

UNIVERSITY STUDENT HEALTH SERVICES • Fact Sheet

CANKER SORES (RECURRENT APHTHOUS STOMATITIS)**WHAT ARE CANKER SORES?**

There are many causes of painful shallow ulcers (also known as aphthous ulcerations) in the mouth. Canker sores are a type of aphthous ulceration known as **recurrent aphthous stomatitis or RAS**.

RAS is the most common cause of mouth sores. The ulcers of RAS are typically small, self-limited, and may recur several times a year. Unlike cold sores, which are caused by the Herpes Simplex virus (HSV), canker sores are not contagious and do not usually affect the outer lips.

WHAT CAUSES CANKER SORES?

The exact cause of canker sores is unknown. Researchers suspect that an overactive immune response in the lining of the mouth leads to ulcer formation. Hereditary factors also appear to play a role.

Common triggers include minor trauma to the mouth and food sensitivities:

- ❖ **Minor trauma to the mouth** (from dental work, braces, vigorous brushing, biting cheeks or lips, sports injuries, eating hard/crunchy foods, etc.) is the most common trigger.
- ❖ **Food sensitivities** (eg. chocolate, caffeine, strawberries, citrus, pineapple, tomatoes, nuts, dairy products, spicy foods) may also trigger symptoms, but a direct cause has not been proven.

Other triggers may include chewing gum, tobacco products, toothpastes and mouth rinses containing sodium lauryl sulfate, certain medications, and emotional stress.

WHO GETS CANKER SORES?

Anyone can develop canker sores, but symptoms are most common in adolescents and young adults. Canker sores affect about 20% of Americans at some point in their lives. The first occurrence is usually during adolescence. Frequency typically decreases with age.

WHAT ARE THE SYMPTOMS?

Canker sores typically present as shallow, painful ulcers that are covered by a yellowish/whitish membrane and surrounded by a halo of very red tissue.

- ❖ Sores most commonly appear on the inner cheeks or inner lips. Other locations include the tongue, the roof of the mouth, the gums, and, less commonly, the genital area
- ❖ Typically, lesions start as painful pinpoint bumps that develop into round/oval ulcers over 1-2 days, enlarge over 3-4 days, then heal within 1-2 weeks of symptom onset.

Canker sores are classified as simple or complex:

- ❖ **Simple aphthosis** is the most common form of the disease. Ulcers are typically small (< 1cm), few in number (≤ 5), and limited to the mouth/lips/tongue. Lesions resolve without scarring within 14 days and do not usually occur more than 3-4 times a year.
- ❖ **Complex aphthosis** is uncommon and may involve the genitals as well as the mouth. Ulcers are larger (> 1cm), deeper, more painful, and more numerous. Lesions may take up to 4-6 weeks to heal and recur frequently.

HOW ARE CANKER SORES DIAGNOSED?

No specific testing is needed for diagnosis. A visual exam is usually sufficient.

However, further testing to identify other causes should be considered if ulcers are severe or persistent. Lab tests may be ordered to evaluate for nutritional deficiencies (iron, B12, folate, zinc), autoimmune disorders, inflammatory bowel disease, celiac disease, immunosuppression, etc. A rare illness known as Behcet syndrome must be ruled out in patients with complex aphthosis.

WHAT IS THE TREATMENT?

Simple canker sores are self-limited and usually respond well to good oral hygiene, avoiding triggers, and, if needed, topical pain treatments.

SELF CARE MEASURES

❖ **Maintain good dental hygiene.**

- Brush gently with a soft toothbrush, and use waxed tape-style dental floss.
- Avoid toothpaste containing sodium lauryl sulfate (SLS), which can exacerbate symptoms. SLS-free examples include Biotene, Sensodyne ProNamel, Rembrandt Gentle White (formerly Rembrandt Canker Sore), and certain Tom's of Maine products (check labels).
- Use a non-alcohol based mouthwash, which is usually less irritating.
- Less aggressive, more frequent dental cleaning may be advised.

❖ **Avoid triggers.**

- Be gentle to your mouth. Avoid objects/habits that can cause trauma inside the mouth.
- Avoid foods that seem to trigger symptoms. You may need to keep a food diary to help identify problem foods. Common food sensitivities are listed on the previous page.
- Eat soft, bland foods to avoid aggravating the sores. Acidic, spicy, and salty foods can cause further irritation to the mouth.

❖ **Consider the following home remedies for pain relief:**

- Swish and spit 3-4 times a day (prior to meals, brushing teeth) with one of the following:
 - Salt water (1/2 teaspoon of salt in 8 ounces of water)
 - A baking soda rinse (1 teaspoon of baking soda in 1/2 cup of warm water)
 - A mixture of 1 part (eg. 1 teaspoon) liquid diphenhydramine (Benadryl) to 1 part (eg. 1 teaspoon) Maalox or Milk of Magnesia.
- Dab a small amount of baking soda paste or milk of magnesia on the canker sore a few times a day with a q-tip. Avoid eating or drinking for 30 minutes after.
- Apply ice by allowing ice chips to dissolve over the sores, eating popsicles, or rinsing your mouth with ice water.

OVER-THE-COUNTER PRODUCTS

- ❖ **Topical products** containing a numbing agent, such as benzocaine, can decrease pain and provide a protective coating. Examples include Anbesol, Orabase, Orajel, and Zilactin-B.
- ❖ **Acetaminophen (Tylenol), ibuprofen (Advil or Motrin), or naproxen (Aleve)** can also decrease pain. Ibuprofen or naproxen should be taken with food to avoid an upset stomach.

PRESCRIPTION MEDICATIONS

- ❖ **A prescription numbing medication**, such as 2% viscous lidocaine, can reduce symptoms, especially when used prior to eating. Viscous lidocaine can be applied directly to the ulcers or used as a swish and spit mouthwash.
- ❖ **Prescription corticosteroid medications in liquid, gel, or ointment forms are considered first-line** for mild-moderate symptoms. They are more effective when used early in the course of symptoms and frequently for at least a few days. Common examples include:
 - Dexamethasone elixir: Swish and spit 5mL 3-4 times daily; keep the medicine in the mouth for 5 minutes prior to spitting it out.
 - Clobetasol 0.05% gel or ointment: Apply a small amount to the sores 2-3 times a day. For best results, dry the affected area first with a piece of gauze.
 - To avoid washing out these topical medications, do not rinse your mouth, eat, or drink for 30 minutes after use.
- ❖ **Corticosteroid pills** taken by mouth are reserved for symptoms that are severe or difficult to treat. These medications should be taken with food and early in the day to avoid side effects.
- ❖ **A referral to an oral medicine specialist** may be necessary for severe or resistant ulcers.

WHEN SHOULD I SEEK MEDICAL CARE?

- ❖ Frequent outbreaks (>3/month or >8/year).
- ❖ Ulcers that take more than 14 days to heal.
- ❖ Spreading or unusually large sores.
- ❖ High fever.
- ❖ Sores accompanied by arthritis or diarrhea.
- ❖ Pain that is not controlled with the self-treatment measures described above.

RECOMMENDED WEBSITES: familydoctor.org, www.aaom.com, www.mayoclinic.org