What is recurrent aphthous stomatitis?
Recurrent aphthous stomatitis (RAS), commonly referred to as "canker sores," is a painful immune-mediated inflammatory condition of the oral cavity. RAS is a common condition that usually begins in adolescent and teenage years but occasionally develops initially later in life. During an episode, there may be solitary or multiple ulcers (these look like a small yellowish-white patch) that are located on the inner cheeks, inner lips, underside of the tongue, or soft palate, lasting for approximately one week before healing. Just before an ulcer appears, you may notice a burning sensation or a small lump in the area.

While most patients develop single ulcers a few times throughout a year, patients are considered to have severe or complex RAS when they have continuous ulcers with few, if any, days without ulcers, regardless of the size and/or number of lesions. This can be a serious medical condition associated with significant weight loss because of inability to eat from mouth pain.

What causes RAS?
We do not know what causes RAS, although it is known to be immune-mediated and often, other family members may be affected. Stress (such as emotional stress or physical illness), trauma (such as from biting), and acidic foods can all act as possible triggers. However, some patients may have ulcers similar to RAS caused by low levels of iron, folic acid, or vitamin B12, other deficiencies of the immune system, food allergies, and allergies to toothpastes containing sodium laurel sulfate (SLS). These ulcers go away when the underlying cause is treated. Behcet disease (which also causes ulcers in the genital area and sore eyes), inflammatory bowel diseases (such as Crohn disease, ulcerative colitis, and celiac disease) may cause oral ulcers identical to those of RAS. These ulcers usually go away when the bowel disease is brought under control. Rarely, some medications may cause aphthous-like ulcers but these go away completely when the medication is discontinued.

In most cases, however, even after many tests are done, the cause remains unknown; this is called idiopathic RAS. We do know that RAS is NOT an infection and is NOT caused by herpes (the "cold sore" virus) and you cannot spread it to family members or friends.

How do we know it is RAS?
Usually an experienced dental professional can diagnose RAS by the appearance and location of the ulcers, and by your description of when and where the ulcers appear. In some cases, a biopsy may be taken to rule out other conditions. Blood tests may be ordered to rule out some of the conditions discussed above.

How do we treat RAS?
Very rarely, RAS can be managed by simply correcting an underlying deficiency or avoiding certain foods. For the majority of patients in whom RAS occurs without a known cause, the goal is to lessen the severity and/or frequency of the painful ulcers.

Relatively mild cases may be treated by simply covering the ulcers with a protective ointment (such as Orabase”), pharmaceutical-strength cyanoacrylate (a “Superglue”-like substance) and Oradisc”. Topical anesthetics (such as viscous lidocaine) may be used for temporary pain relief. Many over-the-counter medications (such as Orajel”, Zylactin”) contain an effective topical anesthetic called benzocaine.

In more severe cases, topical steroid gels or rinses may be prescribed to help prevent future outbreaks, and to speed the healing time. You will likely be treated with topical steroids 3-4 times a day for a few weeks. Sometimes if there is a large ulcer, your doctor may recommend treating the area “intralesionally” (with a steroid injection directly into the involved area), to speed the healing process. In severe cases, steroid tablets such as prednisone may need to be taken for several weeks to help heal the lesions.
The most commonly prescribed topical steroids are fluocinonide or clobetasol gel (or compounded clobetasol rinse), and dexamethasone rinse. You may also be prescribed a topical non-steroid medication called tacrolimus, either as an ointment or as a compounded rinse. You may notice what is known as a “black box warning” on the tacrolimus packaging because animal studies showed an increased cancer risk from using this medication. We believe this risk to be minimal compared to the benefits you will experience. In spite of this warning, it is also widely prescribed by dermatologists because it successfully treats many skin conditions.

After symptoms have been brought under control, you may reduce the frequency of therapy to the lowest amount needed to maintain comfort, increasing the frequency during flare-ups as needed. It is a good idea to stop treatment completely if you have no discomfort to let your mouth rest rather than use the topical therapy continuously.

Instructions for applying a gel or ointment: After rinsing your mouth with water, gently pat the affected area(s) dry with cotton gauze. Place a small amount of gel on a clean finger, dab it onto the area that hurts and do not eat or drink for 15 minutes for the steroid to be absorbed. It will not hurt you to swallow some of this gel. You may also apply the gel to gauze and place the gauze against the affected area that you are treating. If the gums are involved, a custom tray, like those used for teeth bleaching but covering the affected gums, may be worn with the steroid in it for 30 minutes once or twice a day.

You may notice that the packaging of the steroid may have the following warning: “Not for internal use” or “For external use only.” Such topical steroids have been used for decades to treat inflammatory conditions in the mouth effectively. The warning is there because these steroids are not FDA-approved for this use although there are many studies that demonstrate their effectiveness and safety for treating oral diseases.

Instructions for using a mouth rinse/solution: If you have extensive or difficult to reach oral lesions, you may be prescribed a topical steroid solution (typically dexamethasone) that is used as a mouthwash. A teaspoon (5 ml) of solution should be rinsed for 5 minutes then spat out, and you should not eat or drink for 15 minutes afterwards. It is very important to hold the solution in your mouth for the full five minutes to ensure it works effectively. You may also be prescribed tacrolimus or clobetasol compounded into a rinse by a special compounding pharmacy. You would use it the same way as the dexamethasone.

Any of these topical gels or rinses may cause slight stinging when applied or rinsed. Your doctor may ask you to combine the gel or rinse you are using with topical numbing medicine called viscous lidocaine to ease this burning or stinging sensation. These treatments may cause you to develop a yeast infection (“thrush”) in your mouth. Your doctor may prescribe an anti-yeast (anti-fungal) rinse such as nystatin, clotrimazole troches, or fluconazole tablets to prevent and/or treat the yeast infection. You are particularly susceptible to this if you have diabetes or a history of yeast infections.

Systemic medications
Other medications that may be prescribed to prevent or reduce future outbreaks include pentoxifylline, colchicine, azathioprine and thalidomide, which all function by modulating the immune system. These have to be taken for many months and sometimes years. Short courses of systemic steroids may be useful for occasional outbreaks.

What can I expect?
Most patients develop fewer ulcers with flare-ups less often as they get older. RAS tends to flare up if your body is stressed, either physically (such as having a cold) or emotionally (such as having work or family problems).

For the majority of patients, RAS is simply an annoyance and no treatment is necessary. During flares, it is best to avoid crunchy, spicy and acidic foods, as well as strong toothpastes as they may worsen your symptoms. A children’s toothpaste is usually more comfortable to use, or you can use Biotene™ products which are milder.