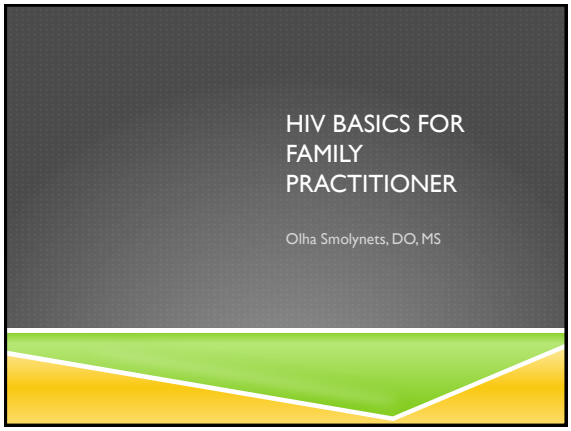
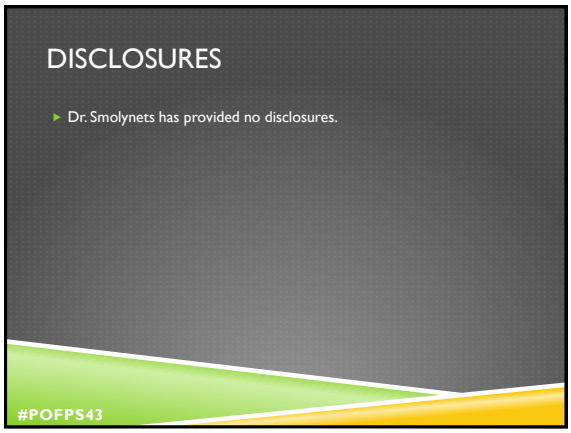

HIV BASICS FOR FAMILY PRACTITIONER
Olha Smolynets, DO, MS


DISCLOSURES
Dr. Smolynets has provided no disclosures.
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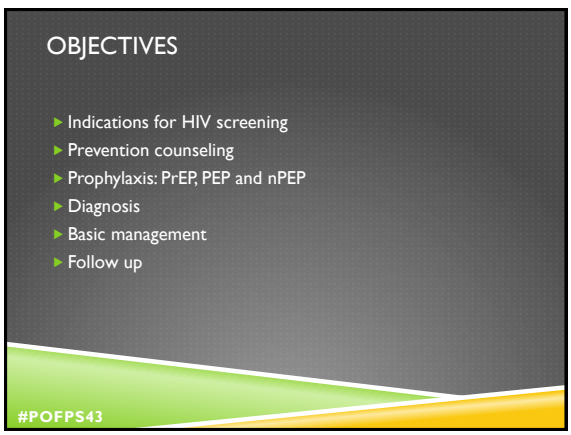
OBJECTIVES
Indications for HIV screening
Prevention counseling
Prophylaxis: PrEP, PEP and nPEP
Diagnosis
Basic management
Follow up
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RECOMMENDATIONS FOR HIV SCREENING FOR ADULTS AND ADOLESCENTS AND PREGNANT WOMEN

- In healthcare settings, should be performed routinely from ages 13-64, unless prevalence of undiagnosed HIV infection documented <0.1%
- All patients initiating TB treatment
- All patients seeking treatment for STDs
- All patients with signs and symptoms c/w acute retroviral syndrome (also obtain HIV RNA PCR), HIV infection or Opportunistic Infection (OI)
- Suspicion in all patients with high risk behavior (MSM highest risk)
- All pregnant women

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RECOMMENDATIONS FOR HIV SCREENING FOR ADULTS AND ADOLESCENTS AND PREGNANT WOMEN

- Repeat screening
  - High risk: MSM, injection drug users and their sex partners, sex partners of HIV infected individuals, persons who exchange sex for money or drugs
  - Before new sexual relationship
  - Clinical judgment
  - Occupational exposure/significant exposure to bodily fluids

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CONSENT AND PRETEST INFORMATION

- Screening should be voluntary, only with patient's knowledge and understanding
- Informed orally or in writing unless declines (opt-out testing)
- Consent for HIV screening should be incorporated into general informed consent for medical care, a separate consent form for HIV screen is not recommended
- If patient declines the test, it should be documented in the medical record
- Multiple common languages/translation services should be available

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PREVENTION COUNSELING

- Discussion of HIV Ab tests
  - Window period <=3 months
  - Screening and confirmatory testing are both performed before positive diagnosis
- Discuss medical treatment options if results are positive
  - Referrals for patient and family
  - Emphasize positive effects of follow up for HIV positive patients
- Ensure that the person is making an informed decision to test
  - Understanding and appropriate consent age
- Emphasize the need for f/u results
  - Discuss with the patient what to do to reduce anxiety while waiting for results
  - Ask if anyone will come with patient
  - Emphasize the benefits and courage it to took to come in for testing and come back for results

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PREVENTION COUNSELING

- Sexual risk factors
  - Has the patient had sex, ?have infected sexual contact, any other h/o STDs, h/o non-consensual sex, methods of protection, sexual practices/preferences
- Drug use risk factors
  - h/o drug use, type of drug, method, sharing, environment
- Medical/traditional practices with contaminated instruments or blood
  - h/o blood transfusion, traditional practices of exchanging blood, sharing razors
- Mother to child transmission
  - Is the woman pregnant or planning, educate
- Other
  - Does the patient identify other risk factors or concerns, correct misconceptions

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PREVENTION COUNSELING FOLLOW UP

- Ask the patient and/or observe if ready to receive results
- Give time for initial reaction
- If HIV positive
  - Acknowledge, listen, avoid speculation on prognosis, anticipate negative response/denial, help recognize positive coping mechanisms, prepare patient, provide referrals, discuss lifestyle adjustments, provide realistic hope
- If HIV negative
  - Clarify, listen to thoughts and fears, congratulate, discuss risk-reduction methods
- If HIV inconclusive
  - Educate, provide referrals, reinforce risk-reducing behaviors or abstinence until test results are back

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Table 1: Summary of Guidance for PrEP Use

	Men Who Have Sex with Men	Heterosexual Women and Men	Injection Drug Users
Detecting substantial risk of acquiring HIV infection	HIV-positive sexual partner Recent bacterial STI High number of sex partners History of inconsistent or no condom use Commercial sex work	HIV-positive sexual partner Recent bacterial STI High number of sex partners History of inconsistent or no condom use Commercial sex work In high-prevalence area or network	HIV-positive injecting partner Sharing injection equipment Recent drug treatment (but currently injecting)
Clinically eligible	Documented negative HIV test result before prescribing PrEP No signs/symptoms of acute HIV infection Normal renal function; no contraindicated medications Documented hepatitis B virus infection and vaccination status		
Prescription	Daily, continuing, oral doses of TDF/FTC (Truvada), ≤90-day supply		
Other services	Follow-up visits at least every 3 months to provide the following: HIV test, medication adherence counseling, behavioral risk reduction support, side effect assessment, STI symptom assessment At 3 months and every 6 months thereafter, assess renal function Every 6 months, test for bacterial STIs		
	Do oral/rectal STI testing	Assess pregnancy intent Pregnancy test every 3 months	Access to clean needles/syringes and drug treatment services

STI: sexually transmitted infection

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Study	Design[a]	Participants: Agent	Participants: Control	Limitations	Quality of Evidence (See Table 14, Appendix 2)
Among Men Who have Sex with Men					
PrEx Trial	Phase 3	TDF/FTC (n = 1251)	Placebo (n = 1248)	Adherence	High
US MSM Safety Trial	Phase 2	TDF (n = 201)	Placebo (n = 199)	Minimal	High
Among Heterosexual Men and Women					
Partners PrEP	Phase 3	TDF (n = 1589) TDF/FTC (n = 1583)	Placebo (n = 1586)	Minimal	High
TDF2	Phase 2	TDF/FTC (n = 611)	Placebo (n = 608)	High loss to follow-up; modest sample size	Moderate
Among Heterosexual Women					
FEM-PrEP	Phase 3	TDF/FTC (n = 1062)	Placebo (n = 1058)	Stopped at interim analysis, limited follow-up time; very low adherence to drug regimen	Low
West African Trial	Phase 2	TDF (n = 469)	Placebo (n = 467)	Stopped early for operational concerns; small sample size; limited follow-up time on assigned drug	Low
VOICE	Phase 2B	TDF (n = 1007) TDF/FTC (n = 1003)	Placebo (n = 1009)	TDF arm stopped at interim analysis (futility); very low adherence to drug regimen in both TDF and TDF/FTC arms	Low
Among Injection Drug Users					
IPT	Phase 3	TDF (n = 1204)	Placebo (n = 1207)	Minimal	High

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Table 9: Recommended Oral PrEP Medications

Generic Name	Trade Name	Dose	Frequency	Common Side Effects[66]
Tenofovir disoproxil fumarate (TDF)	Viread	300 mg	Once a day	Nausea, flatulence
Emtricitabine (FTC)[a]	Emtriva	200 mg	Once a day	Rash, headache
TDF + FTC	Truvada	300mg/200 mg	Once a day	—

[a] Not recommended alone; only for use in combination with TDF.

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Table 10: PrEP Medication Drug Interactions[6,66,79]

	TDF	FTC
Buprenorphine	No significant effect. No dosage adjustment necessary.	No data
Methadone	No significant effect. No dosage adjustment necessary.	No data
Oral contraceptives	No significant effect. No dosage adjustment necessary.	No data
Acyclovir, valacyclovir, cidofovir, ganciclovir, valganciclovir, aminoglycosides, high-dose or multiple NSAIDS or other drugs that reduce renal function or compete for active renal tubular secretion	Serum concentrations of these drugs and/or TDF may be increased. Monitor for dose-related renal toxicities.	No data

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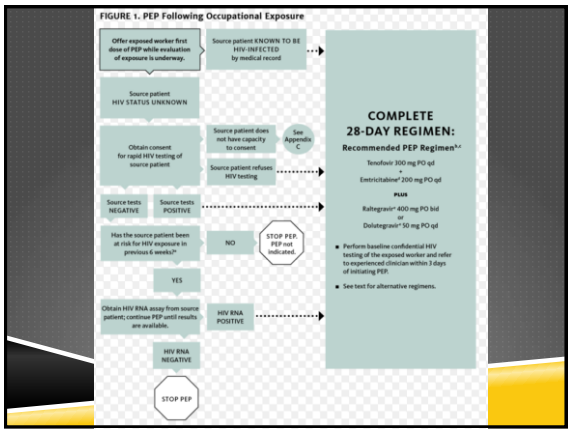
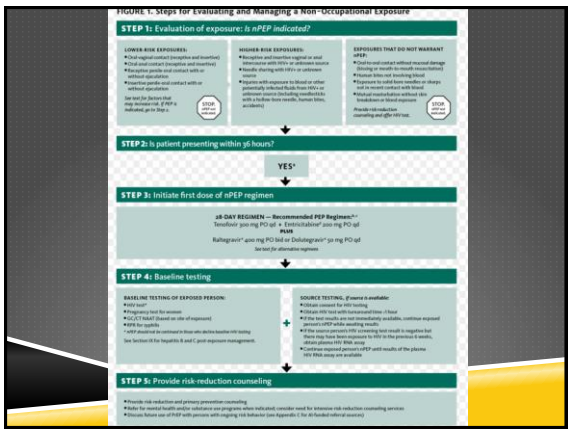
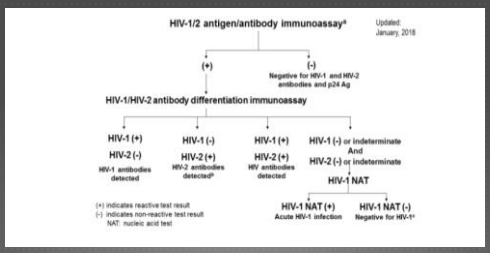




DIAGNOSIS



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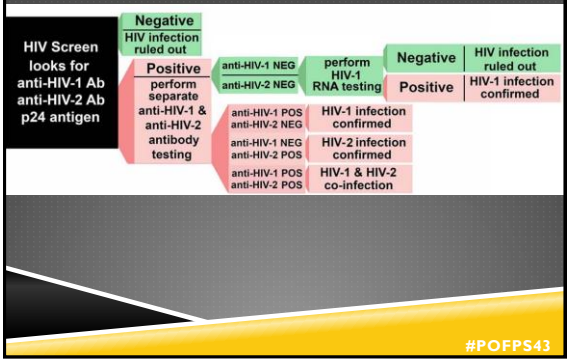

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Table 7: Clinical Signs and Symptoms of Acute (Primary) HIV Infection[87]

Features (%)	Overall (n = 375)	Sex		Route of transmission	
		Male (n = 355)	Female (n = 23)	Sexual (n = 324)	Injection Drug Use (n = 34)
Fever	75	74	83	77	50
Fatigue	68	67	78	71	50
Myalgia	49	50	26	52	29
Skin rash	48	48	48	51	21
Headache	45	45	44	47	30
Pharyngitis	40	40	48	43	18
Cervical adenopathy	39	39	39	41	27
Arthralgia	30	30	26	28	26
Night sweats	28	28	22	30	27
Diarrhea	27	27	21	28	23

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PRIMARY CARE APPROACH

- HIV related history
- Mental health and substance abuse assessment
- Baseline and annual physical exam
  - Vital signs, weight, BMI at every visit
  - Pain
  - Ophthalmologic referral (CD4<50)
  - Dental
  - GU
  - Neuropsychological

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PRIMARY CARE APPROACH

- Routine lab testing
- Virologic assessment
- Immunologic assessment
- TB evaluation
- STD screening
- Cytological screening
- Risk reduction
- Education

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PRIMARY CARE APPROACH

- Tobacco use assessment and counseling
- Reproductive counseling
- Domestic violence screen
- Psychosocial assessment
- Standard health maintenance
- OI prophylaxis
- Immunizations

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MANAGEMENT

- Baseline testing
  - HIV RNA PCR (viral load) with genotype
  - CD4 count and percent
  - CBC
  - CMP
  - Syphilis serology
  - Hepatitis serologies
  - IGRA
  - G6-PD (especially patients at risk African or Mediterranean descent)
  - GC/chlamydia
  - General preventive care (pap smear, mammogram, hemoccult, BP screen, fasting glucose, PSA, colonoscopy as recommended for HIV negative pts)
  - HLAB5701 assay if tx with abacavir is being considered
  - Toxoplasma IgG
  - Fasting lipid profile

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MANAGEMENT

- Initial evaluation
  - date of infection, CD4, VL, OI, Sxs
  - PMH include prior TB exposure, chicken pox, shingles, residence and travel, mental health, weight change
  - Meds/OTC
  - Vaccinations
  - Substance use
  - Sexual history
  - Social
  - Allergies
  - FH
  - Women: menstrual history, contraception, pregnancy history, osteoporosis dx and tx

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MANAGEMENT

- PE
- Men: MSM include rectal/genital/anal pap
- Skin
- Body habitus
- Lymphadenopathy
- Neurologic
- Oropharyngeal

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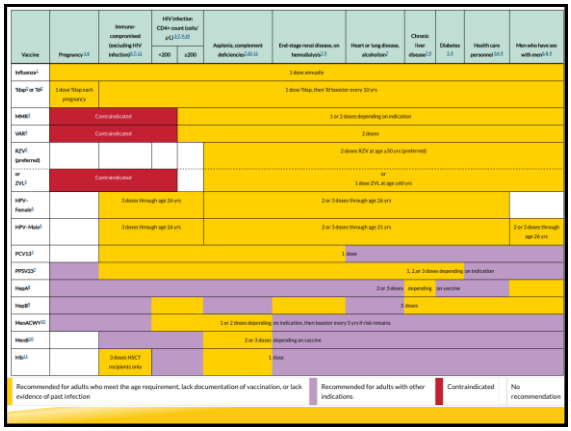

FOLLOW UP

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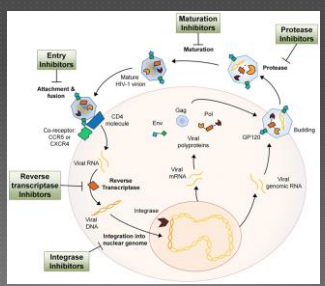
HAART



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- An antiretroviral (ARV) regimen for a treatment-naive patient generally consists of two nucleoside reverse transcriptase inhibitors (NRTIs) in combination with a third active ARV drug from one of three drug classes: an integrase strand transfer inhibitor (INSTI), a non-nucleoside reverse transcriptase inhibitor (NNRTI), or a protease inhibitor (PI) with a pharmacokinetic (PK) enhancer (booster) (cobicistat or ritonavir).
- The Panel on Antiretroviral Guidelines for Adults and Adolescents (the Panel) classifies the following regimens as Recommended Initial Regimens for Most People with HIV (in alphabetical order):
  - Dolutegravir/abacavir/lamivudine[a]—**only** for patients who are HLA-B*5701-negative **(AI)**
  - Dolutegravir plus tenofovir/emtricitabine[a,b] **(AI)**
  - Elvitegravir/cobicistat/tenofovir/emtricitabine[b] **(AI)**
  - Raltegravir plus tenofovir/emtricitabine[a,b] (**AI** for tenofovir disoproxil fumarate, **AII** for tenofovir alafenamide)[a,b]
- To address individual patient characteristics and needs, the Panel also provides a list of Recommended Initial Regimens in Certain Clinical Situations (Table 6).
- Given the many excellent options for initial therapy, selection of a regimen for a particular patient should be guided by factors such as virologic efficacy, toxicity, pill burden, dosing frequency, drug-drug interaction potential, resistance testing results, comorbid conditions, access, and cost. Table 7 provides guidance on choosing an ARV regimen based on selected clinical case scenarios. Table 8 highlights the advantages and disadvantages of different components in a regimen.

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RECENT UPDATES

- Dolutegravir use
- Bictegravir

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QUESTIONS

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RESOURCES

- **Primary Care Guidelines for the Management of Persons Infected with HIV:2013 Update by the HIV Medicine Association of the Infectious Disease Society of America.** *Clinical Infectious Diseases Vol 58, Issue 1, Jan 2014, pages e1-e34.*
- **Updated Guidelines for Antiretroviral Postexposure Prophylaxis After Sexual, Injection Drug Use, or Other Nonoccupational Exposure to HIV—United States, 2016.** *CDC. Published 4/18/16. https://www.cdc.gov/hiv/pdf/programresources/cdc-hiv-npep-guidelines.pdf.*
- **Postexposure Prophylaxis for the Prevention of HIV Infection in the United States—2017 Update Clinical Practice Guideline.** *CDC. Published 2016.*

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RESOURCES

- **Updated U.S. Public Health Service Guidelines for the management of occupational exposures to HIV and recommendations for postexposure prophylaxis.** *Infection Control and Hospital Epidemiology, Vol. 34, No. 9 (September 2013), pp. 875- 892.*
- **Recommendations for HIV prevention wit adults and adolescents with HIV in the United States 2014.** *CDC. Published 12/11/14. https://stacks.cdc.gov/view/cdc/44064.*

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RESOURCES

- **Laboratory testing for the diagnosis of HIV infection: updated recommendations.** *Published 6/27/14. https://stacks.cdc.gov/view/cdc/50872.*
- **Revised Recommendations for HIV Testing of Adults Adolescents and Pregnant Women in Health Care Settings.** *MMWR 9/22/2006 55 (rr14); 1-17.*

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