

## In Honour of Saliva

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Saliva: that seemingly innocuous fluid that we take for granted; something that we don't really like to think about. We are referring to a fluid that is so vital to our daily activities; it preserves and maintains oral health and function; aids digestion; contributes to taste perception; facilitates communication; protects oral tissues from desiccation, microbial penetration, or ulceration; stimulates soft tissue repair; allows us to lick stamps; and provides comfort while wearing dentures by means of its lubricating ability. Yet in the words of fellow Canadian Joni Mitchell (1970): "Don't it always seem to go that you don't know what you've got 'til it's gone", when it has gone or its production is diminished, it reduces quality of life beyond measure. The patient may still look the same externally, but numerous aspects of the simple joys of life are hindered without it: socializing with family and friends, chatting, eating together, tasting, etc. And then to add insult to real injury, rampant caries abound in areas that wouldn't normally be prone to decay, despite the usage of all manner of oral hygiene products and techniques.

Such is the daily predicament of one who suffers from xerostomia (the subjective sensation of dry mouth): those who take certain medications, those who have undergone immune- or radiotherapy for head and neck cancers, and those with various auto-immune disorders (e.g., Sjögren's Syndrome (SS), systemic lupus erythematosus, scleroderma, diabetes, graft-versus-host disease, rheumatoid arthritis (RA), primary biliary cirrhosis, etc.). While the normal stimulated salivary flow rate is 1-2 mL/min, if less than 0.5 mL/min are produced, the patient has hyposalivation. The autoimmune disorder can appear at any age, but the peak incidence is between 40 and 50 years of age (Figure 1). Along with RA, SS is one of the most frequent autoimmune disorders that affects ~ 430,000 Canadians and 2-4 million Americans, 90% of whom are women. It takes on average 7 years to be diagnosed with SS; a patient whose chief complaint is a dry mouth is frequently sent on (usually) her way with a simple pat on the back and the verbiage "there, there dear, drink some water". Water, however, is not a good long-lasting moisturizer of the oral mucosa since it is not retained in the mouth. Most patients carry water bottles with them to aid in speaking and swallowing and for their overall oral comfort. However, frequent drinking of water has a profound effect on the electrolyte balance in the body with frequent trips to the bathroom. This is a disorder that affects primarily women who at one time had healthy mouths and when menopause appeared, rampant decay set in.

SS is neither curable nor preventable disease at present, and whether it can be prevented or delayed is unknown. Treatment is generally symptomatic and supportive. And while the knee-jerk reaction might be to extract all the teeth and place implants, even the prognosis of implant therapy in one with SS is unknown. For the particular patient

above, immediate partial dentures were placed after the extraction of the hopeless teeth. And once inserted, rather than complaining about how difficult the removable dentures (RDs) were in such a dry mouth, the patient remarked that she had not experienced that much saliva since she was a teenager. Tasting food again and being able to play her clarinet were no longer just memories to her. It seemed that the simple act of removal and re-insertion of the dentures was enough to trick the neuroplastic brain into thinking that food was on its way resulting in a mechanical stimulation of saliva flow, an event frequently reported by SS patients who underwent similar treatment.

While one might think that dry mouth/xerostomia has a negative effect on wearing removable denture (RDs), think back to your undergraduate dental school days when you were learning about RDs. When prescribing them for a patient who had no prior experience wearing them, do we not counsel these patients that they may experience an increase in salivation? It is logical that good, well-fitting RDs would increase salivation in a patient with xerostomia. While this is not true in the patient whose salivary glands have been totally ablated, it may just be the answer for some patients, particularly SS patients, who still have the capability of producing even a modicum of saliva.

While we often take the presence of saliva for granted, think of what life would be like without it.



**Figure 1:** Sjögren's Syndrome female patient, age 48, photos taken 3 weeks apart.

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