

Ellie Mackintosh
Simply Mouthwatering

When I was a little girl, my father had head and neck cancer. The brutal treatment saved his life but left his salivary glands damaged, causing him to suffer from dry mouth. My project is designed to make and test a mouthwash that increases saliva by 15% in post-cancer patients like my father. To make my mouthwash, I combined many sour materials as well as ascorbic, citric, and malic acid. To test this, I used an artist sponge to absorb the normal amount of saliva in a subject's mouth. After having him/her swish with the mouthwash for 15 seconds, I measured the influenced amount of saliva with a new sponge. I found that this mouthwash works, not only with post-head and neck cancer patients, but also with the average person who has never experienced radiation in the salivary gland area. My data shows that the closer one is to treatment, the less saliva is produced by the mouthwash. For example, a man who has been cancer and radiation free for eleven years experienced an increase in saliva of 691% as opposed to a man who has just stopped treated 1 ½ years ago (124%). My prototype passed the design criteria in the more important aspects, such as safety and effectiveness, but still lacks a pleasant taste, which will hopefully become better as the mouthwash evolves to help all suffering from dry mouth.