



## **Nutritional Guidelines For Symptom Management**

### **THICK SALIVA**

#### **DEFINITIONS:**

Thick saliva or mucous is described as viscous, acidic, and semi-opaque secretion as opposed to clear, watery and neutral secretions. This change in saliva is due to the presence of abnormally large quantities of organic material in saliva, which may contribute to dysphagia, nausea, vomiting and/or poor oral intake.

The onset and duration of thick saliva depends on the cause and the tumor site.

#### **POSSIBLE CAUSES**

- **Radiation therapy** to the head and neck region may result in a change in the amount and consistency of saliva, as mucous glands are highly sensitive to radiation. Thick saliva may begin during the first one to two weeks of radiation. Partial recovery of salivary gland function has been observed to occur as early as 2-6 months after cessation of treatment but may persist for more than five years. Major determinants include the patient's age, dosage of radiation and field of exposure.
- **Dehydration** may contribute to thickened secretions.

#### **NUTRITIONAL GOALS**

- To minimize the discomfort and effects related to alterations in quality and quantity of saliva produced.
- To maintain and/or improve nutritional status despite thick saliva or mucous.

#### **STRATEGIES FOR MANAGEMENT**

##### **A. Nutritional Strategies:**

- Encourage soft moist foods. Intake of hard or dry foods, like crackers, tough meats, and viscous foods, like thick syrups, peanut butter should be limited.

- Encourage small, frequent meals and snacks throughout the day.
- Ensure adequate fluid intake to prevent dehydration and to thin saliva. If the individual's intake is limited and/or weight is a concern, suggest calorie containing fluids, instead of water/tea/coffee.
- Suggest warm liquids like soups, hot chocolate, Ovaltine<sup>®</sup>, broth, tea or warm water to help clear mouth of thick saliva and wash foods down.
- Beverages or foods, which are slightly tart or carbonated, may help thin secretions.  
Examples are lemon flavored soda pop or soda water, iced tea, sherbet, mandarin oranges, papaya, pineapple, sour lemon drops, Snapple<sup>®</sup>, Gatorade<sup>®</sup>, lemonade, orange flavored drinks or Popsicles<sup>®</sup>. These beverages or foods may stimulate saliva secretion and thus thin mucous. **Tolerance of these beverages or foods may be limited if the individual is experiencing mucositis. As well, the patients with decreased saliva production are at an increased risk of developing dental caries and should be informed of the cariogenic potential of sweet foods and candies.**
- If milk products are found to increase mucous production, suggest low fat dairy products or cooked items (i.e. puddings or custards) before eliminating dairy products entirely. Soy based beverages may be better tolerated. Mucous production may also be minimized if clear fluids, as noted above, are consumed after milk or soy based products.
- Consider the use of commercial nutrition supplements such as Resource Fruit Beverage<sup>®</sup> instead of soy based nutrition supplements
- Encourage frequent oral rinsing, with club soda or baking soda rinse (1/4 tsp baking soda mixed in 1 cup water), especially before and after eating.
- Caffeine, alcohol and spicy foods and beverages should be limited as they irritate mouth.

#### **B. Other Strategies:**

- The use of oral rinses Benthaneol or Pilocarpine may be recommended by a pharmacist, dentist, or oncologist to stimulate saliva production. As well, the use of Biotene toothpaste, mouthwash and/or chewing gum may stimulate saliva production. These are available at any pharmacy. The effectiveness of these substances is quite individual.
- Consider the use of a home humidifier.

## **PATIENT/CLIENT EDUCATION MATERIALS**

- **Good Nutrition A Guide for People with Cancer, Canadian Cancer Society.**

This resource provides information to question commonly asked by people with cancer, as well as, suggestions for coping with various side effects associated with cancer or its treatment.

- **Easy to Chew Easy to Swallow Food Ideas, BC Cancer Agency.**

This booklet provides suggestions for soft, moist, high energy, high protein foods and hints for mouth care.

- **Easy to Chew Recipes, BC Cancer Agency.**

This resource provides tips for blending and a variety of recipes for people who require blended, high energy, high protein foods.

- **Food Choices to Help Control Nausea, BC Cancer Agency.**

May be helpful if mucous is contributing to nausea. Note that this pamphlet emphasizes dry, starchy foods, which would be inappropriate for people with mucous and/or sore mouth.

## **REFERENCES**

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4. Garg, A., M. Malo, *Manifestations and Treatment of Xerostomia and Associated Oral Effects Secondary to Head and Neck Radiation Therapy*. Journal of American Dental Association, Volume 128:1128-1133, 1997.

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This information is not meant to replace the medical counsel of your doctor or individual consultation with a registered dietitian. This information may only be used in its entirety.