

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, sports injuries, etc.) is the most common trigger.
- Food sensitivities (eg. chocolate, caffeine, strawberries, eggs, nuts, cheese, cinnamon, other spices, & acidic foods, like pineapple and citrus) 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. Minor canker sores affect about 20% of Americans at some point in their lives. The first occurrence is usually between the ages of 10 and 20. The frequency of this condition decreases with age.

WHAT ARE THE SYMPTOMS?

Canker sores typically cause ulcers that are shallow, painful, and:

- Covered by a whitish grey membrane, surrounded by a halo of very red tissue.
- Found on the inside of the mouth, including the tongue, inner cheeks, inner lips, soft palate (the back portion of the roof of the mouth), and gums.
- Usually heal on their own within 1-2 weeks without scarring.

Canker sores can also be classified as minor, major, or herpetiform:

- **Minor canker sores** are the most common. They are usually oval, small (<1cm), and few in number (5 or less). Most people have no more than 3-4 episodes a year.
- **Major canker sores** are uncommon. They are larger (>1cm), deeper, more painful, and more numerous. They may recur frequently and take up to 4-6 weeks to heal. New sores may develop as old ones are healing. Scarring can be extensive.
- **Herpetiform canker sores** occur in clusters of 10 to 100 pinpoint sores (1-2mm), which may merge to form larger ulcers.

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. In severe cases, initial evaluation may include lab tests to rule out autoimmune disorders, inflammatory bowel disease, celiac disease, immunosuppression, vitamin deficiencies (iron, B12, folate, zinc), Behcet syndrome, and other conditions.

WHAT IS THE TREATMENT?

No specific treatment is needed for minor canker sores, which are self-limited and heal on their own without scarring in 1-2 weeks.

SELF CARE MEASURES

- ❖ **Maintain good dental hygiene.**
 - Use a soft toothbrush and 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. Examples may include acidic or spicy foods.
- ❖ **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.

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 mouthwash** containing a numbing medication, such as 2% viscous lidocaine, can reduce symptoms, especially when used prior to eating.
- ❖ **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 during the first few days.
 - If a liquid is prescribed, it should be kept in the mouth for 5 minutes prior to being spit out.
 - If a gel or ointment is prescribed, a small amount is applied 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 further evaluation and treatment of severe or resistant ulcers.

WHEN SHOULD I SEEK MEDICAL CARE?

- ❖ Frequent outbreaks (>3 times/month or >8 times/year).
- ❖ Ulcers that take more than 10-14 days to heal.
- ❖ Spreading or unusually large sores.
- ❖ High fever with the development of sores.
- ❖ Sores that are accompanied by arthritis or diarrhea.
- ❖ Pain that is not controlled with the self-treatment measures described above.

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