Is the initiation of non-invasive dental hygiene procedures* contra-indicated?  No

- Is medical consult advised? ........................................ Yes, if the angular cheilitis has not yet been assessed by a physician or dentist for definitive diagnosis and treatment (including potential prescription medication and/or oral prosthesis adjustment).

Is the initiation of invasive dental hygiene procedures contra-indicated?**  No

- Is medical consult advised? ........................................ See above.
- Is medical clearance required? .................................. No
- Is antibiotic prophylaxis required? ............................... No
- Is postponing treatment advised? ............................... Yes, if angles of the mouth are sore and/or a fungal or bacterial infection is suspected.

Oral management implications

- The most common cause of AC is infectious and includes such organisms as Candida fungi (usually Candida albicans), Staphylococcus aureus bacteria, and β-hemolytic streptococci bacteria. While angular cheilitis most commonly results from Candida infection, infection is often polymicrobial.

- Persons at elevated risk for angular cheilitis include those with increased folding or wrinkling of skin at the corners of the mouth; individuals wearing dentures with decreased vertical dimension of occlusion (leading to saliva pools in fissures, creating a moist environment for infection); persons with oral infection with causative organisms; persons with Down syndrome; and individuals with underlying systemic conditions, including anemia, endocrine disorders (e.g., diabetes), immunological disorders (e.g., HIV infection), nutritional deficiencies (particularly iron and vitamin B complex deficiencies), hematologic malignancies, or solid organ malignancies. Individuals who habitually lick their lips are predisposed to AC due to the deposition of small amounts of saliva in the commissural angles.

- Other noninfectious etiologies include dry skin and hypersalivation, as well as atopic, seborrheic, irritant contact, and allergic contact dermatitis. In particular, nickel-induced angular cheilitis due to the use of orthodontic braces can occur. Expired lip balm (i.e., sunscreen component) can contribute to the development of AC, as can excessive mouth washing and aggressive use of dental floss.

- Patients/clients with Sjögren’s syndrome (associated with dry mouth) are also at elevated risk. Unlike the case for non-Sjögren’s AC, there is an inverse relationship between salivary flow and the presence of candidiasis.¹

- Remediation of predisposing factors is indicated, in conjunction with elimination of primary or secondary infection plus inflammation.

- Typically, physicians and dentists treat infection with topical antifungals (e.g., nystatin, ketoconazole, clotrimazole, or miconazole) and/or antibacterials (mupirocin or fusidic acid). (When S. aureus is implicated, topical antibiotic may also be applied to the anterior nares if colonization of the nose is present.) Topical steroids are sometimes used concurrently with anti-infectives to decrease inflammation of AC lesions. If an intraoral fungal infection is present, appropriate therapy (e.g., nystatin suspension for oral candidiasis) should be initiated by a physician or dentist. For patients/clients with oropharyngeal candidiasis, systemic therapy might need to be prescribed. Persons using inhaled steroids should rinse with water after use to minimize the amount of residual steroid left in the mouth and hence reduce the chance of Candida infection.

¹ This paradox may be explained by adequate levels of saliva being required for mucosal lubrication, tissue healing, and local immunity.
### Disease/Medical Condition

**ANGULAR CHEILITIS**

(also known as “AC”, “commissural cheilitis”, “angular stomatitis”, “perlèche”, cheilosis” [associated with riboflavin or other B vitamin deficiencies], and “angular cheilosis”)

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#### Oral management implications (cont’d)

- For idiopathic causes of angular cheilitis, treatment can be as simple as applying petroleum jelly to the affected areas. However, most AC involves infection and should be treated as such by a physician or dentist.

- In angular cheilitis related to denture-wearing, dental treatment requires adjustment of the denture to eliminate trauma and prescribing of antifungal drugs to treat *Candida* infection. Dental hygiene care to prevent recurrence involves instructing the patient/client in daily cleansing of the infected denture using chemical immersion (e.g., soaking the denture overnight in a weak sodium hypochlorite solution, assuming no metal parts). Other denture cleaners include vinegar, nonabrasive dentifrices, and commercial denture cleaning products.

- Patients/clients should be advised to use a new toothbrush when management of AC is started, because their toothbrush may be contaminated with causative fungi and/or bacteria.

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#### Oral manifestations

- Angular cheilitis is an inflammatory condition that occurs in one or both angles of the mouth. Signs of AC include erythema (redness), cracking, fissures, scaling, crusting, bleeding, and ulceration at the labial commissures. Symptoms include pain (ranging from asymptomatic to severe discomfort), burning, irritation, pruritis (itchiness), and dry lips.

- AC is frequently associated with oral candidiasis, which may present as white patches and erythema on the tongue and/or oral mucosa.

- AC can occur spontaneously but more often develops in patients/clients who wear oral dentures and appliances (especially *Candida*-related AC), those who are required to wear masks as part of their occupation (especially *S. aureus*-related AC), and in some small children – particularly those who drool and use pacifiers. Thumb sucking and lip licking are also associated with increased incidence.

- In the case of angular cheilitis associated with pernicious anemia (itself due to a form of vitamin B\(_12\) deficiency), oral manifestations include mucosal pallor; atrophic, painful mucosa, and reddened mucosa; mucosal ulceration; loss of papillae on the dorsum of the tongue; and burning and painful tongue.

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#### Related signs and symptoms

- Contributing factors to angular cheilitis are sometimes visible, such as loss of lower face height from ill-fitting dentures, which results in mandibular overclosure. If nutritional deficiencies underlie AC, various other signs and symptoms such as glossitis and skin pallor may be present, as well as other evidence of malnutrition or malabsorption.

- In denture wearers with angular cheilitis, denture stomatitis (also known as “denture sore mouth”, although it is often asymptomatic) may concurrently occur. Erythematous mucosa is present underneath the denture, and *Candida* infection is often implicated.

- Some drugs, by various mechanisms, may contribute to AC as a side effect. For example, isotretinoin, an analogue of vitamin A which is used to treat severe acne, dries the skin and commonly leads to cheilitis (inflammation of the lips), and, less frequently, to angular cheilitis.

- Although most cases of angular cheilitis may be readily identified, some other common conditions may mimic AC. For example, *herpes labialis* and erosive *lichen planus* can resemble angular cheilitis because both can affect the angles of the mouth. Therefore, definitive diagnosis of AC-like lesions by a qualified health care practitioner is indicated. Also, for patients/clients not responding to simple therapeutic measures, hematological screening (e.g., hemoglobin, iron, B-vitamins, etc.) should be undertaken by a physician.

*cont’d on next page*
Disease/Medical Condition

ANGULAR CHEILITIS
(also known as “AC”, “commissural cheilitis”, “angular stomatitis”, “perlèche”, cheilosis” [associated with riboflavin or other B vitamin deficiencies], and “angular cheilosis”)

References and sources of more detailed information


* Includes oral hygiene instruction, fitting a mouth guard, taking an impression, etc.
** Ontario Regulation 501/07 made under the *Dental Hygiene Act, 1991*. Invasive dental hygiene procedures are scaling teeth and root planing, including curetting surrounding tissue.

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