Hamilton County is in the grips of a syphilis epidemic. Hamilton County has the highest rates of syphilis and other STDs among all counties, urban and rural, in the state of Ohio (ODH 2006-2010 Chlamydia, Gonorrhea, and Syphilis Annual Summaries\(^1\)). The 2010 rate for syphilis in Hamilton County was 50.0 per 100,000 persons. By comparison, the 2010 statewide rate was 9.4 per 100,000 persons. Racial and ethnic minorities are disproportionately affected by congenital syphilis, as evidenced by the 9-to-1 ratio of African American to white cases in 2010. The majority of the cases of syphilis have been reported in residents of the City of Cincinnati.

We are requesting that physicians maintain a high index of suspicion for syphilis when evaluating their patients, obtain appropriate serological tests to confirm the diagnosis when syphilis is suspected, and to initiate therapy when indicated. Persons who have syphilis might seek treatment for signs or symptoms of primary infection (i.e., ulcer or chancre at the infection site), secondary infection (i.e., manifestations that include, but are not limited to, skin rash, mucocutaneous lesions, and lymphadenopathy), neurologic infection (i.e., cranial nerve dysfunction, meningitis, stroke, acute or chronic altered mental status, loss of vibration sense, and auditory or ophthalmic abnormalities, which might occur through the natural history of untreated infection), or tertiary infection (i.e., cardiac or gummatous lesions).

Serological studies are used to diagnose syphilis. A presumptive diagnosis of syphilis is possible with the use of two types of serologic tests: 1) nontreponemal tests (e.g., Venereal Disease Research Laboratory [VDRL] and RPR) and 2) treponemal tests (e.g., fluorescent treponemal antibody absorbed [FTA-ABS] tests, the \(T. pallidum\) passive particle agglutination [TP-PA] assay, various EIAs, and chemiluminescence immunoassays). The use of only one type of serologic test is insufficient for diagnosis, because each type of test has limitations, including the possibility of false-positive test results in persons without syphilis. (See attached diagnosis algorithm) All patients diagnosed with syphilis should be screened for HIV.

Patients diagnosed with syphilis should be treated. The most recent treatment recommendations were published in 2010 in *Morbidity and Mortality Weekly Report* (December 17, 2010, Vol. 59, No. RR-12)\(^2\). Syphilis treatment recommendations are summarized in Table 1. The Ohio Department of Health will provide Benzathine Penicillin G at no charge to providers.

Hamilton County Public Health is building a team of four Disease Investigation Specialists (DIS) whose function is to ensure treatment and reduce spread of syphilis and HIV infections in our community. Pregnant women with positive disease reports for syphilis or HIV will be our first priority. Within one business day of confirmation of a new syphilis or HIV infection in a pregnant woman, a DIS will contact your office to determine whether the confirmatory test
report is available and whether treatment and/or referral were provided. After contact with your practice, the DIS will contact these patients to elicit the names of sexual contacts who may have been infected; offer partner notification services and endeavor to link cases and their contacts to testing and treatment services with their primary care provider or through other community resources. The DIS staff will offer these services to all new syphilis and HIV cases in other populations within 3 business days of case confirmation. It would be helpful if you would designate a specific contact person in your practice with whom the DIS staff can communicate. Although these are both reportable diseases, we would be happy to establish a memorandum of understanding with your practice to facilitate communication.

Cases of Syphilis and HIV can be reported by calling 513-946-7637 or faxed though our secure server at 513-946-7601.

References:

Self study with CME credit: http://www2a.cdc.gov/stdtraining/self-study/syphilis.asp

Table 1.

Treatment of Syphilis Infection

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Adults and Children &gt; 17 years</th>
<th>Pregnant Women(^1)</th>
<th>Penicillin Allergic Persons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary or Secondary or Early Latent Syphilis &lt; 1 year</td>
<td>2.4 million units Benzathine Penicillin G in Single dose IM</td>
<td>2.4 million units Benzathine Penicillin G in Single dose IM</td>
<td>Doxycycline 100 mg po BID X 14 days OR Tetracycline 500 mg po QID X 14 days</td>
</tr>
<tr>
<td>Late Latent Syphilis &gt; 1 year or Syphilis infection of Unknown Duration</td>
<td>7.2 million units Benzathine Penicillin G IM administered as 2.4 million units each at one week intervals</td>
<td>7.2 million units Benzathine Penicillin G IM administered as 2.4 million units each at one week intervals</td>
<td>Doxycycline 100 mg po BID X 28 days OR Tetracycline 500 mg po QID X 28 days</td>
</tr>
</tbody>
</table>

\(^1\) Pregnant women with known or suspected PCN allergy will be referred to an allergist for desensitization and then will be treated for syphilis.