



UNIVERSITY OF WASHINGTON
STD Prevention
Training Center

Syphilis Diagnosis and Testing in Adults

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Slides courtesy: Matt Golden, Julie
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Disclosures

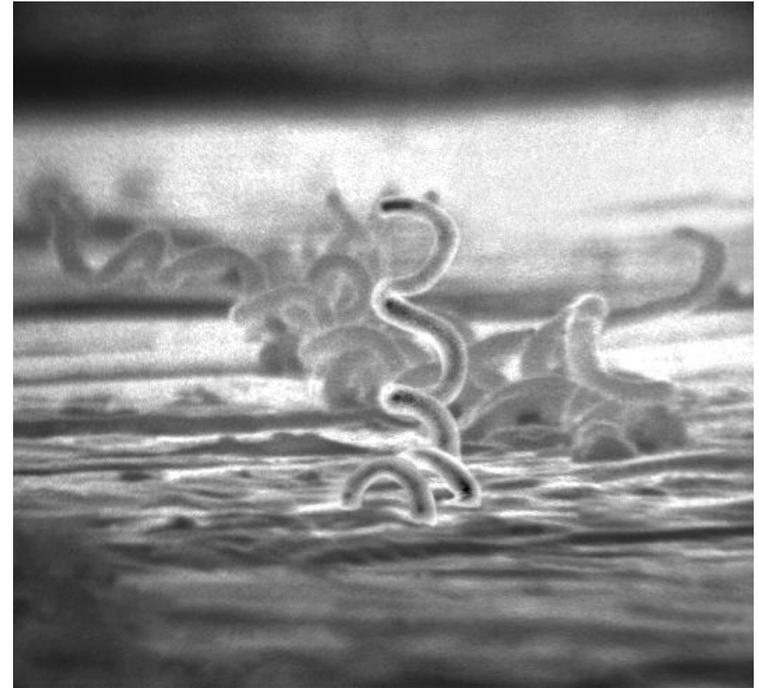
- Meena Ramchandani does not have relationships with a commercial interest related to the content of this educational activity.

Overview and learning objectives

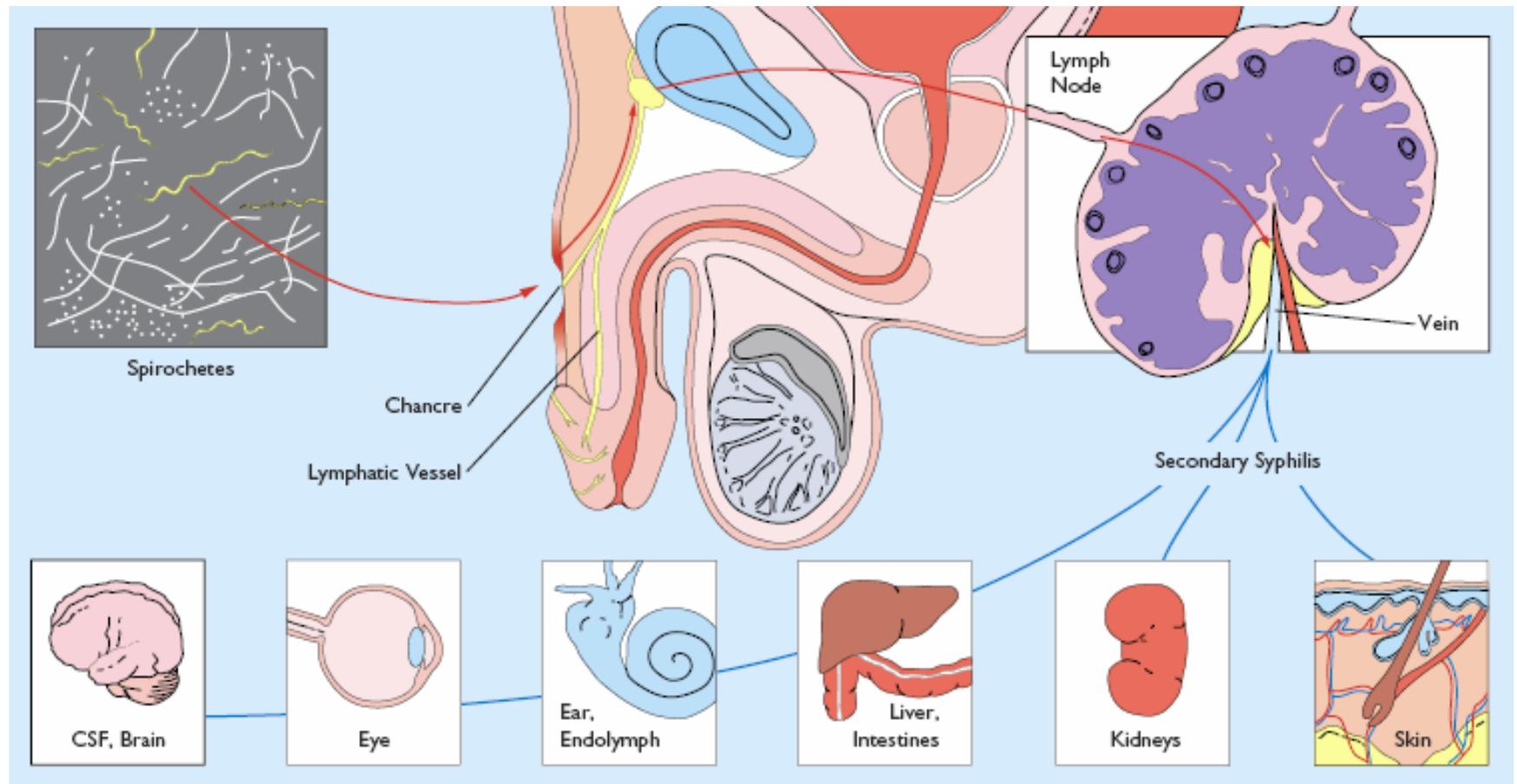
- Understand the clinical manifestations of syphilis in adults
- Discuss the staging of disease
- Describe lab testing to make a diagnosis of syphilis
- *Links to online learning courses*

Syphilis Disease: Transmission

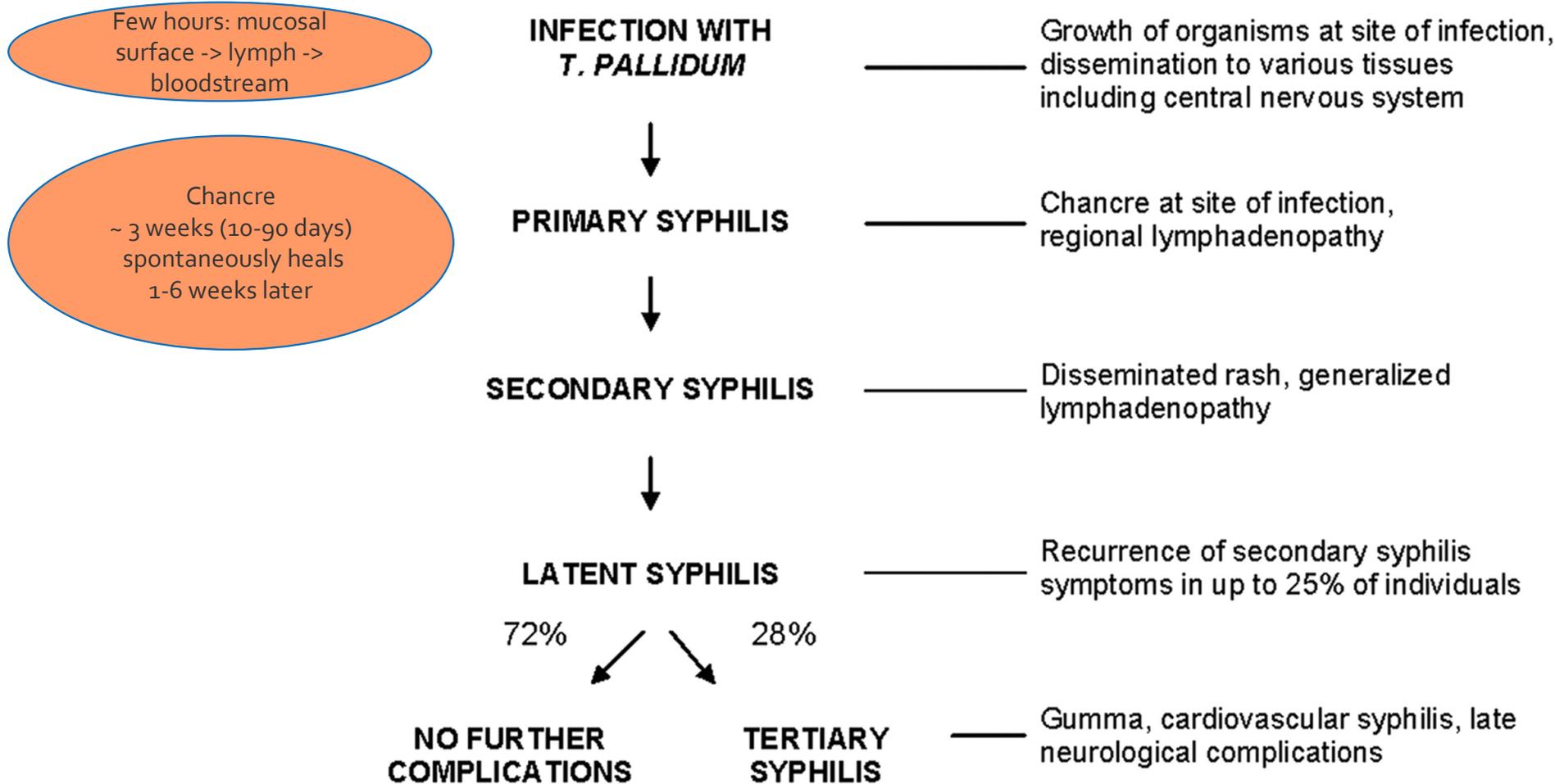
- Chronic sexually transmitted infection caused by *Treponema pallidum*
- Infection through small breaks in skin or mucous membranes
- Risk of developing syphilis after sexual contact 10-60% (average about 30%)
- Highest risk with contact to early syphilis; Lesions with many treponemes transmit most effectively.



Rapid Dissemination of Syphilis via the Lymphatics and Blood



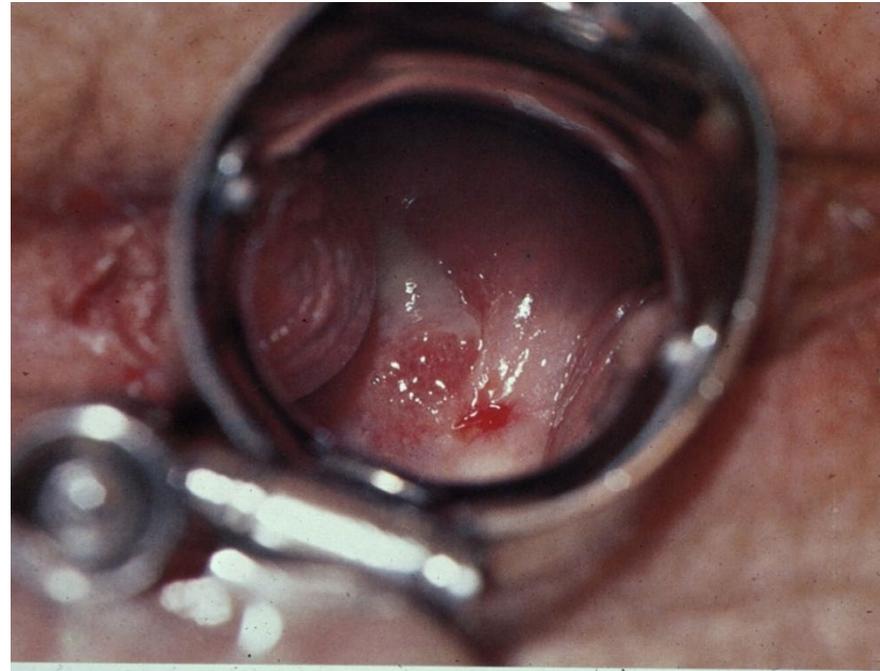
Syphilis – A Brief Refresher





Primary Syphilis

Chancre



Primary lesion on the cervix

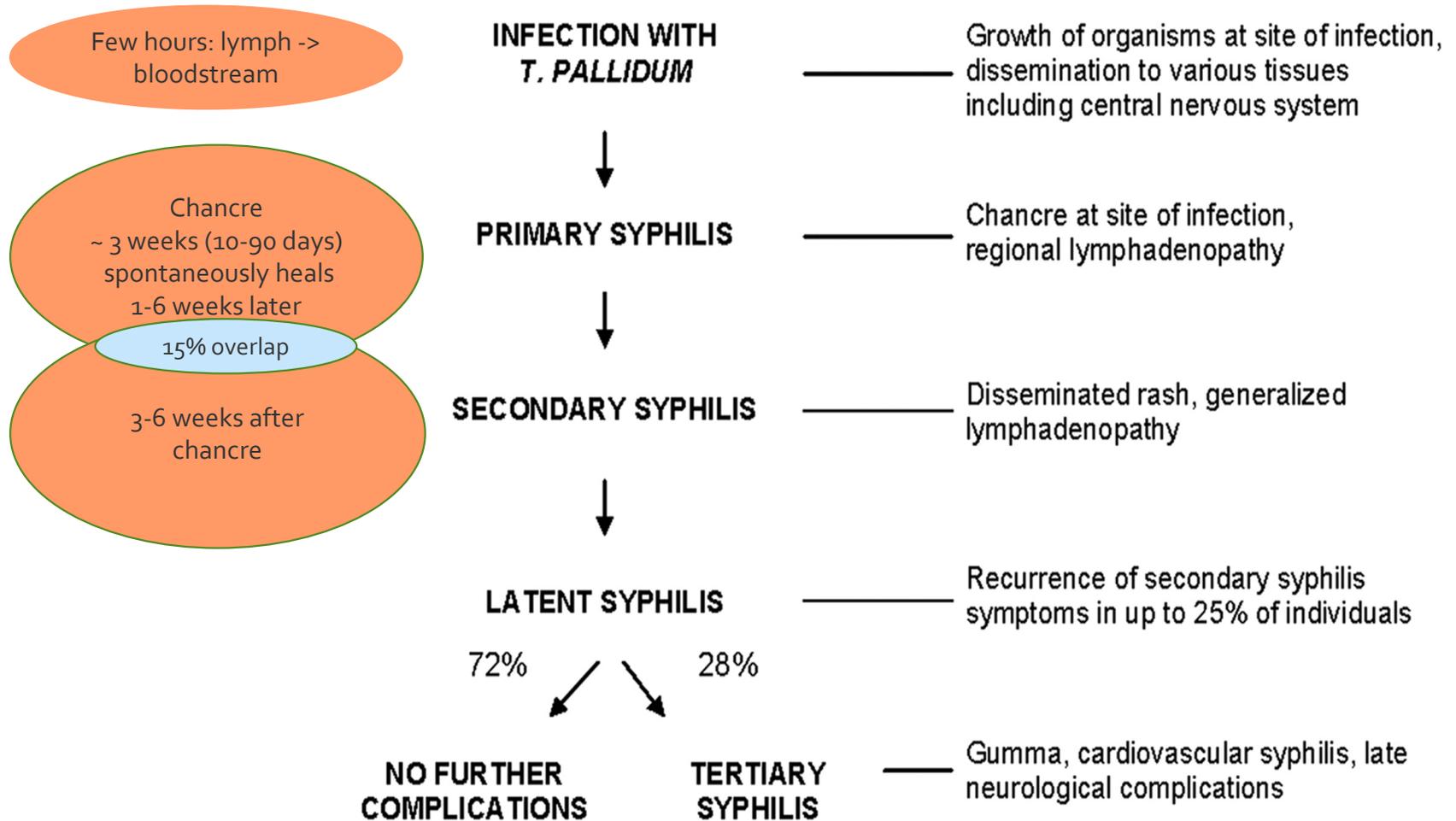
Typical Primary Syphilis

- Nontreponemal tests (RPR, VDRL) **negative** in 15-25% cases of primary syphilis
- Chancres can occur anywhere inoculated by direct contact
- **Don't need definitive diagnosis to treat: if you think it's early syphilis → TREAT. Loss to follow up and spread of infection can be high.**



Secondary Syphilis

Syphilis – A Brief Refresher



Secondary Syphilis

- Generalized rash: macular, papular, pustular
- Condyloma lata
- Mucous patches
- Fever, malaise, generalized lymphadenopathy, alopecia, liver/kidney involvement
- Lasts 2-6 weeks





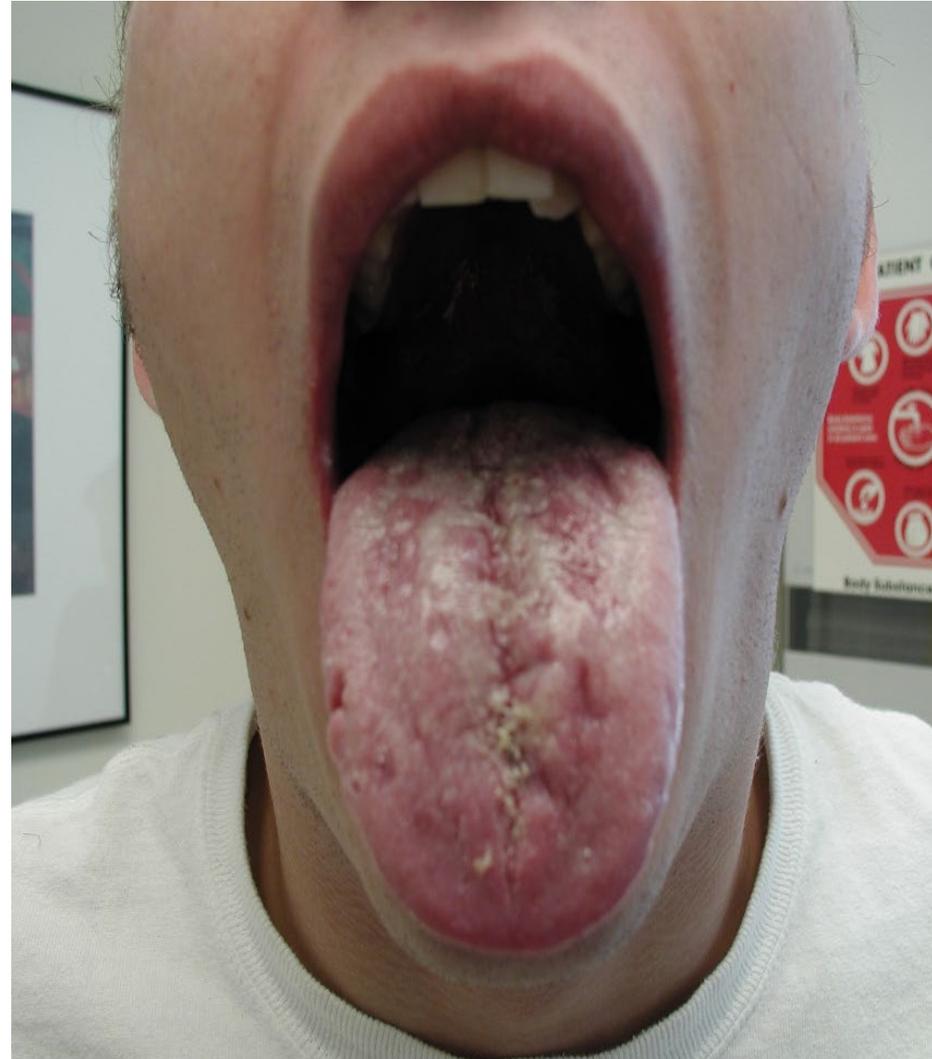
Secondary/Systemic Syphilis: Condyloma lata

- High numbers of treponemes
- May occur at any moist body site
- Highly contagious
- Fleshy, flat-topped appearance may help distinguish from warts, but often mistaken for latter
- Pearl: WET warts generally aren't warts!



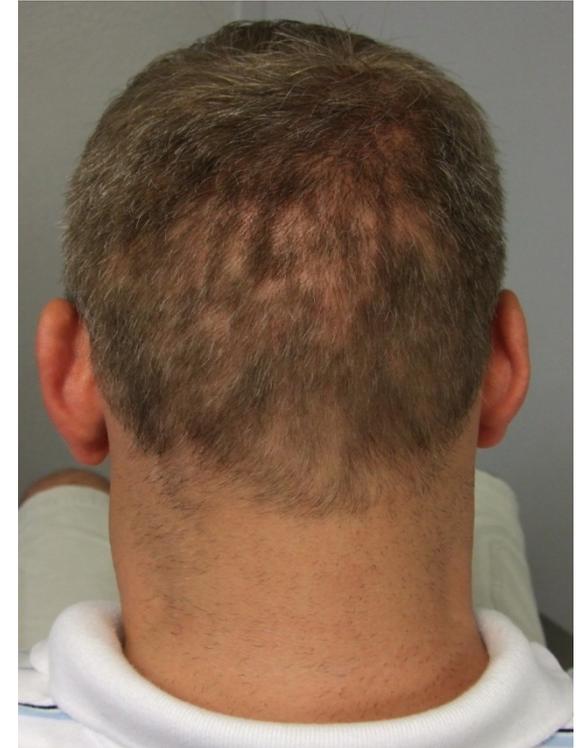


Secondary Syphilis: Mucous patches



Secondary Syphilis: Less common

- Alopecia (5%)
 - Due to infection of hair follicles
 - Patchy, “moth-eaten”
 - loss of lateral eyebrows
- Liver, kidney, spleen involvement
- Really rare: lues maligna – necrotic skin lesions



■ Obr. 1 – Kožní projevy lues maligna | Foto: archiv autora



Latent Syphilis

Latent Syphilis: New or Old?

- Defined by positive treponemal serology in the absence of clinical manifestations
- Early Latent: Infected less than one year
 - Negative syphilis serology in past year
 - Known contact to an early case of syphilis
- Late Latent (infected > 1 year or unknown duration)
 - No syphilis serology in past year
 - No contact to syphilis case or history of signs/symptoms in past year



Syphilis Testing

Serological Testing for Syphilis

Nontreponemal



RPR, VDRL

(Quantitative, goes down
with treatment)

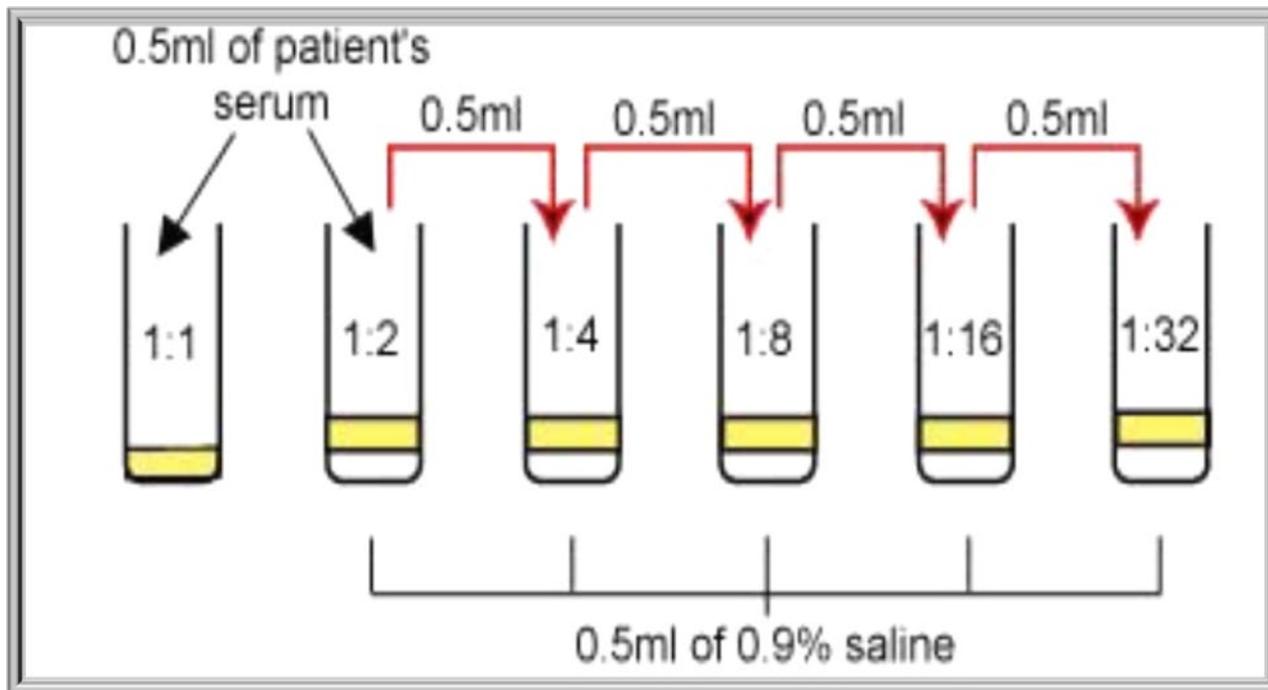
Treponemal



MHATP, FTA-ABS, TPPA, EIA/CIA

(Good for screening but once
positive, positive for life)

Dilutions of Serum to Obtain RPR Titer

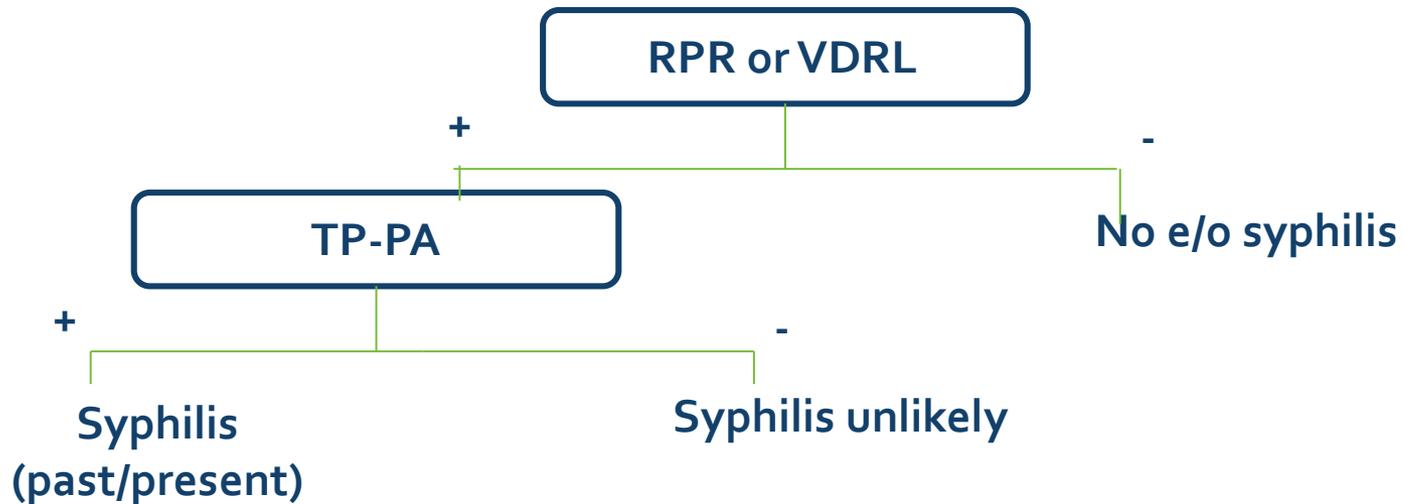


Reverse Sequence Syphilis Screening Algorithm

- Traditional
 - Screen with nontreponemal test (RPR or VDRL)
 - Confirm with a treponemal specific test (TPPA, MHATP)
- Reverse
 - Screen with treponemal specific EIA
 - Confirm with RPR
 - If conflict: resolve with older treponemal test (TPPA)

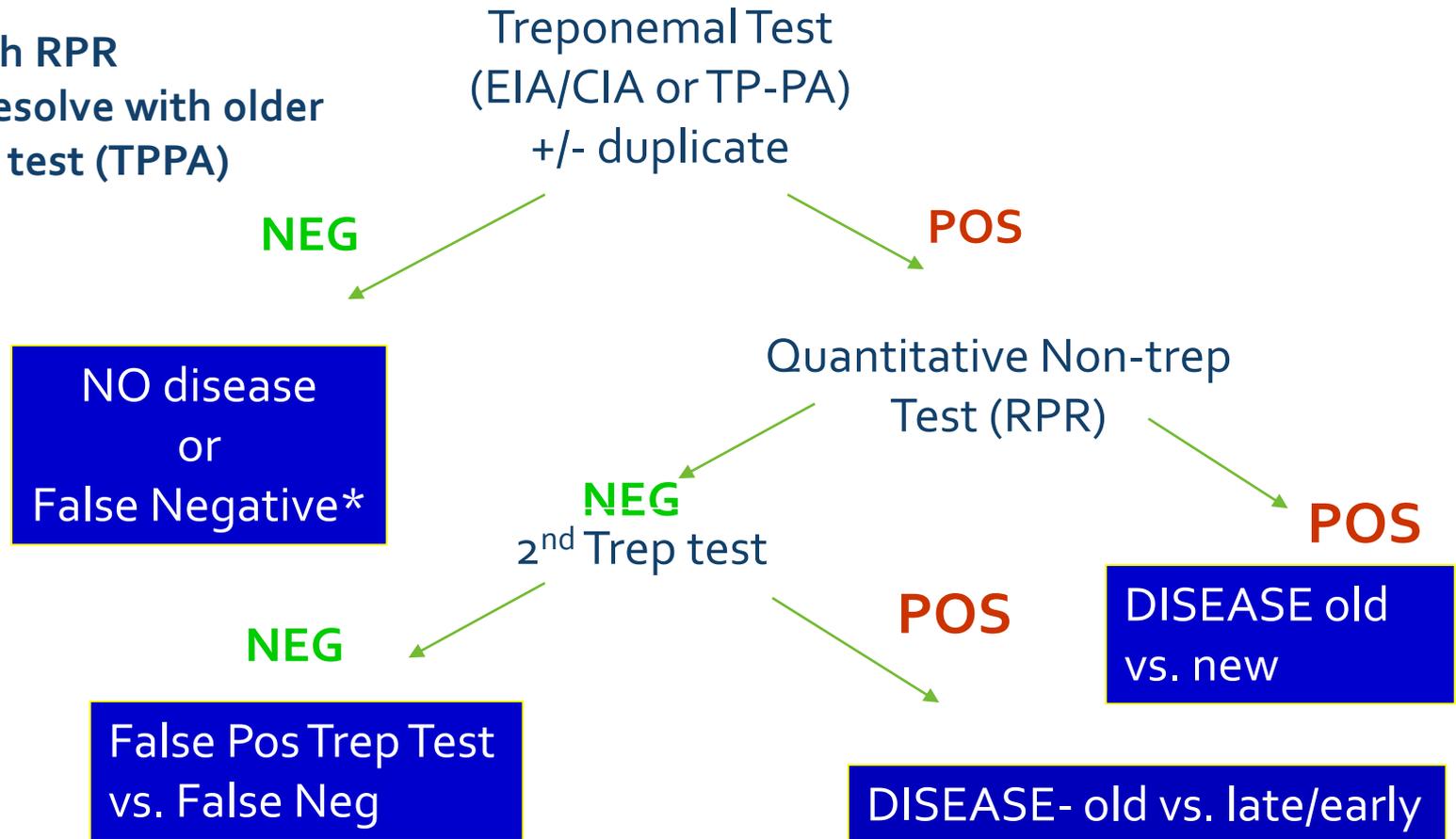
Syphilis Screening Algorithm

- Traditional: 2 serologic tests
 - Screen with nontreponemal test (RPR or VDRL)
 - Confirm with a treponemal specific test (TPPA, MHATP)



Reverse Sequence Syphilis Screening

- Screen with treponemal specific EIA
- Confirm with RPR
- If conflict: resolve with older treponemal test (TPPA)



- Do not use EIA in patients with a history of syphilis and in newborns
- False negatives occur in early disease. If high clinical suspicion, repeat tests.

References and Links to online resources

University of WA STD Prevention Training Center

- www.uwptc.org

National Network of STD/HIV Prevention Training Centers

- www.nnptc.org

CDC Treatment Guidelines

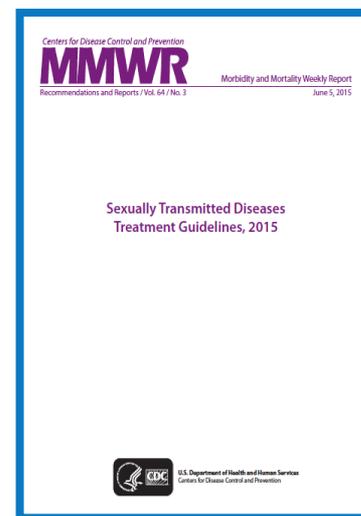
- www.cdc.gov/std/treatment

American Social Health Association (ASHA) booklets, books, handouts, the Helper

- www.ashastd.org
- (800) 230-6039

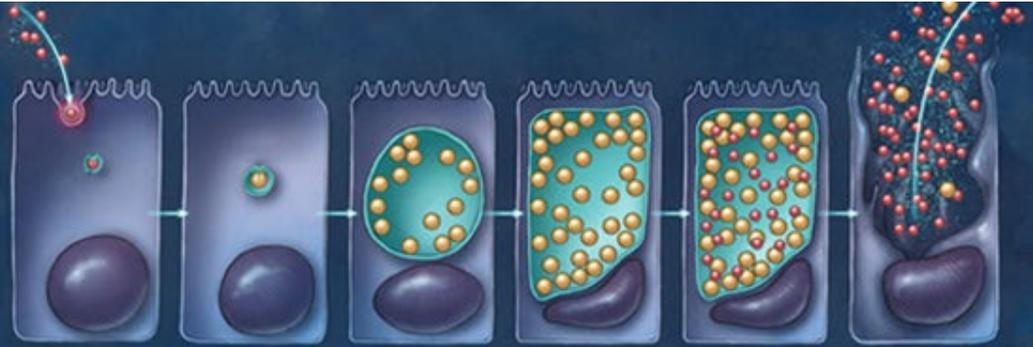
NNPTC National STD Curriculum

- www.std.uw.edu



National STD Curriculum

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<https://www.std.uw.edu/>

