**Disease/Medical Condition**

**SYPHILIS**

(also known as “lues”; caused by spirochete bacterium *Treponema pallidum*; also known generically as a “sexually transmitted infection” [STI], “sexually transmitted disease”, “STD”, “venereal disease”, and “VD”)

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**Is the initiation of non-invasive dental hygiene procedures* contra-indicated?** Potentially

- Is medical consult advised? ........................................... Yes, if active infectious oral disease is suspected on the basis of history and/or examination.
- Yes, if previously undiagnosed and/or untreated non-infectious oral STI lesions (e.g., syphilitic gummas) are suspected.
- If patient/client has oral and/or reproductive/systemic manifestations suggestive of an STI, refer to primary care provider (e.g., physician or nurse practitioner) for follow-up and definitive diagnosis (e.g., blood test, etc., for syphilis). Instruct patient/client to reschedule dental hygiene appointment when oral syphilitic infection has been appropriately treated with antibiotics and rendered orally non-infectious.

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**Is the initiation of invasive dental hygiene procedures contra-indicated?** Potentially

- Is medical consult advised? ........................................... See above.
- Is medical clearance required? .................................... Yes, if active infectious oral disease is suspected on the basis of history and/or examination.
- Is antibiotic prophylaxis required? ............................... No.
- Is postponing treatment advised? ................................. Yes, if active infectious oral disease is suspected on the basis of history and/or examination.

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**Oral management implications**

- **Mode of transmission:** direct contact with infectious exudates from obvious or concealed, moist, early lesions of skin and mucous membranes of infected persons, typically during intimate interpersonal contact (oral-oral; oral-genital; oral-anal; oral-vulvar/vaginal; penile-vaginal; penile-anal), which can result in oral manifestations. The risk of transmission during oral sex (fellatio, cunnilingus, and anilingus) is increased if there are small cuts in the mouth (e.g., from dental work; brushing or flossing before/after oral sex; gum disease; or sharp foods). Risk during oral sex is also increased if there are sores on the mouth or genitals caused by rough or prolonged oral sex or an STI such as herpes. Transplacental infection of the fetus can occur during the pregnancy of an infected woman, and rare transmission by kissing or fondling children with early congenital disease also occurs. Transmission can occur through blood transfusion if the donor is in the early stages of disease; blood donations in Canada (and in many other countries) are screened for markers of syphilis. Infection through blood via needle-sharing has rarely been reported as a mode of transmission. Infection via contact with contaminated articles is theoretically possible, but exceedingly rare. Health professionals have developed primary syphilitic lesions on their hands following unprotected clinical examination of infectious lesions.

- In Ontario, syphilis is a specified Reportable Communicable Disease (as per Ontario Regs 559/91 and amendments under the *Health Protection and Promotion Act*). Thus, physicians and laboratories are obligated to report this disease to the local Medical Officer of Health so the local public health unit can ensure affected persons are appropriately treated and contact tracing occurs to minimize further disease transmission.

- Sex partners of patients/clients with STIs should be assessed by an appropriate healthcare professional (e.g., physician) and treated as appropriate.

- To reduce acquisition and spread of oral cavity STIs, condoms or dental dams should be used for all oral-genital and oral-anal contact.

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### Oral management implications (cont’d)

- Brushing or flossing of teeth should be avoided within 30 minutes of giving oral sex.
- Antibacterial mouthwash should be used after oral sex.
- The occurrence of certain STIs (including chlamydia) in children automatically warrants consideration of sexual child abuse, and dental hygienists should be familiar with their professional reporting obligations to the Children’s Aid Society. Additionally, palatal petechiae in children could be a sign of forced oral sex.
- Untreated lesions of primary syphilis (chancres) and secondary syphilis (mucous patches) are highly infectious, and dental hygienists should ensure, as always, standard infection control measures are in place to minimize transmission to the dental hygienist and others. If these lesions are discovered during examination, dental hygiene procedures should be halted.

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### Oral manifestations

- The classic manifestation of **primary syphilis** at the site of inoculation is the **chancre**. This is a solitary, round, granulomatous lesion, which begins as a round papule that erodes into an ulcer with a smooth grayish surface that is often associated with a yellowish crust. Size varies from a few millimetres to 2 to 3 cm. Typically painless, the lesion teems with *T. pallidum* bacteria. Lymphadenopathy is a key feature, which may be unilateral. The chancre usually appears 2 to 3 weeks (range, 3 to 90 days) after exposure, and subsides in 3 to 6 weeks without treatment, leaving variable scarring. In addition to genitalia, fingers, nipples, and anus, the oral cavity (including lips, tongue, and buccal and labial mucosa) is a common site for chancres.

- In **secondary syphilis**, oral manifestations (occurring 6 to 8 weeks after initial exposure) include pharyngitis, papular lesions, irregular linear erosions, parotid gland enlargement (rarely), and mucous patches. The lesions of the mucous membranes (and skin) of secondary syphilis are highly infectious. The oral mucous patch appears as either a grayish-white or erythematous erosion or slightly raised, asymptomatic papule(s) with a glistening or ulcerated surface. Similar to the chancre of primary syphilis, spontaneous regression occurs with or without antibiotic therapy, although antibiotics are required to eradicate the systemic infection.

- In **latent syphilis** (untreated infection in which patient/client shows seroreactivity — i.e., positive blood test for syphilis — but little or no clinical evidence of disease), mucocutaneous relapses (considered infectious) may occur during the first four years of this syphilitic stage.

- In **tertiary (late) syphilis** (occurring in about 1/3 of untreated persons, generally several years after disease onset), oral lesions consist of gummas and diffuse interstitial glossitis. The oral gumma (non-infectious) is a rare lesion that usually involves the tongue and palate. It first appears as a painless, firm tissue mass that eventually ulcerates. Palatal gummas may perforate through the hard palate into the nasal cavity or maxillary sinus. Interstitial glossitis results from the contracture of the tongue musculature after healing of a gumma. It is a premalignant condition, where the tongue may appear lobulated and fissured with atrophic papillae, resulting in a bald-appearing and wrinkled surface; leukoplakia is commonly present.

- Oral manifestations of **congenital syphilis** include defective molars with multiple supernumerary cusps (mulberry molars); peg-like permanent central incisors with notching of the incisal edge (Hutchinson’s incisors); atrophic glossitis; a high-arched and narrow palate; and perioral rhagades (skin fissures or cracks).

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Related signs and symptoms

- A single STI is accompanied by additional STIs in about 10% of cases, and STI-associated genital ulceration (such as that from syphilis) increases the risk for human immunodeficiency virus (HIV) transmission.

- In Canada, reported rates of syphilis have been steadily rising since the late 1990s. In 2010, nearly 1,800 cases of infectious syphilis were reported in Canada, with reported rates being higher in males than females in all age groups. Men aged 30 to 39 years have the highest rate, and there has been a dramatic increase in syphilis incidence among men who have sex with men (MSM) since 2001.

- Untreated syphilis progresses through several stages:
  - **In primary syphilis** (first stage), a chancre (painless, open sore) typically develops around the genitals, rectum, and/or mouth 3 to 90 days after contact.
  - **In secondary syphilis** (second stage), signs/symptoms usually manifest 2 to 24 weeks after exposure. These include a symmetrical, maculopapular, non-itchy rash that can occur anywhere on the body, including on the palms and soles. Flu-like symptoms occur, including headache, low-grade fever, fatigue, decreased appetite, weight loss, as well as sore throat. Also associated with this stage are white, wart-like genital lesions known as condylomata lata, which teem with spirochetes.
  - **In latent syphilis**, typically there are no symptoms. The latent stage may last for many years, and, in some cases, for the remainder of the person’s life. However, progression to tertiary syphilis occurs in about 1/3 of untreated persons.
  - **In tertiary syphilis** (late stage), signs/symptoms occur several to many years after disease onset. It is the destructive stage of the disease, involving mucocutaneous, osseous, and visceral structures. In addition to the oral cavity, destructive gummas may involve the skin, other mucous membranes, bone, nervous tissue, and various organs. Cardiovascular syphilis often manifests as an aneurysm of the ascending aorta. Neurosyphilis (which may also occur during other stages of syphilis) can produce a meningitis-like syndrome, alteration in pupillary reflexes (non-reactive to light), altered tendon reflexes, general paresis (altered mental function), tabes dorsalis (progressive degeneration of the sensory spinal cord, resulting in gait unsteadiness, lightning-like pain, and incontinence), and/or neuropsychiatric manifestations (psychosis, delirium, and dementia). Neurosyphilis is very rare in Canada, given the advent of antibiotic therapy.

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References and sources of more detailed information

- Middlesex-London Health Unit
  www.healthunit.com/syphilis
  www.healthunit.com/oral-sex
  www.healthunit.com/sexually-transmitted-infections


- Public Health Agency of Canada


* 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: December 23, 2014