Primary Care in PWH

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Faculty Disclosure

- None

Needs and Outcomes

- Practice Gap: people with HIV are not receiving appropriate preventive healthcare, especially when recommendations diverge from the general population
- Educational Need: providers are unaware of the current recommendations for PWH
- Expected Outcome: improve rates of vaccination and screening for PWH

Objectives

- Upon completion of this educational activity:
  - Participants will be able to compare recommended cancer screening and vaccinations for the general population and PWH.
  - Participants will be able to discuss incidence and types of HPV-related cancer with patients
  - Participants will be able to identify proper screening for transgender PWH.
  - Participants will be able to identify drug interactions between ART and commonly prescribed medications in primary care

Vaccines

Table 2 Recommended Adult Immunization Schedule by Medical Condition and Other Indications, United States, 2020

Vaccine	Pregnancy	Immuno-compromised (excluding HIV infection)	HIV infection CD4 count		Asplenia, complement deficiencies	End-stage renal disease; or on hemodialysis	Heart or lung disease, alcoholism[1]	Chronic liver disease	Diabetes	Health care personnel[2]	Men who have sex with men
			<200	≥200							
IIV or RIV	1 dose annually										
or LAIV	NOT RECOMMENDED					PRECAUTION				1 dose annually	
Tdap or Td	1 dose Tdap each pregnancy	1 dose Tdap, then Td or Tdap booster every 10 years									
MMR	NOT RECOMMENDED			1 or 2 doses depending on indication							
VAR	NOT RECOMMENDED			2 doses							
RZV *(preferred)*	DELAY				2 doses at age ≥50 years						
or ZVL	NOT RECOMMENDED				1 dose at age ≥60 years						
HPV	DELAY	3 doses through age 26 years			2 or 3 doses through age 26 years						
PCV13		1 dose									
PPSV23		1, 2, or 3 doses depending on age and indication									
HepA					2 or 3 doses depending on vaccine						
HepB							2 or 3 doses depending on vaccine				
MenACWY	1 or 2 doses depending on indication, see notes for booster recommendations										
MenB	PRECAUTION	2 or 3 doses depending on vaccine and indication, see notes for booster recommendations									
Hib		3 doses HSCT[3] recipients only			1 dose						

Recommended vaccination for adults who meet

Recommended vaccination for adults with an additional

Precaution—vaccination might be indicated if benefit

Delay vaccination until after pregnancy if vaccine is

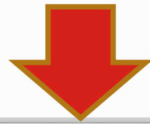
Not recommended/ contraindicated—vaccine

No recommendation/ Not applicable

AETC AIDS Education & Training Center Program Southeast

CDC Adult Immunization Schedule 2020

Vaccines



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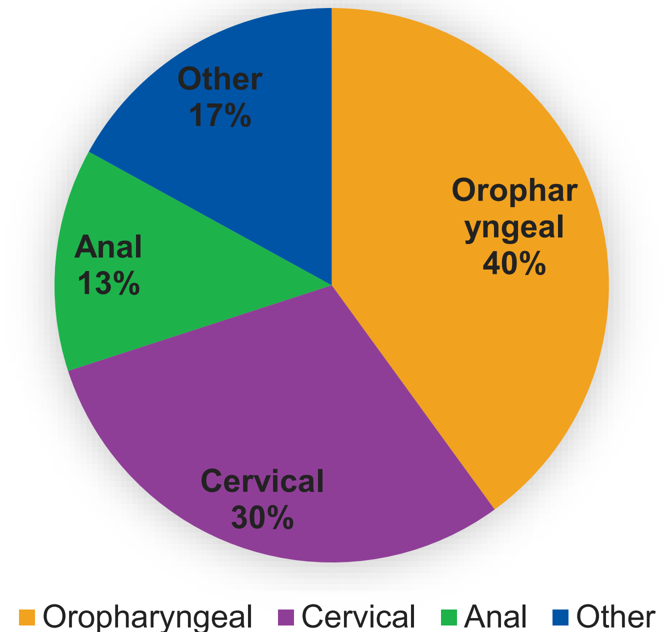
CDC Adult Immunization Schedule 2020

HPV-associated Cancers

- From 2008-2012, CDC estimated 30,700 new cancers annually that were attributable to HPV
- Oropharyngeal cancers ~40%
  - Women 1.7 per 100,000
  - Men 7.6 per 100,000
- Cervical cancer ~30%
- Anal cancer ~13%
  - Women 1.8 per 100,000
  - Men 1.1 per 100,000
- Other cancers ~17%
  - Vulva, vagina, penis, rectum



Oropharyngeal cancers include tongue, tonsils, soft palate, pharynx

Viens LJ, Henley SJ, Watson M, et al. Human papillomavirus-associated cancers - United States, 2008-2012. MMWR Morb Mortal Wkly Rep 2016;65:661-6.

HPV-associated Cancers in PWH

- People with HIV/AIDS have a significantly higher risk of developing an HPV-associated cancer
- Studies have shown a correlation between CD4 count and risk of cervical cancer and anal cancer
- Despite this, impact of ART on reducing risk of HPV-associated cancer is uncertain
- Screening guidelines for cervical cancer differ from the general population
- No national screening guidelines for anal cancer currently exist

HPV Vaccine

- The current vaccine protects against 9 different strains of HPV
  - HPV 16 and 18- responsible for about 80% HPV-associated cancers, about 66% of cervical cancers and majority of other HPV-associated cancers in women and men
  - HPV 31, 33, 45, 52, 58- responsible for about 10-15% of cervical cancers, small % of other cancers
  - HPV 6 and 11- cause anogenital warts

Viens LJ, Henley SJ, Watson M, et al. Human papillomavirus-associated cancers - United States, 2008-2012. MMWR Morb Mortal Wkly Rep 2016;65:661-6.

HPV Vaccine, cont.

- Current recommendation for general population:
  - Initial vaccine series age 11-12 (2 doses only if 9-14 yo)
  - Catch-up through age 26 if missed (3 doses for 15+ yo)
  - "For adults aged 27 through 45 years, public health benefit of HPV vaccination in this age range is minimal; <u>shared clinical decision-making is recommended</u> because some persons who are not adequately vaccinated might benefit."
- Vaccine use as adjunctive treatment to prevent recurrence of high-grade dysplasia is currently under investigation

Mietes E, Szilagyi PG, Chesson HW, et al. Human papillomavirus Vaccination for Adults: Updated Recommendations of the Advisory Committee on Immunization Practices. MMWR Morb Mortal Wkly Rep 2019;68:698-702.

HPV Vaccine, cont.

- If people previously received the 2v or 4v vaccine, there is no recommendation to give the 9v vaccine, but it is likely safe
- While we have effective screening for cervical cancer with guidelines for follow-up and treatment of pre-cancerous lesions, this does not exist for the majority of HPV-associated cancers
- Educate your patients so they can make an informed decision!

Screening

Grade	Definition	Suggestions for Practice
A	The USPSTF recommends the service. There is high certainty that the net benefit is substantial.	Offer or provide this service.
B	The USPSTF recommends the service. There is high certainty that the net benefit is moderate or there is moderate certainty that the net benefit is moderate to substantial.	Offer or provide this service.
C	The USPSTF recommends selectively offering or providing this service to individual patients based on professional judgment and patient preferences. There is at least moderate certainty that the net benefit is small.	Offer or provide this service for selected patients depending on individual circumstances.
D	The USPSTF recommends against the service. There is moderate or high certainty that the service has no net benefit or that the harms outweigh the benefits.	Discourage the use of this service.
I Statement	The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of the service. Evidence is lacking, of poor quality, or conflicting, and the balance of benefits and harms cannot be determined.	Read the clinical considerations section of USPSTF Recommendation Statement. If the service is offered, patients should understand the uncertainty about the balance of benefits and harms.

How is screening different?

Same	Different
Breast cancer	Cervical cancer
Colon cancer	Anal cancer
Lung cancer	Osteoporosis screening
AAA screening	Sexually transmitted infections

Cervical Cancer Screening (B)

Recommendations for Cervical Cancer Screening for Women with HIV Infection

Women with HIV Infection Aged <30 Years:

- If younger than 21 years, known to have HIV infection or newly diagnosed HIV infection, and sexually active, screen within 1 year of onset of sexual activity regardless of mode of HIV infection.
- Women with HIV infection aged 21 to 29 years should have a Pap test following initial diagnosis of HIV.
- Pap test should be done at baseline and every 12 months **(BII)**.
- Some experts recommend a Pap test at 6 months after the baseline test **(CIII)**
- If results of 3 consecutive Pap tests are normal, follow-up Pap tests can be performed every 3 years **(BII)**
- Co-testing (Pap test and HPV test) is not recommended for women younger than 30 years.

Women with HIV Infection Aged ≥30 Years

Pap Testing Only:

- Pap test should be done at baseline and every 12 months **(BII)**.
- Some experts recommend a Pap test at 6 months after the baseline test **(CIII)**.
- If results of 3 consecutive Pap tests are normal, follow-up Pap tests can be performed every 3 years **(BII)**.

Or:

Pap Test and HPV Co-Testing:

- Pap test and HPV co-testing should be done at baseline **(BII)**.
- If result of the Pap test is normal and HPV co-testing is negative, follow up Pap test and HPV co-testing can be performed every 3 years **(BII)**.
- If the result of the Pap test is normal but HPV co-testing is positive:

Either:

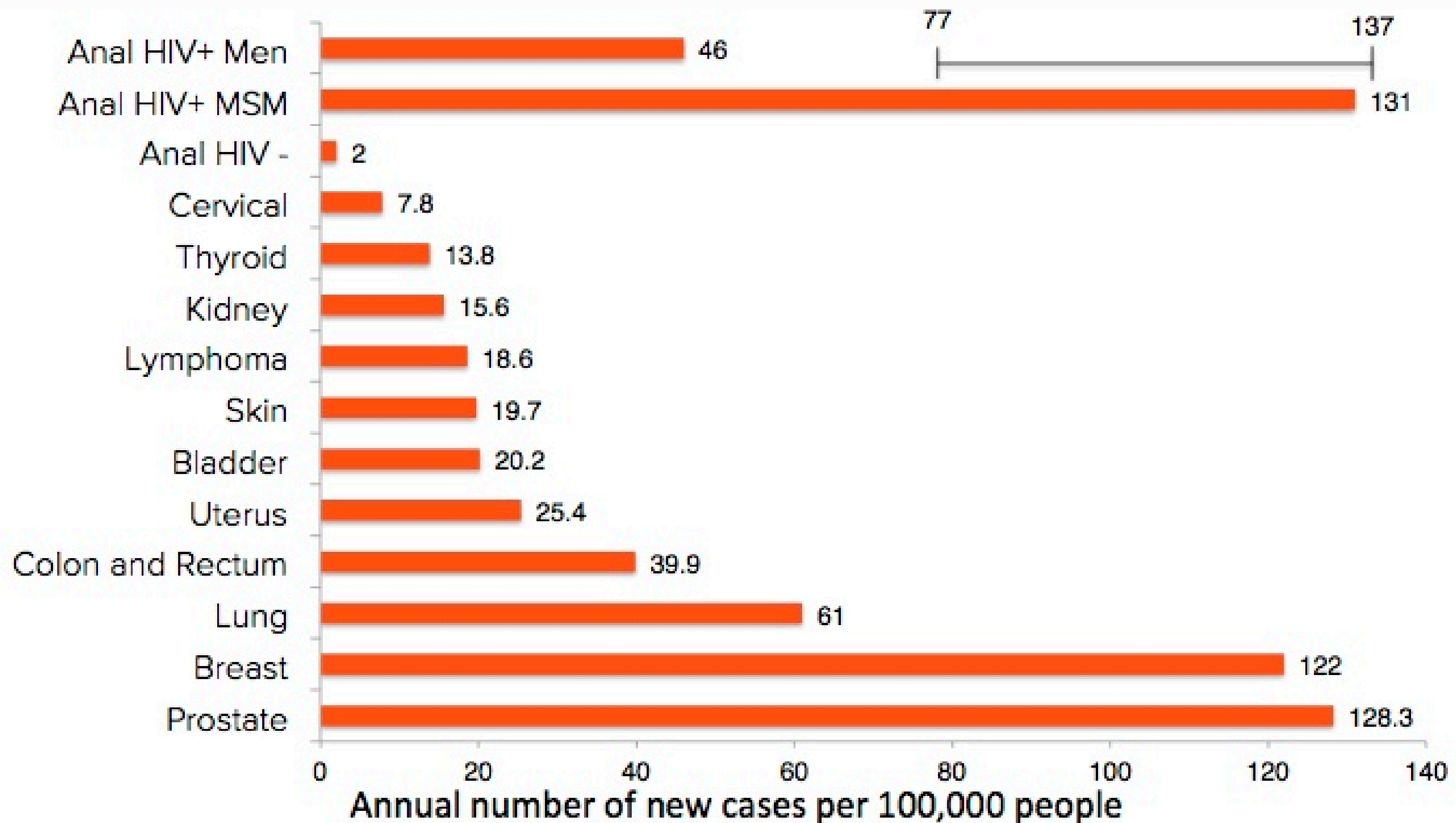
- Follow-up test with Pap test and HPV co-testing should be performed in 1 year.
- If the 1-year follow-up Pap test is abnormal or HPV co-testing is positive, referral to colposcopy is recommended.

Or:

- Perform HPV genotyping.
  - If positive for HPV-16 or HPV-18, colposcopy is recommended
  - If negative for HPV-16 and HPV-18, repeat co-test in 1 year is recommended. If the follow-up HPV test is positive or Pap test is abnormal, colposcopy is recommended.

AIDS Info: Guidelines for the Prevention and Treatment of Opportunistic Infections in Adults and Adolescents with HIV- Human Papillomavirus Disease.

Anal Cancer in PWH



ANCHOR Study

https://anchorstudy.org/

Screening for Transgender Individuals

Trans-women (MTF)

- If prostate intact, discuss screening in appropriate age group
- Screening for breast cancer with mammography is appropriate starting at 50 yo if completed at least 5 yrs of estrogen and/or progesterone therapy

Trans-men (FTM)

- If cervix intact, routine pap smears are indicated
- If breast tissue remains (no mastectomy), routine mammograms are indicated
- Both are regardless of testosterone treatment

Deutsch, MB. Screening for breast cancer in transgender women. UCSF Transgender Care. June 17, 2006.

Osteoporosis Screening

- Why do we screen?
  - HIV is associated with Vit D deficiency which is a risk factor for osteoporosis
  - Initiation of ART is associated with a 2-6% decrease in BMD in the first two years, depending on regimen used
    - Greatest with TDF and boosted PI regimens

Allavena C, Delpierre C, Cuzin L, et al. High frequency of vitamin D deficiency in HIV-infected patients: effects of HIV-related factors and antiretroviral drugs. J Antimicrob Chemother. 2012 Sep;67(9):2222-30

Osteoporosis, cont.

Who to Screen?

- Men ≥ 50
- Post-menopausal women
- Anyone with fragility fracture regardless of age
- On chronic glucocorticoids

How to Screen?

- DEXA scan, preferably on same machine over time

Who to Treat?

- Anyone with osteoporosis
- Osteopenia with high FRAX score (≥3% risk of hip fx or ≥20% risk of major osteoporotic fx)

Brown TD, Hoy J, Borderi M, et al. Recommendations for Evaluation and Management of Bone Disease in HIV, *Clinical Infectious Diseases*, Volume 60, Issue 8, 15 April 2015, Pages 1242–1251

FRAX ® Fracture Risk Assessment Tool

Home | Calculation Tool | Paper Charts | FAQ | References | English

Calculation Tool

Please answer the questions below to calculate the ten year probability of fracture with BMD.

Country: US (Caucasian) Name/ID: About the risk factors

Questionnaire:

1. Age (between 40 and 90 years) or Date of Birth
   Age: 55 Date of Birth: Y: M: D:
2. Sex: Male (selected) / Female
3. Weight (kg): 63.5
4. Height (cm): 177.8
5. Previous Fracture: No (selected) / Yes
6. Parent Fractured Hip: No (selected) / Yes
7. Current Smoking: No / Yes (selected)
8. Glucocorticoids: No (selected) / Yes
9. Rheumatoid arthritis: No (selected) / Yes
10. Secondary osteoporosis: No / Yes (selected)
11. Alcohol 3 or more units/day: No (selected) / Yes
12. Femoral neck BMD (g/cm^2): T-Score -2

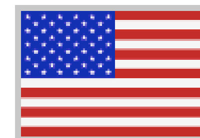
Clear | Calculate

BMI: 20.1
The ten year probability of fracture (%)

with BMD

Major osteoporotic	6.6
Hip Fracture	2.2

If you have a TBS value, click here: Adjust with TBS



Weight Conversion

Pounds ➡ kg

140 Convert

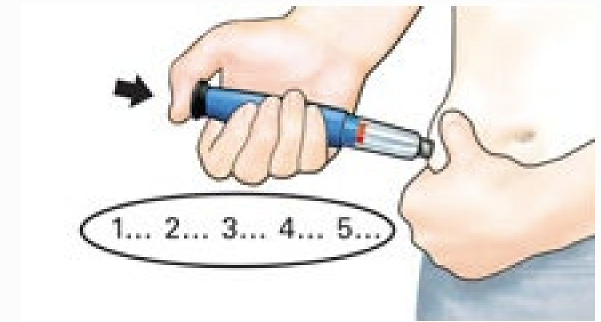
Height Conversion

Inches ➡ cm

70 Convert

07722142
Individuals with fracture risk assessed since 1st June 2011

Osteoporosis Treatment



- Bisphosphonates
  - Alendronate- Oral (weekly)
  - Zoledronic acid- IV (annually)
- Denosumab
  - Subcutaneous injection q6-12 months
- Anabolic agents
  - Teriparatide- subcutaneous injection daily
  - Abaloparatide- subcutaneous injection daily
  - Romosozumab- monthly injection
- Plus treating vitamin D to maintain level >30, ensuring adequate dietary calcium intake

AACE/ACE 2020 POSTMENOPAUSAL OSTEOPOROSIS TREATMENT ALGORITHM

Lumbar spine or femoral neck or total hip T-score of ≤ -2.5, a history of fragility fracture, or high FRAX® fracture probability*

Evaluate for causes of secondary osteoporosis

Correct calcium/vitamin D deficiency and address causes of secondary osteoporosis

- Recommend pharmacologic therapy
- Education on lifestyle measures, fall prevention, benefits and risks of medications

High risk/no prior fractures**

- Alendronate, denosumab, risedronate, zoledronate***
- **Alternate therapy:** Ibandronate, raloxifene

Reassess yearly for response to therapy and fracture risk

Increasing or stable BMD and no fractures

Consider a drug holiday after 5 years of oral and 3 years of IV bisphosphonate therapy

Resume therapy when a fracture occurs, BMD declines beyond LSC, BTM's rise to pretreatment values or patient meets initial treatment criteria

Progression of bone loss or recurrent fractures

- Assess compliance
- Re-evaluate for causes of secondary osteoporosis and factors leading to suboptimal response to therapy

- Switch to injectable antiresorptive if on oral agent
- Switch to abaloparatide, romosozumab, or teriparatide if on injectable antiresorptive or at very high risk of fracture
- Factors leading to suboptimal response

ABBREVIATIONS GUIDE

BMD – bone mineral density
LSC – least significant change
BTM – bone turnover marker

Very high risk/prior fractures**

- Abaloparatide, denosumab, romosozumab, teriparatide, zoledronate***
- Alternate therapy: Alendronate, risedronate

Reassess yearly for response to therapy and fracture risk

Denosumab	Romosozumab for 1 year	Abaloparatide or teriparatide for up to 2 years	Zoledronate
Continue therapy until the patient is no longer high risk and ensure transition with another antiresorptive agent	Sequential therapy with oral or injectable antiresorptive agent	Sequential therapy with oral or injectable antiresorptive agent	• If stable, continue therapy for 6 years**** • If progression of bone loss or recurrent fractures, consider switching to abaloparatide, teriparatide or romosozumab

* 10 year major osteoporotic fracture risk ≥ 20% or hip fracture risk ≥ 3%. Non-US countries/regions may have different thresholds.
** Indicators of very high fracture risk in patients with low bone density would include advanced age, frailty, glucocorticoids, very low T scores, or increased fall risk.
*** Medications are listed alphabetically.
**** Consider a drug holiday after 6 years of IV zoledronate. During the holiday, an anabolic agent or a weaker antiresorptive such as raloxifene could be used.

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Camacho PM, Petak SM, Binkley N, et al. Postmenopausal Osteoporosis Guidelines, Endocr Pract. 2020;26(Suppl 1)

Cardiovascular Disease

- Relative risk of ASCVD 1.5-2x times higher in PWH
- Includes not only MI, but also stroke, HF, PAH, VTE
- Absolute burden of disease continues to increase as PWH are living longer
- When imaged, PWH have more subclinical atherosclerosis
- Coronary artery calcium (CAC) has been shown to progress more rapidly in PWH
- Co-infection with Hep C may increase stroke risk even more

Feinstein MJ, Hsue PY, Benjamin LA, et al. Characteristics, Prevention, and Management of Cardiovascular Disease in People Living With HIV: A Scientific Statement From the American Heart Association, *Circulation.* 2019; 140(2):e98-e124.

Risk Factors for CV Disease

- Multifactorial
- Traditional RFs all still apply (DM, obesity, smoking, etc.)
- Rate of smoking is higher in PWH

- HIV-specific
  - Low current or nadir CD4
  - History of sustained viremia or untreated HIV
  - Regimen:
    - PIs (except atazanavir)
    - Abacavir- controversial
  - Chronic inflammation/ immune activation even in setting of treatment

Calculating Risk

AMERICAN COLLEGE of CARDIOLOGY

ASCVD Risk Estimator Plus

Estimate Risk | Therapy Impact | Advice

20.6% High — Current 10-Year ASCVD Risk**

Lifetime ASCVD Risk: **69%** Optimal ASCVD Risk: **3.6%**

Current Age * : 55 (Age must be between 20-79)

Sex * : ✔ Male | Female

Race * : ✔ White | African American | Other

Systolic Blood Pressure (mm Hg) * : 130 (Value must be between 90-200)

Diastolic Blood Pressure (mm Hg) ○ : 78 (Value must be between 60-130)

Total Cholesterol (mg/dL) * : 249 (Value must be between 130 - 320)

HDL Cholesterol (mg/dL) * : 36 (Value must be between 20 - 100)

LDL Cholesterol (mg/dL) ○ : 112 (Value must be between 30-300)

History of Diabetes? * : Yes | ✔ No

Smoker? * : ✔ Current | Former | Never

On Hypertension Treatment? * : ✔ Yes | No

On a Statin? ○ : Yes | ✔ No

On Aspirin Therapy? ○ : Yes | ✔ No

- Many calculators/models exist but all underestimate risk in HIV

Statins

- Consider earlier in PWH (≥ 7.5% per AHA)
- Best choices:
  - High intensity: atorvastatin, rosuvastatin
    - Atorvastatin has lower maximum dose (20 mg) with DRV/r, DRV/COBI, and EVG/COBI
    - Rosuvastatin may require dose adjustment or close monitoring
  - Moderate intensity: pitavastatin, pravastatin
    - Pitavastatin does not require dose adjustment
    - Pravastatin may require close monitoring at higher doses
- AVOID:
  - Lovastatin and simvastatin (CI with all PIs and EVG/COBI)
- When in doubt, start low and go slow

AIDS Info: Guidelines for use of antiretroviral agents in adults and adolescents with HIV.

REPRIEVE Trial

http://www.reprievetrial.org/

STI Screening

- If you use it, swab it
- Not everyone has sex the same way
- Ask if any new partners or sexual contacts at every visit
- At minimum, screen annually for gonorrhea, chlamydia, syphilis
- CDC Sexually Transmitted Disease Guidelines 2020 Update are coming out very soon
- National STD Curriculum by CDC and UW if you want to learn more (CME available)

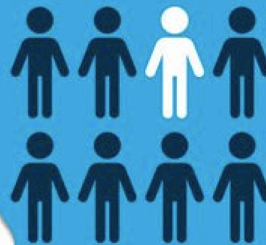
Centers for Disease Control and Prevention

MMWR | MSM* & STDs: TEST MORE THAN GENITALS

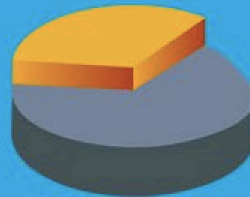
STDs IN THE THROAT AND RECTUM

- MSM AT **HIGH RISK**
- OFTEN **NO SYMPTOMS**
- DETECT BY **SCREENING**
- INCREASES **HIV RISK**

OF MSM SCREENED FOR CHLAMYDIA & GONORRHEA**:



1 IN 8 HAD AN STD IN THROAT OR RECTUM



1/3 NOT SCREENED IN LAST 12 MONTHS

SCREEN SEXUALLY ACTIVE MSM FOR STDs!

- AT LEAST **1X/YEAR**
- HIGHER RISK? **EVERY 3-6 MONTHS**
- IF INDICATED, **TEST THROAT & RECTUM**

Data from National HIV Behavioral Surveillance (NHBS) as published in Johnson Jones et. al. MMWR 2019.

* Men who have sex with men

** MSM recruited from social venues in 5 cities provided data and self-collected swabs

bit.ly/CDCVA24

CS 292376-T

WWW.CDC.GOV

AETC AIDS Education & Training Center Program Southeast

Johnson Jones ML, Chapin-Bardales J, Bizune D, et al. Extragenital Chlamydia and Gonorrhea Among Community Venue–Attending Men Who Have Sex with Men — Five Cities, United States, 2017. MMWR Morb Mortal Wkly Rep 2019;68:321–325. https://www.cdc.gov/std/images/Final-NHBS-MMWR-Visual-Abstract-for-Social.jpg

Gonorrhea and Chlamydia

- Chlamydia
  - 1 gm azithromycin OR
  - Doxycycline 100 mg BID x 7 days
- Gonorrhea
  - Ceftriaxone 250 mg IM AND azithromycin 1 gm
- These are likely changing in upcoming 2020 STD Guidelines
- Should abstain from sexual activity for 7 days following treatment (of patient and partner)
- Re-test at 3 months to ensure treatment success and no re-infection

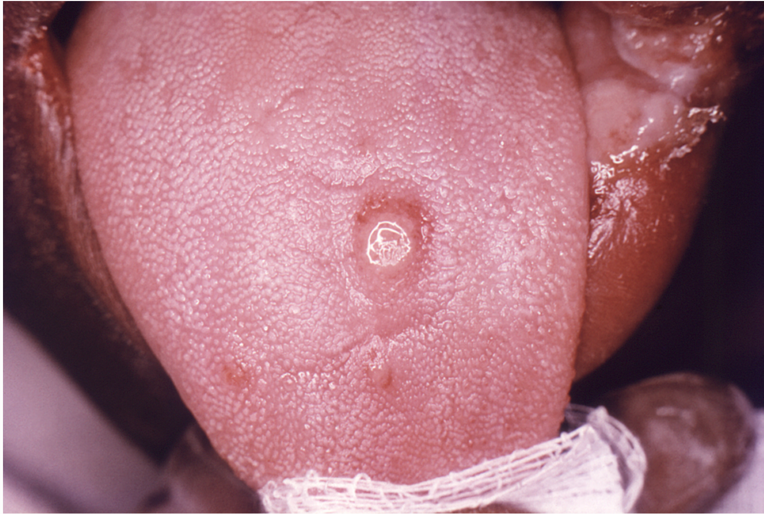
Centers for Disease Control and Prevention. Sexually Transmitted Diseases Treatment Guidelines, 2015. MMWR, 64(RR-3) (2015).

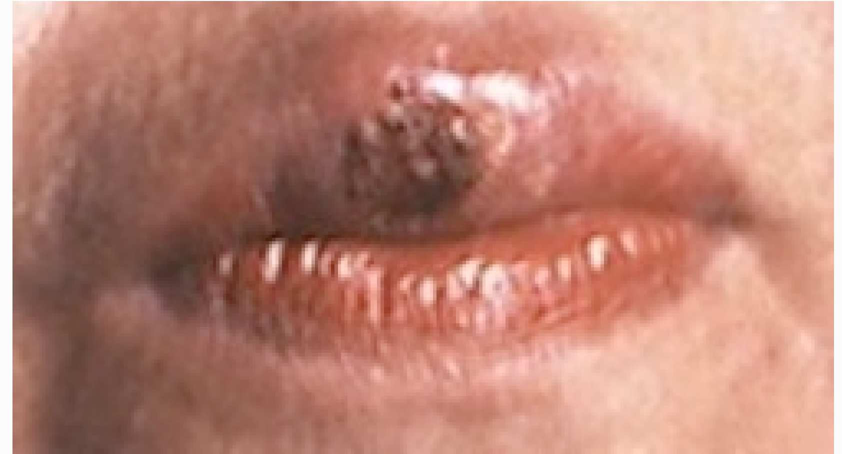
Syphilis

- Diagnosis can be complicated
  - Prozone effect
- Primary- chancre at site of entry (infectious!)
- Secondary- variety of sx
  - Mucous patch (infectious!)
  - Rash (palms, soles, trunk)
  - Condyloma lata (infectious!)
  - Constitutional sx, LAD, alopecia, ulcerative masses, etc
- Latent- asymptomatic
  - Early <1 yr
  - Late >1 yr
  - Unknown duration, treat as late
- Tertiary
  - Gummatous disease
  - CV disease

Centers for Disease Control and Prevention. Sexually Transmitted Diseases Treatment Guidelines, 2015. MMWR, 64(RR-3) (2015).

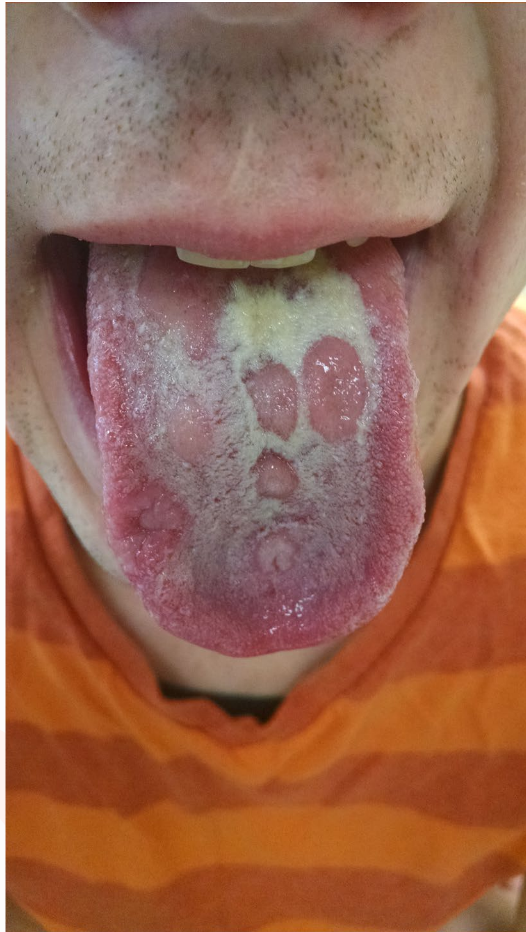
Chancres- not just the genitals

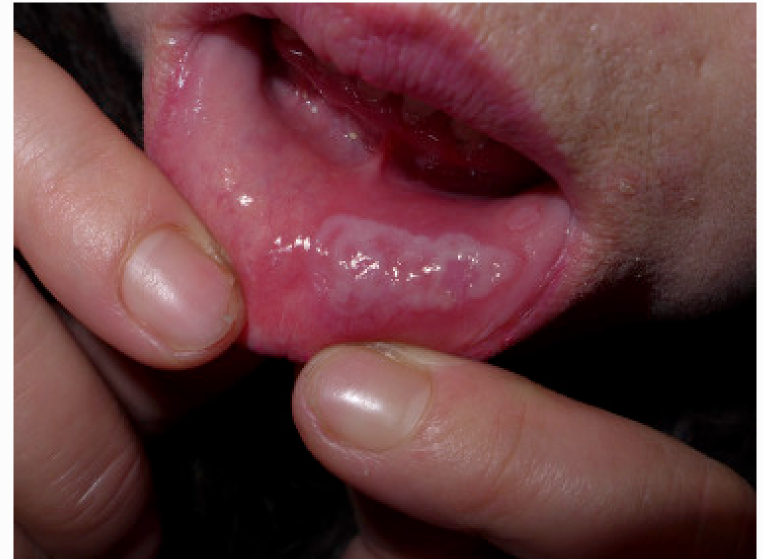


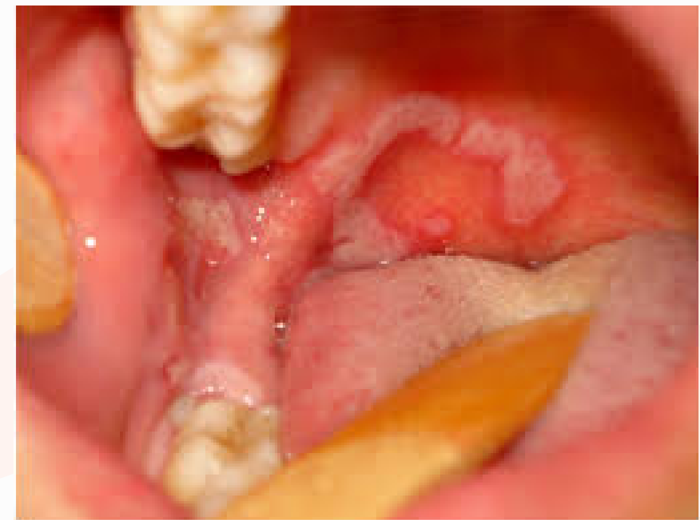


Centers for Disease Control and Prevention. https://www.cdc.gov/std/syphilis/images.htm

Mucous patches







AETC AIDS Education & Training Center Program Southeast

Centers for Disease Control and Prevention. https://www.cdc.gov/std/syphilis/images.htm
Liu XK and Li J. Secondary syphilis-related oral mucous patches, *ID Cases.* 2017; 9: 34-35.
Amaral SA, Souza FTA, Aguilar MCF, et al. Specific clinical findings of secondary syphilis in the oral mucosa: a series of six case reports, *J Clin Med Case Stud.* 2016; 1(1):14-18.

Syphilis, cont.

- Neurosyphilis can happen at any stage
  - Early: meningitis, stroke-like syndrome
  - Late: tabes dorsalis, paresis, dementia
- Ocular syphilis cases on the rise, can cause permanent blindness
  - Treat as you would neurosyphilis
- Treatment:
  - Primary, secondary, or early latent-
    - Benzathine penicillin G 2.4 million units (1 IM injection)
  - Late latent, latent unknown, or tertiary-
    - Benzathine penicillin G 2.4 million units x 3 doses in 1 wk intervals
  - Neurosyphilis
    - IV aqueous penicillin G

Centers for Disease Control and Prevention. Sexually Transmitted Diseases Treatment Guidelines, 2015. MMWR, 64(RR-3) (2015).

Other STIs in Women

- Trichomonas
  - Test women with vaginal discharge
  - Routine screening of women with HIV is also recommended
  - Treatment- metronidazole 2 g (single dose)
  - Partners should be treated
- Bacterial vaginosis
  - Not technically an STI
  - Recommended to treat in women with HIV
  - Treatment- metronidazole 500 mg BID x 7 days
  - No benefit in treating partners

Centers for Disease Control and Prevention. Sexually Transmitted Diseases Treatment Guidelines, 2015. MMWR, 64(RR-3) (2015).

Other STIs in MSM

- Hepatitis C
  - Outbreaks reported among HIV+ MSM in past 20 years
  - Risk much higher then gen. pop. 6.35/1000 person-yrs
  - Risk factors include chemsex, sex practices that lead to rectal mucosa damage or bleeding
  - Screen at least annually
  - Also routinely screen patients who inject drugs
- Acute diarrhea in MSM
  - *Shigella, Giardia,* and *E. histolytica* can all be transmitted via anal intercourse and oral-anal intercourse

AASLD, IDSA. HCV Guidance: Recommendations for Testing, Managing, and Treating Hepatitis C- HCV in Key Populations: Men Who Have Sex With Men.

Screening for Mood Disorders

- Why screen?
  - Up to 39% of PWH worldwide have a depressive disorder
  - About 15% of PWH have GAD, 2-40% have an anxiety disorder
  - Higher rates of PTSD among PWH
  - Depression and anxiety are associated with poor adherence to ART leading to higher viral loads, lower CD4 counts, and increased mortality

Bach XT, Roger CMH, Cyrus, SHH, et al. Prevalence of Depression and Anxiety in HIV. Int J Environ Res Public Health. 2019 May; 16(10): 1772.
HIV Mental Health Treatment Issues: HIV and Anxiety. American Psychiatric Association Office of HIV Psychiatry.

Screening tools

Patient Health Questionnaire-2 (PHQ-2)

Share

The PHQ-2 inquires about the frequency of depressed mood and anhedonia over the past two weeks. The PHQ-2 includes the first two items of the PHQ-9.

- The purpose of the PHQ-2 is to screen for depression in a "first-step" approach.
- Patients who screen positive should be further evaluated with the PHQ-9 to determine whether they meet criteria for a depressive disorder.

Over the **last 2 weeks**, how often have you been bothered by the following problems?	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	+1	+2	+3
2. Feeling down, depressed or hopeless	0	+1	+2	+3

Generalized Anxiety Disorder 2-item (GAD-2)

Share

The Generalized Anxiety Disorder 2-item (GAD-2) is a very brief and easy to perform initial screening tool for generalized anxiety disorder.[1]

Over the **last 2 weeks**, how often have you been bothered by the following problems?	Not at all	Several days	More than half the days	Nearly every day
1. Feeling nervous, anxious or on edge	0	+1	+2	+3
2. Not being able to stop or control worrying	0	+1	+2	+3

Screening for Alcohol and Substance Use

Alcohol

- Prevalence of AUD up to 42% in PWH in developed countries in one meta analysis
- Depends on assessment tool used

Substance Use

- One large study in the US looked at >10,000 PWH in 7 different large cities
- Overall 48% SUD prevalence rate
  - 31% marijuana
  - 20% alcohol
  - 13% meth
  - 11% cocaine
  - 4% opiate

Duko B, Ayalew M, and Ayano G. The prevalence of alcohol use disorder among people living with HIV/AIDS: a systemic review and meta-analysis. *Subst Abuse Treat Prev Policy* 14, 52 (2019).
Hartzler B, Dombrowski JC, Crane HM. Prevalence and predictors of substance use disorders among HIV care enrollees in the United States. AIDS Behav. 2017 Apr; 21(4): 1138–1148.

AUDIT-C

Screening Tools

How often do you have a drink containing alcohol?

Option	Score
Never	+0
Monthly or less	+1
2-4 times a month	+2
2-3 times a week	+3
4 or more times a week	+4

How many drinks containing alcohol do you have on a typical day when you are drinking?

Option	Score
1 or 2	+0
3 or 4	+1
5 or 6	+2
7 to 9	+3
10 or more	+4

How often do you have six or more drinks on one occasion?

Option	Score
Never	+0
Less than monthly	+1
Monthly	+2
Weekly	+3
Daily or almost daily	+4

TICS

1. Have you ever drunk or used drugs more than you meant to?
   - No
   - Yes
2. Have you felt you wanted or needed to cut down on your drinking or drug use?
   - No
   - Yes

Drug Interactions with ART

- Very common!!
- Frequently won't alert in EMR (at least ours)
- PI's and boosted regimens most likely
  - Cobicistat
  - Ritonavir
- Other regimens do have interactions as well
- Resources: Lexicomp (in UptoDate), Liverpool HIV Drug Interaction Checker (website and app)
- Next set of slides all from our HIV Clinical Pharmacist Sarah Blevins, PharmD

Corticosteroids + PIs/Cobicistat

Contraindicated	Use with Caution	Safe
Budesonide Fluticasone furoate Fluticasone propionate Mometasone Triamcinolone	Clobetasol Dexamethasone Hydrocortisone (oral) Methylprednisolone Prednisone Prednisolone	Beclomethasone Flunisolide Hydrocortisone (topical)

Pediatr Infect Dis J. 2006;25(11):1044–1048, Eur J Clin Pharmacol. 2009;65(7):743–745; Ann Pharmacother. 2007;41(7):1306–1309; J Asthma. 2011;48(8):860–863;
J Int Assoc Physicians AIDS Care (Chic) 2009;8(2):113–121; HIV Med. 2013; 14(9): 519–529; J Clin Rheumatol. 2018 Dec 5; J Asthma. 2004;41(8):793–795

Anticoagulants/Antiplatelets + PIs/Cobicistat

Contraindicated	Use with Caution	Safe
Dabigatran Rivaroxaban Clopidogrel* Ticagrelor	Edoxaban (30mg QD) Apixaban (2.5mg BID) Betrixaban (40mg QD)	Warfarin Prasugrel

Statins + PIs/Cobicistat

Contraindicated	Use with Caution	Safe
Lovastatin	Atorvastatin (max 40mg) Pravastatin Rosuvastatin	Fluvastatin Pitavastatin

INSTI Drug Interactions

Multivitamins, Iron Supplements, Calcium, Magnesium

- Chelation reduces absorption
- Food can mitigate interaction
- Separation is best
- Do not use once daily raltegravir

Metformin

- Dolutegravir – do not exceed 1,000 mg daily
- Bictegravir and Elvitegravir – monitor; may need dose reduction
- Raltegravir – safe

https://www.hiv-druginteractions.org/checker

Miscellaneous

- GERD- atazanavir and rilpivirine
  - PPI- CI
  - H2B- take 12 hrs apart
- ED- cobicistat, ritonavir
  - Sildenafil (25 mg Q48H)
  - Tadalafil (10 mg Q72H)
  - Vardenafil (2.5 mg Q72H)
- AED- cobicistat
  - Carbamazepine- CI
- BPH- cobicistat, ritonavir
  - Tamsulosin*
  - Terazosin okay
- Anti-arrhythmics- cobicistat, ritonavir
  - Amiodarone and dofetilide are CI
  - Digoxin with caution

https://www.hiv-druginteractions.org/checker

Hemoglobin A1c

- Not as reliable in PWH, tends to underestimate hyperglycemia
- Why?
  - Anemia and macrocytosis are common
  - ART- No consensus on certain drugs/classes
  - Low CD4 <500 associated in one study
- What to do?
  - OGTT is best test but very inconvenient
  - Fasting glucose may be good compromise
  - Hgb A1c can be used to follow patients

Slama L, Palella FJ, and Abraham AG. Inaccuracy of haemoglobin A1c among HIV-infected men: effects of CD4 cell count, antiretroviral therapies and haematological parameters, *J Antimicrob Chemother.* 2014 Dec; 69(12): 3360–3367.
Coelho AR, Moreira FA, and Santos AC. Diabetes mellitus in HIV-infected patients: fasting glucose, A1c, or oral glucose tolerance test – which method to choose for the diagnosis? *BMC Infect Dis*. 2018; 18: 309.

Outpatient CAP Treatment in HIV

- Beta-lactam (amoxicillin or amoxicillin-clavulanate) + macrolide (azithromycin or clarithromycin) (AI)

OR

- Respiratory fluoroquinolone (levofloxacin or moxifloxacin) (AI)
- If azithromycin and/or FQ is CI, doxycycline should be given with beta-lactam (BIII)

AIDS Info: Guidelines for the Prevention and Treatment of Opportunistic Infections in Adults and Adolescents with HIV- Community-Acquired Pneumonia (CAP).

Could you test me for low T?

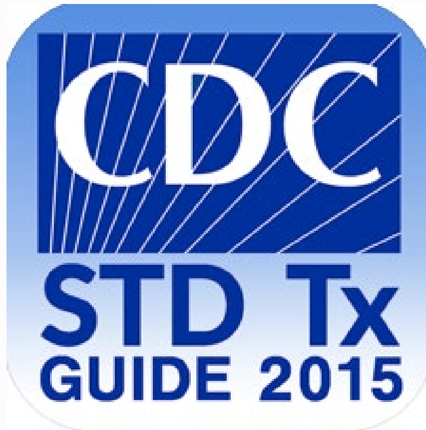
- Only test men who are symptomatic and eligible for treatment
- New ACP Guidelines
  - Treatment may improve sexual function. If it doesn't, stop treatment
  - Very little/no benefit for energy, vitality, cognition, physical function- DON'T TREAT
- Order free testosterone level because HIV affects SHBG
  - Should be measured with equilibrium dialysis
- Lab should be drawn between 8-10 am
- If low, it should be repeated at least once to confirm

Qaseem A, Horwitch CA, Vijan S, et al. Testosterone Treatment in Adult Men With Age-Related Low Testosterone: A Clinical Guideline From the American College of Physicians, *Ann Intern Med.* 2020;172(2):126-133.

Take Home Points

- There is an increased risk of HPV-associated cancers in PWH. Offer anal pap smears
- Transgender individuals: screen organs that are present
  - Transwomen (MTF)- start mammograms at 50 if ≥ 5 yrs on hormone therapy
- Screen for osteoporosis with DEXA (men 50+, women post-menopausal)
- Calculate ASCVD risk in PWH ≥ 40 yo, discuss statin for 10 yr risk ≥ 7.5%, smoking cessation for <u>everyone</u>
- Screen for STIs frequently including throat/rectum
- Check for drug interactions before prescribing new med!

There's an app for that!



STI Treatment

CV Risk Calculator

Guidelines

Liverpool Drug Interactions

Vaccine Schedule

USPSTF Recs

Other Resources

- AIDSInfo- by NIH
  - New Opportunistic Infection update being released soon!
- Infectious Disease Society of America (IDSA)
  - "Primary Care Management of Patients Infected with HIV"
    - New version being released soon!
- Advisory Committee on Immunization Practices (ACIP)
  - CDC Vaccines App
- US Preventive Services Task Force
- Lexicomp (also in UpToDate Drug Interaction Checker)
- Liverpool HIV Drug Interaction Checker