Oral management implications

- **Mode of transmission** of HSV-1 is primarily via contact with the saliva of carriers, resulting in oral herpes. Transmission may also occur via contact of active cold sores on the lips of carriers or via contact with other active herpetic lesions. Less commonly, according to some sources, herpes virus may also be transmitted via touching objects that are infected with the virus, including infected razors, towels, dishes, and other shared items. Transmission of HSV-2 is usually via sexual contact and causes genital herpes. However, oral-genital, oral-anal or anal-genital contact means that HSV-1 and HSV-2 may be transmitted to various sites, and the historical distinction between the two types of HSV in terms of site of infection is now blurred. After the initial infection, the virus becomes dormant in the sensory ganglia of the face (or genital area); reactivation of the virus causes cold sores of the mouth (or genital sores, if the primary infection was in the genital area).

- Routine barrier infection control measures (i.e., mask, eye protection, and gloves) are essential in reducing the transmission of the herpes simplex virus to oral health care providers.

- Patients/clients with **primary herpetic gingivostomatitis** (PHGS) should be advised to rest, drink fluids, and eat soft, nutrient-rich foods. Teeth can be cleaned at home with an extra-soft toothbrush if tolerated. Over-the-counter topical anesthetics and systemic nonsteroidal anti-inflammatory agents can be used to minimize discomfort. However, topical anesthetics should be used cautiously with children in order not to anesthetize the throat, which can be distressing. Even if the dental hygienist has been previously exposed to the herpes virus (which is highly probable) or has had a symptomatic initial infection with or without recurrent lesions, the hygienist can still be inoculated with HSV by inadvertent finger puncture with a virus-contaminated instrument. This can result in **herpetic whitlow**, which is a potentially recurrent herpetic lesion of the finger that can be very painful and debilitating.

- Patients/clients with **recurrent (secondary) oral herpes simplex infections** (i.e., cold sores) may be advised to apply ice or a warm washcloth to the lesions for pain relief; wash the blister gently with antiseptic soap and water to reduce potential virus to other body areas; avoid hot beverages, spicy and salty foods, and citrus fruits/juices; gargle with cool water; rinse with salt water; and take a pain reliever such as acetaminophen or ibuprofen. Referral to a physician or dentist is appropriate for consideration of treatment with prescription antiviral agents, with oral medications generally working better than topical formulations. Antiviral medications such as acyclovir, famciclovir, and valacyclovir work best if used during the prodromal (tingling/burning) phase, before any blisters develop. For patients/clients with very frequent recurrences, prophylactic continual use of antivirals may be a consideration.
HERPES SIMPLEX INFECTION

(various intra- or peri-oral infections/manifestations also known as herpetic gingivostomatitis, herpes labialis, herpes simplex labialis, oral herpes, cold sore, and fever blister; finger infection known as herpetic whitlow; caused by herpes simplex virus type 1 [HSV-1] and less commonly by herpes simplex virus type 2 [HSV-2])

Oral management implications (cont’d)

- Recurrent herpes simplex lesions shed huge amounts of herpes virus, and thus the dental hygienist should not treat the patient/client while lesions are present. Not only are herpetic whitlow lesions a possibility, but the virus is also shed in the saliva, and thus spatter during treatment can be hazardous.

- Patients/clients with recurrent oral herpes simplex should be educated about their condition and how to prevent spread of infection. Persons with frequent recurrences are often attuned to the prodromal symptoms, and they should be instructed to reschedule dental hygiene appointments until the episode has run its course.

- The use of sunscreens may reduce the recurrence of herpes labialis in some patients/clients.

- If you, the dental hygienist, have a herpetic whitlow lesion on your hand, you should not engage in patient/client contact until it has completely healed, because you pose an infectious risk to others. Gloves are insufficient protection. Herpetic whitlow of the hand/fingers can last many weeks longer than the usual two weeks or so course of herpes virus infection in the oral tissue.

- If you, the dental hygienist, have active cold sores (i.e., active recurrent herpetic lesions on the face), you should exercise meticulous infection control (including covering of lesions) when performing procedures involving close proximity to patients/clients.

Oral manifestations

- Primary herpetic gingivostomatitis (PHGS) typically occurs following first-time exposure of seronegative persons or those who have not produced adequate antibody response during a previous infection with either of the two HSVs. PHGS typically affects children between the ages of 6 months and 6 years, and may be mild or severe. Many infections are subclinical, with infected persons exhibiting no signs or symptoms.

- PHGS is characterized by oral and/or perioral vesiculoulcerative lesions. While herpetic gingivostomatitis is a self-limiting disease, affected persons may experience severe pain that constrains eating and drinking. Symptoms usually appear between 1 to 3 weeks after initial contact with the virus, and may last up to 3 weeks.

- Symptomatic PHGS is usually preceded or accompanied by a burning or tingling sensation at the site of inoculation, cervical and submandibular lymphadenopathy, sore throat, fever, malaise, myalgia, headache, decreased appetite, and pain with swallowing. The characteristic vesicular eruptions may occur on the skin, vermilion border of the lips, or on any mucosal surface intraorally. The discrete, grayish vesicles typically rupture and coalesce within 24 hours to form ulcers with a red, elevated “halo” margin with a depressed gray or yellow central area. The ulcers teem with shedding virus.

- In healthy persons, recovery from primary infection is expected within 7 to 14 days. Only 15% to 40% of seropositive patients/clients go on to experience recurrent mucocutaneous lesions.

- Recurrent (secondary) oral herpetic infection may be triggered by emotional stress, fatigue, fever, sun exposure, onset of menses, illness, and physical trauma. Patients/clients often have prodromal symptoms of pain, burning or tingling at the site where the lesion recurs. Within several hours of the prodrome, vesicles appear, which then become ulcerated and coalesce into a large ulcer or ulcer, typically on the lip or perioral skin. The lesions may be painful, and they crust over as healing occurs. Healing occurs without scarring in about 14 days. Recurrences may be rare, or may occur as often as monthly. Lesions usually recur in the same place on the vermilion border or skin around the face, and recurrent symptoms are usually milder than those associated with the initial episode.

- Recurrent herpetic lesions can occur intraorally — typically on keratinized mucosa of the hard palate or gingiva — as well as on the lips. This distinguishes them from the more commonly occurring aphthous ulcers, which usually appear on the movable mucosa. Dental procedures frequently cause intraoral herpes recurrence on the epithelium adjacent to the teeth.

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

HERPES SIMPLEX INFECTION

(varying intra- or peri-oral infections/manifestations also known as herpetic gingivostomatitis, herpes labialis, herpes simplex labialis, oral herpes, cold sore, and fever blister; finger infection known as herpetic whitlow; caused by herpes simplex virus type 1 [HSV-1] and less commonly by herpes simplex virus type 2 [HSV-2])

Related signs and symptoms

- Herpes simplex is a viral infection characterized by a localized primary lesion, latency in nerve tissue (e.g., trigeminal, facial, and vagus ganglia), and a tendency to local recurrence. Irrespective of the viral type, HSV primarily affects the mucous membranes and skin. The two causal agents — HSV-1 and HSV-2 — generally produce distinct clinical syndromes, depending on the portal of entry. Either may infect the oral mucosa (oral herpes) or genital tract (genital herpes).
- The prevalence of HSV-1 infection increases gradually from childhood, with up to 90% of the population developing antibodies to HSV-1. Most people in Canada are infected with oral HSV-1 by 20 years of age.
- Unusual manifestations of primary herpetic infection may include non-perioral facial skin (e.g., near the eye). Meningoencephalitis may also occur.
- Herpetic infection of the cornea is a serious condition. Recurrences are extremely painful and may last months. Partial loss of sight can occur.
- Neonatal primary infection with HSV can result in fatal generalized infections of newborns infants via viral transmission from the birth canal or, less commonly, via intrauterine transmission. Neonatal risk is elevated if the mother is undergoing primary infection herself.

References and sources of more detailed information

- Compendium of Pharmaceuticals and Specialities. Ottawa: Canadian Pharmacists Association; 2012.

* 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.

Date: April 24, 2014