutralize pH in dry mouth conditions:

Allday Gel - 7.1
Oragel Moisture Gel - pH 7.1
Ice Chips Lozenges - 7.0

A dry mouth is an acidic mouth. The root cause of most dental problems during chemotherapy is due to dry mouth conditions. These products help correct your mouth's pH to make it more neutral.

Allday Moisture spray - This spray is soothing for dry mouths because of glycerin. In addition, it contains xylitol which neutralizes acids in dry mouths and is naturally anti-bacterial. At this dose, xylitol is completely safe for cardiovascular health. Best if used **before** applying a Xylimelt.

XyliGel - This gel is very effective and has an oily/moisture building viscosity. It is best used before bedtime and **under** night guards and retainers. Best if used **before** applying a Xylimelt.

XyliMelts - Xylimelts are stick on lozenges that you apply to the roof of your mouth or tucked in your cheek next to an upper molar. They melt slowly. They are made from a plant derived sweetener that is not only tasty, but it is naturally antibacterial. At this dose, xylitol is completely safe for cardiovascular health. This will moisturize your mouth for a longer period of time and will gently disinfect it.

Baking Soda for DIY Mouthwash - This is a very gentle neutralizing mouthwash that is approved for cancer care patients. It is soothing as well as effective against bad microbes: 1 tsp. salt, 1-2 tsp. baking soda in 4 cups of water. Shake well and dispense in container to be rinsed with intermittently during the day.

Nimbus Toothbrushes or Colgate Extra Soft Toothbrushes - These are super soft toothbrushes and are ideal for gently brushing the teeth as well as the tongue. Brush the tongue in an outward direction only and do not try to remove coating all at once as it could get very sore. Gentle and consistent does it.

Non-petroleum containing lip balm - Chemo can be very drying and a good lip balm with sooth dry parched lips.

Ice Chips Candy - Yes, an actual candy! This one is sweetened with xylitol and has a cooling sensation that is soothing. Some patients have referred to it as feeling like "drops of water" in her mouth. It's safe for teeth and is antibacterial.

OraNurse Toothpaste - Unflavored fluoridated toothpaste for people sensitive to mint.

Avoid products containing these irritating ingredients: Sodium Lauryl Sulfate (SLS), alcohol, tartar control formulas, whitening formulas.

***** Please note that all of the above products that contain xylitol should be kept away from pets as xylitol is toxic for our pets!!!**

All of the above items can be found on [amazon.com](https://www.amazon.com).

More tips for patients undergoing chemotherapy

- Stay hydrated
- Avoid caffeine, alcohol and tobacco
- Avoid sodas and carbonated water
- Use a humidifier
- Stimulate saliva with a xylitol hard candy or gum
- Sucking on something cold (like ice chips) before and during treatment may help with some chemotherapy agents
- Use an extra-soft toothbrush
- Gently clean between teeth daily - ask your hygienist for the best interdental aids for you
- Avoid acidic foods and beverages
- Minimize sweet, sticky and sugary snacks
- Avoid Oral Care Products containing Sodium Lauryl Sulfate (SLS), Alcohol, Tarter Control Formulas, Whitening Ingredients
- Avoid petroleum-based lip balm as it can encourage bacterial growth and keep lips dry
- Ask your dental provider about fluoride treatments during chemotherapy

DIY Neutralizing Mouth Rinse - will soothe tissue and help remove debris in a dry mouth

Homemade Rinse - 1 tsp. Baking soda, 1 tsp salt, 4 cups water - mix together and store in a container with lid at room temperature - shake before using - Can be used for swishing intermittently all day - discard at the end of the day.