Update on Sexually Transmitted Infections

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No Conflicts to Disclose

- Member of the VMMC CME Committee
- Chair - WSMA/HMA - PACWEST CME Accreditation Committee
- I will be using trade names to refer to some combination therapies as well as for therapies with multiple indications under different names

Objectives

- Sexual history taking
- Review STI screening guidelines and place into practice
- Enhance knowledge of STI treatment and prevention guidelines – including HIV and HPV
- Recognized and treat emerging STIs

Taking a Sexual History

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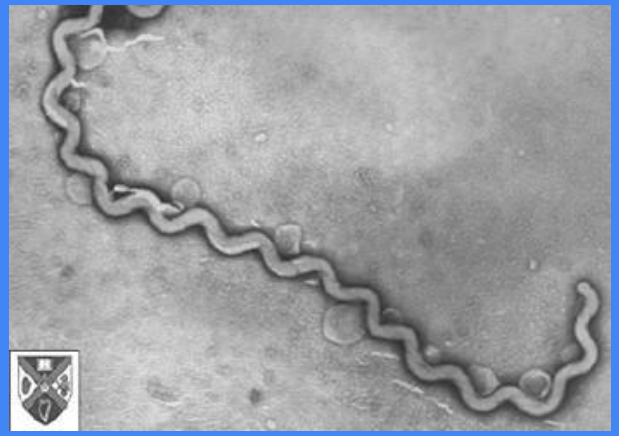
Sexual History

- Provide a safe space
- Avoid judgement
- Avoid terms that make assumptions about behaviour (“How many partners have you had in the last year” vs “Are you monogamous”)
- Ensure shared understanding around terminology and pronunciation to avoid confusion
- Establish rapport and consent before addressing sensitive issues
- Respect boundaries
- Use neutral and inclusive terms

CDC 5Ps

- Partners (number, gender, new)
- Practices (types of sex, risk assessment)
- Protection
- Patient History (Exposure, Testing, Partner history)
- Pregnancy Intentions



STIs - Incidence, Treatment and PREVENTION

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Who should be screened - women

- Chlamydia/Gonorrhea – sexually active women <25 and those at risk >25
- Syphilis – those at increased risk
- HIV – ALL ADULTs at least once and anyone with STI or seeking STI screen
- Trichomonas – consider screening in high prevalence setting or at increased risk for infection
- HSV – can consider type specific screening in women presenting for STI screen
- HPV – 21-29 q3years with cytology / 30-65 same or every 5 years with combined cytology and HPV testing
- Pregnancy
  - Chlamydia - <25 and retest in third trimester, women >25 at risk and if treated TOC @ 4 weeks and then retest at 3 months
  - Gonorrhea – same with treated being retested in 3 months
  - Syphilis – first prenatal visit, retest at 28 weeks and delivery if high risk
  - HSV – routine screening not recommended for asymptomatic women
  - HIV – first prenatal visit, 3rd trimester if at risk, rapid test at delivery if no previous testing

Who should be screened - Men

- MSW
  - Chlamydia/Gonorrhea – no clear recommendations or data
  - Syphilis – asymptomatic individuals at risk
  - HSV – can consider in those getting STI evaluation
  - HIV - ALL ADULTs at least once and anyone with STI or seeking STI screen

- MSM
  - Chlamydia/Gonorrhea/Syphilis – at least annually and every 3-6 months if at increased risk
  - HSV – serologic testing can be considered
  - HIV – at least annually if not previously tested or more than one new sex partner since last tests – can consider more frequent
  - HPV – recommendations developing

Who should be screened – Gender Diverse Persons

- Chlamydia and Gonorrhea – adapt based on anatomy
- Syphilis – consider annually based on sexual practices
- HIV – at least once then based on risk behavior
- HPV – patients with a cervix should be screened under guidelines for cervical cancer screening

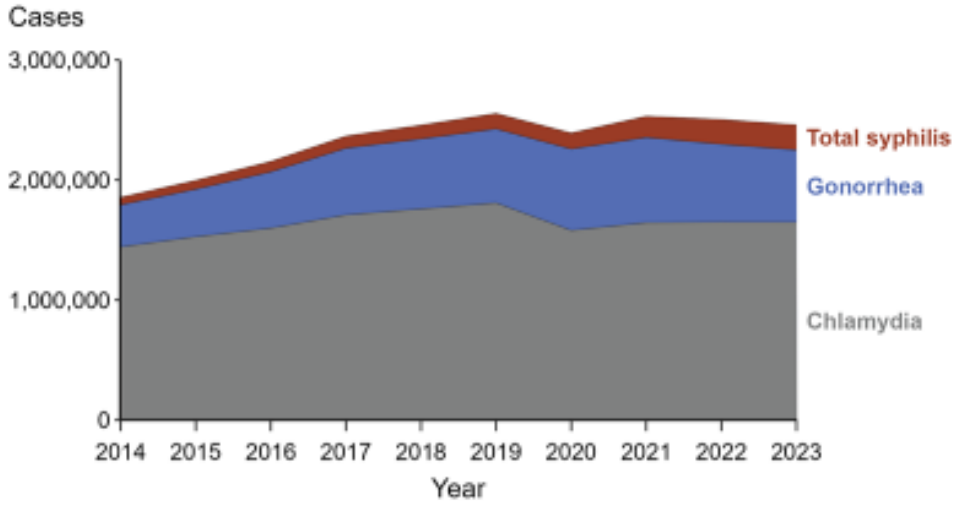
Who should be screened - PWHIV

- Chlamydia/Gonorrhea/Syphilis – at least annually and every 3-6 months if at increased risk
- HSV – type specific serologies can be considered during STI screening especially for high-risk individuals
- HPV and Anal Cancer – will discuss

STI - Screening

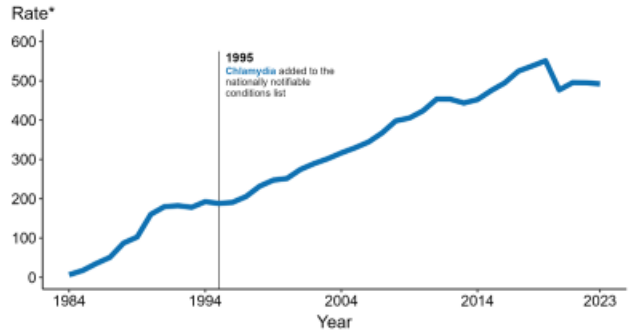
- Screen everything - urine/urethra/cervical, anal, oral - gonorrhea and chlamydia
- Check syphilis antibody
- Mycoplasma and Ureaplasma
- How frequently? It depends
  - Annually at least for most MSM (I do more if sexually active)
  - If truly in a monogamous relationship and no other partners then once is not unreasonable
  - Every three months for PREP patients

Sexually Transmitted Infections (STIs) — Reported Cases by STI and Year, United States, 2014–2023



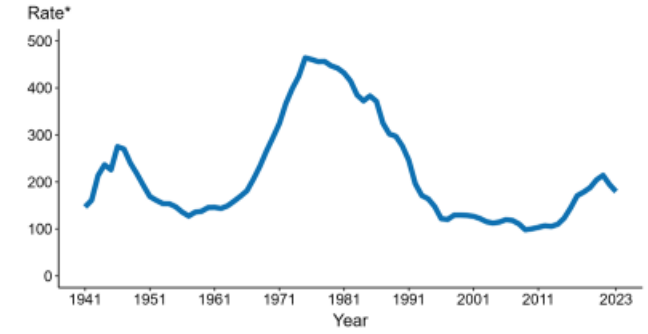
NOTE: "Total syphilis" includes all stages of syphilis and congenital syphilis.

Chlamydia — Rates of Reported Cases by Year, United States, 1984–2023

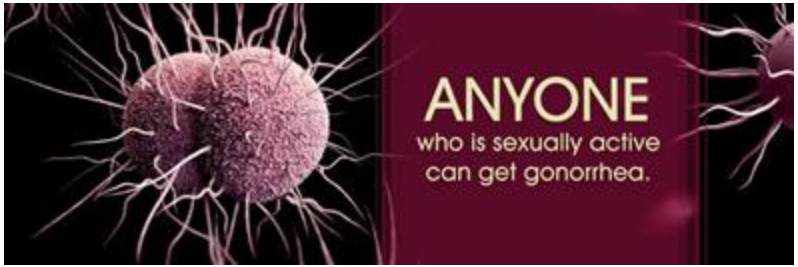


* Per 100,000

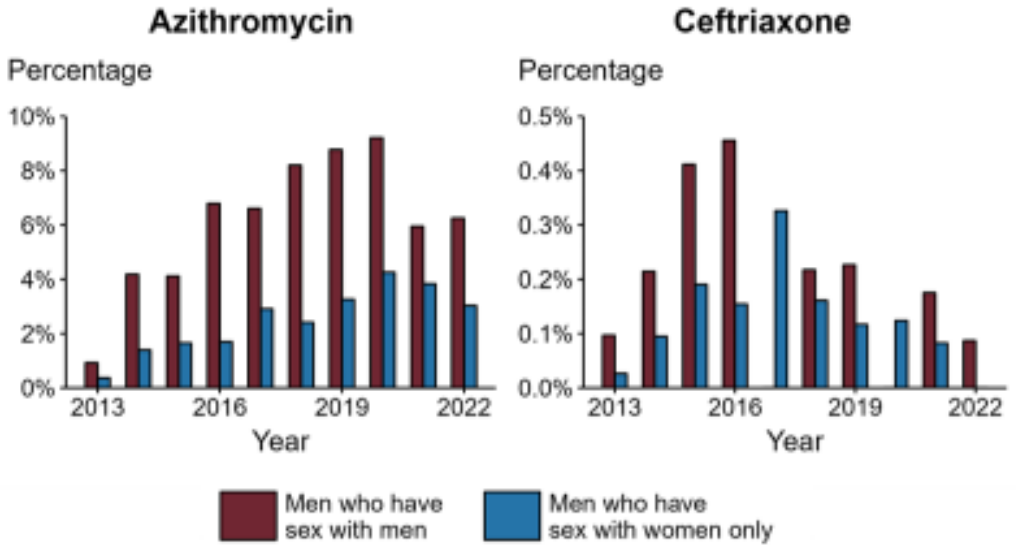
Gonorrhea — Rates of Reported Cases by Year, United States, 1941–2023



* Per 100,000

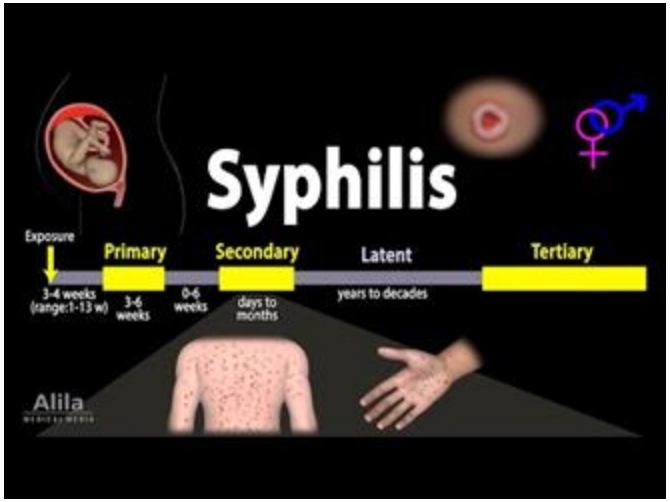


Neisseria gonorrhoeae — Percentage of Urethral Isolates with Elevated Minimum Inhibitory Concentrations (MICs) to Azithromycin* and Ceftriaxone† by Sex and Sex of Sex Partners, Gonococcal Isolate Surveillance Project (GISP), 2013–2022

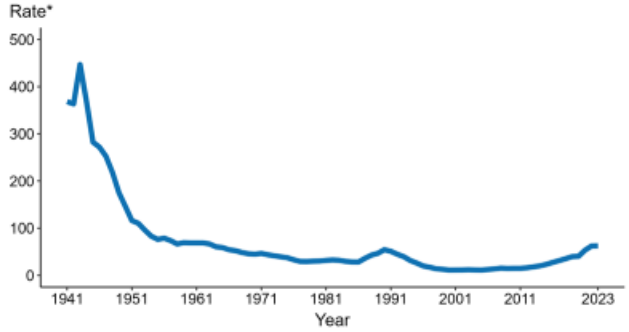


* Elevated Azithromycin MIC: ≥ 2.0 µg/mL

† Elevated Ceftriaxone MIC: ≥ 0.125 µg/mL



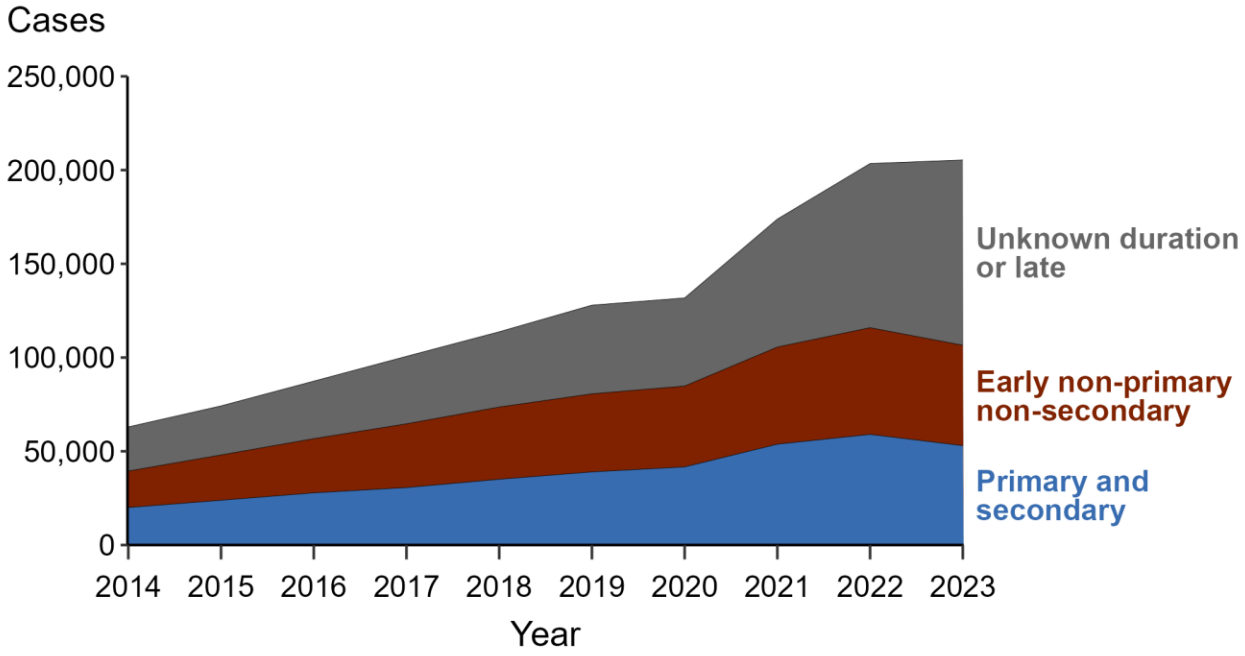
Syphilis — Rates of Reported Cases by Year, United States, 1941–2023



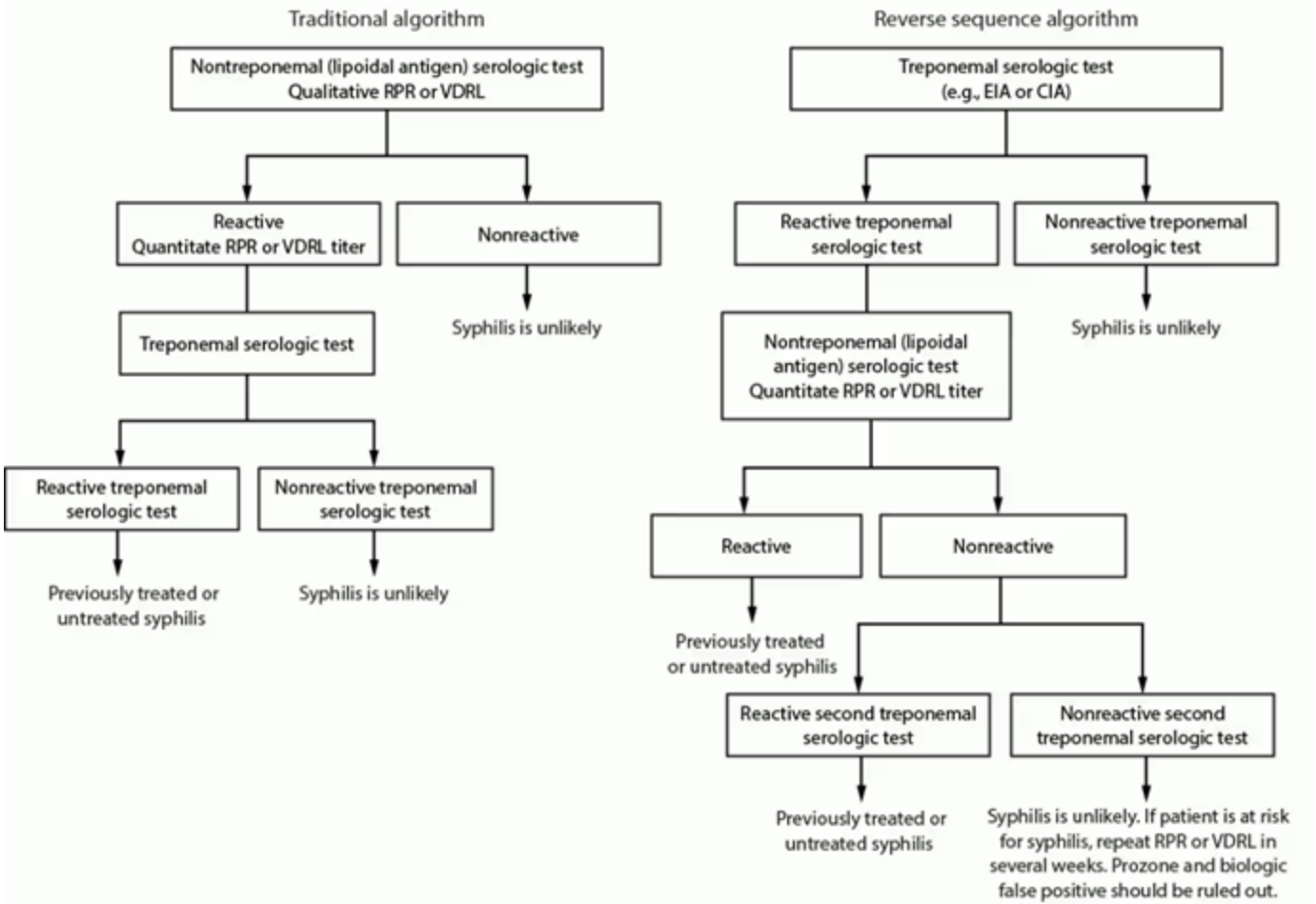
* Per 100,000

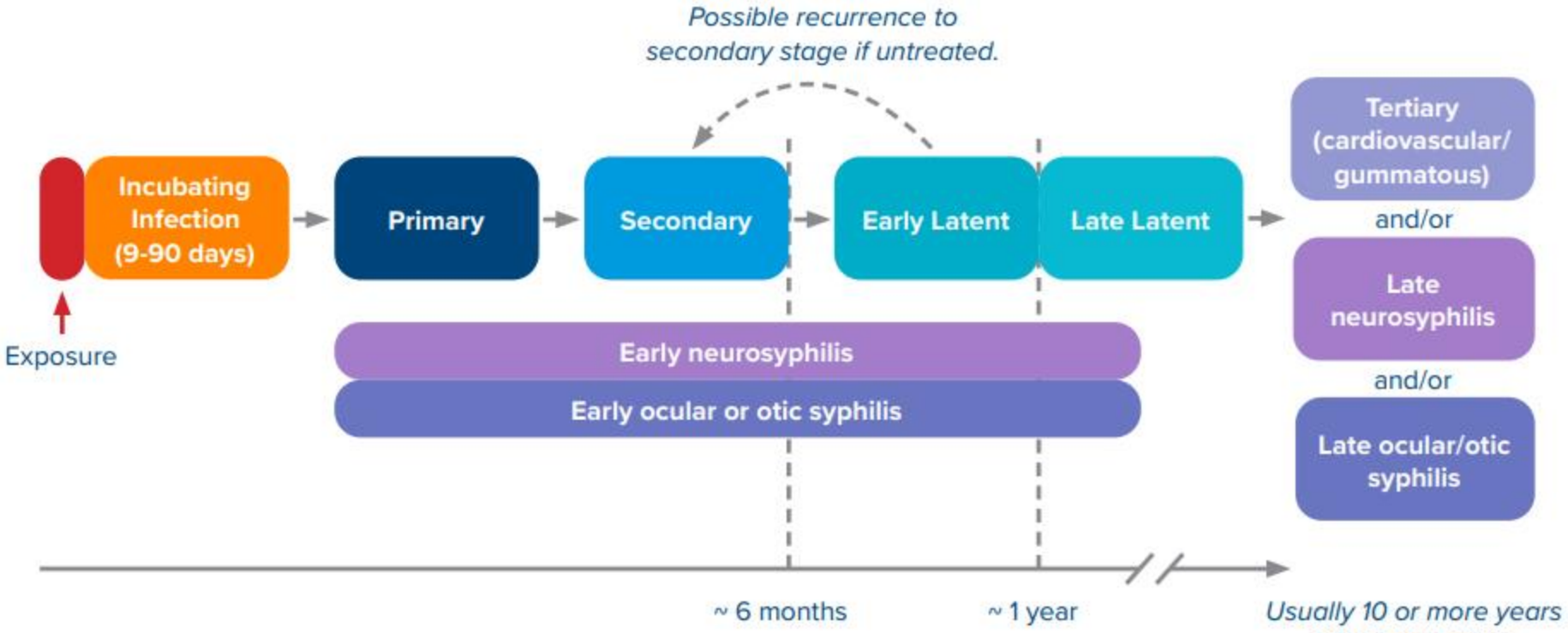
NOTE: Includes all stages of syphilis and congenital syphilis.

Syphilis — Reported Cases by Stage and Year, United States, 2014–2023



Syphilis screening algorithm





Adapted from New York City Department of Health and Mental Hygiene and New York City STD Prevention

The Stages of Syphilis

Primary

The chancre lesion is the hallmark of primary syphilis. It may appear 10-90 days after exposure. Common sites include penis and labia. Other sites include anus, oral mucosa. Without treatment, chancre disappears in 2-8 weeks.

THE CURB SIDERS INTERNAL MEDICINE

Secondary

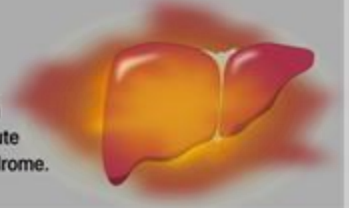
Rash, pink to brown macules. Involves palms/soles in 50% of cases.

Oral lesions called "mucous patches" resembling snail tracks.

Symptomatic early neurosyphilis, cranial nerve deficits and/or aseptic meningitis presentation.

Ocular syphilis manifestations including anterior or posterior uveitis.

Genito-inguinal rashes, including tinea-mimicker or heaped-up wart-like lesions called condyloma lata.



Less common internal organ manifestations including acute hepatitis and nephrotic syndrome.

Latent

Latent syphilis refers to asymptomatic infection after the period of primary and secondary syphilis (noticed or unnoticed) has passed.

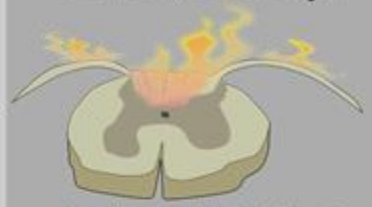
Early Latent

Early latent refers to asymptomaticpatients with positive testing, in whom history can confirm exposure to or symptoms of primary or secondary syphilis within the last year. This is group may receive single-dose penicillin like primary or secondary.

Late Latent

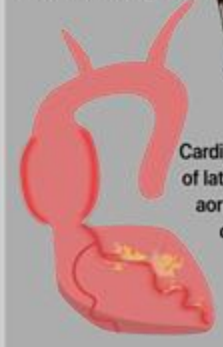
Late latent patients have positive serology but do not meet criteria for early. Thus, multiple doses of penicillin.

Late (Tertiary)



Late Neurosyphilis, including tabes dorsalis, gait impairments, and dementia. Tabes dorsalis damages the dorsal columns and sensory nerve roots, causing a syndrome of pain and sensory deficits similar to those of B12 deficiency.

Gumma are ulcerating granulomas on skin, bone, and internal organs.



Cardiovascular effects of late syphilis include aortic aneurysm and coronary arteritis.

STI - Treatment

Empiric Urethritis

- Doxycycline 100 mg BID x 7 days (or azithromycin 1 gm orally)
- Ceftriaxone 500 mg IM

Chlamydia

- Doxycycline 100 mg BID x 7 days
- Alt: Azithromycin 1 gm (recommended in pregnancy) x 1 or levofloxacin 500 mg PO daily x 7
- Alt pregnancy: Amoxicillin 500 TID x 7 days

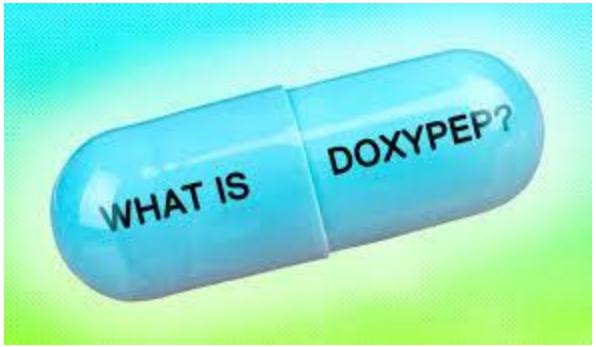
Gonorrhea

- Ceftriaxone 500 mg IM x 1 (less than 150 kg)
- Allergy: Gentamicin 240 mg IM x 1 plus azithromycin 2 gms PO x 1

Syphilis

- Primary, secondary or early latent (<1yr) - Benzathine Penicillin G 2.4 MU IM x 1
- Tertiary and late latent (>1yr) - Benzathine Penicillin G 2.4 MU IM weekly x 3 weeks
- PCN Shortage – prioritize pregnant women – alternative (doxycycline) for 2-4 weeks for men and non pregnant women

DOXY PEP



- Doxycycline 200 mg PO x 1(emphasize this) within 72 hours of sexual exposure – preferably within 24 hours
- Recommendations: All gay, bisexual or TGW with a history of STI in last year (use clinical judgement for other groups)
- Efficacy
    - Four RCTs
    - Two MSM and TGW
    - One MSM on HIV PreP
    - CIS Gender Women

All the studies showed reduced risk of STI acquisition (Chlamydia, syphilis, gonorrhea) - stronger association for chlamydia and gonorrhea

Minimal impact on gut flora

Mycoplasma (hominis) and Ureaplasma

- Part of normal genitourinary flora
- Associated with GU infections and pregnancy complications
- Treat is symptomatic – no test of cure
  - Mycoplasma – tetracyclines, fluroquinolones, clindamycin
  - Ureaplasma – tetracyclines, fluroquinolones and macrolides
- Complex challenges now with potential drug resistance is developing

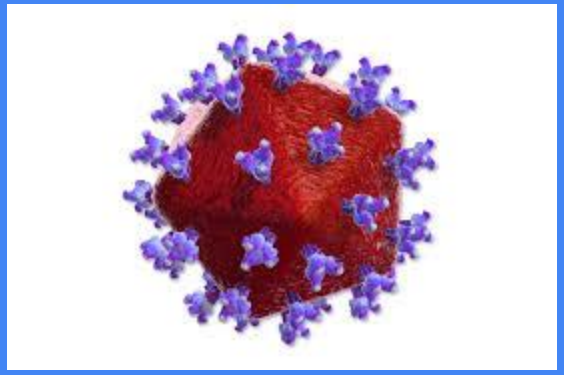
Bacterial vaginosis

- NOT an STI
- Associated with risks of PROM, Preterm labor
- Increase the risk of STI acquisition
- Metronidazole or Clindamycin

Trichomonas

- Estimated to be most common non viral STI
- Itching, burning, redness, soreness, discharge, fishy odor
- Pre-term labor, increased risk of acquiring other STIs
- Wet mount – traditional/ PCR also (only validated for women)
- Metronidazole or Tinidazole
  - Women metronidazole 500 mg BID x 7 days
  - Men 2gm orally x 1 (alternative for women)
  - Tinidazole 2 gm orally x 1
- Pregnancy/Lactation
  - Discuss with patients – potentially defer treatment to week 37 – metronidazole 2 gm x1 – consider not breast feeding for 24 hours after treatment
  - Metronidazole – class b (rats) – considered contraindicated in first trimester

HIV



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Summary: HIV in the United States

Around **1.2 million people** in the United States are living with HIV[1]

Approximately **1 in 8** do not know they have HIV[1]

Roughly **1 in 5** already have AIDS at the time of HIV diagnosis[2]

HIV disproportionately affects some populations:

- Men who have sex with men
- People of color
- Transgender people
- People who inject drugs

If current trends continue, an additional

400,000 people

in the United States will be diagnosed with HIV over the

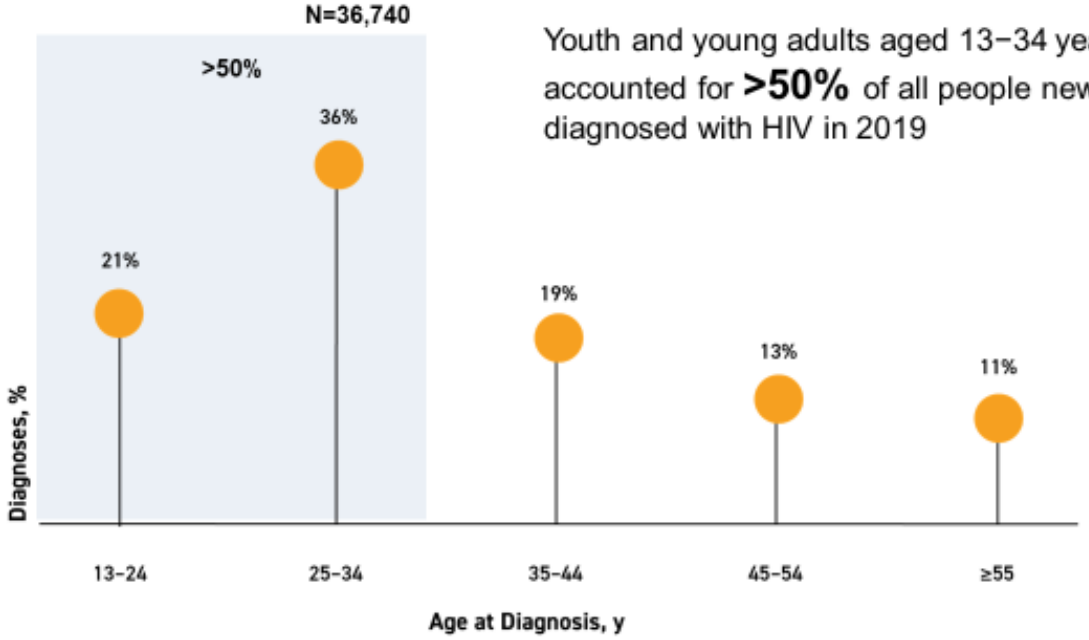
next 10 years[3]

[1] Centers for Disease Control and Prevention. Estimated HIV incidence and prevalence in the United States, 2015–2019. *HIV Surveillance Report: Supplemental Report.* 2021;26(1):44. https://www.cdc.gov/hiv/pdf/library/reports/surveillance/cdc-hiv-surveillance-supplemental-report-vol-26-1.pdf

[2] Centers for Disease Control and Prevention. Monitoring selected national HIV prevention and care objectives by using surveillance data. United States and 6 dependent areas, 2019. *HIV Surveillance Report: Supplemental Report.* 2021;26(2): 11. https://www.cdc.gov/hiv/pdf/library/reports/surveillance/cdc-hiv-surveillance-report-vol-26-no-2.pdf

[3] About Ending the HIV Epidemic in the U.S.: Overview. HIV.gov. Updated June 2, 2021. Accessed July 19, 2021. https://www.hiv.gov/federal-response/ending-the-hiv-epidemic/overview

HIV Diagnoses by Age at the Time of Diagnosis



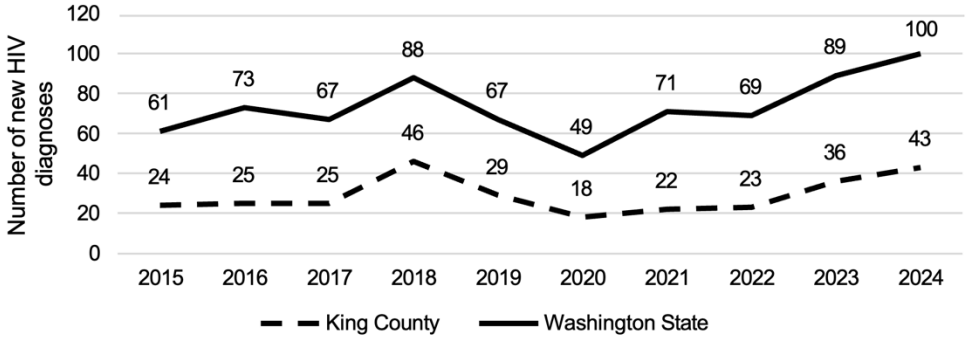
Youth and young adults aged 13–34 years accounted for **>50%** of all people newly diagnosed with HIV in 2019

CDC
CENTERS FOR DISEASE CONTROL AND PREVENTION

Centers for Disease Control and Prevention. Diagnoses of HIV infection in the United States and dependent areas, 2019. *HIV Surveillance Report*. 2021;32:51. https://www.cdc.gov/hiv/pdf/library/reports/surveillance/cdc-hiv-surveillance-report-2019-updated-vol-32.pdf

Disturbing Trend – King County cisgender women

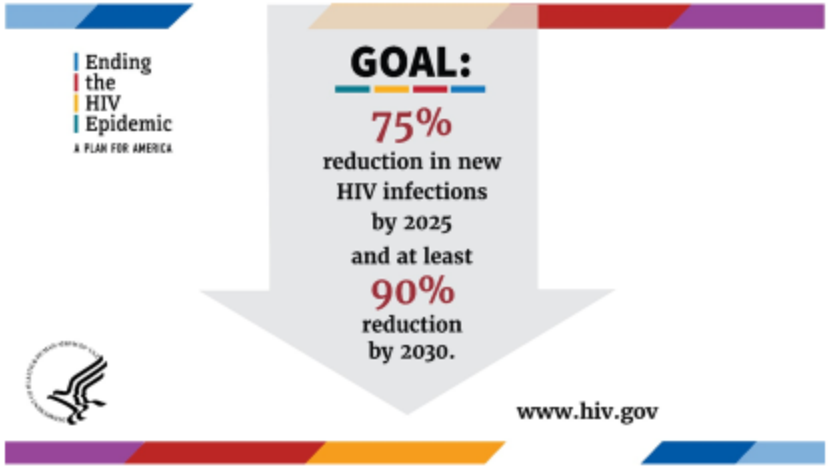
- Rate low – 3.64/100k
- Number of new HIV infections doubled from 2022 -> 2024
- Three new cases of perinatally transmitted HIV in 2024 (first cases in more than a decade)
- 2/3 above cases – birthing parent negative in first trimester
- Noted increase parallels national and regional increases in syphilis cases



Looking to the Future:
Ending the HIV Epidemic in the U.S.

Ending the HIV Epidemic in the U.S. is a bold plan announced in 2019 that aims to end the HIV epidemic in the United States by 2030 by:

- Reducing the number of new HIV infections by **75% by 2025**
- Reducing the number of new HIV infections by **at least 90% by 2030**
- Averting an estimated **250,000 total HIV infections**



CDC
CENTERS FOR DISEASE CONTROL AND PREVENTION

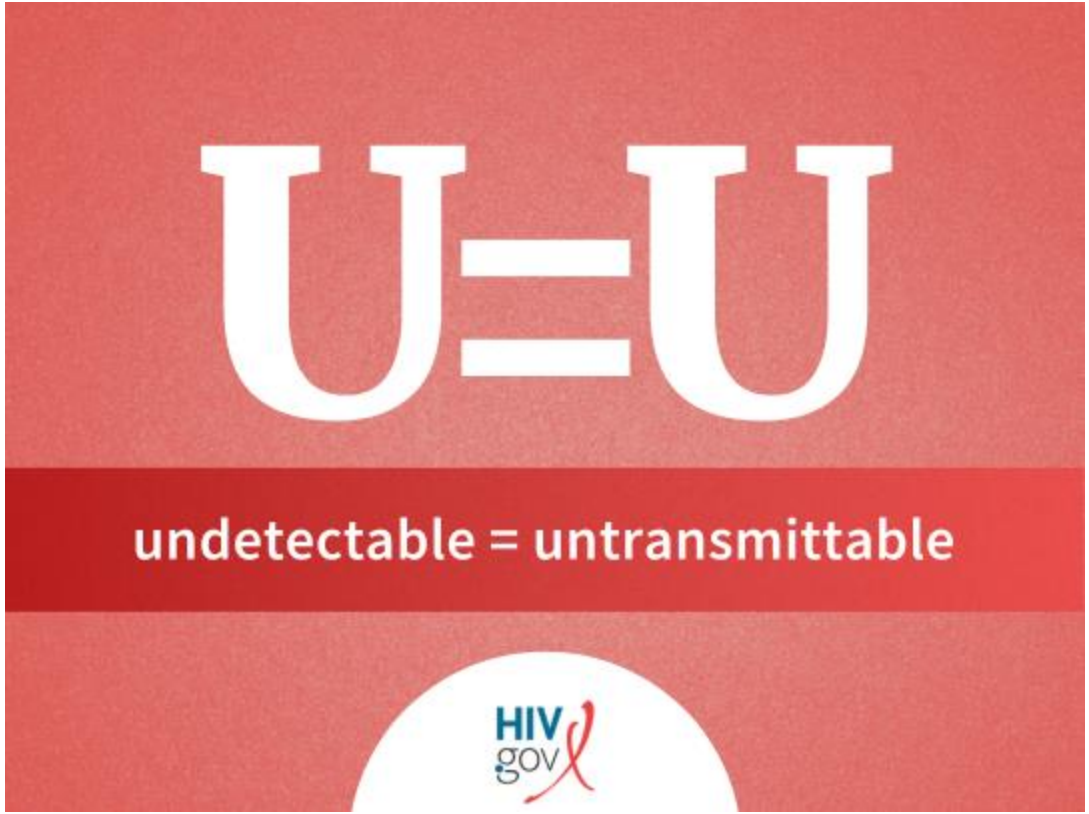
About Ending the HIV Epidemic in the U.S.: Overview. HIV.gov. Updated June 2, 2021. Accessed July 19, 2021. https://www.hiv.gov/federal-response/ending-the-hiv-epidemic/overview

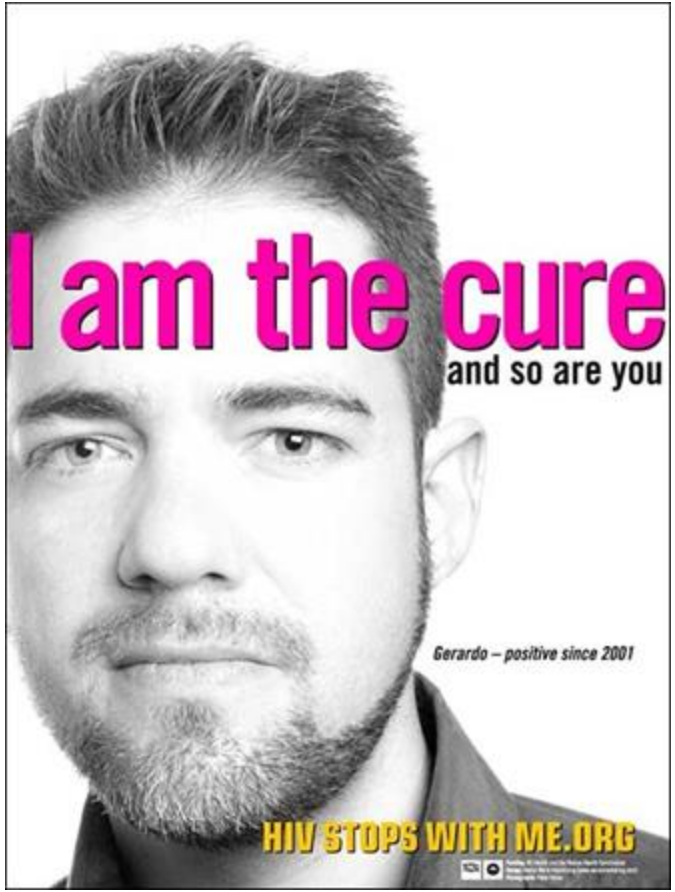
Ending the HIV Epidemic: Four Pillars

Through its four pillars—Diagnose, Treat, Prevent, Respond—Phases I and II of *Ending the HIV Epidemic* aim to reduce the number of new HIV diagnoses by 90% by 2030

Phase III will leverage intensive case management to maintain <3,000 new HIV infections per year

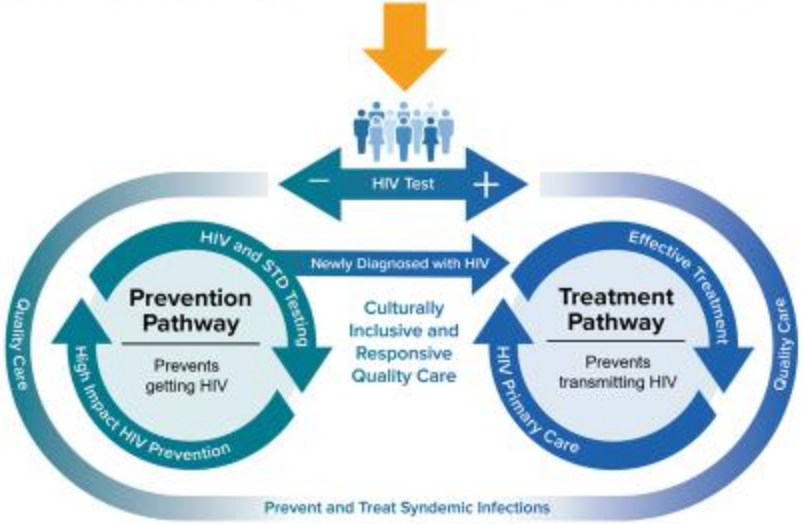
About Ending the HIV Epidemic in the U.S.: Key Strategies. HIV.gov. Updated May 8, 2020. Accessed July 19, 2021. https://www.hiv.gov/federal-response/ending-the-hiv-epidemic/key-strategies





https://hivstopswithme.org/

Status-Neutral HIV Prevention and Care Continuum



People whose HIV tests are negative are offered powerful prevention tools like pre-exposure prophylaxis (PrEP), condoms, harm reduction (e.g., syringe services programs), and supportive services to stay HIV negative.

People whose HIV tests are positive enter primary care and are offered effective treatment and supportive services to achieve and maintain viral suppression.

Follow CDC gudielines to test people for HIV. Regardless of HIV status, quality care is the foundation of HIV prevention and effective treatment. Both pathways provide people with the tools they need to stay healthy and stop HIV.

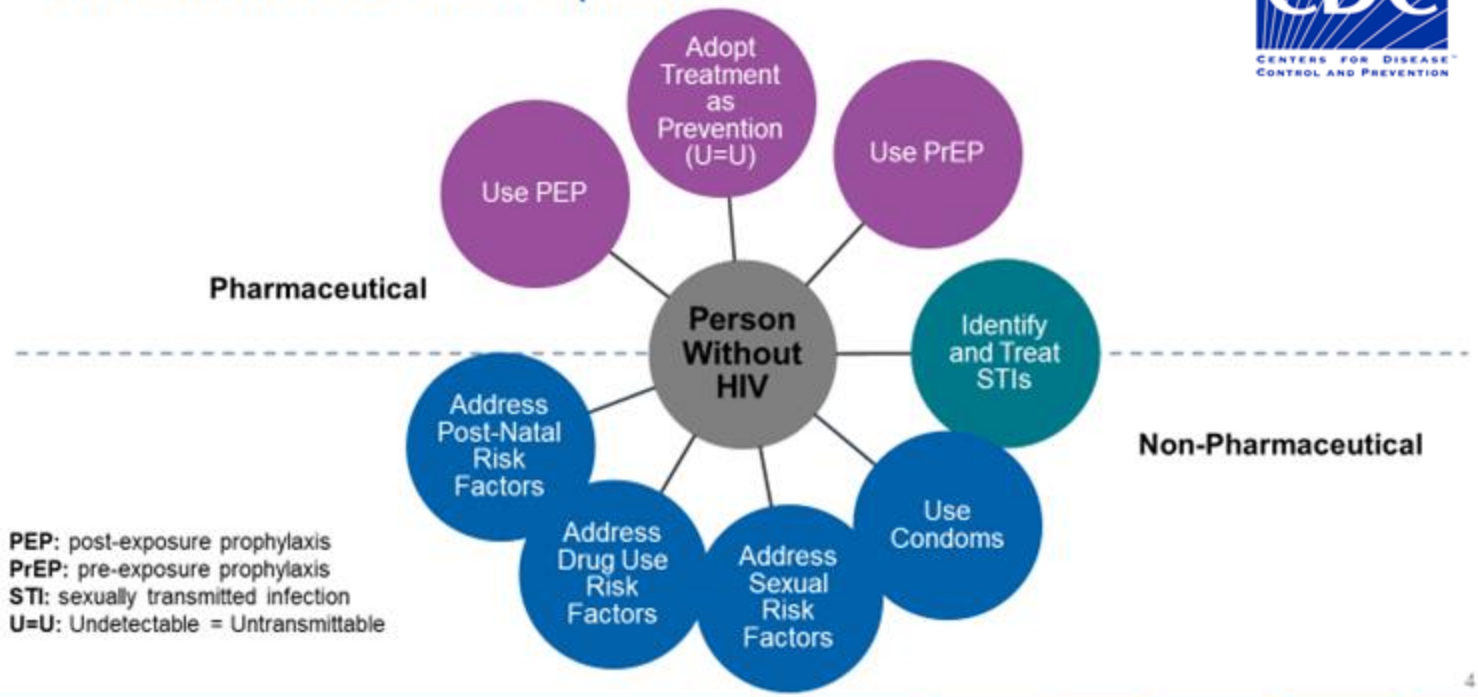
The White House. National HIV/AIDS strategy for the United States 2022–2025. p. 34. Published 2021. Accessed February 2, 2022. https://www.whitehouse.gov/wp-content/uploads/2021/11/National-HIV-AIDS-Strategy.pdf

HIV - screening

- **CDC recommends that everyone between the ages of 13 and 64 get tested for HIV at least once as part of routine health care**
- Tuberculosis
- STI
- Pregnancy
- New Relationships
- Repeat/Regular Testing - People who inject drugs and their sexual partners, people who exchange sex for money or drugs, sex partners of those LWHIV, MSM, people who have had more than one sex partner since their last HIV test
- **ANYONE WHO ASKS !!!!**

MAKE SCREENING ROUTINE

Current HIV Prevention Options



PEP: post-exposure prophylaxis
PrEP: pre-exposure prophylaxis
STI: sexually transmitted infection
U=U: Undetectable = Untransmittable

What Is PrEP?

PrEP is the use of antiretroviral medications by people without HIV to protect themselves from getting HIV

PrEP is recommended for adults and adolescents weighing at least 35 kg (77 lb) who are at risk of getting HIV

Injectable PrEP

Cabotegravir (CAB) 600 mg injection (brand name Apretude®)

Oral PrEP

Emtricitabine (F) 200 mg in combination with tenofovir disoproxil fumarate (TDF) 300 mg (F/TDF – brand name Truvada® or generic equivalent)

Emtricitabine (F) 200 mg in combination with tenofovir alafenamide (TAF) 25 mg (F/TAF – brand name Descovy®)*

*F/TAF is not approved for use by women or other people who could get HIV through receptive vaginal sex

PrEP's Efficacy

Multiple studies have demonstrated that PrEP is highly effective when taken as prescribed.[1,2]

Transmission Route	Effectiveness Estimate	Interpretation
Sexual	**~99%**	Very high levels of adherence to PrEP provide maximum effectiveness
Injection drug use	**at least 74%**	This estimate is based on tenofovir alone and not necessarily when taken daily The effectiveness may be greater for the two-drug oral therapy and if used daily

[1] Centers for Disease Control and Prevention. Effectiveness of prevention strategies to reduce the risk of acquiring or transmitting HIV. Updated June 17, 2022. Accessed January 20, 2023. https://www.cdc.gov/hiv/risk/estimates/preventionstrategies.html

[2] Centers for Disease Control and Prevention, US Public Health Service. *Preexposure prophylaxis for the prevention of HIV infection in the United States—2021 update—a clinical practice guideline*. Published December 2021. Accessed January 20, 2023. https://www.cdc.gov/hiv/pdf/risk/prep/cdc-hiv-prep-guidelines-2021.pdf

PrEP Side Effects and Safety

Side Effects	F/TDF (oral PrEP)	F/TAF (oral PrEP)	CAB (injectable PrEP)
Start-up Syndrome	- <10% of patients - Headache, nausea, abdominal discomfort lasting <1 month[1]	- <10% of patients - Headache, nausea, abdominal discomfort lasting <1 month[1]	- No reported start-up syndrome[1]
Kidney Safety	- Small decrease in creatinine clearance - Resolves after stopping drug[2]	- Less risk of kidney-related side effects[3]	- No reported risk of kidney-related side effects[1]
Bone Safety	- Small decreases in bone mineral density - Not associated with fractures[4]	- No reported bone safety issues[1]	- No reported bone safety issues[1]
Injection Site Reactions	- N/A	- N/A	- Pain, tenderness, local skin swelling - Typically, mild/moderate, brief[5]
Weight and Lipids	- No reported effects on weight or lipid levels[1]	- Weight gain - Increased triglycerides[3]	- No reported effects on weight or lipid levels[1]
Overall Safety	**All three types of PrEP are generally well tolerated, with side effects that are usually mild/moderate, manageable, and temporary[1]**		

[1] Centers for Disease Control and Prevention. US Public Health Service. *Preexposure prophylaxis for the prevention of HIV infection in the United States—2021 update—a clinical practice guideline*. Published December 2021. Accessed January 20, 2023. https://www.cdc.gov/hiv/pdf/risk/prep/cdc-hiv-prep-guidelines-2021.pdf

[2] Mugwanya KK, Wyatt C, Celum C, et al. Changes in glomerular kidney function among HIV-1-uninfected men and women receiving emtricitabine-tenofovir disoproxil fumarate preexposure prophylaxis: a randomized clinical trial. *JAMA Intern Med*. 2015;175(2):246-254. doi: 10.1001/jamainternmed.2014.6786

[3] Mayer KL, Molina, J-M, Thompson, MA, et al. Emtricitabine and tenofovir alafenamide vs emtricitabine and tenofovir disoproxil fumarate for HIV pre-exposure prophylaxis (DISCOVER): primary results from a randomised, double-blind, multicentre, active-controlled, phase 3, non-inferiority trial. *Lancet*. 2020;396(10246):239-254. doi: 10.1016/S0140-6736(20)31065-5

[4] Grohskopf LA, Chillag KL, Gvetadze R, et al. Randomized trial of clinical safety of daily oral tenofovir disoproxil fumarate among HIV-uninfected men who have sex with men in the United States. *J Acquir Immune Defic Syndr*. 2013;64(1):79-86. doi: 10.1097/QAI.0b013e31828ece33

[5] Landovitz RJ, Li S, Grinsztejn B, et al. Safety, tolerability, and pharmacokinetics of long-acting injectable cabotegravir in low-risk HIV-uninfected individuals: HPTN 077, a phase 2a randomized controlled trial. *PLoS Med*. 2018;15(11):e1002690. doi: 10.1371/journal.pmed.1002690

Baseline Laboratory Testing

REQUIRED

HIV test (antigen/antibody test, preferably laboratory based) to confirm negative status

Kidney function

F/TDF: Estimated creatinine clearance (must be >60 mL/min)

F/TAF: Estimated creatinine clearance (must be >30 mL/min)

CAB: Not required

Hepatitis B screening (F/TAF and F/TDF) because active infection is a potential safety issue

Lipid profile (triglyceride and cholesterol levels) for patients prescribed **F/TAF**, as this medication may be associated with triglyceride elevation

STI tests for chlamydia, gonorrhea, and syphilis for all sexually active adults

F/TDF: emtricitabine/tenofovir disoproxil fumarate (Truvada® or generic equivalent)
F/TAF: emtricitabine/tenofovir alafenamide (Descovy®)
CAB: cabotegravir (Apretude®)

CDC
Centers for Disease Control and Prevention

Centers for Disease Control and Prevention, US Public Health Service. *Preexposure prophylaxis for the prevention of HIV infection in the United States—2021 update—a clinical practice guideline.* Published December 2021. Accessed January 20, 2023. https://www.cdc.gov/hiv/pdf/risk/prep/cdc-hiv-prep-guidelines-2021.pdf

Ongoing Assessments for Patients Using **Oral PrEP**

At least every 3 months:

- Repeat HIV testing and assess for signs or symptoms of acute infection
- Provide a prescription or refill authorization of daily oral PrEP medication for ≤90 days
- Assess and provide support for medication adherence and risk-reduction behaviors
- Test sexually active patients with signs or symptoms of STIs and screen asymptomatic men who have sex with men and are at high risk for recurrent bacterial STIs
- Provide access to sterile needles/syringes and substance use disorder treatment services for people who inject drugs
- Respond to questions and provide new information

At least every 6 months:

- Monitor eCrCl for patients who are ≥50 years or had an eCrCl <90 mL/min when they started oral PrEP
  - Monitor more frequently or perform additional tests if there are other threats to kidney safety
- Screen sexually active people for STIs:
  - Syphilis for all PrEP users
  - Gonorrhea for all PrEP users
  - Chlamydia for men who have sex with men and transgender women, even if asymptomatic
- Assess interest in continuing or discontinuing PrEP

At least every 12 months:

- Monitor eCrCl for all patients continuing on PrEP medication
- For patients using F/TAF, monitor triglyceride and cholesterol levels and weight
- Screen heterosexually active people for chlamydia, even if asymptomatic

CDC
Centers for Disease Control and Prevention

Centers for Disease Control and Prevention, US Public Health Service. *Preexposure prophylaxis for the prevention of HIV infection in the United States—2021 update—a clinical practice guideline*. Published December 2021. Accessed January 20, 2023. https://www.cdc.gov/hiv/pdf/risk/prep/cdc-hiv-prep-guidelines-2021.pdf

Ongoing Assessments for Patients Using **Injectable PrEP**

At visit 1 month after initial injection:

- Test for HIV and assess for signs or symptoms of acute infection
- Administer CAB injection
- Respond to new questions
- Provide medication adherence and behavioral risk-reduction support

At each bimonthly visit:

- Test for HIV and assess for signs or symptoms of acute infection
- Administer CAB injection
- Provide access to sterile needles/syringes and substance use disorder treatment services for people who inject drugs
- Respond to questions and provide any new information
- Discuss the benefits of persistent CAB for PrEP use and adherence to scheduled injection visits

At least every 4 months (every other injection):

- Screen men and transgender women who have sex with men for bacterial STIs

At least every 6 months:

- Screen heterosexually active people for bacterial STIs

At least every 12 months:

- Assess desire to continue PrEP
- Screen heterosexually active people for chlamydia, even if asymptomatic

CDC
Centers for Disease Control and Prevention

Centers for Disease Control and Prevention, US Public Health Service. *Preexposure prophylaxis for the prevention of HIV infection in the United States—2021 update—a clinical practice guideline*. Published December 2021. Accessed January 20, 2023. https://www.cdc.gov/hiv/pdf/risk/prep/cdc-hiv-prep-guidelines-2021.pdf

Transgender patients and PREP

- No studies on drug interactions with PREP and gender affirming hormone therapy
- TGW: F/TDF(Truvada), F/TAF (Descovy), CAB injections
- TGM: F/TDF (Truvada) and CAB injections

F/TAF is not approved for people assigned female at birth who are at risk of getting HIV through receptive vaginal sex

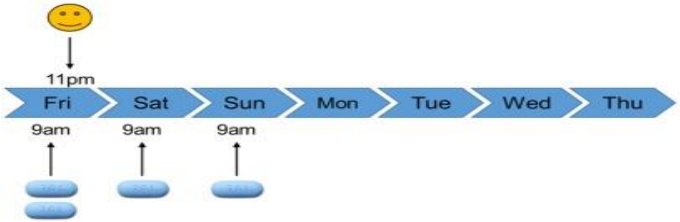
Injectables

- Convenient
- Need to have compliance
- Failures - often results in pan INSTI resistance and NNRTI resistance
- Reasons
  - Missed doses
  - Improper injection techniques - z injection, needles too small
- Remember - need proper injection training and in those with BMI > 30 need 2 inch needles - need to assess SQ tissue (needs to be IM)

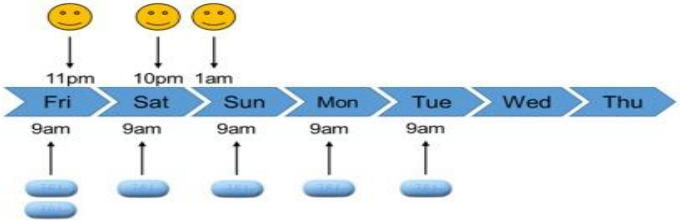
PREP on Demand

- Not FDA approved
- TRUVADA only has been studied
- Not for vaginal sex
  - Lower concentrations in vaginal tissue so very important to adhere to daily PREP
  - Takes about three weeks of daily oral PREP to achieve protective levels
- Only looked at in MSM
- Regiment
  - Truvada 2 pills 2-24 hours prior to sex
  - Truvada one pill 24 and 48 hours after
- Efficacy – IPERGAY study – 86 % efficacy with an open label extension showing 97% efficacy

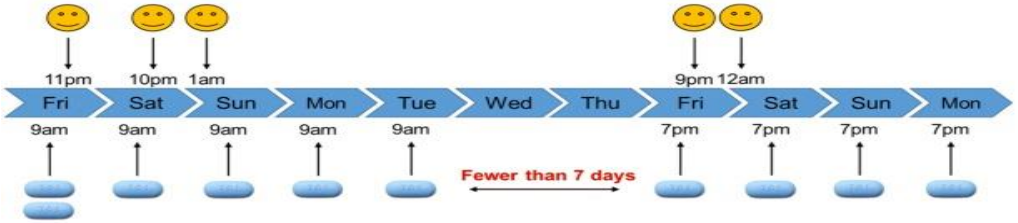
Example 1: One sex episode.
2 PrEP tablets 2-24 hours before sex; 1 PrEP tablet 24 hours after and another 48 hours after the double dose.



Example 2: Multiple sex episodes.
Continue 1 PrEP tablet every 24 hours until 2 days after last "sex day."



Example 3: Multiple sex episodes in one week.
If there are <7 days between end of one on-demand dosing period and beginning of another, take one single PrEP tablet to restart.
If there are ≥7 since last PrEP dose, start again with 2 PrEP tablets.

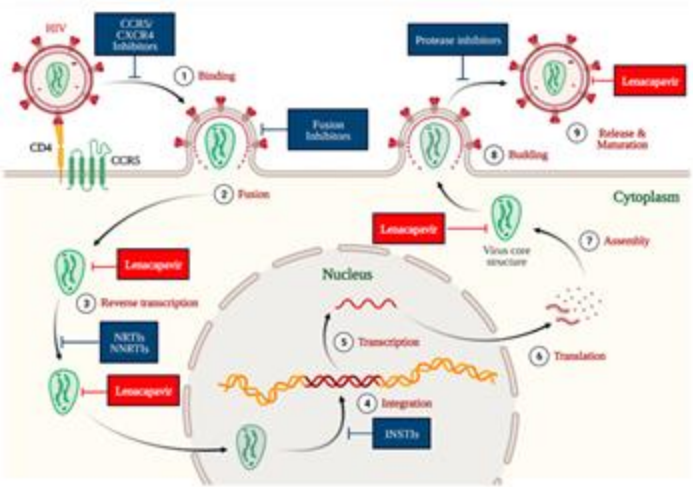


Saberi P, Scott HM. On-Demand Oral Pre-exposure Prophylaxis with Tenofovir/Emtricitabine: What Every Clinician Needs to Know. J Gen Intern Med. 2020 Apr;35(4):1285-1288. doi: 10.1007/s11606-020-05651-2. Epub 2020 Jan 21. PMID: 31965523; PMCID: PMC7174437.

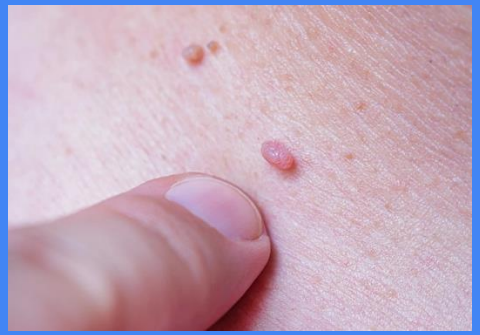
Game Changer

Lenacapravir for PREP

- Capsid inhibitor administered via injection
- Approved for therapy in drug resistant clones
- Can be administered q 6 months
- Can be SELF ADMINISTERED (but not approved for this)
- PURPOSE trials - looking at injectable lenacapravir for PREP in various populations
  - PURPOSE 1 - ended early due to efficacy
  - Lenacaprovir:Descovy:Truvada - 2:2:1
  - **No infections in Lenacapravir arm**
  - Background - 2.4% (Descovy 2%/Truvada 1.7%)
  - PURPOSE 2 - Men, TGW, TGM who are sexually active with people assigned male at birth- in US, SA, Mexico and Thailand



Human Papilloma Virus



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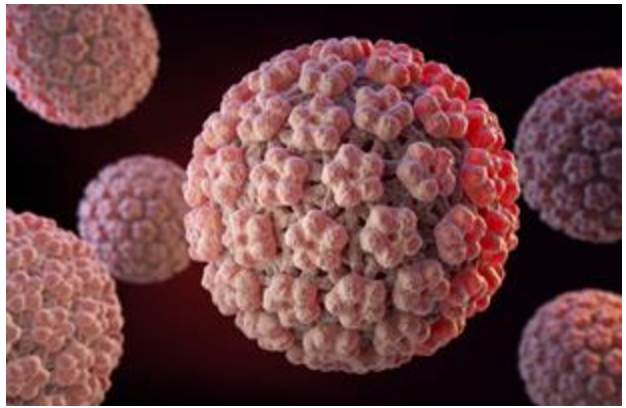
HPV

- Associated with oral, cervical,vaginal, labial, penile and anal cancers
- 42 million Americans infected with some type of cancer causing HPV
- 13 million new infections annually → includes teens

Source CDC.gov



- HPV - especially high risked acquired early
- Vaccinate prior to sexually activity
- Of women who get HPV
    - 50% acquire by age 20.6
    - 75% acquire by age 30.6

Burger EA, Kim JJ, Sy S, Castle PE. Age of Acquiring Causal Human Papillomavirus (HPV) Infections: Leveraging Simulation Models to Explore the Natural History of HPV-induced Cervical Cancer. Clin Infect Dis. 2017 Sep 15;65(6):893-899. doi: 10.1093/cid/cix475. PMID: 28531261; PMCID: PMC5850533.

HPV - disease prevention

- HPV vaccination
  - HPV vaccine is recommended for routine vaccination at age 11 or 12 years. (Vaccination can be started at age 9.)
  - ACIP also recommends vaccination for everyone through age 26 years if not adequately vaccinated when younger. HPV vaccination is given as a series of either two or three doses, depending on age at initial vaccination.
  - Vaccination is not recommended for everyone older than age 26 years. Some adults ages 27 through 45 years might decide to get the HPV vaccine based on discussion with their clinician, if they did not get adequately vaccinated when they were younger. HPV vaccination of people in this age range provides less benefit, for several reasons, including that more people in this age range have already been exposed to HPV.
  - For adults ages 27 through 45 years, clinicians can consider discussing HPV vaccination with people who are most likely to benefit. HPV vaccination does not need to be discussed with most adults over age 26 years. (Joint decision making)
  - Insurance issues if off label (350 per dose)
  - Not a therapeutic vaccine - but even given later inlife may prevent transmission of oncogenic viruses
- Screening
  - Pap smears
  - Anal PAP and HRA

HPV Vaccine efficacy

HPV vaccination is preventing cancer-causing infections and precancers

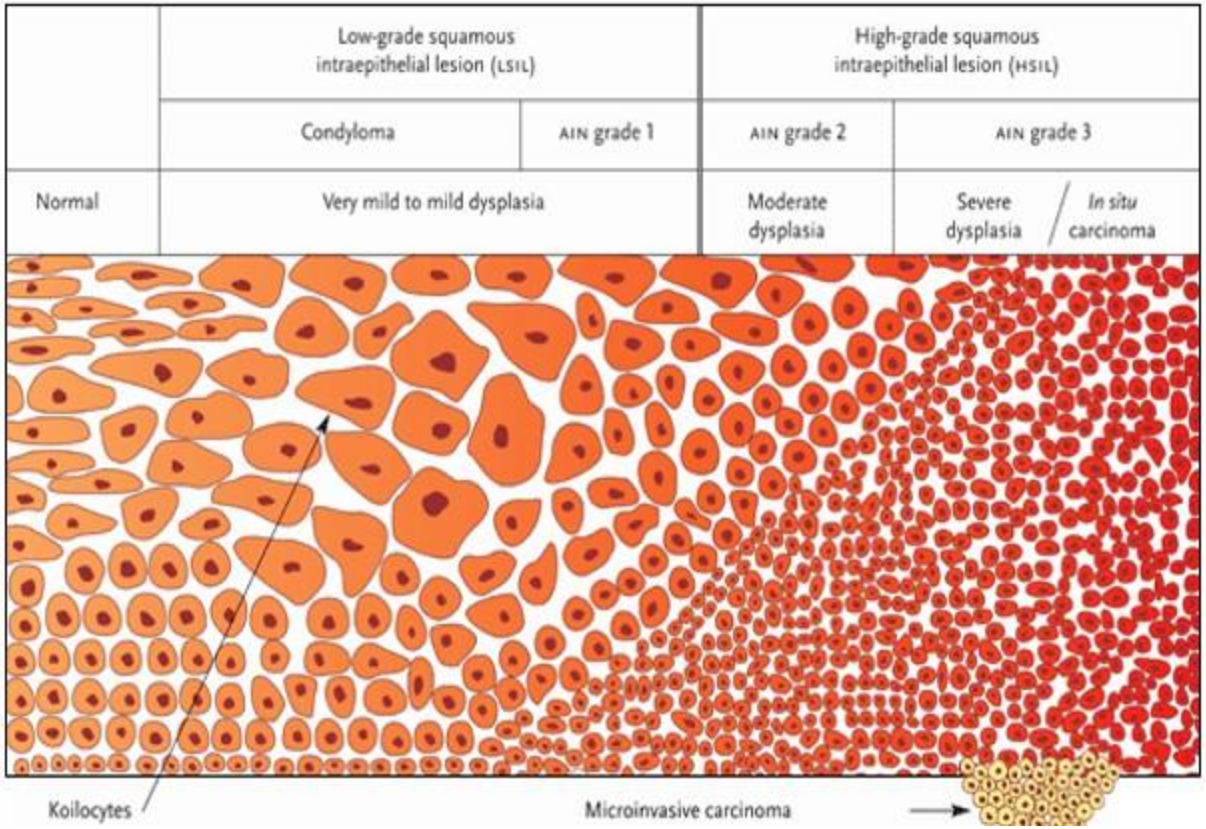
HPV infections and cervical precancers (abnormal cells on the cervix that can lead to cancer) have dropped since 2006, when HPV vaccines were first used in the United States.

- Among teen girls, infections with HPV types that cause most HPV cancers and genital warts have dropped 88 percent.
- Among young adult women, infections with HPV types that cause most HPV cancers and genital warts have dropped 81 percent.
- Among vaccinated women, the percentage of cervical precancers caused by the HPV types most often linked to cervical cancer has dropped by 40 percent.

Source: CDC.gov

Why screen for Anal HPV?

Virginia Mason Franciscan Health


Low-grade squamous intraepithelial lesion (LSIL)
High-grade squamous intraepithelial lesion (HSIL)
Condyloma
AIN grade 1
AIN grade 2
AIN grade 3
Normal
Very mild to mild dysplasia
Moderate dysplasia
Severe dysplasia
In situ carcinoma
Koilocytes
Microinvasive carcinoma

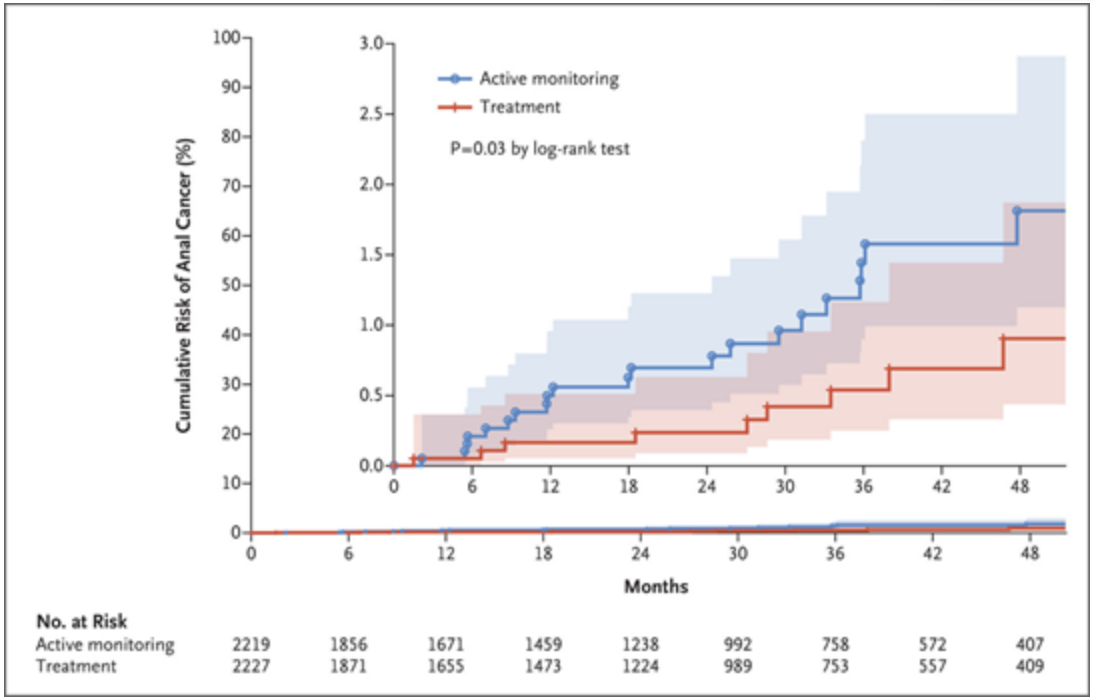
It does make a difference

ORIGINAL ARTICLE

Treatment of Anal High-Grade Squamous Intraepithelial Lesions to Prevent Anal Cancer

Authors: Joel M. Palefsky, M.D., C.M., Jeannette Y. Lee, Ph.D., Naomi Jay, R.N., Ph.D., Stephen E. Goldstone, M.D., Teresa M. Darragh, M.D., Hillary A. Dunlevy, M.D., Isabella Rosa-Cunha, M.D., +26, for the ANCHOR Investigators Group* Author Info & Affiliations

Published June 15, 2022 | N Engl J Med 2022;386:2273-2282 | DOI: 10.1056/NEJMoa2201048 | VOL. 386 NO. 24



the ANCHOR study.org

https://www.nejm.org/doi/full/10.1056/NEJMoa2201048

Anal cancer screening - Terminology

- HSIL - High grade squamous cell intraepithelial lesion (potentially precancerous lesion)
- LSIL - Low grade squamous cell intraepithelial lesion
- ASCUS - Atypical squamous cells of undetermined significance
- hrHPV - high risk human papillomavirus
  - Type 16 - considered highest risk
  - Type 18 and other - high risk for cervical cancer but not as highly associated with anal cancer as type 16
- DARE - digital anal rectal exam

Risk for Anal Cancer

- General risk of population - 1.7 per 100,000
- Risk Category A - 10 x risk of general population (17/100k)
  - Recommended for screening
  - Groups
    - MSM and TGW >= 35 years of age living with HIV
    - All others living with HIV
    - MSM and TGW >= 45 years of age **not** living with HIV
    - Solid organ transplant patients > 10 years out of transplantation
    - History of vulvar HSIL or cancer within one year of diagnosis
- Risk Category B - associated risk factor but no meeting 10x risk
  - Recommended that screening be done through shared decision-making
  - Groups: Cervical/vaginal cancer or HSIL, perianal warts, persistent cervical HPV 16, other immunosuppression

Available Testing and Treatment at VMMC

- Anal Cytology +/- hrHPV testing (16,18 and other)
  - Easy to do with anal pap smear
- HRA screening - needs to be done by trained providers
  - IANS has a course (https://iansoc.org/Virtual-Standard-HRA-Course-2025)
- High risk lesion removal
  - Electrocautery ablation
  - TCA
  - Topical fluorouracil (Effudex)
  - Surgical ablation
- Anal cancer treatment - multimodality

Screening

At Virginia Mason - we have accesses to maximal screening test - we should be screening with:

- Anal Pap Smear (anyone can train to do this)
- HPV testing (regardless of results)
- DARE - all patients should have digital rectal exam and if lesions detected should be referred for emergent HRA
- Providers need to either be trained for screening or be able to access someone who is trained. Patients should not be referred for HRAs just for screening

Test Results Scenario

Stier EA, Clarke MA, Deshmukh AA, et al. International Anal Neoplasia Society's consensus guidelines for anal cancer screening. *Int J Cancer*. 2024; 154(10): 1694-1702. doi:10.1002/ijc.34850

https://onlinelibrary.wiley.com/doi/10.1002/ijc.34850

- Normal / hrHPV negative - rescreen in 12-24 months
- ASCUS / hrHPV negative - rescreen in 12 months
- LSIL / hrHPV negative - provider discretion
- Normal/ hrHPV positive (non 16) - provider discretion
- ASCUS or LSIL /hrHPV positive - HRA referral
- HSIL regardless of hrHPV results - HRA referral
- hrHPV type 16 positive regardless of cytology - HRA referral

Provider discretion - HRA referral vs rescreening in 12 months


? ? ? ?


THANK YOU!
memegenerator.net