Assessment

Subjective Findings
The following subjective criteria meet the requirements for a STD ERRN or RN to order a serology test for Syphilis (STS) by standing order.
Clients may present with the following history:
- genital, anal or oral lesion(s)
- rash on trunk, palms and/or soles of feet
- alopecia
- contact to syphilis or partner with symptoms
- asymptomatic
- Blood Bank sent him/her, a letter saying positive test for syphilis

Objective Findings
If the following is seen on examination, the STD ERRN shall collect all available syphilis testing (STAT RPR, or Darkfield (DF) and/or serology test for Syphilis (STS) that the local health department offers by standing order:
1. genital, anal or oral ulcerated lesion(s)
If either of the following are seen on examination, the STD ERRN shall collect all available syphilis serology testing (STAT RPR and/or STS) that the local health department offers by standing orders:
2. trunk, palm or planter rash
3. alopecia of hair or eye brows
4. complaint of visual changes
If either of the following apply to the STD client’s presenting history, the STD ERRN shall order a STS with or without a TREP-SURE based on table 1 below:
4. referral by DIS, other medical provider or verified sexual partner
5. referral or client letter from local blood banks regarding positive syphilis screening test
6. client requesting asymptomatic STD screen who has not had a syphilis serology in the last 30 days

Plan of Care
Implementation
A registered nurse or STD ERRN employed or contracted by the local health department may order all available syphilis tests offered including serologies and specimen collected by the STD ERRN or other medical provider.

Nursing Actions
A. Syphilis approved test should be order by STD ERRN based on any subjective or objective findings listed above:
1. Darkfield (DF)
   To collect a DF specimen:
   - clean slides with alcohol before using
   - make two or more slides, if enough fluid is available
   - clean and soften the lesion with non-bacteriostatic saline on gauze
   - gently abrade the lesion to cause oozing, applying gentle pressure at the base of the lesion, if necessary. Avoid making the lesion bleed
   - allow serous fluid to accumulate and apply to slide by touching the slide to the lesion or by using a sterile bacteriologic loop
   - cover-slip the specimen
• examine immediately using a DF microscope. If not examined immediately, slides must be placed in a moist chamber to prevent drying 
(Tip: A moist chamber may be created by placing sterile gauze in a petri dish and moistening with sterile saline. Place DF slides on top of the gauze and place cover on petri dish).

Positive Finding - T. pallidum detected from lesion exudate or tissue
Negative Finding – T. pallidum NOT detected from lesion exudate or tissue

2. STAT Rapid Plasma Reagin (RPR) –
If the client does not have a history of syphilis: a STAT RPR can be collected and processed by some local health department’s (LHD) labs during the same STD visit.
• Positive results – Reactive
  (the client meets the criteria for presumptive treatment and referral to regional or local DIS)
• Negative results – Non-Reactive
  (if the symptoms or history suggest possible syphilis, contact your local medical provider before the client leaves the clinic for individual orders)

3. Syphilis Serology –
a. Rapid Plasma Reagin (RPR)
  • is available as a non-treponemal screening test from the NCSLPH
  • a RPR serology is to be ordered each time a client comes to the STD clinic, unless the client has had a RPR serology within the last 30 days and the visit is not concerning possible syphilis symptoms. (i.e., screening only)
b. Toluidine Red Unheated Serum Test (TRUST) -
  • is available as a non-treponemal screening test from some reference labs
  • The TRUST was used in the past by the NCSLPH.
  *TRUST and RPR titers are not directly comparable so when following titers to assess for adequate response to treatment or reinfection, every effort should be made to use the same non-treponemal screening method (RPR vs TRUST) that was used for the initial screen.
c. TrepSure EIA
  • is available to LHDs as a confirmatory treponemal screening test
  • a TREP-SURE will be run automatically by the NCSLPH, if the RPR is reactive
  • a TREP-SURE should be requested in addition to the RPR, if the client is suspected by the DIS or other medical provider to have Latent, Late Latent or Neurosyphilis, Congenital, or CNS Involvement stages of syphilis (see table below copied from 2015 SCOPE manual pg. 127)

Table 1: Recommended Tests for the Different Stages of Syphilis

<table>
<thead>
<tr>
<th>Disease Stage</th>
<th>Specimen</th>
<th>Test to Request</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screening</td>
<td>Serum</td>
<td>RPR or TRUST</td>
</tr>
<tr>
<td>Primary</td>
<td>Serum</td>
<td>RPR or TRUST</td>
</tr>
<tr>
<td>Secondary</td>
<td>Serum</td>
<td>RPR or TRUST</td>
</tr>
<tr>
<td>Latent</td>
<td>Serum</td>
<td>RPR or TRUST, TREP-SURE</td>
</tr>
<tr>
<td>Late Neurosyphilis</td>
<td>Serum</td>
<td>RPR or TRUST, TREP-SURE</td>
</tr>
<tr>
<td>Congenital CNS Involvement</td>
<td>Serum</td>
<td>RPR or TRUST, TREP-SURE</td>
</tr>
</tbody>
</table>

Prozone Phenomenon:
• Up to 2% of clients who present with classic symptoms of secondary syphilis may have a negative RPR due to the production of excessive antibodies. For these clients please note “Other” in Section 9 of the form (Reason for Testing) on the NCSLPH requisition form DHHS #3446 “patient has classic secondary syphilis symptoms so if the patient’s “RPR is negative, please dilute and rerun to rule out the prozone phenomenon”
- Failure to supply the requested patient information may result in significantly delayed specimen testing.

Interpretation of RPR and/or TREP-SURE Lab Findings used by NCSLPH (2015 SCOPE manual pg. 129)

**Table 2: RPR & TREP-SURE Interpretations:**

<table>
<thead>
<tr>
<th>RPR Results</th>
<th>TREP-SURE Results</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reactive</td>
<td>Positive</td>
<td>Usually indicates syphilis.</td>
</tr>
<tr>
<td>Reactive</td>
<td>Negative</td>
<td>“Biologic False Positive” reaction in reagin tests may be caused by infection, immunizations, inflammatory disease, immunity abnormalities, drug addiction, pregnancy, or aging. Tests should be repeated on a follow-up specimen if doubt exists.</td>
</tr>
<tr>
<td>Non-Reactive</td>
<td>Not Done</td>
<td>Treponemal tests are not indicated unless late syphilis is suspected according to clinical data. “Up to 30% of primary syphilis cases can have a negative RPR, so if patient has s/s of primary syphilis, RPR should be repeated in 2-4 weeks and patient should be empirically treated.”</td>
</tr>
<tr>
<td>Non-Reactive</td>
<td>Positive</td>
<td>Usually indicates previously treated syphilis or late syphilis (untreated).</td>
</tr>
</tbody>
</table>

**Criteria for Notifying the Medical Provider**

1. Contact the medical director or medical provider, if there is any question about whether to carry out any provision of the standing order.
2. Consult with the medical director or medical provider, if:
   - lesions are present
   - complaints of ocular symptoms
   - test results do not confirm clinical findings (i.e., prozone effect – false negative RPR)
   - suspect syphilis by history but STAT RPR is not available
   - any question regarding secondary syphilis symptoms

**Follow Up**

1. Immediate treatment should occur when clinical findings are consistent with an early syphilis infection, without waiting for test results.
2. Immediate treatment should occur when positive lab findings meet treatment criteria in patients who present without clinical symptoms of syphilis.
3. Medical director or medical provider can order empirical treatment.
4. Refer newly diagnosed cases to regional or local DIS within 24 hours

Approved by: ___________________________ Date approved: ____________

Local Health Department Medical Director

NC Sexually Transmitted Diseases Public Health Program Manual/Treatment Guidelines
Lab Standing Order for Syphilis Testing
October, 2015
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Legal Authority: Nurse Practice Act, N.C. General Statutes 90-171.20(7)(a)(e)(f)&(8)(c)