The Resurgence of Syphilis and Congenital Syphilis: What Do We Do Now?

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Disclosures

Philana Liang has no relevant financial interests to disclose.

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Image from the Smithsonian Institute

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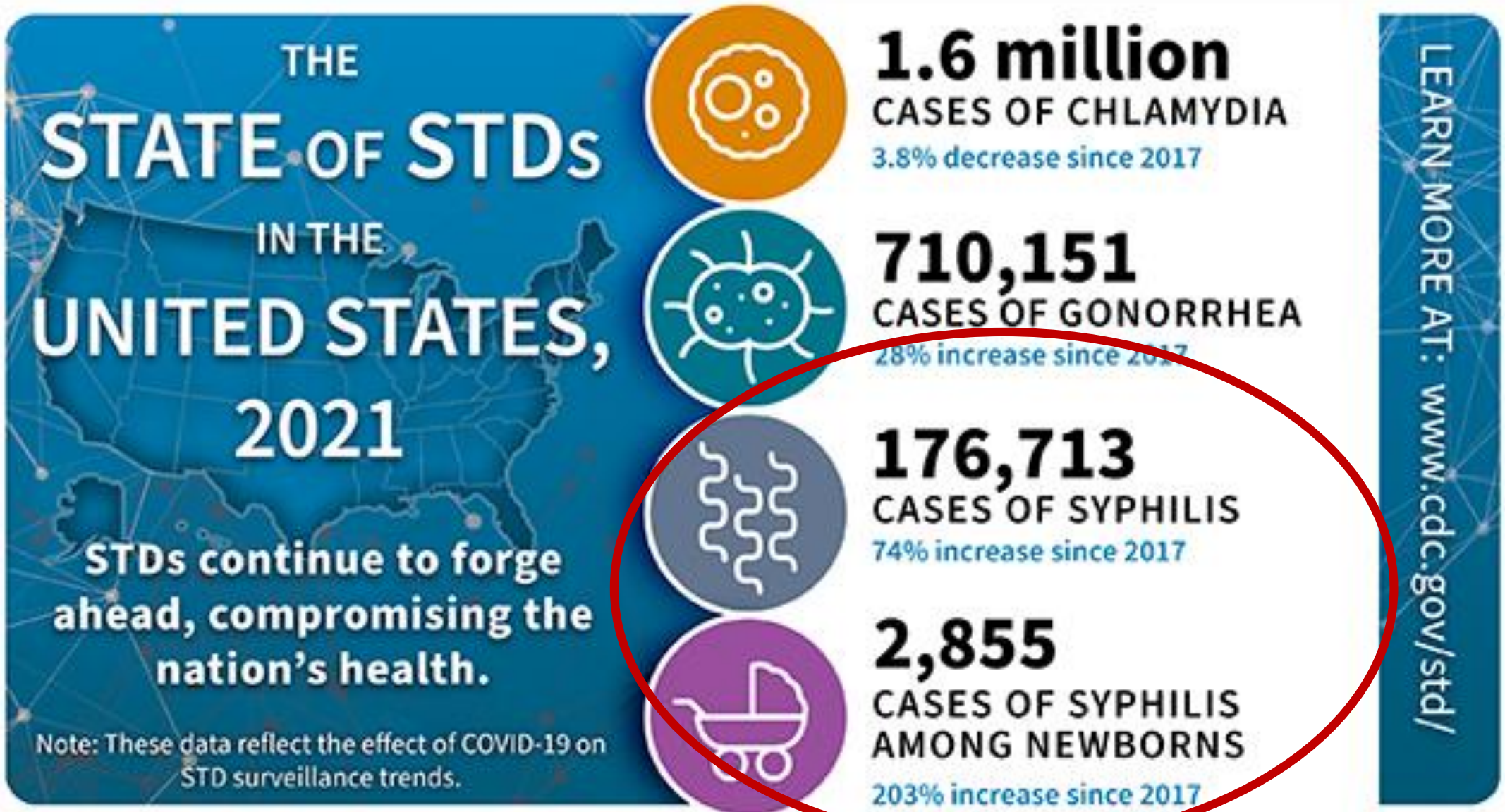
We recognize their sovereignty was never ceded after unjust removal and encourage your own research on tribal removal, tribal sovereignty and the history of the land you reside.

We promote the inclusion of tribal history and the incorporation of contemporary thoughts and actions into your work.

In offering this land acknowledgement, we affirm and support Tribal sovereignty, history and experiences by elders past, present, and seven generations yet to come through their continued connection to this land.

Objectives

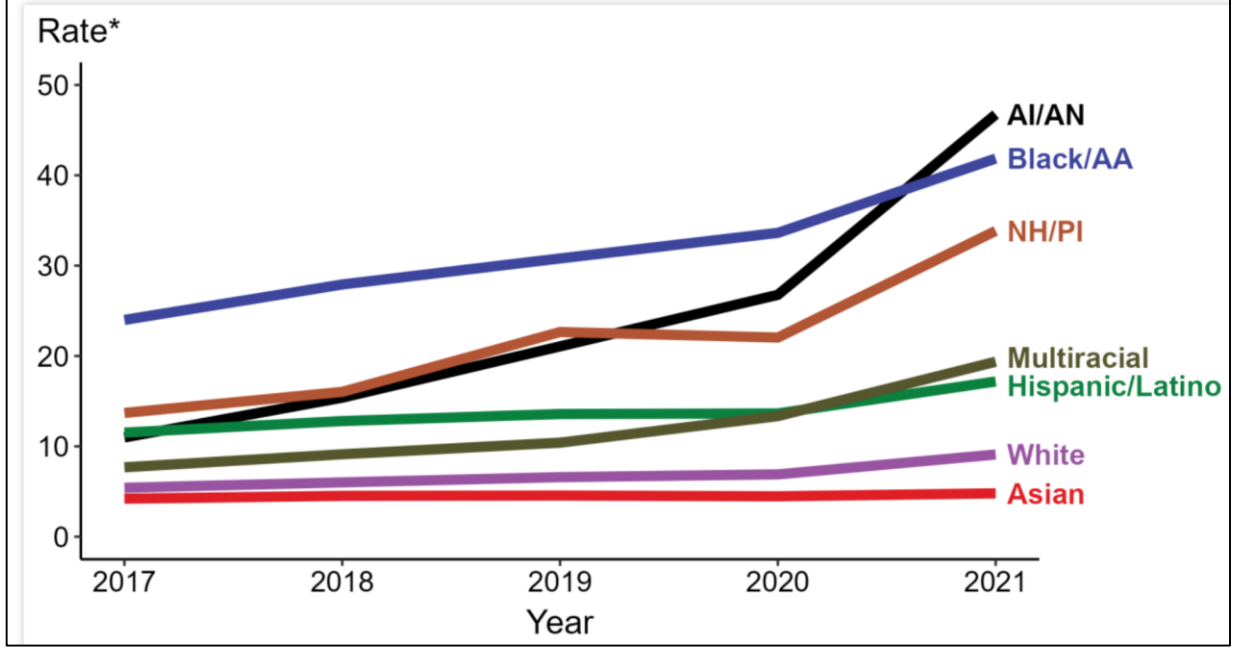
- Review current epidemiology of syphilis and then, congenital syphilis
- Understand the stages of syphilis and where diagnostic mistakes are made.
- Discuss treatment in the time of medication shortages.
- Describe a syndemic approach and why it is essential to syphilis care.


THE
STATE OF STDs
IN THE
UNITED STATES,
2021
STDs continue to forge ahead, compromising the nation's health.
Note: These data reflect the effect of COVID-19 on STD surveillance trends.
1.6 million
CASES OF CHLAMYDIA
3.8% decrease since 2017
710,151
CASES OF GONORRHEA
28% increase since 2017
176,713
CASES OF SYPHILIS
74% increase since 2017
2,855
CASES OF SYPHILIS AMONG NEWBORNS
203% increase since 2017
LEARN MORE AT: www.cdc.gov/std/

Syphilis in 2021

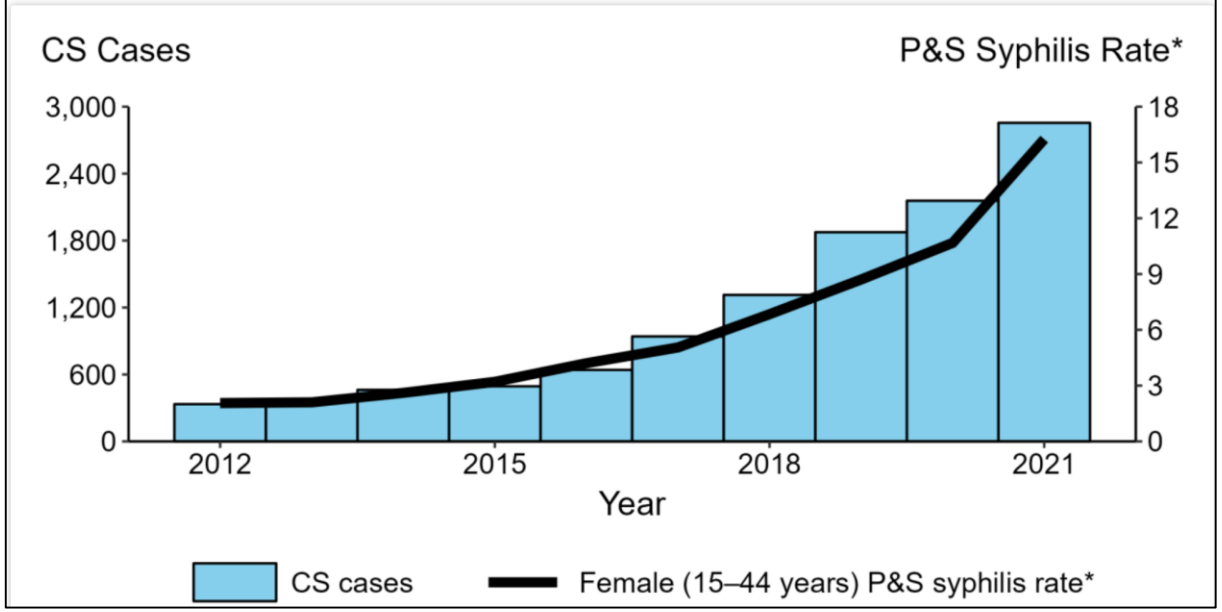
Primary and Secondary Syphilis — Rates of Reported Cases by Race/Hispanic Ethnicity, United States, 2017–2021

Print

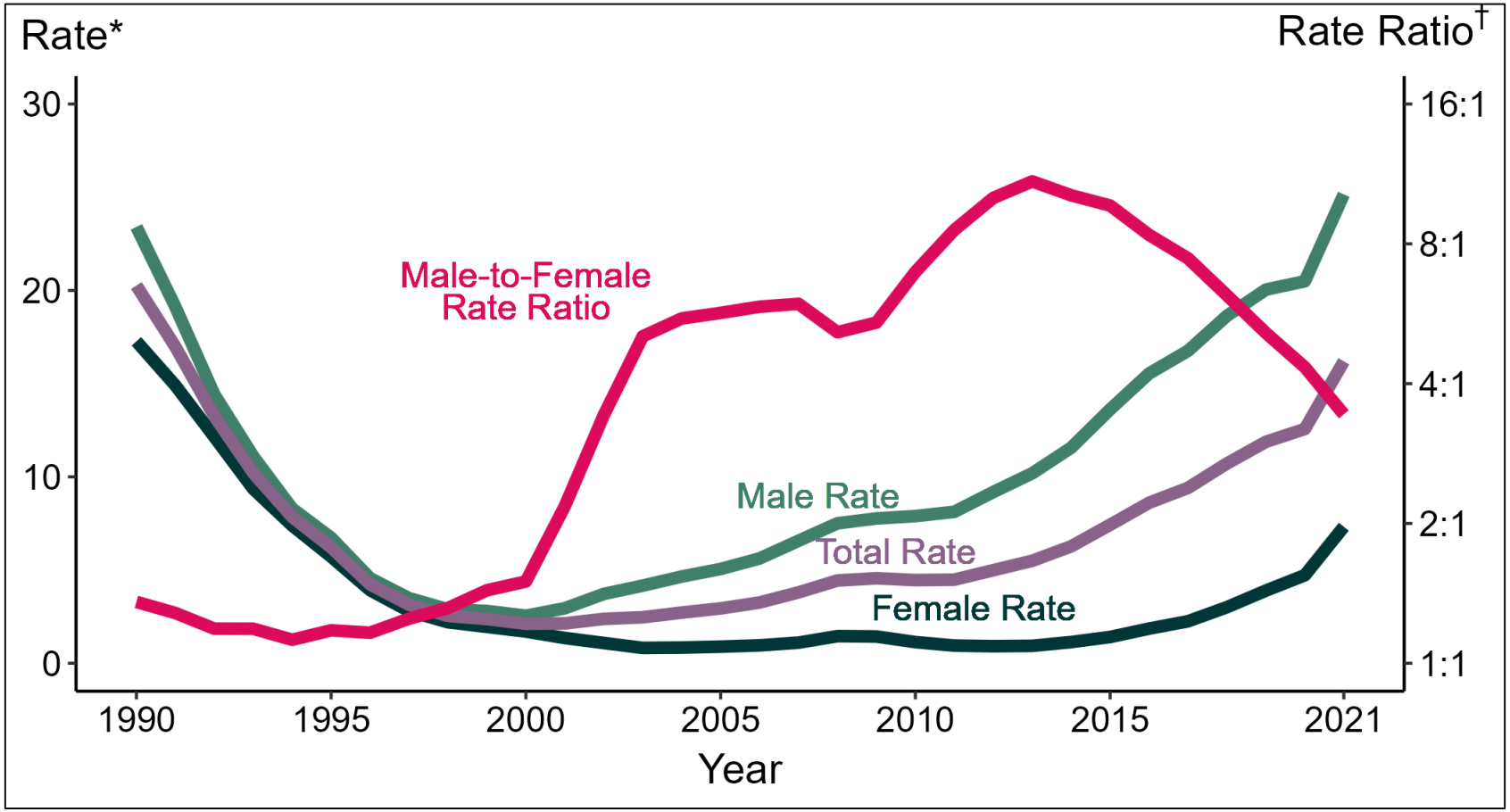


Congenital Syphilis — Reported Cases by Year of Birth and Rates of Reported Cases of Primary and Secondary Syphilis Among Women Aged 15–44 Years, United States, 2012–2021

Print



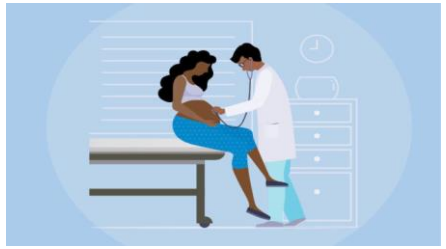
Primary and Secondary Syphilis — Rates of Reported Cases by Sex and Male-to-Female Rate Ratios, United States, 1990–2021



* Per 100,000

† Log scale

Beyond demographics, some themes emerge:



Limited Prenatal Care

Interactions with the Prison System

Housing instability

Intimate Partner Violence

Unemployment

Substance Use

Sex Work/Trafficking

DCFS Involvement

E. Daniels et al.

Ensure quality care

Letter from IHS Chief Medical Officer July recommended the following guidelines and resources for all IHS, Tribal, and Urban Indian Organizations (July 19, 2023):

- **Annual syphilis testing** for persons aged 13 to 64.
- **Turn on the annual Electronic Health Record reminder**
- **Three-point syphilis testing for all pregnant people** at the first prenatal visit, beginning of the third trimester, and delivery.
- **STI/HIV/Viral hepatitis testing bundle**:
  - Syphilis test with reflex rapid plasma reagin (RPR) and treponema pallidum particle agglutination (TPPA).
  - HIV serology
  - Gonorrhea and chlamydia at three sites: Urine, Pharynx, Rectum
  - Hepatitis B and C
  - Pregnancy test.
- **Express STI Testing -** triage-based STI testing without needing a full clinical exam.
  - Express Testing Guide and Toolkit on the Indian Country ECHO web site: Sample Toolkit for Express STI Resources - Indian Country ECHO.
- **Enhance screening rates by screening outside of hospitals and clinics.** Field testing at community centers, sporting events, health fairs, correctional settings, or on the street.
- **Field treatment for syphilis** for high-risk adults diagnosed with syphilis and their partners. Public health nurses (PHNs) could provide treatment with Benzathine Penicillin.
- **Presumptive treatment of syphilis** for anyone having signs or symptoms of syphilis or with known exposure to syphilis.
- **Create and build awareness** and encourage people to get tested and treated. AI/AN-specific national campaign called STOP SYPHILIS:
  - Free materials including handouts, posters, and other print materials, as well as social media posts and short educational videos can be ordered at www.stopsyphilis.org.
- Reference the **Syphilis Resources Hub** online at https://www.indiancountryecho.org/syphilis-resources/.

https://www.ihs.gov/sites/newsroom/themes/responsive2017/display_objects/documents/2023_Letters/DTLL_DUIOLLL_071923_Syphilis.pdf

Centers for Disease Control and Prevention
MMWR
Morbidity and Mortality Weekly Report
Recommendations and Reports / Vol. 70 / No. 4
July 23, 2021

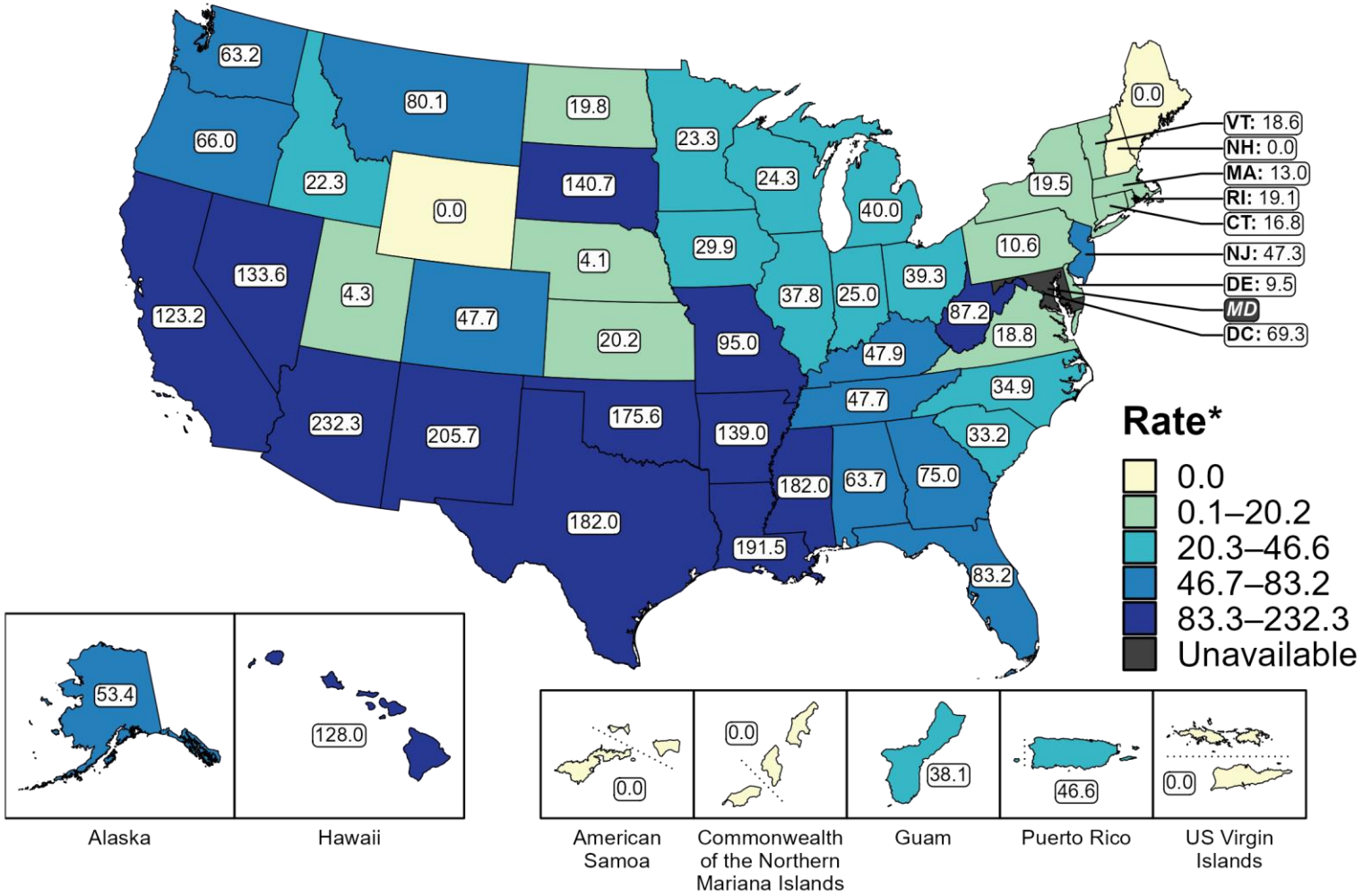
Sexually Transmitted Infections Treatment Guidelines, 2021

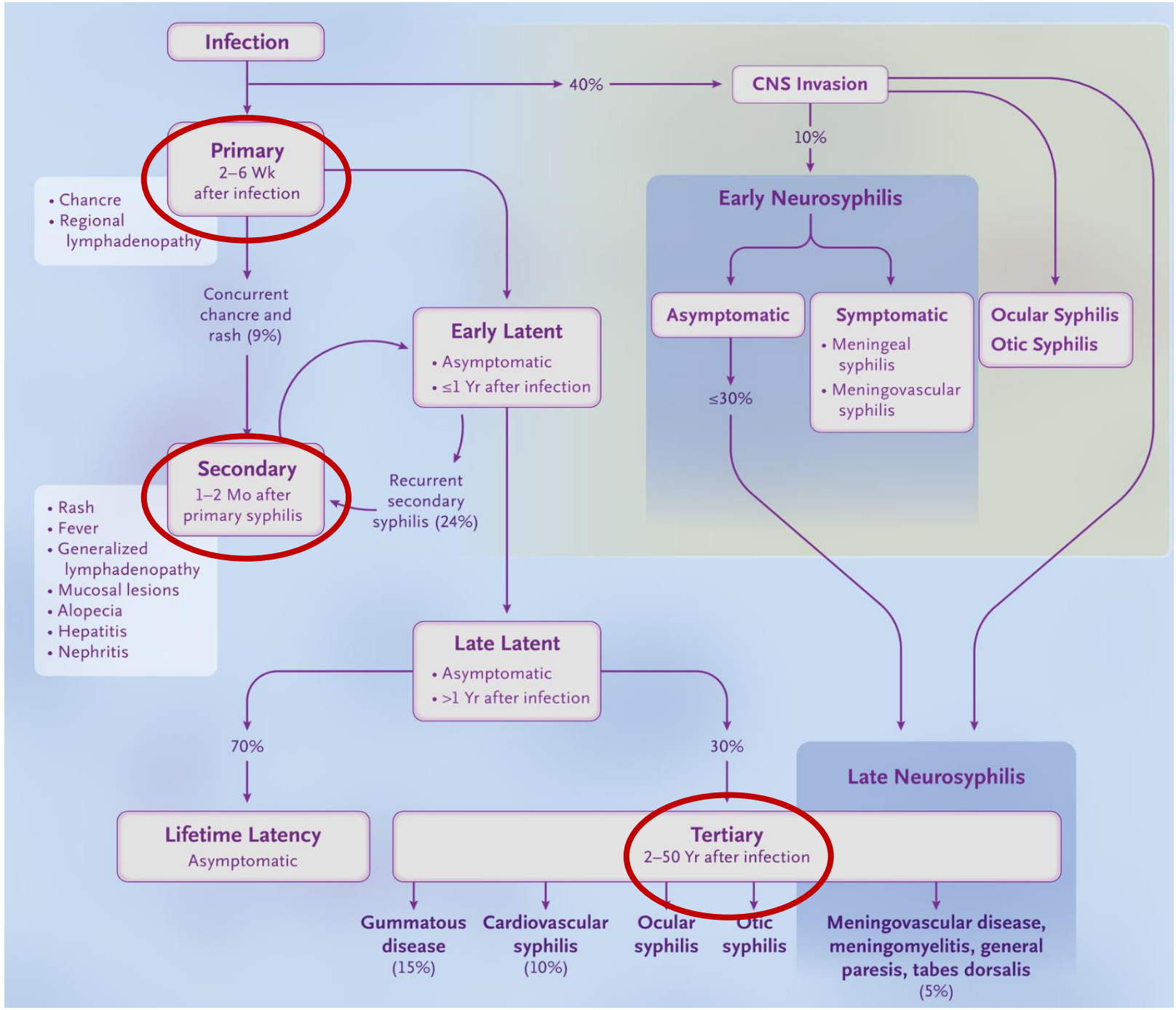
Updates to CDC STI Screening Guidelines

Syphilis

Women	• Screen asymptomatic women at increased risk (history of incarceration or transactional sex work, geography, race/ethnicity) for syphilis infection[2,7]
Pregnant Women	• All pregnant women at the first prenatal visit[8] • Retest at 28 weeks gestation and at delivery if at high risk (lives in a community with high syphilis morbidity or is at risk for syphilis acquisition during pregnancy [drug misuse, STIs during pregnancy, multiple partners, a new partner, partner with STIs])[2]
Men Who Have Sex With Women	• Screen asymptomatic adults at increased risk (history of incarceration or transactional sex work, geography, race/ethnicity, and being a male younger than 29 years) for syphilis infection[2,7]
Men Who Have Sex With Men	• At least annually for sexually active MSM[2] • Every 3 to 6 months if at increased risk[2] • Screen asymptomatic adults at increased risk (history of incarceration or transactional sex work, geography, race/ethnicity, and being a male younger than 29 years) for syphilis infection[2,7]
Transgender and Gender Diverse People	• Consider screening at least annually based on reported sexual behaviors and exposure[2]
Persons with HIV	• For sexually active individuals, screen at first HIV evaluation, and at least annually thereafter[2,6] • More frequent screening might be appropriate depending on individual risk behaviors and the local epidemiology[2]

Congenital Syphilis — Rates of Reported Cases by State, United States and Territories, 2021





Stages of Syphilis

Key Points:

- Ocular and otic syphilis can present at any stage of syphilis
- Without treatment, secondary syphilis can be recurrent.
- Work with DIS/ health department to review patient's history
- Consult with DIS, ID, colleague to stage correctly.

Ghanem KG, Ram S, Rice PA. The Modern Epidemic of Syphilis. *N Engl J Med*. 2020;382(9):845-854. doi:10.1056/NEJMra1901593

MUST KNOWS to understand syphilis

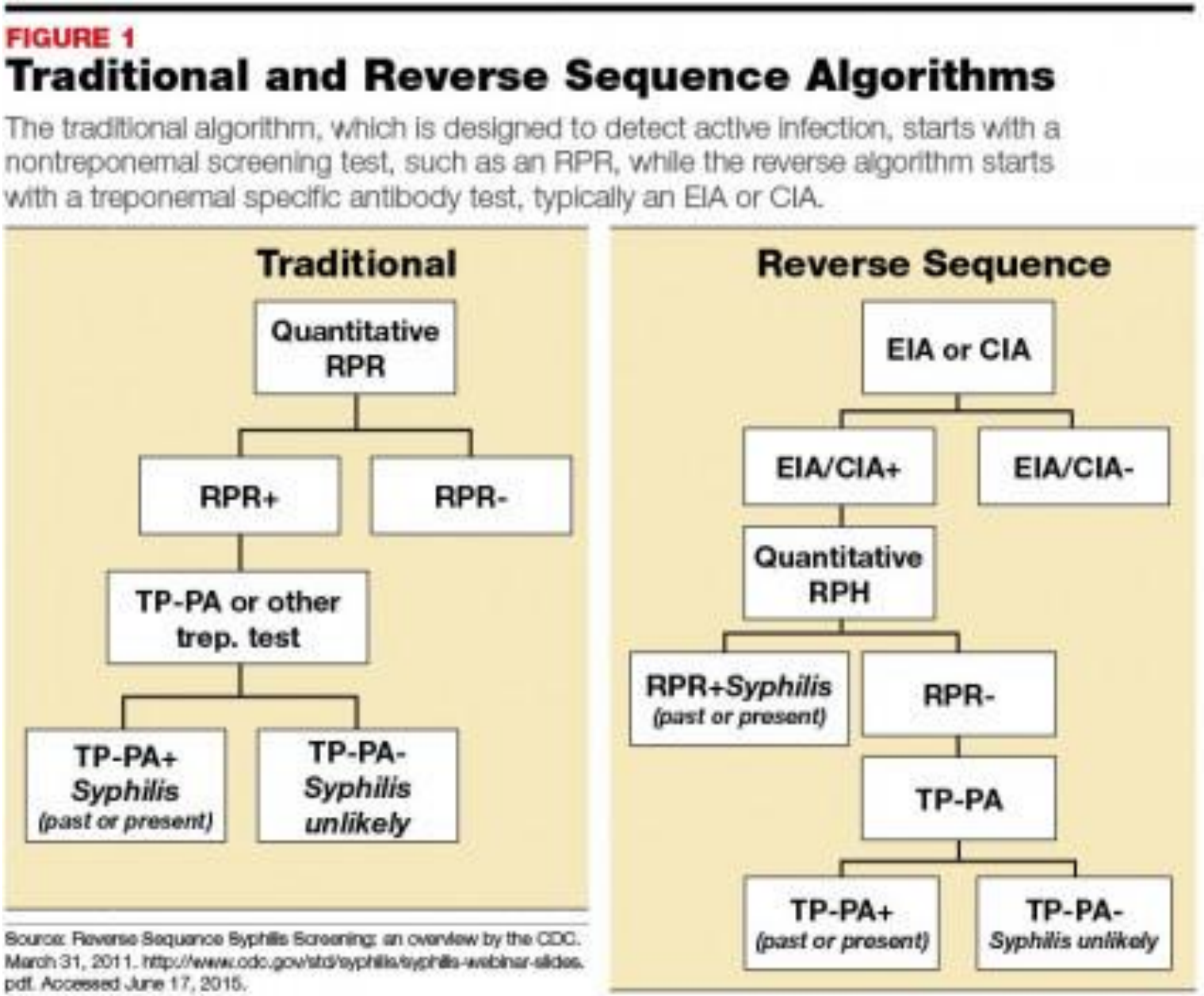
- Syphilis must be on the differential to be diagnosed
- Disseminates at every stage
- The more syphilis we see, the more unusual presentations we see.
- Recent rise in cases is due in part to increased injection drug use.
- Two things every patient with syphilis needs:
    - Neuro ROS→ if positive, continue with further assessment
    - Assessment of pregnancy status

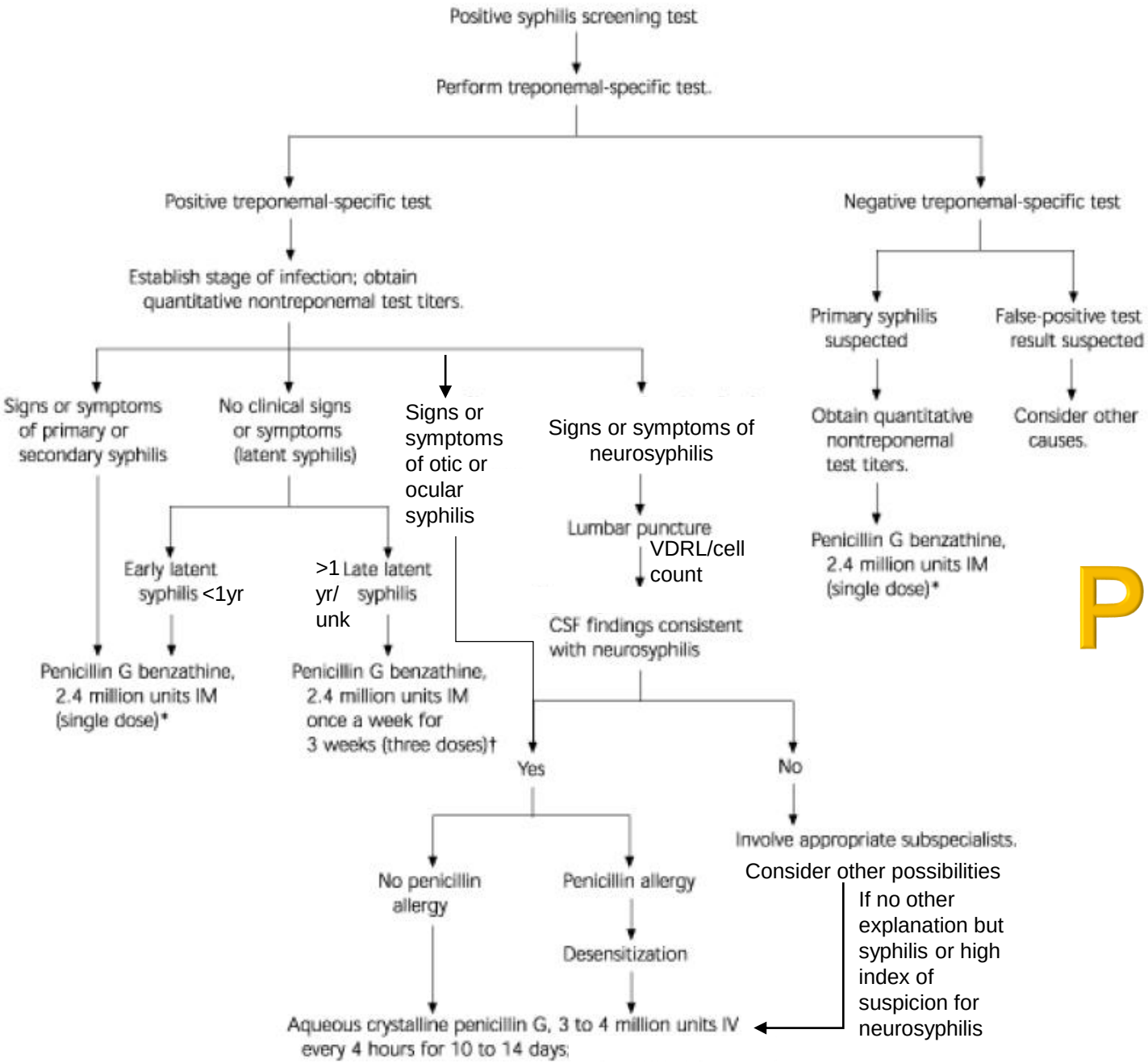
Syphilis testing: Straight from the 1900s

The RPR detects antibodies to byproducts of cellular damage from syphilis including cholesterol, cardiolipins, or lecithin.

<u>False positive RPR</u>

- Pregnancy
- Lupus/autoimmune disease
- Cancer
- HIV
- TB
- Chronic liver disease like hepatitis
- Vaccinations (including COVID)





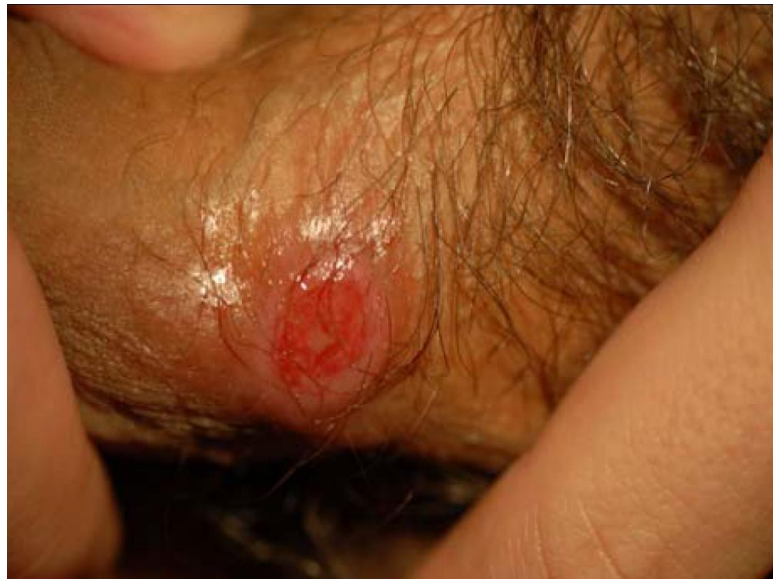
Pictures next

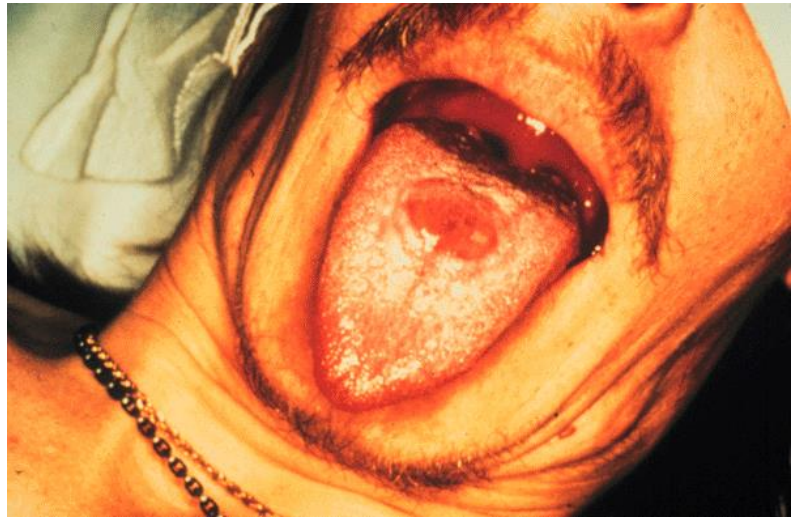
Adapted from algorithm from AAFP

Clinical Presentation

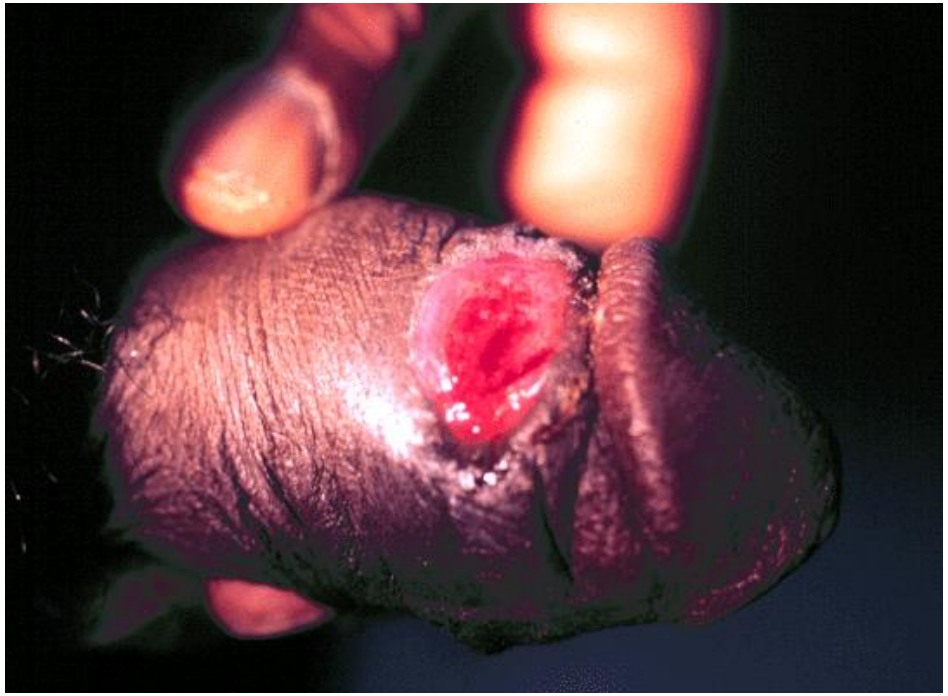
- Chancre is hallmark of primary infection: 10-90d after exposure
  - Painless (but not always*)
  - Can have more than one chancre.
  - Macrophages and activated T cells at chancre site—and highly associated with HIV acquisition
  - Median time to HIV diagnosis is 1.6 years.**
  - New in 2021: Atypical presentations are more common (painful chancres, condyloma lata etc.)

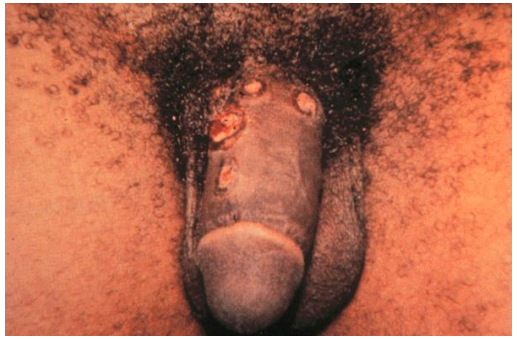
**Pathela et al CID 2015

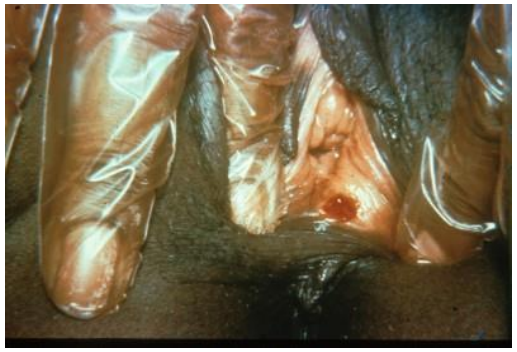


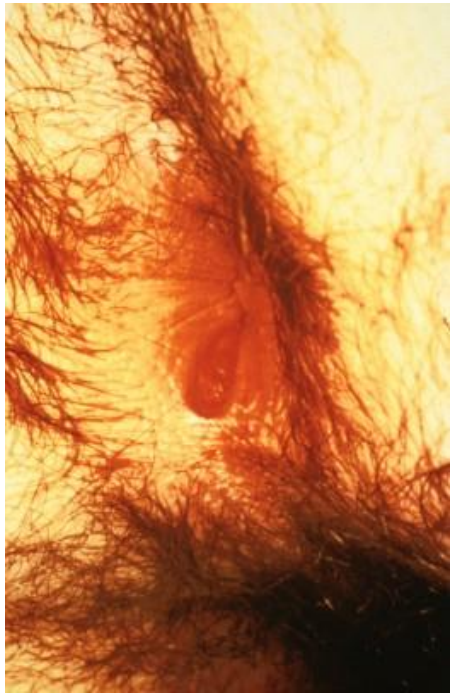


Primary syphilis - chancre





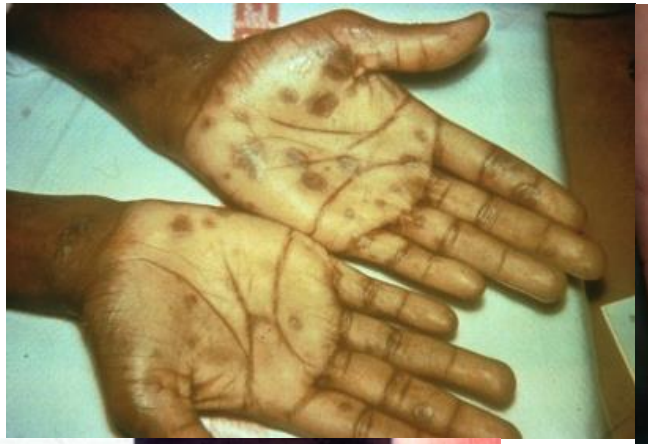


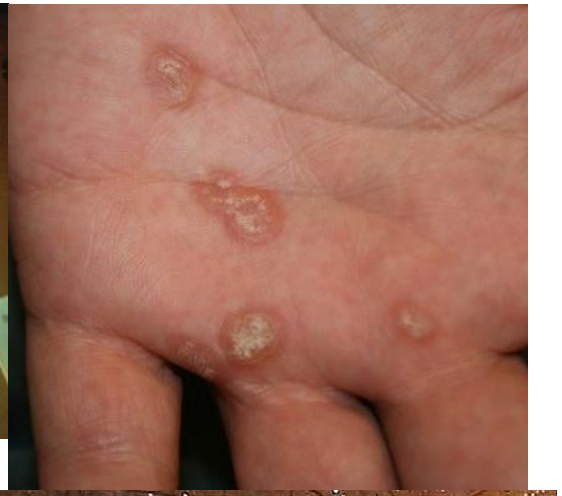


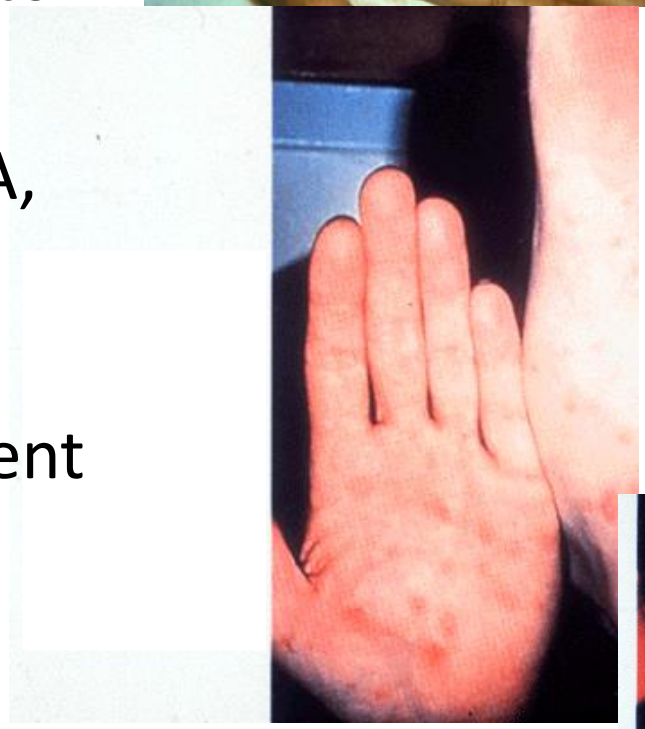
If HSV and mpox are on the differential, syphilis should be too.

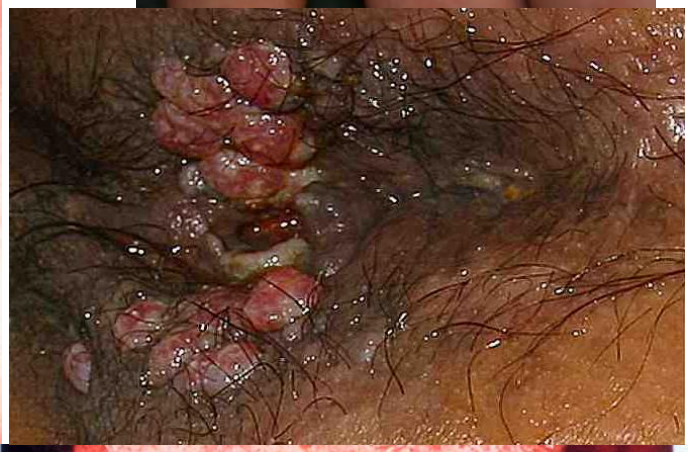
Secondary syphilis: It is not psoriasis

- Chancre heals spontaneously in 1 to 6 weeks
- Systemic symptoms (F, malaise, HA, LAN, etc) can occur
- Rash ultimately resolves, but infection is lifelong without treatment (latency)
- Condyloma lata!
- Don’t forget about Mpox.





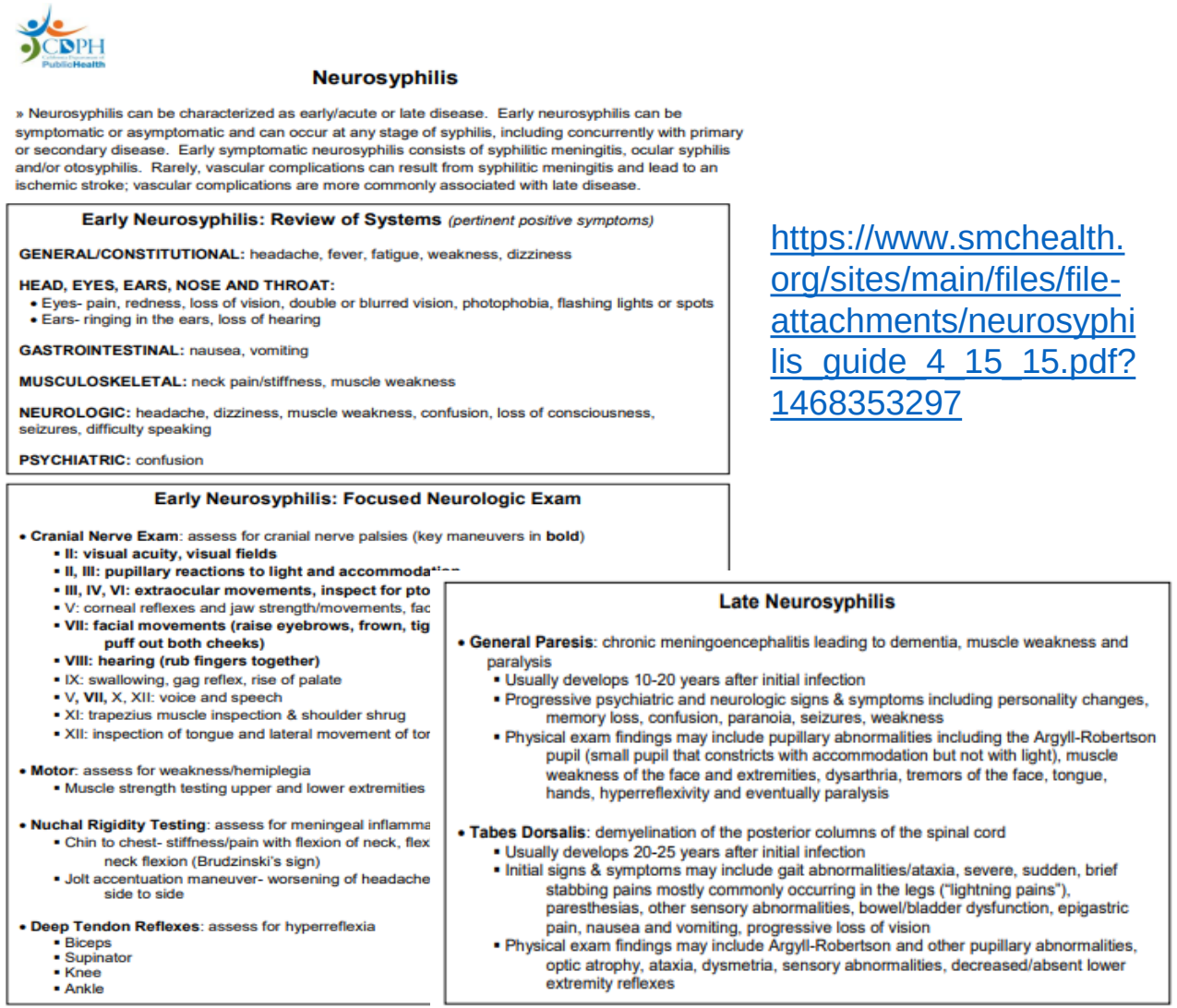




31. Mucous patches on tongue in secondary syphilis

Early neurologic clinical manifestations (e.g., cranial nerve dysfunction, meningitis, meningovascular syphilis, stroke, and altered mental status) are usually present within the first few months or years of infection. - CDC

- Screen for neurologic, visual, and auditory signs and symptoms in patients at risk
- Screen patients for syphilis if they present with neurologic, visual, or auditory complaints.
- Careful neurological exam: evaluation of all cranial nerves, for patients with reactive nontreponemal and treponemal serology and clinical signs of early syphilis.
- Conduct ophthalmologic evaluation for patients with syphilis and ocular complaints.
- Evaluate and manage patients with syphilis and otologic symptoms in collaboration with an otolaryngologist.



Neurosyphilis

» Neurosyphilis can be characterized as early/acute or late disease. Early neurosyphilis can be symptomatic or asymptomatic and can occur at any stage of syphilis, including concurrently with primary or secondary disease. Early symptomatic neurosyphilis consists of syphilitic meningitis, ocular syphilis and/or otosyphilis. Rarely, vascular complications can result from syphilitic meningitis and lead to an ischemic stroke; vascular complications are more commonly associated with late disease.

Early Neurosyphilis: Review of Systems *(pertinent positive symptoms)*

GENERAL/CONSTITUTIONAL: headache, fever, fatigue, weakness, dizziness

HEAD, EYES, EARS, NOSE AND THROAT:
- Eyes- pain, redness, loss of vision, double or blurred vision, photophobia, flashing lights or spots
- Ears- ringing in the ears, loss of hearing

GASTROINTESTINAL: nausea, vomiting

MUSCULOSKELETAL: neck pain/stiffness, muscle weakness

NEUROLOGIC: headache, dizziness, muscle weakness, confusion, loss of consciousness, seizures, difficulty speaking

PSYCHIATRIC: confusion

Early Neurosyphilis: Focused Neurologic Exam

- **Cranial Nerve Exam**: assess for cranial nerve palsies (key maneuvers in **bold**)
  - **II: visual acuity, visual fields**
  - **II, III: pupillary reactions to light and accommoda**
  - **III, IV, VI: extraocular movements, inspect for pto**
  - V: corneal reflexes and jaw strength/movements, fac
  - **VII: facial movements (raise eyebrows, frown, tig puff out both cheeks)**
  - **VIII: hearing (rub fingers together)**
  - IX: swallowing, gag reflex, rise of palate
  - V, **VII**, X, XII: voice and speech
  - XI: trapezius muscle inspection & shoulder shrug
  - XII: inspection of tongue and lateral movement of tor
- **Motor**: assess for weakness/hemiplegia
  - Muscle strength testing upper and lower extremities
- **Nuchal Rigidity Testing**: assess for meningeal inflamma
  - Chin to chest- stiffness/pain with flexion of neck, flex neck flexion (Brudzinski's sign)
  - Jolt accentuation maneuver- worsening of headache side to side
- **Deep Tendon Reflexes**: assess for hyperreflexia
  - Biceps
  - Supinator
  - Knee
  - Ankle

Late Neurosyphilis

- **General Paresis**: chronic meningoencephalitis leading to dementia, muscle weakness and paralysis
  - Usually develops 10-20 years after initial infection
  - Progressive psychiatric and neurologic signs & symptoms including personality changes, memory loss, confusion, paranoia, seizures, weakness
  - Physical exam findings may include pupillary abnormalities including the Argyll-Robertson pupil (small pupil that constricts with accommodation but not with light), muscle weakness of the face and extremities, dysarthria, tremors of the face, tongue, hands, hyperreflexivity and eventually paralysis
- **Tabes Dorsalis**: demyelination of the posterior columns of the spinal cord
  - Usually develops 20-25 years after initial infection
  - Initial signs & symptoms may include gait abnormalities/ataxia, severe, sudden, brief stabbing pains mostly commonly occurring in the legs ("lightning pains"), paresthesias, other sensory abnormalities, bowel/bladder dysfunction, epigastric pain, nausea and vomiting, progressive loss of vision
  - Physical exam findings may include Argyll-Robertson and other pupillary abnormalities, optic atrophy, ataxia, dysmetria, sensory abnormalities, decreased/absent lower extremity reflexes

https://www.smchealth.org/sites/main/files/file-attachments/neurosyphilis_guide_4_15_15.pdf?1468353297

Case

25 year old cisgender woman who presents for STI workup with no complaints.

She reports 2 cisgender male sexual partners in the last 3 months, uses condoms occasionally.

Her exam is normal. Her RPR is reactive at 1:256, with reactive TP-PA, nonreactive HIV test, negative G/C NAAT.

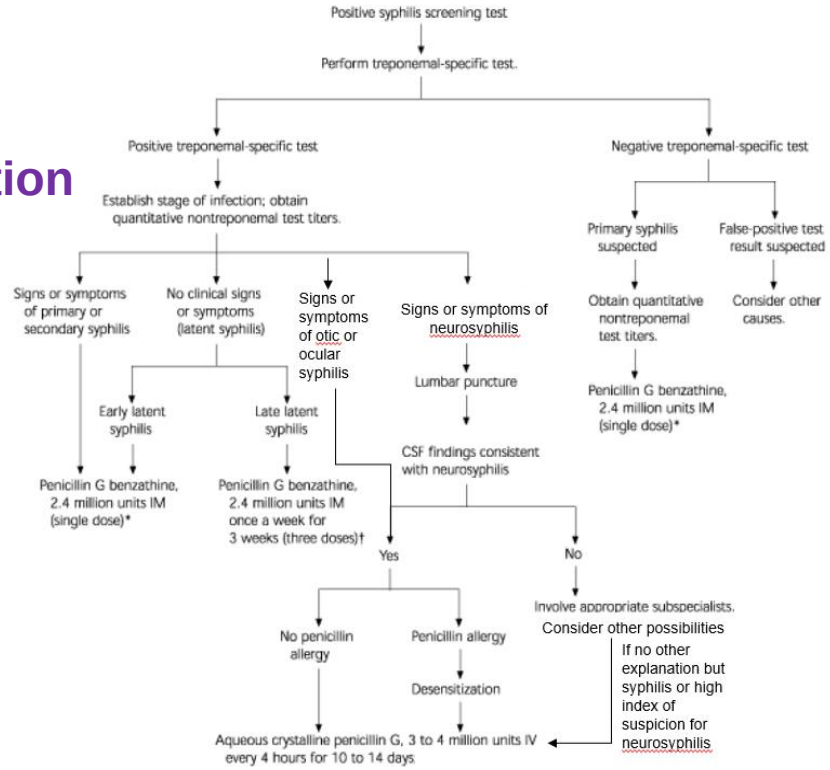
You call the health department, and she has no previous RPRs on file.

What stage of syphilis does she have? **Latent syphilis unknown duration**

What would you give her for treatment?

A) 1 shot 2.4 million units Bicillin as outpatient
B) 3x weekly 2.4 million units Bicillin as outpatient
C) Admit for LP and IV Penicillin G for 2 weeks
D) Admit for IV Penicillin G for 2 weeks without LP

B



Case continued

With her return to clinic, she is not pregnant but with a complete review of neurological symptoms, she states that she has been having some vision changes which she describes as floaters and double vision at times. She also notes that she has had a headache more frequently within the last month. The rest of her neuro ROS is benign.

Now what should her treatment be?

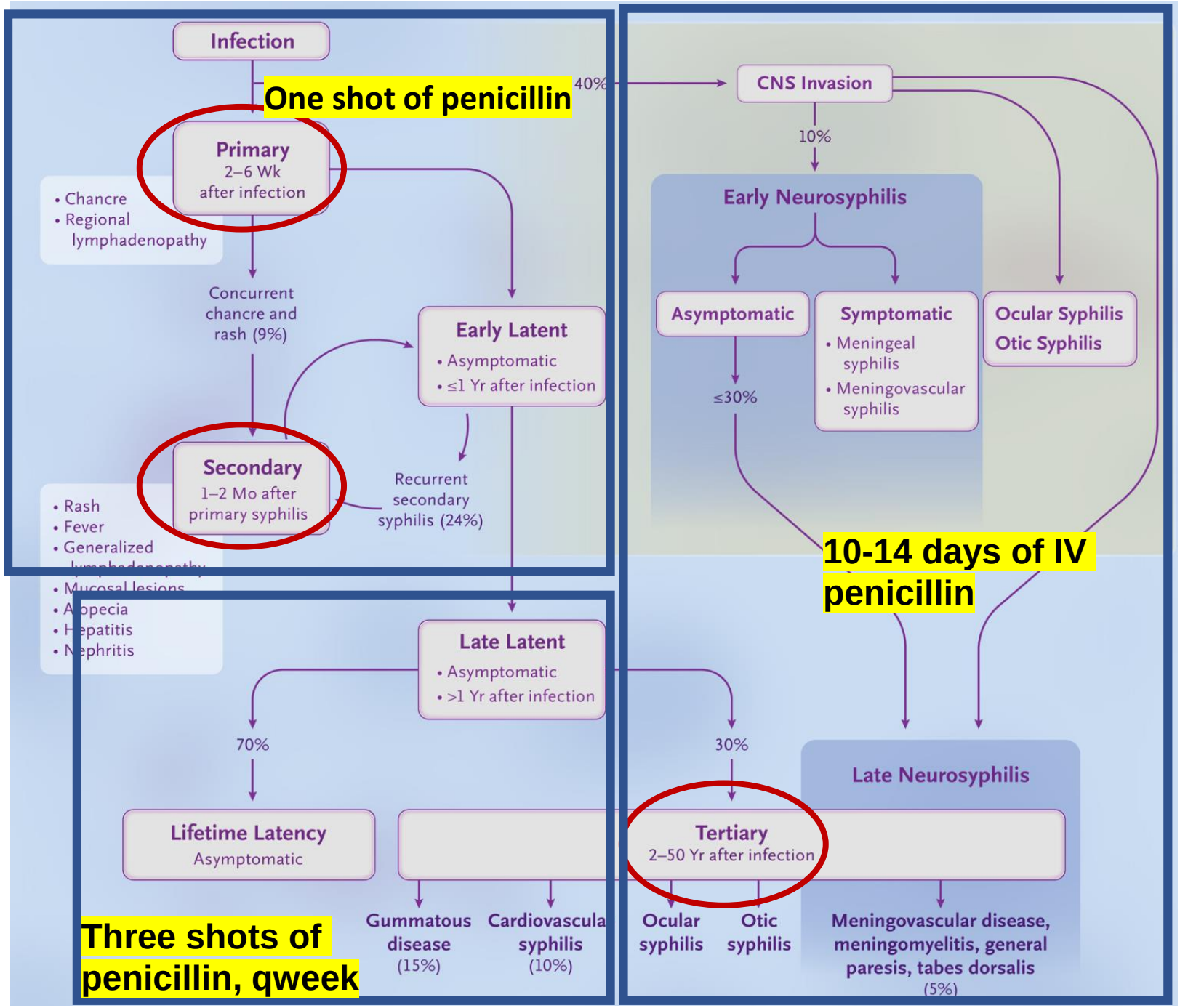
A) 1 shot 2.4 million units Bicillin as outpatient
B) 3x weekly 2.4 million units Bicillin as outpatient
C) Admit for LP and IV Penicillin G for 2 weeks  C
D) Admit for IV Penicillin G for 2 weeks without LP

Treatment of Syphilis

- IM Penicillin G benzathine should always be FIRST line therapy
- Doxycycline for TRUE penicillin allergies and for nonpregnant persons in setting of Bicillin shortage[1]
- IV penicillin for neuro/ ophtho/ otic syphilis
- Azithromycin should NOT be used; nearly all *T. pallidum* in US and globally is resistant[2]
- No new data to warrant a change in treatment recommendations.
- Reaffirmation that a lack of serological response should be followed out to:
  - 12 months after syphilis of < 1 year duration
  - 24 month in case of syphilis of unknown duration, late syphilis, or HIV + status
  - And that it may not be seen if RPR titer is <1:4

1. https://www.cdc.gov/std/dstdp/dcl/2023-july-20-Mena-BicillinLA.htm
2. Beale et al, Nat Commun 2019

Treatment of Syphilis



- Who MUST be treated with Bicillin?
  - Pregnant people
  - Alternatives for treating neurosyphilis have little evidence of efficacy.

Ghanem KG, Ram S, Rice PA. The Modern Epidemic of Syphilis. *N Engl J Med*. 2020;382(9):845-854. doi:10.1056/NEJMra1901593

Bicillin Shortage Plan

Take inventory:

- Monitor local supply of Bicillin L-A® and determine the local pattern of use to forecast need.
- Continue to contact distributors to procure Bicillin L-A® as appropriate. Contact Pfizer (see "Dear Patient Letter" posted on the FDA website) if there is less than a 2-week supply, the distributor has no supply, and there is a risk that patients may not be treated.

Prioritize using Bicillin L-A® to treat pregnant people with syphilis and babies with congenital syphilis – penicillin is the only recommended treatment for these populations.

- Choose doxycycline for non-pregnant people to help preserve Bicillin L-A® supplies. See CDC's treatment recommendations for more.
- Consider involving antimicrobial stewardship leaders to help institute systems-level approaches to limit the use of Bicillin L-A® and encourage the use of alternative effective antimicrobials for treatment of other infectious diseases.

Obtaining Bicillin for Treatment in Pregnancy

- **Providers can call Pfizer Supply Continuity Team to request Bicillin to treat pregnant persons**
  - Hours: 7 a.m. and 5 p.m. (CT)
  - Number: 1-844-646-4398 (select option 1 [Customer], then option 3
  - Or send an email to stdshortages@cdc.gov with a specific request to connect with Pfizer
- Contact CDC directly if unable to find a solution with Pfizer

Current and Resolved Drug Shortages and Discontinuations Reported to FDA

Report a Drug Shortage | Contact Us | FAQ | Background Info | Get Email Alerts | Download Current Drug Shortages

Search by Generic Name or Active Ingredient: Enter at least three characters Submit

Start Over | **Back to Search Results**

Penicillin G Benzathine Injection
Status: Currently in Shortage
»**Date first posted:** 04/26/2023
»**Therapeutic Categories:** Anti-Infective

https://www.cdc.gov/std/dstdp/dcl/2023-july-20-Mena-BicillinLA.htm

Indian Health Service
National Pharmacy and Therapeutics Committee

Medication Update

September 29, 2023

UPDATE: Limited Supply of Benzathine penicillin G (Bicillin® L-A) for treatment of Syphilis

The U.S. Centers for Disease Control and Prevention has reported that Sexually Transmitted Infection (STI) Programs are struggling to procure enough Benzathine penicillin G – the first-line recommended treatment for syphilis. At this time, Benzathine penicillin G is listed on both the FDA Drug Shortage list and ASHP Drug Shortage list, with the IHS Pharmaceutical Prime Vendor (PPV) also reporting limited supplies. The IHS National Supply Service Center (NSSC) is actively monitoring the situation and working to identify and make available Benzathine penicillin G when possible. The NSSC encourages PPV customers to call the PPV with any updated expected monthly usage. Product is being allocated to distributors by the manufacturer. The manufacturer anticipates the issue will be resolved within the next 3-6 months.[1]

Priorities:

In light of a national shortage of Benzathine penicillin G, IHS providers need to consider prioritization of this medication at all healthcare facilities. IHS treatment recommendations (listed in order of priority) include the following:

1. Pregnant persons and HIV infected persons with syphilis (and their contacts) as well as infants with congenital syphilis should receive priority for treatment with Benzathine penicillin G. **Benzathine penicillin G (Bicillin L-A®) is the only recommended treatment for pregnant people infected or exposed to syphilis.**
2. Other persons with early syphilis (primary, secondary, early latent) should be treated with Benzathine penicillin G (and their contacts) if supplies are adequate to cover high risk patients listed under priority #1. Sexual partners should also be offered Benzathine penicillin G if supplies are adequate.
3. If Benzathine penicillin G supplies are inadequate to cover patients listed as priority #2, treat early syphilis (primary, secondary, early latent) with **doxycycline 100 mg po bid for 14 days** and late latent syphilis or latent syphilis of uncertain duration with doxycycline 100 mg po bid for 28 days.
4. **Ceftriaxone 1 gm IV daily for 10 days** may be an acceptable second-line alternate treatment for primary and secondary syphilis. Use of ceftriaxone for latent syphilis is not well defined and consultation with an Infectious Disease specialist is recommended.

Additional considerations:[1]

Syphilis is a systemic disease caused by *T. pallidum*. The disease has been divided into stages on the basis of clinical findings, which guide treatment and follow-up. Persons who have syphilis might seek treatment for signs or symptoms. Primary syphilis classically presents as a single painless ulcer or chancre at the site of infection but can also present with multiple, atypical, or painful lesions. Secondary syphilis manifestations can include skin rash, mucocutaneous lesions, and lymphadenopathy. Tertiary syphilis can present with cardiac involvement, gummatous lesions, tabes dorsalis, and general paresis.

Latent infections (i.e., those lacking clinical manifestations) are detected by serologic testing. Latent syphilis acquired within the preceding year is referred to as early latent syphilis; all other cases of latent syphilis are classified as late latent syphilis or latent syphilis of unknown duration.

References:
1. U.S. Centers for Disease Control and Prevention. Potential Access Challenges to Bicillin L-A. Accessed April 19, 2023.
2. U.S. Centers for Disease Control and Prevention. Sexually Transmitted Diseases Treatment Guidelines, 2021. Published July 23, 2021.

Most recent medication update from the
Indian Health Service
National Pharmacy and Therapeutics Committee
September 29, 2023

1) Pregnant persons, HIV infected persons (and contacts), infants with congenital syphilis should receive Bicillin priority.
2) Other persons with early syphilis (and their partners if there is enough supply)
3) If supply is inadequate to cover #2, then treat early syphilis with Doxy x 14 days and latent syphilis/unknown duration with Doxy x 28 days.
4) Ceftriaxone may be an acceptable second-line for primary and secondary- consult ID.

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RESEARCH ARTICLE
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Efficacy and Safety of Treatments for Different Stages of Syphilis: a Systematic Review and Network Meta-Analysis of Randomized Controlled Trials and Observational Studies

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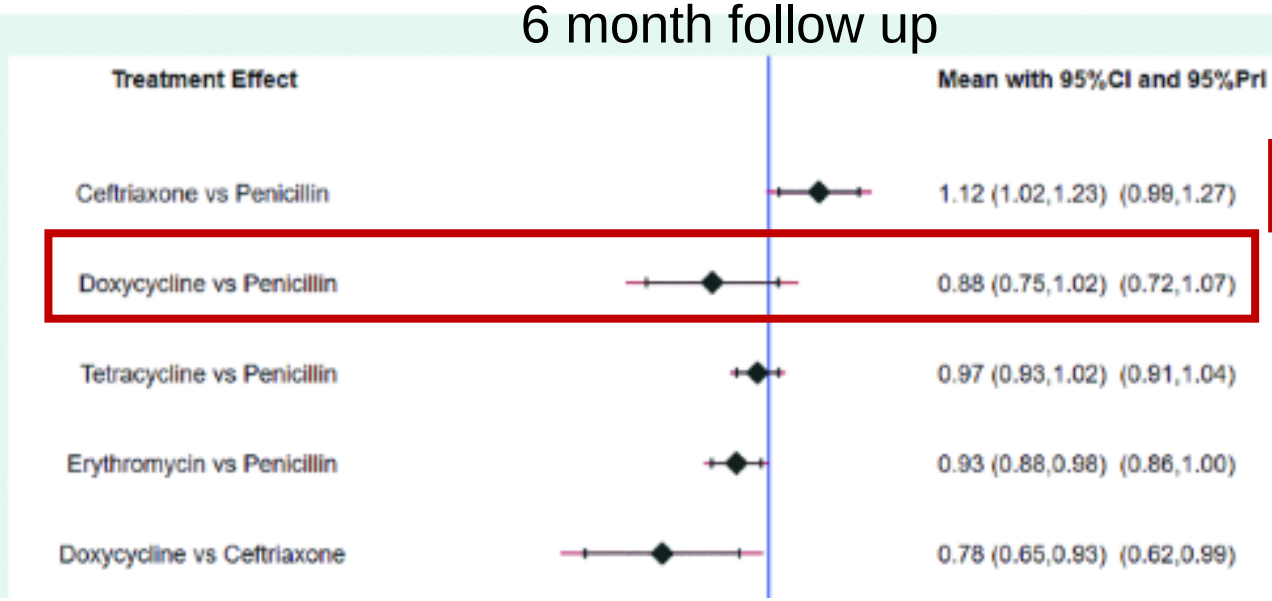
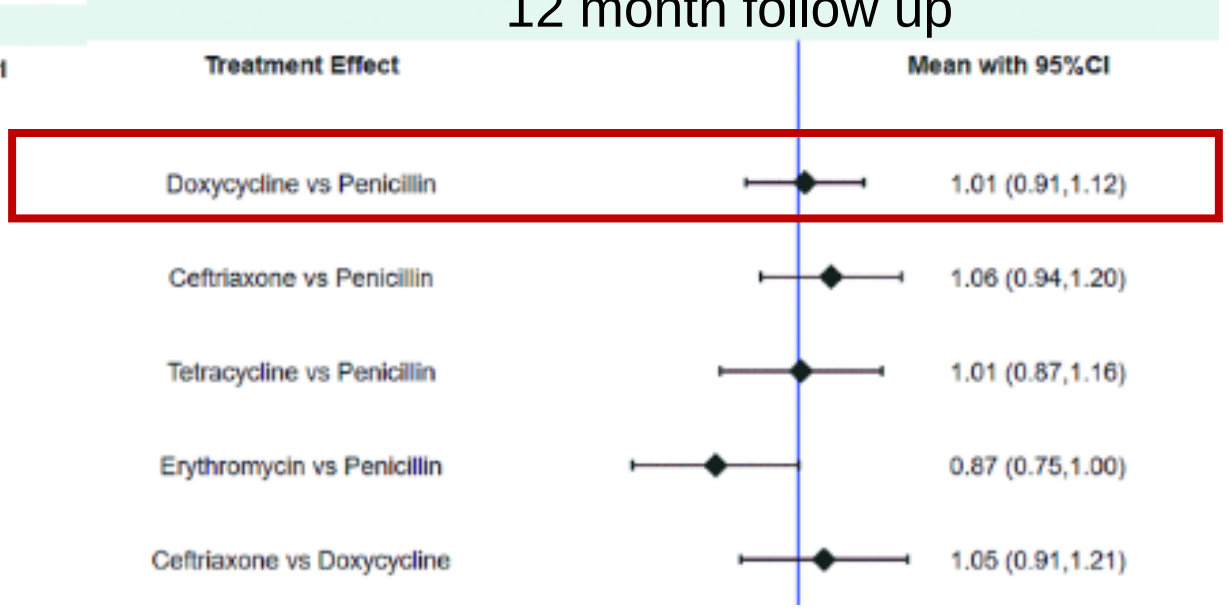
6 month follow up



12 month follow up



Congenital Syphilis

An example case

- Mom has adequate prenatal care with RPR NR at 8 wks gestation
- She presents with vaginal lesions at 35 weeks gestation
- HSV testing is negative.
- No other STI testing.
- Treated with valacyclovir.

Syphilis was not on the differential

- Presents in labor at 37 weeks.
- No RPR at delivery.
- Baby has work up at 5 months for slow weight gain and developmental delay.
- Hip xrays indicate periosteal abnormalities and CS is diagnosed.

Mom was not tested three times during pregnancy

Congenital syphilis prevention: screening

- Screen all women in early pregnancy
- Screen again twice in third trimester “for communities and populations in which the prevalence of syphilis is high, and for women at high risk of infection”
    - Screen at 28 weeks
    - Screen again at delivery

Sexually Transmitted Diseases Treatment Guidelines 2021

Scenario 1: Confirmed Proven or Highly Probable Congenital Syphilis

Any neonate with

- an abnormal physical examination that is consistent with congenital syphilis;
- a serum quantitative nontreponemal serologic titer that is fourfold[§] (or greater) higher than the mother's titer at delivery (e.g., maternal titer = 1:2, neonatal titer ≥1:8 or maternal titer = 1:8, neonatal titer ≥1:32)[¶]; or
- a positive darkfield test or PCR of placenta, cord, lesions, or body fluids or a positive silver stain of the placenta or cord.

Recommended Evaluation

- CSF analysis for VDRL, cell count, and protein**
- Complete blood count (CBC) and differential and platelet count
- Long-bone radiographs
- Other tests as clinically indicated (e.g., chest radiograph, liver function tests, neuroimaging, ophthalmologic examination, and auditory brain stem response)

Recommended Regimens, Confirmed or Highly Probable Congenital Syphilis

Aqueous crystalline penicillin G 100,000–150,000 units/kg body weight/day, administered as 50,000 units/kg body weight/dose by IV every 12 hours during the first 7 days of life and every 8 hours thereafter for a total of 10 days

OR

Procaine penicillin G 50,000 units/kg body weight/dose IM in a single daily dose for 10 days

If >1 day of therapy is missed, the entire course should be restarted. Data are insufficient regarding use of other antimicrobial agents (e.g., ampicillin). When possible, a full 10-day course of penicillin is preferred, even if ampicillin was initially provided for possible sepsis (*648–650*). Using agents other than penicillin requires close serologic follow-up for assessing therapy adequacy.

Scenario 2: Possible Congenital Syphilis

Any neonate who has a normal physical examination and a serum quantitative nontreponemal serologic titer equal to or less than fourfold of the maternal titer at delivery (e.g., maternal titer = 1:8, neonatal titer ≤1:16) and one of the following:

- The mother was not treated, was inadequately treated, or has no documentation of having received treatment.
- The mother was treated with erythromycin or a regimen other than those recommended in these guidelines (i.e., a nonpenicillin G regimen).††
- The mother received the recommended regimen but treatment was initiated <30 days before delivery.

Recommended Evaluation

- CSF analysis for VDRL, cell count, and protein**
- CBC, differential, and platelet count
- Long-bone radiographs

This evaluation is not necessary if a 10-day course of parenteral therapy is administered, although such evaluations might be useful. For instance, a lumbar puncture might document CSF abnormalities that would prompt close follow-up. Other tests (e.g., CBC, platelet count, and long-bone radiographs) can be performed to further support a diagnosis of congenital syphilis.

Recommended Regimens, Possible Congenital Syphilis

Aqueous crystalline penicillin G 100,000–150,000 units/kg body weight/day, administered as 50,000 units/kg body weight/dose by IV every 12 hours during the first 7 days of life and every 8 hours thereafter for a total of 10 days

OR

Procaine penicillin G 50,000 units/kg body weight/dose IM in a single daily dose for 10 days

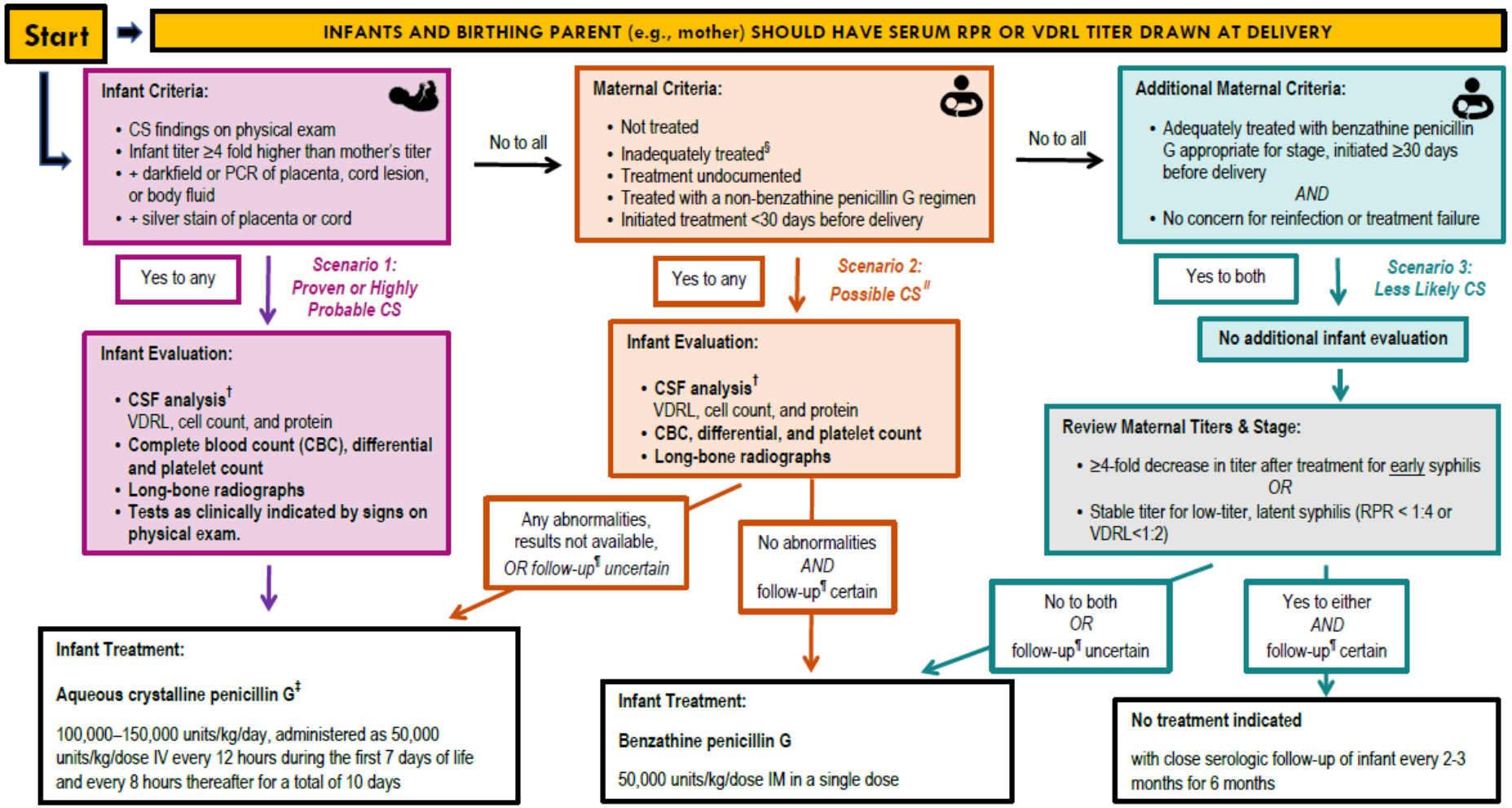
OR

Benzathine penicillin G 50,000 units/kg body weight/dose IM in a single dose

www.cdc.gov/std

CONGENITAL SYPHILIS (CS)

Evaluation and treatment of infants (<30 days old) exposed to syphilis in utero*



* Scenario 4 – in which an infant at delivery has a normal physical exam and titer < 4-fold mother's titer, AND the mother was adequately treated prior to becoming pregnant and sustains RPR titers <1:4 or VDRL<1:2 throughout pregnancy – is not included.

† CSF test results obtained during the neonatal period can be difficult to interpret; normal values differ by gestational age and are higher in preterm infants.

‡ Alternative: Procaine penicillin G 50,000 units/kg/dose IM in a single daily dose for 10 days.

§ Benzathine Penicillin G (BPG or Bicillin-LA), administered according to stage of disease and initiated at least 30 days prior to delivery is the only adequate treatment for syphilis during pregnancy.

‖ Evaluation is not necessary if a 10-day course of parenteral therapy is administered, although such evaluations might be useful. If the neonate's nontreponemal test is nonreactive and the mother's risk for untreated syphilis is low, a single IM dose of BPG can be considered without evaluation.

¶ All neonates with reactive nontreponemal tests should receive careful follow-up examinations and serologic testing (i.e., a nontreponemal test) every 2–3 months until the test becomes nonreactive. Neonates with a negative nontreponemal test at birth whose mothers were seroreactive at delivery should be retested at 3 months to rule out serologically negative incubating congenital syphilis at the time of birth.

FOR MORE INFORMATION ABOUT SCENARIO 4 MANAGEMENT, TREATMENT OF SYPHILIS IN PREGNANCY, NEONATAL CSF INTERPRETATION, AND CS INFANT FOLLOW-UP, PLEASE REFER TO THE CDC 2021 STI TREATMENT GUIDELINES.

Revised 2/2022

Case

26-year-old pregnant, cisgender female presents for a walk-in STI clinic visit. She is unhoused and does not have insurance.

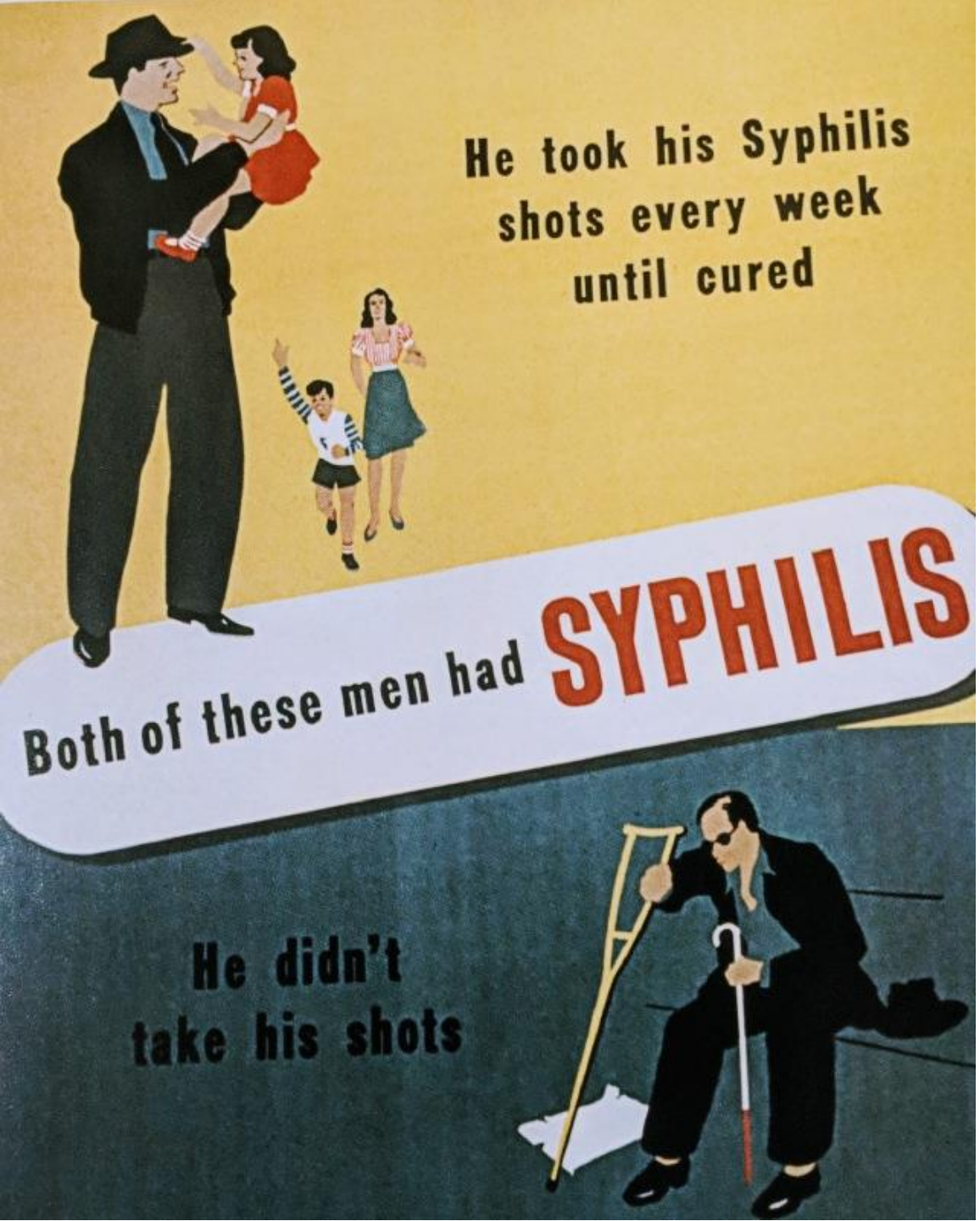
She is 8 weeks gestation by dates, found to have RPR of 1:64, has never had syphilis testing in the past and currently has no symptoms and a normal physical exam. She states she is allergic to penicillin with history of rash and shortness of breath with amoxicillin, how would you proceed?

Management of syphilis in pregnancy

- Obtain previous treatment history to help management.
- Management is the same as non-pregnant people.
- There are **NO alternatives to IM Bicillin** – if penicillin allergy, must desensitize to use
- For P+S, ES, some give an additional IM dose 1 week after treatment.
- Goal is 7 days between doses of IM bicillin but if a person misses a dose, effort should be focused on getting the dose within 2 days.
  - Doses more than 9 days apart means restarting treatment.
- Ultrasound is used to monitor in second half of pregnancy but should not delay treatment.
- For patients with early syphilis or high titers, Jarisch-Herxheimer reaction counseling is advised.
- Recheck RPR 8 weeks after treatment.

A Syndemic Approach to Congenital Syphilis

- Provide packaged STI testing for people of childbearing potential.
- Counsel pregnant people on STI prevention
  - Especially in the later half of pregnancy: HSV and syphilis
- Go to the CDC STI guidelines for diagnosis and classifying CS
- Embrace team management: Include DIS, clinician, community health worker, etc..
- Assess for social vulnerabilities
- Learn from programs that are doing work in adjacent areas
- Collaborate
- Involve Community
- Always address prevention and stigma



No-cost online clinical consultation on the prevention, diagnosis, and treatment of STDs by your Regional PTC Clinical Faculty

www.STDCCN.org

STLPTC

St. Louis STI/HIV Prevention Training Center

Left: Unknown, 1941-1945