

Mpox

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14-03-2026

Mpox

Orthopoxvirus

2 clades of MPXV:

clade I which includes subclades Ia and Ib

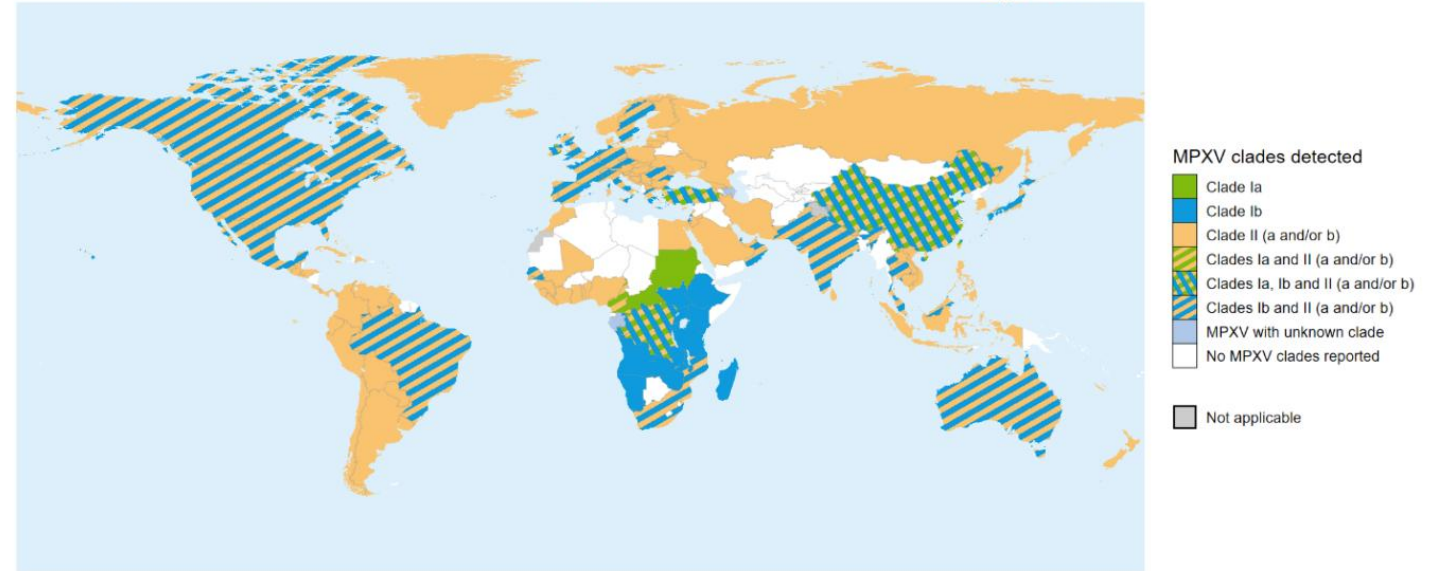
clade II which includes subclades IIa and IIb

(A) A geographical map of mpox cases (1970 – 2017)



MPXV clades detected globally

Includes imported cases; known distribution from 1 January 2022 to 18 Jan 2026



The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of WHO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Mpox spreads among humans through direct close physical contact with an infected person, including sexual contact

Mpox

Epidemic in 2022 (clade IIb) and circulation to a lesser extent since then

Most cases among MSM with multiple partners

Severe forms among severely immunocompromised individuals and pregnant women



Symptoms: skin rash and/or mucosal lesions (rectitis) +/- swollen lymph nodes, fever



"donuts"
Painful!





Mpox

Clade Ib emerged in the Democratic Republic of Congo in 2023 then spread to multiple African countries, to Europe and other continents.

In Belgium:

- 919 mpox cases since 2022, most (806) during the 2022 clade IIb outbreak.
- First clade Ib case on December 2024, 8 cases (reported by January 2026)

In Europe, local transmission of clade Ib in sexual networks documented in Spain, Italy, Portugal, and the Netherlands, with 108 clade I cases reported by January 2026

2 recent cases (UK and India) of a recombinant strain comprising clade Ib and IIb MPXV

Mpox

The ECDC assesses the risk of clade Ib infection as moderate for MSM and low for the general population in the EU/EEA

- **Vaccin against Mpox:** MVA-BN vaccination (Modified Vaccinia Ankara-Bavarian Nordic)
 - Evidence for effectiveness derives from the 2022–2025 clade IIb outbreak, but cross-protection is expected (based on epitope conservation and animal studies)
 - 2 doses: 82% effectiveness against symptomatic mpox (95% CI 72–92%)
 - single-dose effectiveness in the general population: 76% (95% CI 64–88%)
 - Single-dose effectiveness reduced in people living with HIV (35%): two-dose for immunocompromised populations.
 - Vaccination does not provide complete protection: breakthrough infections in vaccinated individuals but with a milder clinical courses
 - Vaccine is safe in pregnancy (limited data), HIV infection, and atopic dermatitis

Pischel L *Vaccine*. 2024. Hillus D. *Lancet Infect Dis*. 2025

- **Vaccin against Mpox**

- **Post-exposure prophylaxis:**

- effectiveness estimate for PEP is 20% (95% CI -24% to +65%), but few data.
- ideally within 4 days of exposure, though administration between 4 and 14 days may attenuate disease severity.

- **If Mpox (or other STIs)**

- **Tests for others STI (HIV, syphilis, hepatitis)**

- **Talk about sex:**

<https://www.sti.kce.be/fr/conversation-FR.html>

Open questions, non-judgmental attitude

Sexual diversity is the norm.

We should not make assumptions about the sexual history or preferences of our patients.

- **Indication of PrEP?**

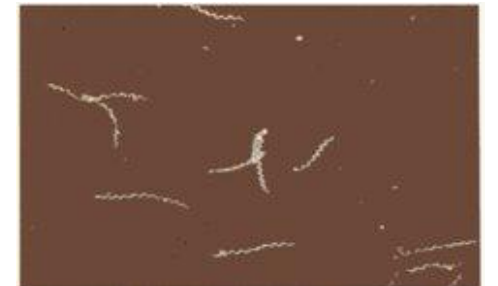


Syphilis:

Diagnosis, Clinical Pitfalls and Management



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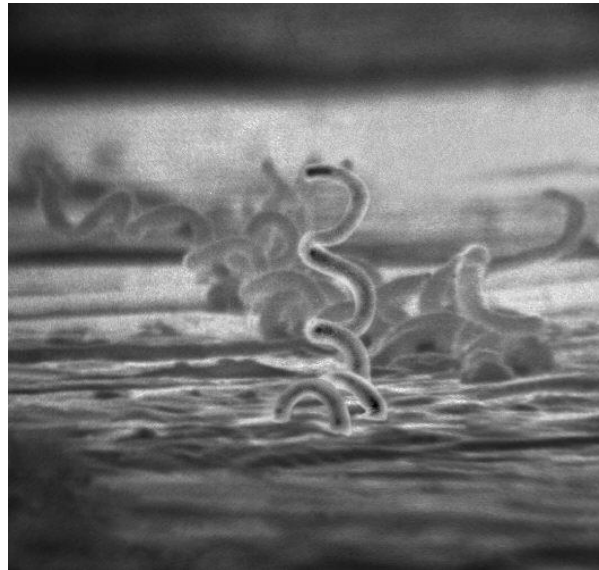


T.pallidum ssp *pallidum*



Albrecht Dürer (1496)

- Motile, helicoidal, cannot ~~not~~ be cultured *in vitro*
- Cannot be viewed by normal light microscopy
- Survives only briefly outside host



Old disease, actual concerns ...



- 10 million cases worldwide/year
- Since 25 years, incidence of syphilis has increased ++ in some high-income countries
- More frequent in MSM, but not only
- Congenital syphilis resurging even in high-income countries

Despite:

- a successful test for syphilis available since the early 1900s
- penicillin available since the 1940s, no resistance



SYPHILIS: data in Belgium

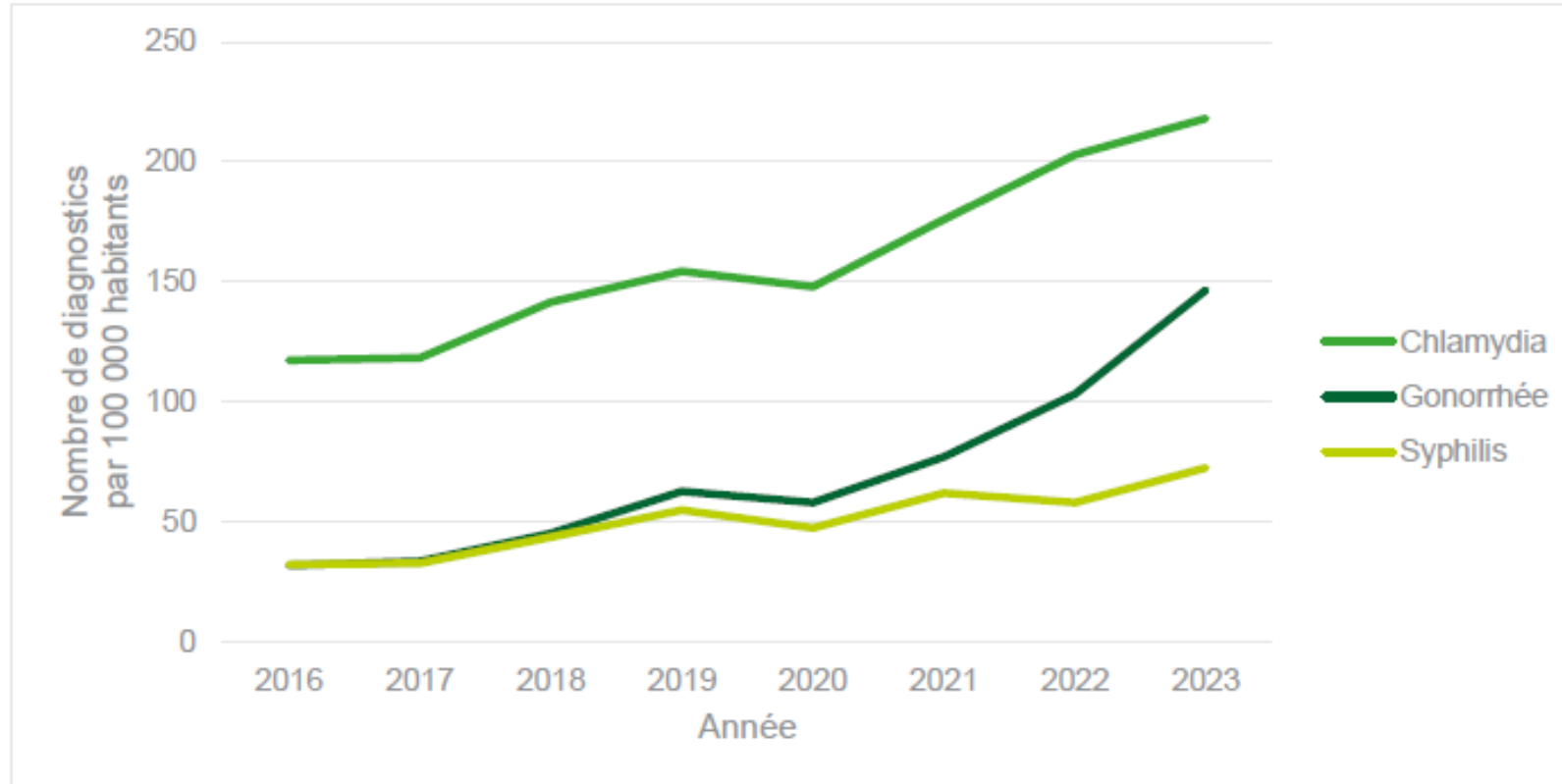


Figure 1 - Evolution du nombre estimé de diagnostics de chlamydia, de gonorrhée et de syphilis par 100 000 habitants, Belgique, 2016-2023

Source : Laboratoires sentinelles IST - Données INAMI pour les laboratoires sentinelles IST

SYPHILIS: data in Belgium

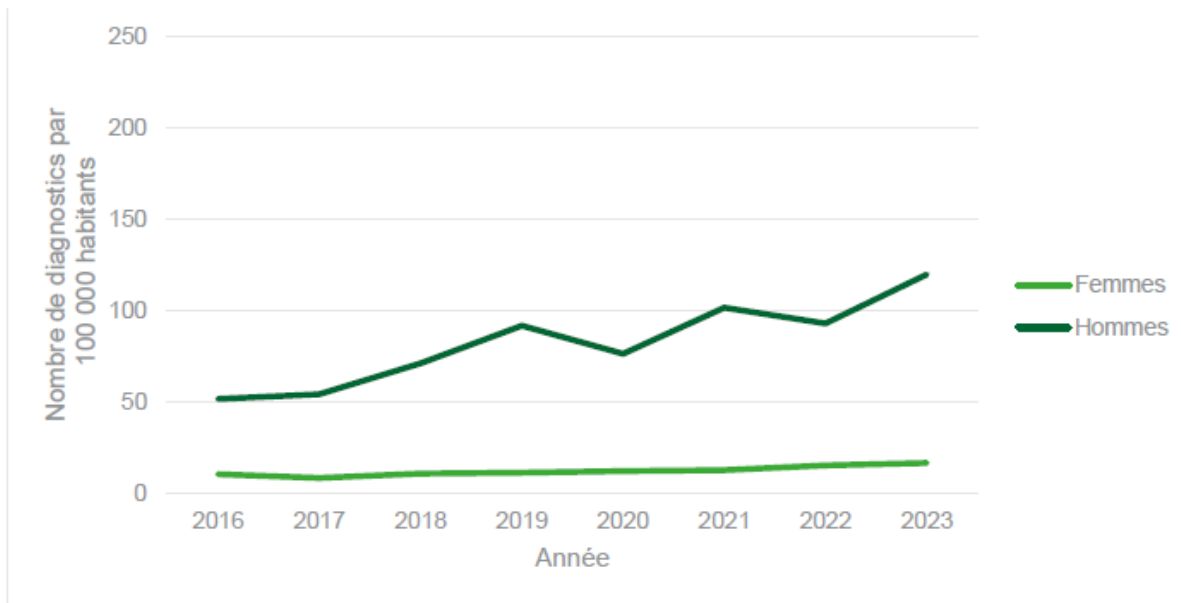


Figure 20 - Evolution du nombre estimé de diagnostics de syphilis par 100 000 habitants, par sexe, Belgique, 2016-2023

Source : Laboratoires sentinelles IST - Données INAMI pour les laboratoires sentinelles IST

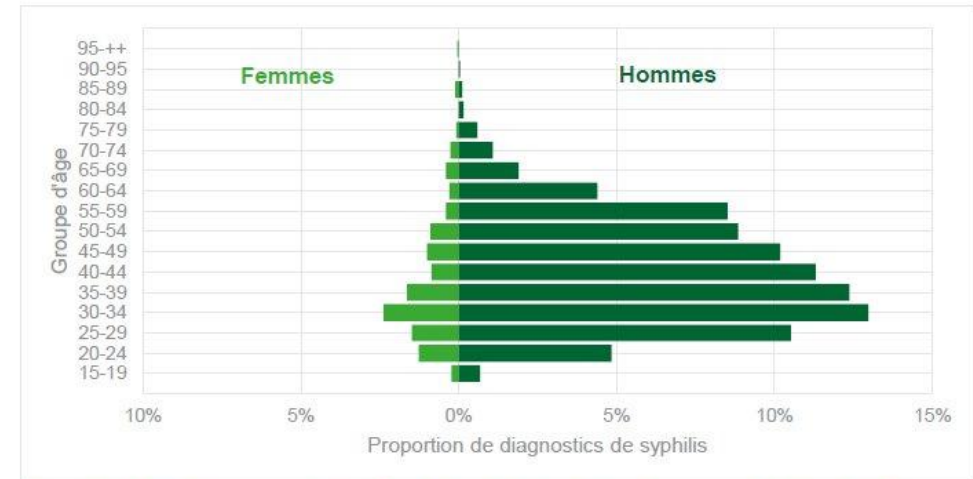


Figure 21 - Répartition proportionnelle de la syphilis par âge et par sexe, Belgique, 2023

Source : Laboratoires sentinelles IST

Mostly MSM but also heterosexual

Transmission

Strictly human transmission

- **Sexually transmitted infection**

From person to person through direct contact with a syphilitic ulcer/others lesions

32 % of sexual contacts exposed to syphilis become infected (meta-analysis of 36 397 sexual contacts (Denman J Infect. 2022)) : highly infectious!

- **Materno-fetal transmission**

- Maximal risk if **recent maternal infection** (< 1 year)
- Up to 40% of fetuses with in-utero exposure to syphilis are stillborn or die from their infection during infancy

- ***Others (rare)***: transfusion, transplantation

Increase of congenital syphilis

- USA : Congenital syphilis cases increased 755% during 2012–2021
In 2022, 3,761 cases of congenital syphilis

- UK

- Europe 2023 (ECDC):
78 confirmed cases of congenital syphilis reported from 13 EU/EEA countries. Bulgaria, Hungary, and Portugal reported the most (51%) cases in 2023

The screenshot shows the top portion of a CDC MMWR article. At the top left is the CDC logo and the text 'Centers for Disease Control and Prevention CDC 24/7: Saving Lives. Protecting People™'. To the right is a search bar. Below this is a dark blue header with the text 'Morbidity and Mortality Weekly Report (MMWR)'. The main title of the article is 'Vital Signs: Missed Opportunities for Preventing Congenital Syphilis — United States, 2022'. Below the title is the text 'Early Release / November 7, 2023 / 72' and a 'Print' link. The author list includes Robert McDonald, MD; Kevin O'Callaghan, MBBCh; Elizabeth Torrone, PhD; Lindley Barbee, MD; Jeremy Grey, PhD; David Jackson, MD; Kate Woodworth, MD; Emily Olsen, PhD; Jennifer Ludovic, DrPH; Nikki Mayes; Sherry Chen, MPH; Rachel Wingard; Michelle Johnson Jones, MPH; Fanta Drame, MPH; Laura Bachmann, MD; Raul Romaguera, DMD; and Leandro Mena, MD. A link for 'View suggested citation' is provided. The 'Summary' section is divided into two parts: 'What is already known about this topic?' and 'What is added by this report?'. The 'Article Metrics' sidebar shows an Altmetric score of 594, 77 news mentions, and 16 X posts. It also lists 'Citations' and 'Views' with a note that 'Views equals page views plus PDF downloads'.

Syphilis: stages

Incubation period: 3 weeks (10–90 days)

Early syphilis: the first year after acquisition of the infection. Transmission +

- Primary
- Secondary
- Early latent syphilis

Late latent syphilis or syphilis of unknown duration

(Tertiary syphilis)

Neurosyphilis

Early Syphilis

- The first year after acquisition of the infection,
 - **Primary**
 - secondary
 - early latent syphilis



Primary syphilis

Incubation 3 weeks (10-90 d)

Chancre:

- Painless ulcer at the site of inoculation
- Could be painful in extragenital (mouth, anus, ...)
- 1 to 2 cm ulcer with a raised indurated margin
- Rarely multiple chancres (HIV)
- Mild to moderate lymphadenopathy
- Heal spontaneously within 3 to 6 weeks even without treatment
- Often unnoticed
- Highly infectious



Differential
diagnosis of
genital or
(peri)anal
ulceration

Herpes (painfull)

Syphilis

Mpox (painfull)

Non-STD: mycosis, trauma, carcinome,
fixed drug eruption, psoriasis,

Early Syphilis

- The first year after acquisition of the infection
 - Primary
 - **Secondary**
 - early latent syphilis



Secondary syphilis

- 4-10 weeks after the contact
- Chancre still present in 1/3 cases
- The most infectious stage
- **Polymorph lesions:** « grande simulatrice »



Generalized maculopapular rash (90%)

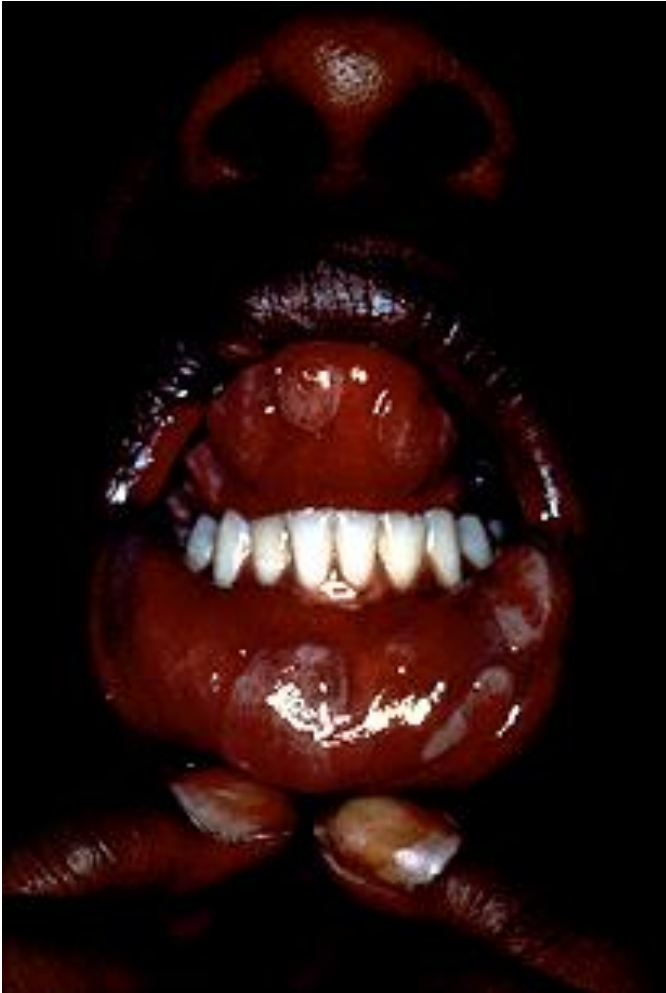
Secondary syphilis: lesion of the palms



and the soles of the feet



Secondary syphilis: mucous patches



Seattle STD/HIV Prevention Training Center

Source: University of Washington

Highly infectious +++

Secondary syphilis: Condyloma lata

Highly infectious



Secondary syphilis: alopecia



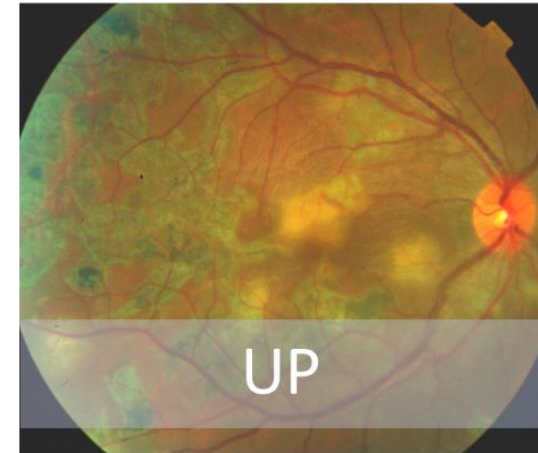
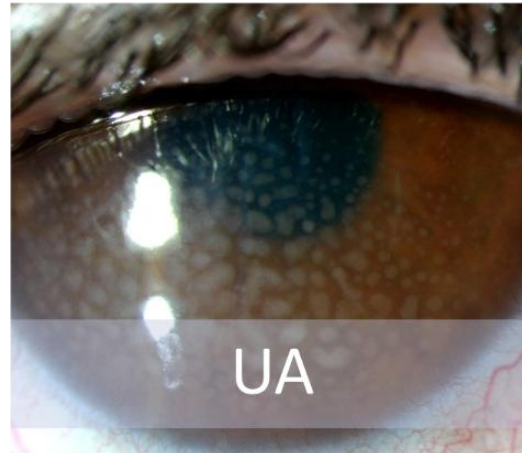
Secondary syphilis

- Systemic symptoms: fever, headache, malaise, sore throat, myalgias, and weight loss
- Lymphadenopathy
- Heal spontaneously within a few weeks but frequent relapse during one year if no treatment

Secondary syphilis

- Neurosyphilis
- Uveitis

VISION LOSS
FLOATERS, FLASHING LIGHTS
PHOTOPHOBIA
SCOTOMA Visual field

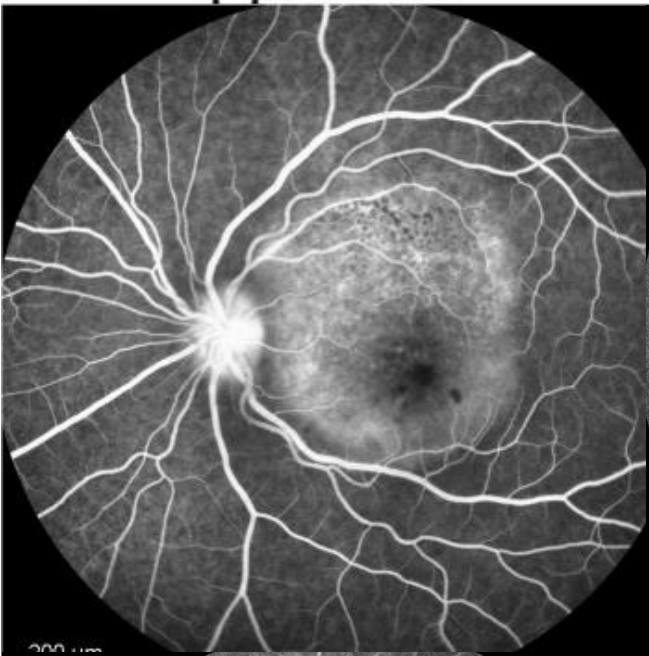


- Less frequent: hepatitis, renal involvement, synovitis, osteitis, and periostitis

Clinical case

- Young patient treated for alopecia with ledertrexate and corticosteroids
- Floaters and central scotoma ...

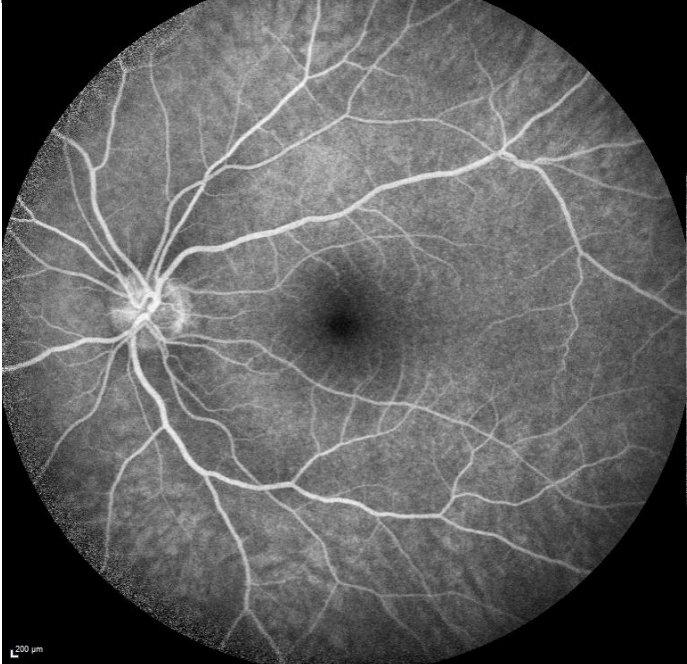




200 μm



RPR 128 !!!



200 μm



- Early syphilis

- Primary
- Secondary
- **Early latent syphilis:** positive serological tests for syphilis with no clinical evidence of treponemal infection AND a negative test <1 year

Syphilis: stages

- Incubation period: 10–90 days
- **Early syphilis: the first year after acquisition of the infection. Transmission +**
 - Primary
 - Secondary
 - Early latent syphilis
- **Late latent syphilis or syphilis of unknown duration**
- (Tertiary syphilis)
- **Neurosyphilis: can occur at any time after the infection**

Late latent syphilis or syphilis of unknown duration

- Latent= Asymptomatic
- Late= Acquisition more than 1 year
- Or unknown

• Early neurosyphilis

- **Asymptomatic:** no clinical manifestations and CSF abnormalities

- **Acute syphilitic meningitis :**

- often in the first year after infection

- headache, fever, nausea, vomiting, stiff neck, **cranial neuropathies** (II, VII and VIII)

- CSF abnormalities

- **Ocular syphilis:** posterior uveitis is the most common

- **Otosyphilis:** hearing loss \pm tinnitus

- **Ocular and otosyphilis alone or with NS.**

- If syphilis, always ask if
 - ocular symptoms?
 - Tinnitus? Loss of audition?

Early neurosyphilis

- **Meningovascular neurosyphilis**

- “syphilitic stroke”

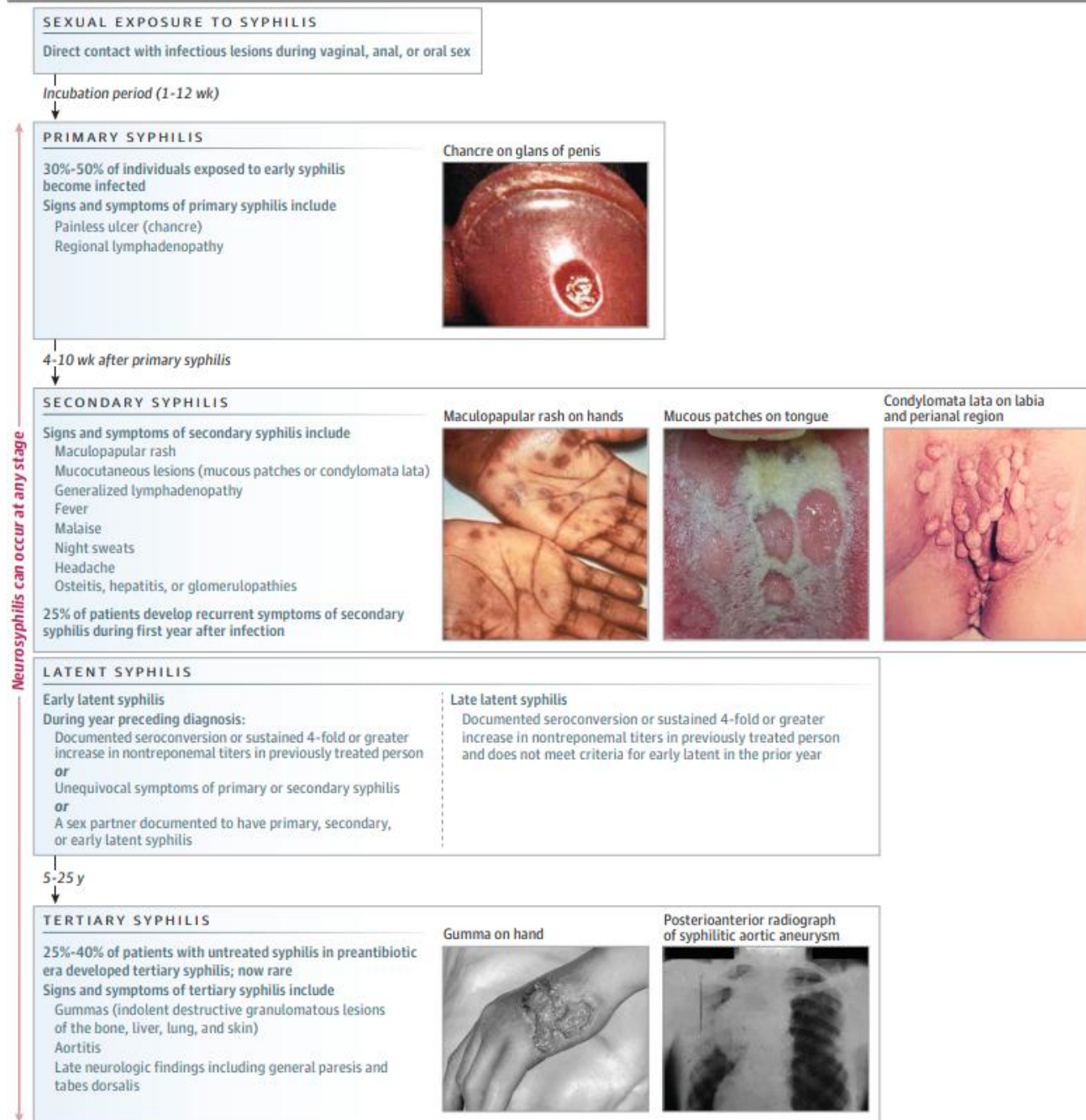
- hemiparesis, hemiplegia, aphasia, seizure

- Any time from the first months to the first years after infection

When to perform a LP? CDC guidelines 2021

- **Neurologic signs or symptoms** (e.g., cognitive dysfunction, motor or sensory deficits, cranial nerve palsies, or symptoms or signs of meningitis or stroke)
- **Ocular syphilis:** only if cranial nerve dysfunction or other neurologic abnormalities.
- **Otologic symptoms:** If isolated auditory symptoms, CSF examination is likely to be normal and is not recommended before treatment
- **Tertiary syphilis**

Figure 1. Progression of Syphilis After Sexual Exposure



- **Syphilis: diagnosis**

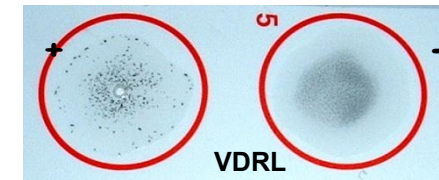
- **Serology**: antibodies in serum (and/or CSF)
- 2 types of tests: non-treponemal and treponemal

Syphilis serology

1- Non treponemal tests

reactivity of serum to a cardiolipin-cholesterol-lecithin (=non specific part of *T.pallidum* membran)

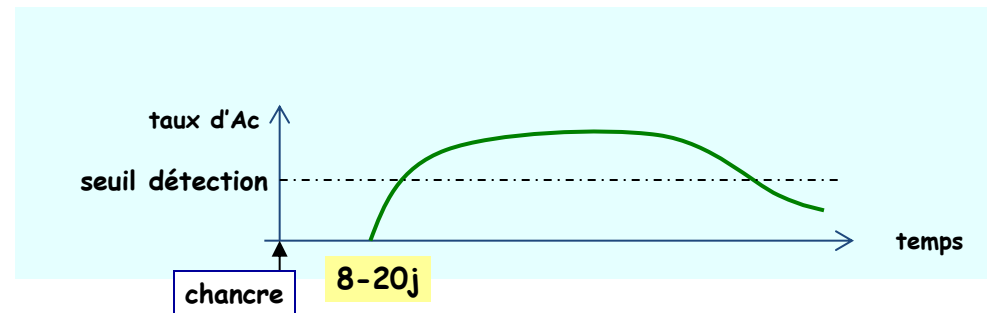
- **VDRL** (*Veneral Disease Research Laboratory*)
RPR (*Rapid Plasma Reagin*)
- Semi-quantitative : $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$, $\frac{1}{16}$, $\frac{1}{64}$
- Change of 2 dilutions is significant
- Reflects the **activity of the infection** → **follow up of treatment response**



- False positive with low RPR

- pregnancy
- rickettsial infection
- non-syphilis treponemal infection
-

negative serology in 1/3 chancre



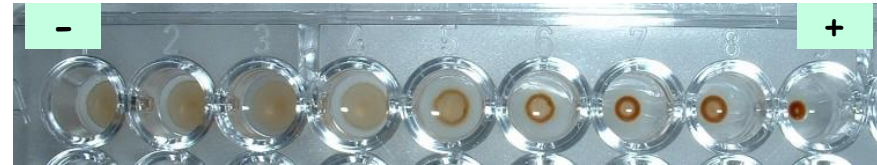
Syphilis serology

2- Treponemal test

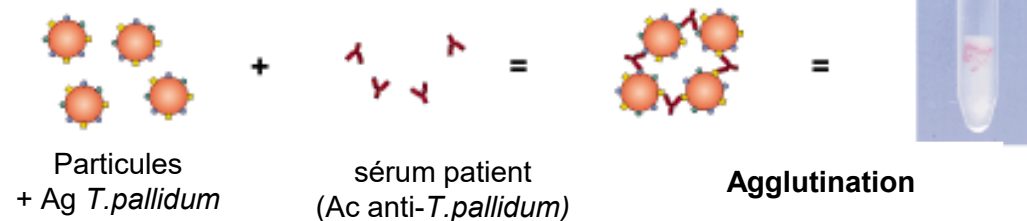
Treponemal tests are qualitative only and are reported as "reactive" or "nonreactive"

TPHA

- + 8 - 10 days after the chancre
- remain reactive after cure



TPPA



Syphilis serology

2- Treponemal test

E.I.A.

- Technique: ELISA or CLIA, IgM + IgG
(lysate de *T.pallidum* ou prot. recombinantes)
- Very sensitive, specific
- Indication: **testing**

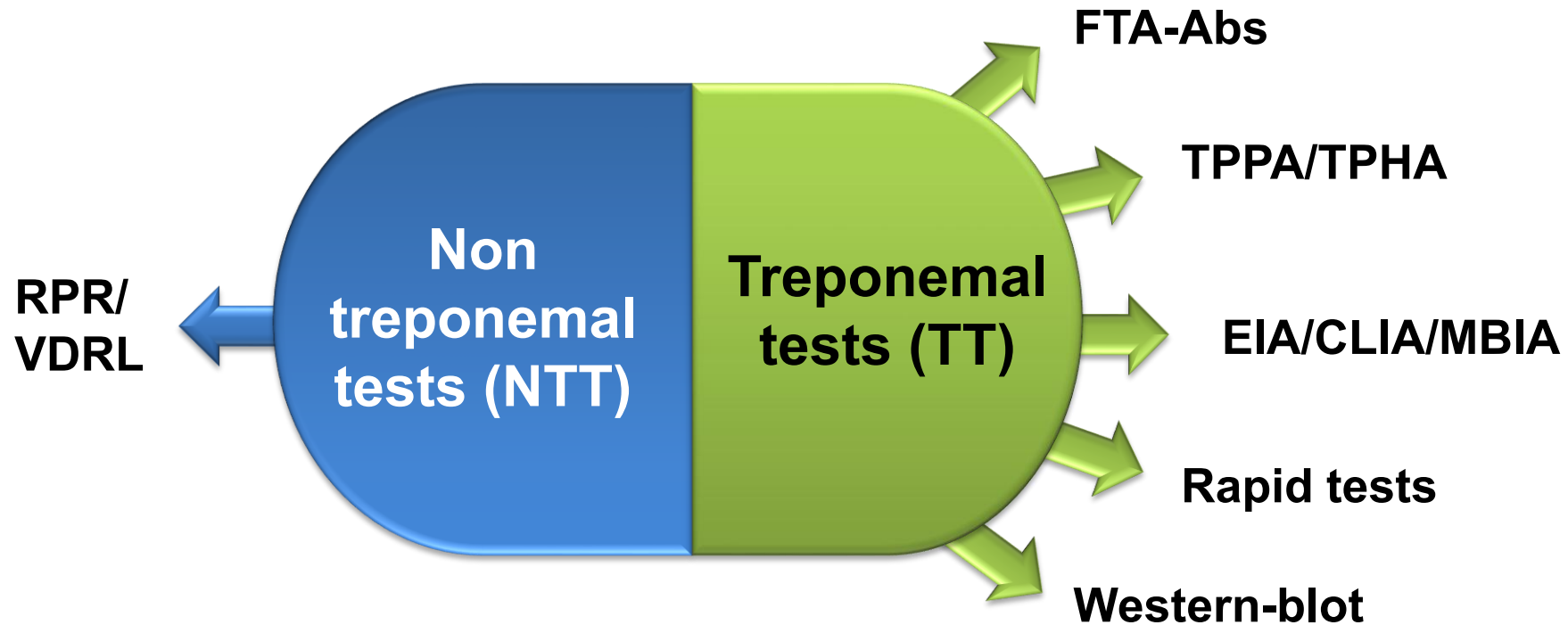
No link with syphilis activity

Remain reactive for life



LIAISON XL® (DiaSorin)

Infectious serology



Activity

- confirming reactive NTT
- screening the blood supply
- Positive for live

! cannot distinguish between active and past treated infection

A combination of the 2 types of tests is recommended.

REVERSE SCREENING ALGORITHM

Qualitative initial screening

TT (typically TP-EIA)

REACTIVE

NONREACTIVE

→ *Syphilis unlikely*

Quantitative testing

NTT (RPR or VDRL)

REACTIVE

NONREACTIVE

*Previously treated
or
untreated syphilis^a*

Perform a different TT
(eg, TP-PA)

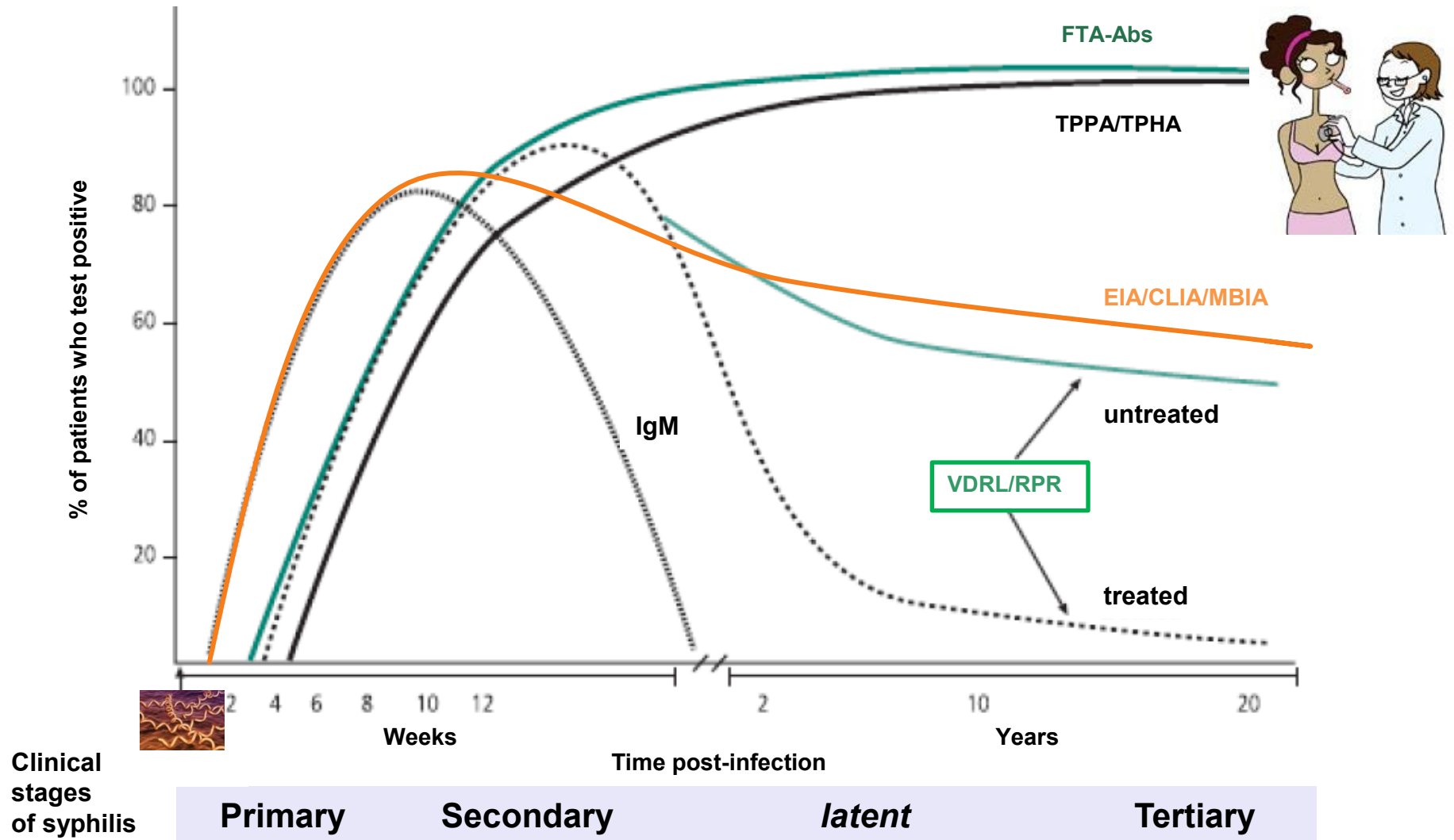
REACTIVE

NONREACTIVE

→ *Syphilis unlikely*

*Previously treated
or
untreated syphilis^{a,b}*

Serologic reactivity in syphilis patients



PCR treponema pallidum

- Investigational/some lab
- PCR testing in swab specimens of mucosal sites:
sensitivity 70 to 95 %, specificity 92 to 98 %
- Usefull in chancre/atypical lesion

- **Questions?**

- EIA/CLIA +, TPPA + and negative RPR

• Questions?

- EIA/CLIA +, TPPA + and negative RPR

Primary syphilis

Treated syphilis

Latent syphilis of unknown duration

How to know?

Anamnesis: treatment in the past?

Physical exam: hidden chancre? Rash?

Past blood test available?

- Questions?

- EIA/CLIA + and RPR 1/8

Follow up

FOLLOW-UP

Quantitative test:
RPR
(every 3-6 months)

↓RPR (4x) = treatment ok

↑RPR =
reinfection/reactivation

eg, from 1:16 to 1:4

This decrease in titers may take up to 12 months in primary and secondary syphilis and up to 24 months in people with latent infections

Treatment: primary, secondary, and early latent stage syphilis

- benzathine penicillin 2.4 millions IM **1x**
+ lidocaine
- If pen allergy or benzathine penicillin not available:
 - Doxycycline 2x100 mg 14 days

Treatment: late latent or syphilis of unknown duration

- benzathine penicillin 2.4 millions IM **3x at 1 week intervalle**
- + lidocaine
- If pen allergy or benzathine penicillin not available:
 - Doxycycline 2x100 mg **28** days

• Jarisch-Herxheimer reactions

- posttreatment transient worsening of symptoms
- may occur in up to 50%-75% of patients treated for primary and secondary syphilis
- Few hours after the treatment
- fever, chills, headache, myalgias, and rash

- **If syphilis (or other STIs)**

- **Tests for others STI (HIV, syphilis, hepatitis)**

- **Talk about sex:**

<https://www.sti.kce.be/fr/conversation-FR.html>

Open questions, non-judgmental attitude

Sexual diversity is the norm.

We should not make assumptions about the sexual history or preferences of our patients.

- **Indication of PrEP?**

- **Partners?**



T'as chopé une IST* ? Préviens tes partenaires.
Si t'as du mal à leur dire, utilise **Depistage.be/sms**
C'est **anonyme et gratuit !**

Tout le monde est susceptible d'attraper une IST au cours de sa vie, d'autant plus en ayant une vie sexuelle active.
La plupart du temps, elles sont sans symptômes, d'où la nécessité de te faire dépister régulièrement.
Pour ce faire, il suffit d'une prise de sang, d'un test urinaire, de frottis et/ou d'un examen visuel des parties génitales.
Si on laisse traîner une IST, les conséquences peuvent être importantes : stérilité, cancers, etc.
Avoir une IST non traitée augmente le risque de contracter d'autres IST.
Par contre, dépistées à temps, la plupart se traitent facilement !
Pour continuer à t'éclater en toute tranquillité, retrouve sur depistage.be tous les moyens de te protéger et de te dépister.



• Take home messages

- **Syphilis can be atypical**
- **Test! Test! Test!**
- **Serology**
 - Treponemal test: specific, positive or negative, stay positive for life
 - Non-treponemal test (RPR/VDRL): activity of the infection, follow up of treatment response
 - Discuss with your lab/ an infectiologist if needed
- **Talk about sex with your patient**
 - **Without judgment, open questions**
 - **Don't presume about sexual behavior**
 - **Partners**
 - **Indication of PrEP?**
- **Tests for others STI (HIV!)**