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## Outbreak of Infectious Syphilis in Alaska

### Background

Syphilis is a sexually transmitted disease caused by the spirochete *Treponema pallidum*. After a decade of decline, the rate of primary and secondary syphilis in the United States increased in 2001 and 2002. The increase occurred only among men (MMWR 2003; 52:1117-20). Recent syphilis outbreaks have been reported among men who have sex with men in a number of major cities, including San Francisco, Los Angeles, and Seattle in the western U.S.

### Outbreak

Infectious syphilis cases were rare in Alaska in the past decade. The last reporting period with more than two syphilis cases occurring in 1995. Between September 15 and December 10, 2004, six laboratory-confirmed syphilis case-patients were identified in Alaska (one in Southeast and five in Anchorage). All cases were classified as infectious. All six case-patients were males aged 21-42 years. Four were Caucasian, one Black, and one Alaska Native. All cases involved male-male sex. Some case-patients also reported sex with females and three reported likely exposure sources outside of Alaska.

Presenting signs and symptoms of all six case-patients included resolving penile and rectal chancres, generalized lymphadenopathy, palmer/plantar rash, and a symmetrical, maculopapular rash. Three case-patients presented on their own to a primary care provider complaining of classic symptoms, two presented as referred sexual partners of a confirmed case-patient, and one was screened as part of a follow-up examination after having previously been treated for chlamydia.

### Facts About Syphilis

#### Incubation period

The incubation period for primary syphilis is usually three weeks but may range from 10 to 90 days. Incidental use of antibiotics may delay the appearance of symptoms.

#### Transmission

Syphilis can be transmitted through oral, vaginal and anal sex with an infected partner at any time while symptoms are present, even if signs of infection such as lesions or rash are not clearly visible. Syphilis lesions are highly infectious. Barrier methods are generally effective at preventing the spread of syphilis, although condoms may not cover the affected area.

#### Diagnosis

Excellent serologic tests are readily available through public and private laboratories and include: nontreponemal tests, such as the RPR (Rapid Plasma Reagin); and treponemal tests, such as the FTA-ABS (Flourescent treponemal antibody absorption) and the TP-PA (*T. pallidum* particle agglutination). Darkfield microscopy, where available, is used to substantiate the diagnosis of primary and secondary syphilis.

#### Primary syphilis

Typically, the first stage of syphilis is marked by the appearance of a single, small, painless, ulcerated lesion. Multiple primary lesions have sometimes been observed, and some may be as large as the size of a quarter. A primary lesion can become painful in the presence of a secondary bacterial infection or if the patient has made attempts to self-medicate topically.

It is not unusual for primary symptoms to be so mild as to go unnoticed by the patient. The primary lesion resolves after about three weeks. There may be a latent period, typically about four weeks in duration, before the infection moves into the secondary stage, although the primary and secondary stages sometimes overlap.

#### Secondary syphilis

Secondary symptoms typically last four weeks before resolving. Common clinical signs/symptoms include:

- palmer/plantar rash
- body rashes
- condylomata lata (flat, raised papules)
- mucous patches
- lymphadenopathy
- alopecia

#### Latent syphilis

If untreated, syphilis will lapse into a latent stage during which the disease becomes noncontagious, and no symptoms are present. Many people will suffer no further signs and symptoms of the disease even without treatment.

#### Tertiary syphilis

Approximately one-third of people who have had secondary syphilis go on to develop the complications of late, or tertiary, syphilis, in which the spirochetes damage the heart, eyes, brain, nervous system, bones, joints, or almost any other part of the body. This stage can last for years or even decades, and can result in mental illness, blindness, heart disease, other neurologic problems, and death.

#### Management of Sex Partners

**Immediate reporting of suspected or diagnosed syphilis is critical to initiate public health response.** Partner notification is a voluntary, confidential process that informs sexual contacts of syphilis case-patients of their potential risk of contracting syphilis. This service, provided by trained public health personnel, is available for all syphilis cases reported to the Alaska Section of Epidemiology.

#### Syphilis and HIV

People with HIV infection are at risk for severe sequelae if infected with syphilis. Early syphilis infection has been known to progress very quickly to neurosyphilis in those with impaired immune function, resulting in blindness, loss of hearing, and paralysis, and requiring aggressive inpatient treatment. Syphilis lesions may facilitate acquisition and transmission of HIV infection.

#### Congenital syphilis

Congenital syphilis (CS) occurs when the *T. pallidum* is transmitted from a pregnant woman with syphilis to her fetus. Untreated syphilis during pregnancy can lead to stillbirth, neonatal death or infant disorders such as deafness, neurological impairment, and bone deformities. Prevention of CS depends on prenatal syphilis screening and prompt treatment for pregnant women at risk for syphilis. The last reported case of CS in Alaska was in 1976.

### Recommendations

1. Healthcare providers should conduct a thorough examination, as syphilis lesions may be located in or around the genital region, mouth, or anus.
2. Patients with primary, secondary, or early latent syphilis should be treated with **Bicillin L-A (benzathine penicillin G), 2.4 million units** in a single intramuscular dose. This will resolve clinical signs/symptoms, prevent sexual transmission, and cure early or incubating syphilis. (Note that Bicillin C-R should NOT be used as it may result in inadequate treatment)
3. HIV status affects treatment, and HIV testing should be encouraged for all patients who have syphilis.
4. Patients infected for more than one year or patients with HIV disease should be given three doses of intramuscular benzathine penicillin G, 2.4 million units administered at 1-week intervals.
5. Exposed sex partners of confirmed early syphilis cases should receive prophylactic treatment along with serological testing and examination.
6. Both providers and laboratories should immediately report suspected or confirmed cases of syphilis to the State Section of Epidemiology. Reports may be phoned to the Rapid Telephonic Reporting system at 561-4234 (Anchorage) or 1-800-478-1700 (statewide) or sent by confidential fax to 561-4239.