

The XEROS dry mouth pump has been developed to assist those inflicted with severe dry mouth typically caused by radiation therapy of the head and neck. Radiation is used to kill cells that replicate at a high rate such as cancer cells. Salivary glands cells replicate at a high rate, therefore, are a target of the radiation.

### **What is Dry Mouth?**

Dry mouth (xerostomia) occurs when the salivary glands do not make enough saliva (spit) to keep the mouth moist. Because saliva is needed for chewing, swallowing, tasting, and talking, these activities may be more difficult with a dry mouth.

### **Causes of Dry Mouth**

Dry mouth can be caused by chemotherapy or radiation treatments, which damage the salivary glands. Dry mouth caused by chemotherapy makes saliva thicker, causing the feeling of a dry mouth. This is usually temporary and normally clears up about two to eight weeks after treatment ends. Severe dry mouth is caused by other conditions as well.

Radiation treatment to the head, face, or neck causes dry mouth. It can take six months or longer for the salivary glands to start producing saliva again after the end of treatment. Although some people experience improvement in their dry mouth during the first year after radiation treatment, many people will continue to experience some level of dry mouth indefinitely. This is especially true if the radiation therapy was directed at the salivary glands.

### **Implications of Dry Mouth**

In addition to difficulty with eating and talking, dry mouth can cause dental problems. Saliva helps maintain a balance of bacteria in the mouth and protects against infections and cavities (tooth decay). Without enough saliva, the bacteria and other organisms in the mouth can grow too quickly, causing infections and mouth sores. Saliva also washes away acids and food particles left in the mouth after eating. Therefore, a lack of saliva can cause cavities and gum disease.

### **Dry Mouth Issues**

- Sticky, dry feeling in the mouth
- Thick, stringy saliva
- Pain or a burning sensation in the mouth or on the tongue
- Cracks in the lips or at the corners of the mouth
- A dry, tough tongue
- Difficulty chewing, tasting, or swallowing
- Difficulty talking
- Difficulty wearing dentures
- Mouth sores or mouth infections
- Tooth decay



### **About XEROS the Dry Mouth Pump**

The XEROS dry mouth pump consists of a compact high performance peristaltic pump, battery, water container, and controller all neatly packaged in a strap on waist pack.

The tubing from the pump is 1/8" ID food grade tubing that can be easily worn underneath a shirt or sweater. The tip of the tubing, the end that is put into the mouth, is fitted with a small sponge to fit unobtrusively and snugly in between the inner cheeks and lower teeth. This mouth apparatus is similar to oral swabs found at pharmacies, medical suppliers, and hospital issue. The sponge tip can be removed/replaced easily when necessary.

The controller consists of a microprocessor that is simply programmed by the user. The user can preprogram both a day and night time setting. The program allows the user to set the duration of the pumping action and the intermittent time between pumping. It also has a boost button when extra wetness is needed.

The unit is powered by a rechargeable battery. The unit can be set on the nightstand and plugged into the outlet for recharging of the battery and night time use.

The container can be filled with water, salt water solution, an antibacterial solution, or what your doctor or therapist prescribes. The container holds more than enough solution for both night time and day time activities. Therefore, it only needs to be filled twice every 24 hours.

### **Why XEROS Dry Mouth Pump?**

Hello. I'm Al Toman. I battled T4 Squamous Cell Carcinoma in my right sinus cavity in 2007. Today, so far, I am free of cancer. However, at the time of this writing, 2009, I am battling severe dry mouth. Recovery of my salivary glands isn't happening. The times I struggle with dry mouth are

1. when speaking at length
2. when exercising or working, especially outdoors
3. when sleeping

It is recommended to take sips of water, however, this is extremely difficult while sleeping, highly inconvenient when you're raking leaves, mowing the lawn, or planting flowers, and simply annoying when speaking on the phone or in someone's office.

The XEROS dry mouth pump frees me from all three of these moments. I can speak at length without lifting a bottle of water, I can rake leaves without stopping to sip water, and I can sleep without getting up in the middle of the night to sip water. The dry mouth pump performs this task of sipping water transparently. Yes. I tried many remedies and that's about all I can say about them.

I am the first user of and offer a biased testimonial of the XEROS dry mouth pump. Feel free to email me with your questions and concerns at the email address below. Research shows that thousands of dry mouth sufferers can benefit from the XEROS dry mouth pump. Hopefully, it can benefit you as well.

### **XEROS Dry Mouth Pump Acknowledgement**

The XEROS dry mouth pump has been presented to the staff of the Ears, Nose, and Throat Surgical Otolaryngology department in Raleigh, North Carolina. Discussion has been started into potential embedding of the tubing for severe cases.

The XEROS dry mouth pump will be available to consumers in early 2010.

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