What PAs Need to Know About HIV Prevention and Preexposure Prophylaxis (PrEP)

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Disclosure

- Jonathan Baker & Kerin Berger have no relevant financial, professional or personal relationships to disclose.
- We will discuss off-label use of medications and procedures:
  - Emtricitabine and tenofovir for Hepatitis B Virus treatment
  - Intermittent emtricitabine/tenofovir dosing for HIV pre-exposure prophylaxis
  - Indications for Emtricitabine/tenofovir alafenamide for HIV pre-exposure prophylaxis

*Off label medications and procedures will be identified on the slides

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Objectives

At the end of this session, participants should be able to:

- Identify risk factors for HIV among patients
- Become familiar with HIV prevention methods, including PrEP, PEP, and treatment as prevention
- Reference current guidelines for the use of ARVs as prevention
- Discuss how HIV prevention can be tailored as part of patient-centered care

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You're a PA in Internal Medicine…

A 54 year old black female patient presents for her annual exam

- **PMHx**: hypothyroid, post-menopausal
- **Medications**: levothyroxine, multivitamin
- **NKDA**, no significant family Hx, no surgical Hx
- **Social Hx**: Divorced from her husband 3 months prior

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What STI Testing is Appropriate for this Pt?

On sexual history the patient reports 2 male partners in the last 3 months. She does not use condoms because she is post-menopausal. She engages in oral-penile intercourse, oral-vaginal intercourse, penile-vaginal intercourse. She denies anal intercourse or anolingus.

- HIV, urine gc/Ct, oral gc/Ct, syphilis
- She declines HIV testing stating that she is not at risk…
- What patient education is appropriate?

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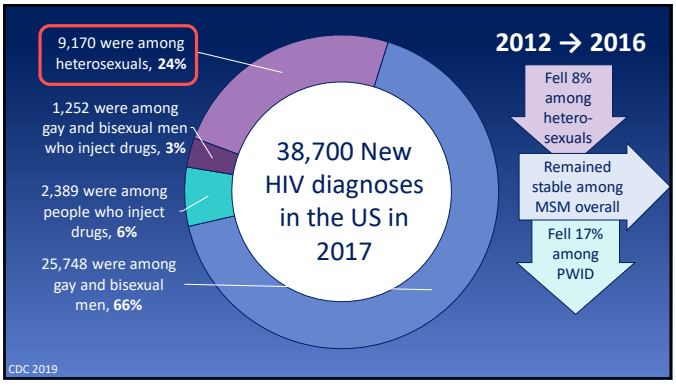

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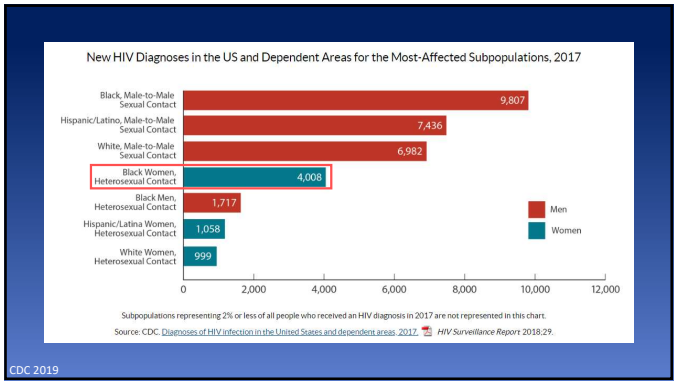
New HIV Diagnoses in the US and Dependent Areas for the Most-Affected Subpopulations, 2017
Black, Male-to-Male Sexual Contact
9,807
Hispanic/Latino, Male-to-Male Sexual Contact
7,436
White, Male-to-Male Sexual Contact
6,982
Black Women, Heterosexual Contact
4,008
Black Men, Heterosexual Contact
1,717
Hispanic/Latina Women, Heterosexual Contact
1,058
White Women, Heterosexual Contact
999
Men
Women
0
2,000
4,000
6,000
8,000
10,000
12,000
Subpopulations representing 2% or less of all people who received an HIV diagnosis in 2017 are not represented in this chart.
Source: CDC. Diagnoses of HIV infection in the United States and dependent areas, 2017. HIV Surveillance Report 2018;29.
CDC 2019

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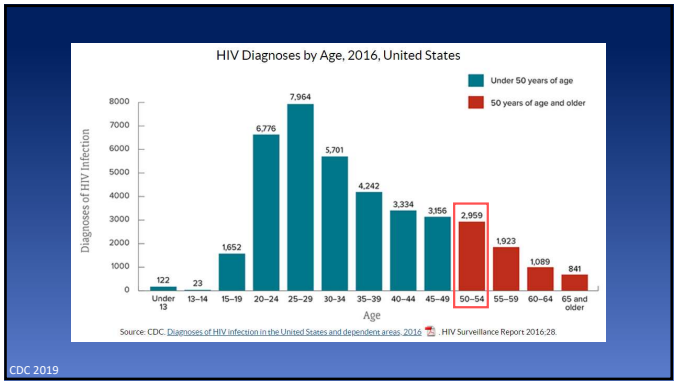
HIV Diagnoses by Age, 2016, United States
Under 50 years of age
50 years of age and older
Diagnoses of HIV Infection
8000
7000
6000
5000
4000
3000
2000
1000
0
122
23
1,652
6,776
7,964
5,701
4,242
3,334
3,156
2,959
1,923
1,089
841
Under 13
13–14
15–19
20–24
25–29
30–34
35–39
40–44
45–49
50–54
55–59
60–64
65 and older
Age
Source: CDC. Diagnoses of HIV infection in the United States and dependent areas, 2016. HIV Surveillance Report 2016;28.
CDC 2019

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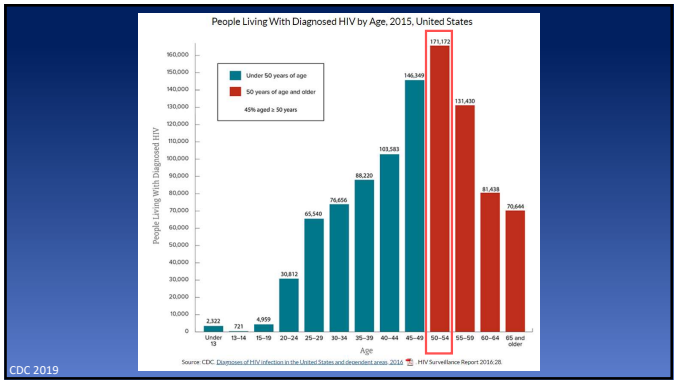
People Living With Diagnosed HIV by Age, 2015, United States
Under 50 years of age
50 years of age and older
45% aged ≥ 50 years
People Living With Diagnosed HIV
2,322
721
4,959
30,812
65,540
76,656
88,230
103,583
146,349
171,172
131,430
81,438
70,644
Under 13
13–14
15–19
20–24
25–29
30–34
35–39
40–44
45–49
50–54
55–59
60–64
65 and older
Age
Source: CDC. Diagnoses of HIV infection in the United States and dependent areas, 2016. HIV Surveillance Report 2016;28.
CDC 2019

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Lab Results

Lab Results:

• HIV Ag/Ab	NR	Syphilis	NR
• Genital gc	NR	Genital Ct	NR
• Oral gc	Positive	Oral Ct	NR

Now what patient education is appropriate for this patient?

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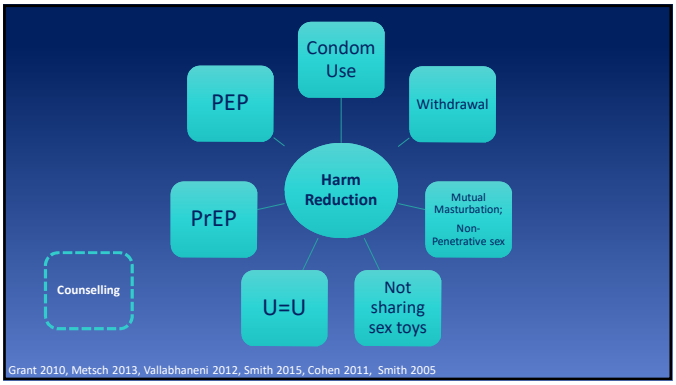

Grant 2010, Metsch 2013, Vallabhaneni 2012, Smith 2015, Cohen 2011, Smith 2005

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CDC Recommendations for PrEP

Heterosexual with opposite gender sexual partner in last 6 months
- Infrequent condom use with 1+ partners with HIV risk factors

OR

- sexual relationship with HIV

624,000 individuals in the US meet this criteria

Smith 2015

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Preexposure Prophylaxis (PrEP)

- HIV-negative people at high risk of acquiring HIV employing antiretroviral medication to reduce risk of becoming infected with HIV as part of comprehensive HIV prevention services
- Daily oral tenofovir/emtricitabine is the only FDA approved PrEP

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PrEP Randomized Controlled Clinical Trials

Study	Location	Population	Drug	Prevention
iPrEX	International & Domestic	2,499 MSM	F/TDF	44%
Partners PrEP	Africa (Kenya, Uganda)	4,758 heterosexual Serodiscordant couples	TDF F/TDF	62% 73%
TDF2	Botswana	1,219 heterosexuals (♂&♀)	F/TDF	63%
Bangkok Tenofovir	Bangkok	2413 IVDU (♂&♀)	TDF	48.9%
iPergay	France & Canada	414 MSM (2-1-1 dosing)	F/TDF	86%
Discover	International & Domestic		F/TAF	TAF noninferior*
FEM-PrEP	Africa	1,951 heterosexual women	F/TDF	Unable to Evaluate
VOICE	Africa	5,029 heterosexual women	F/TDF	

Grant 2010, Baeten 2012, Thigpen 2011, Van Damme 2012, Molina 2015, Hare 2019, Marrazzo 2015 *compared to F/TDF

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PrEP Real World Efficacy

Estimated >450,000 individuals on PrEP with ~6 cases of failure

- No HIV diagnoses among 657 individuals in the Kaiser system
- No HIV diagnoses among 972 individuals in the Northern CA Kaiser
- PROUD Study- 544 patients randomized to delayed or immediate PrEP
  - 3 infections in "immediate" arm
  - 20 infections in "deferral" arm (12 month deferral)
- No HIV diagnoses among 3700 MSM New South Whales (ongoing)
  - 35% statewide reduction in HIV diagnosis among MSM

Volk 2015, Chan 2016, Marcus 2016, McCormack 2016, Grulich 2018

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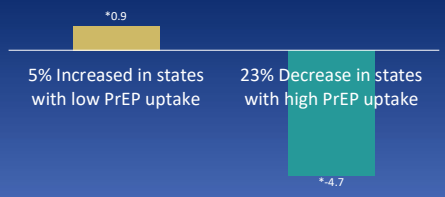
Reduction in HIV Diagnosis



*EAPC of states in the top quintile and lowest quintile of PrEP uptake 2012-2016

Sullivan 2018

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You're a PA in Primary Care…

A 25 year old Latino, male patient presents to establish care

- **No PMHx**, medications, drug allergies, family Hx, surgical Hx
- **Social Hx**: Admits social etoh, denies drug use
- **Sexual Hx**: He asks "this is confidential right? Will my parents find out my answers?" He reports only ever having 1 partner and always using condoms.

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You're a PA in Primary Care…

You assure your visibly nervous pt of confidentiality & standard Qs

- Your **culturally sensitive** sexual history identifies:
  - *M, AMAB (assigned male at birth), He Pronouns,* who reports having only male sexual partners x 4 years. No primary partner. Engages in anal intercourse, oral-penile sex. Denies oral-anal sex. He sometimes meets his partners on a social app on his phone.
- No longer visibly nervous, he admits to 4 partners in the last 6 months & intermittent condom use

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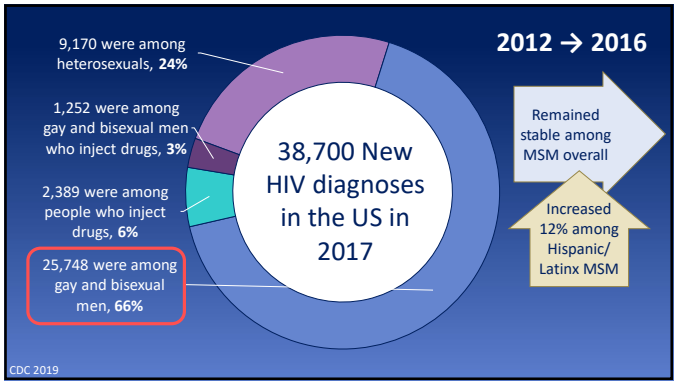

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…However…

38,700 is still too many!

HIV infections among MSM remain about 26,000/year

35% increase among MSM 25-34 yo

20% increase among latinx MSM

50% of new HIV infections occur in southern states

which represent 37% of the US populations

CDC 2019, Seigler 2018

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You're a PA in Primary Care…

You've never prescribed PrEP, but you recently learned about it

You feel ready to write (electronically submit) your first Rx

The patient asks: Is it safe?

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PrEP vs Aspirin

Number of patients treated per year to possibly result in a harmful outcome:

F/TDF	114	Nausea
	90	Weight loss
	116	Decreased creatinine clearance
Aspirin	20	Easy Bruising
	94	Melena
	54	Epistaxis

Kojima 2015

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You're a PA in Primary Care…

Phew! Good thing you watched this presentation!

The patient asks:

- What are the side effects?
- Will my insurance cover it?
- When will I need to come back?

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Side Effects

Common	Uncommon	Serious
Diarrhea (2%)	Vomiting	**↓Bone mineral density**
Dizziness (2%)	Abdominal pain	**Kidney failure**
Gas	Decreased appetite	Lactic acidosis
Nausea	Weight loss	Liver disease
Headache	Malaise	Muscle weakness
Rash	Muscle pain/cramp	Pancreatic disease
Skin discoloration	Dysphagia	
	Shallow breathing	
	Sleepiness	

Grant 2010

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Renal and BMD Effects

Renal	
	F/TDF may decrease GFR (elevate Cr)
	Monitor creatinine every 3 mos
2	Cases of Fanconi syndrome in PrEP users
	GFR recovers **4 weeks** after d/c drug

Bone	
~1%	F/TDF may cause a ~1% decrease in BMD
	No routine monitoring required
	No attributed fractures
	BMD recovers **6 months** after d/c

Liu 2011, Grant 2016, Mugwanya 2016, Hare 2019

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Tenofovir/Emtricitabine Cost

*Approximate Cash price

$60/day

$1,800/mo

$21,600/yr

condoms: ~$1/each

- No generic available in US
- Widely covered with US insurance
  - Copays range from approx $30-75/mo with some outliers
- See Resources slide for additional information
- Additional costs associated with q3mo visits and laboratory tests

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Baseline Labs

- **HIV Ag/Ab**
- RPR
- Hep A total ab (MSM)
- **Hep B surface ab/ag**
- Hep C ab
- GC/CT (genital, pharyngeal, rectal)
- **Creatinine**
- **Urine HCG**

CDC 2018

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Q3 Month Follow Up Labs

- **HIV Ag/Ab**
- **Creatinine**
- STI Screening depending on patient's risk (q3-6months):
  - RPR, three site GC/CT

CDC 2018

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You're a PA in Primary Care…

Lab Results:

- HIV Ag/Ab NR
- Syphilis NR
- Genital gc/Ct NR
- Oral gc/Ct NR
- Rectal gc/Ct NR
- HBsAb/HBsAg Reactive/NR
- HAV Ab, HCV Ab NR

[HCG test in FCBP]

- CMP:
  - Glucose 121
  - Sodium 142
  - Potassium 4.3
  - Chloride 108
  - Urea Nitrogen 20
  - Creatinine 1.15
  - AST 26
  - ALT 22
  - Alk Phos 88

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You're a PA in Primary Care…

3 month Lab Results:

- HIV Ag/Ab NR
- Syphilis NR
- Genital gc/Ct NR
- Oral gc/Ct Gc+/Ct-
- Rectal gc/Ct NR
- HBsAb/HBsAg Reactive/NR
- HAV Ab, HCV Ab NR

- CMP:
  - Glucose 121
  - Sodium 142
  - Potassium 4.3
  - Chloride 108
  - Urea Nitrogen 20
  - Creatinine 1.15
  - AST 26
  - ALT 22
  - Alk Phos 88

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Will PrEP Increase Risky Behaviors?

Risk homeostasis\risk compensation posits an individual will maintain an average level of risk they find acceptable.

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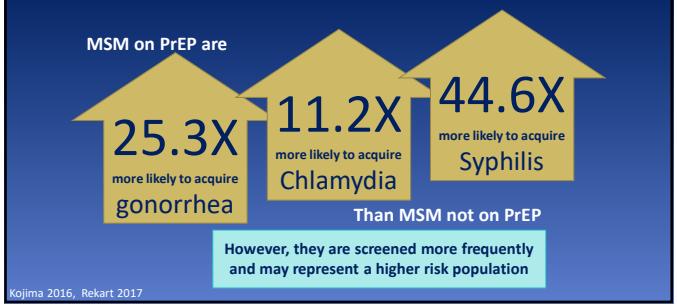
Increased STI Risk Among PrEP Users



Kojima 2016, Rekart 2017

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STI Risk in PrEP Users

275 MSM at risk of HIV exposure in DC:	
41%	who were using PrEP were:
3X	more likely to self report an STI in the past year
=	Just as likely to have a current STI

1922 MSM in 5 cities*	
29%	who were using PrEP were:
2X	as likely to be tested in the past year
↑/=	Slightly more likely to have gc/Ct detected at any site (15% vs 12%)
↑/=	↑ risk of rectal Ct otherwise similar

Torres 2019, Chapin-Bardales 2019

*(SF, DC, NY, MIA, Houston)

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"Sexual health is a state of physical, mental and social well-being in relation to sexuality."

-World Health Organization

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Hepatitis C Transmission Among PrEP Users

- Sexual transmission of HCV among MSM living with HIV is well documented; few cases among HIV-negative MSM
- 2 cases of sexual HCV acquisitions among 485 MSM in Kaiser San Francisco

Volk 2015, CDC 2018

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You're a PA in Primary Care…

6 months later your patient returns:

- Does my body get resistant to it if I take it every day?

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PrEP and HIV Viral Resistance

Inadequate ARV therapy is known to result in resistance;
individuals who become infected with HIV should discontinue PrEP immediately to prevent development of resistance

Grant 2010, Baeten 2012, Thigpen 2011, Van Damme 2012

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You're a PA in Primary Care…

6 month Lab Results:

- HIV Ag/Ab NR
- Syphilis NR
- Genital gc/Ct NR
- Oral gc/Ct NR
- Rectal gc/Ct NR
- HBsAb/HBsAg Reactive/NR
- HAV Ab, HCV Ab NR

- CMP:
  - Glucose 121
  - Sodium 142
  - Potassium 4.3
  - Chloride 108
  - Urea Nitrogen 20
  - Creatinine 1.40 [0.60-1.35]
  - AST 52 [10-40]
  - ALT 22
  - Alk Phos 88

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You're a PA in Emergency Medicine…

A 30 year old MSM presents citing exposure to HIV 6 hours prior

- **Sexual Hx**: He engaged in condomless oral and insertive anal intercourse with a partner of unknown HIV status
- **Medications**: tenofovir/emtricitabine, citalopram
- **No** drug allergies, family Hx, surgical Hx
- **Social Hx**: Admits social etoh, denies drug use

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Post Exposure Prophylaxis (PEP)

- Expert consultation is recommended in all cases, but do not delay PEP initiation
- Begin PEP within 72 hours of exposure; preferably within 2 hours
- Baseline Labs: HIV, CBC, CMP
- Repeat HIV Ab at 6 wks, 2 mos, 6 mos

- Occupational PEP – HCW exposure to HIV+ or unknown status source
- Non-occupational (nPEP) – Sexual or IVDU exposure

NYS DOH 2017, Harrison 2001, Smith 2005

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oPEP	**F/TDF (200/300mg QD)**	**&**	**raltegravir 400mg QD**
nPEP	**F/TDF (200/300mg QD)**	**&**	**raltegravir (400mg BID) -OR- *dolutegravir (50mg QD)**

PEP Consultation for Providers 888-448-4911

NYS DOH 2017, Harrison 2001, Smith 2005

*Avoid dolutegravir and efavirenz in patients who are or may be pregnant

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You're a PA in Emergency Medicine…

The patient is already on F/TDF PrEP, does he need PEP?

- Additional ARVs for PEP are not recommended when a patient is already on PrEP
- PEP has limited evidence

- What if the patient wasn't on PrEP?

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PEP to PrEP Transition

What is the indication for a patient utilizing PEP to initiate PrEP?

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You're a PA in Gynecology…

A 45 yo female presents for annual pap and exam

- **Medications**: OCP
- **No** drug allergies, family Hx, surgical Hx
- **Sexual Hx**: Monogamous with a male partner for 3 years
  Engages in oral, receptive vaginal, and receptive anal intercourse
  Partner is living with HIV
- **Social Hx**: Admits social etoh, denies drug use

She read about an HIV-prevention drug… Can she start it?

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Treatment as Prevention

U=U

Undetectable = Untransmittable

Rodger 2016, Donnell 2010, Cohen 2011

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Patient Awareness of PrEP

- Disparities by race
  - Non-Hispanic black MSM significantly less likely to be aware of PrEP compared to Non-Hispanic white MSM
- Education level
  - College educated MSM were significantly more aware of PrEP than MSM with education levels up to the 8th grade
- Having an HIV test or a +STI test **did not** increase awareness of PrEP
- Increased awareness if patients were out to their PCP

Raifman 2017

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Women Want to Know About PrEP

500 women seeking care at 4 FP clinics in ATL:	
18%	Knew about PrEP before the study
28%	had ≥1 risk consistent with PrEP eligibility
59%	Expressed interest in learning more about PrEP

Women Suggested

- **Advertising:** brochures, posters, phone calls, etc.
- **Conversations:** with staff and providers
- **Awareness:** broadly in the community
- **Access:** to PrEP information & services

Sales 2019

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Disclaimer

- **Generics and brand names used**
- **TDF (Truvada) and TAF (Descovy) generics very similar**

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You're a PA in Family Medicine

A 17-year-old nonbinary (they/them) patient presents for a school physical with their caregiver (grandmother)

- **PMHx**: none
- **Medications:** none
- **NKDA**, no significant family Hx
- **Social Hx**: senior in high school, on lacrosse team, alcohol: 5-7 beers per setting at parties, tried cocaine for first time this past summer, marijuana weekly, lives with grandmother

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You're a PA in Family Medicine

When you get to sexual practices, grandmother leaves the room:

- Non-binary, AMAB, reports oral sex, anal receptive, anal insertive sex, insertive vaginal sex
- Using condoms for vaginal sex only
- Meets anal sex partners on Grindr and other apps
- No prior HIV testing or STI testing
- No history of HPV vaccine

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You're a PA in Family Medicine

PE:

- W: 75 kg, H: 72 inches
- No significant findings

Labs:

- HIV antibody test negative in office (phew)
- 3 site STI testing collected in office

Assessment:

- Recommend HPV vaccine
- Discuss PrEP options. Patient interested in Descovy (TAF/FTC).

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Descovy (TAF/FTC)

- FDA approved for PrEP October 2019
- Indications:
  - Adolescents and adults ≥ 35kg, high risk for HIV-1 transmission
  - *EXCLUDES: individuals having receptive vaginal sex
- Dose: TAF 25mg/ FTC 200mg daily
  - TAF is prodrug of TDF
  - Plasma exposure to TAF, intracellularly converted to TDF at higher levels
  - Lower drug levels

Gilead 2019

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Descovy (TAF/FTC)

- Labs:
  - Initial: r/o HIV infection, Hep B surface antigen, baseline SrCr/CrCl, STI testing, urine glucose, urine protein
  - CrCl > 30 mL/min (Crockcroft Gault Calculation)
- Follow up
  - Every 3 months
- Blackbox warning
  - Acute HBV exacerbation

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TAF vs TDF: DISCOVER Trial

- Double blind, randomize HIV seronegative
- Median age: 34
- Majority white
- Criteria:
  - ≥ 2 condomless unique sexual partners in previous 12 weeks OR
  - Diagnoses of GC, CT, syphilis within 24 weeks
- Cisgender MSM and TGW
  - *Does not include cisgender/endo women or transmen or any vaginal receptive sex
- Subjects were seen in follow-up visits at Weeks 4, 12, and every 12 weeks thereafter; 50% followed up at 96 weeks

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DISCOVER TRIAL for TAF vs TDF

- "TAF noninferior to TDF"
- No changes in sexual behaviors
- Safety Concerns
  - Renal
  - Bone Mineral Density
  - Lipid levels

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DISCOVER TRIAL TAF VS TDF: Short Term AEs

Table 2 **Adverse Reactions (All Grades) Reported in ≥2% in Either Arm in the DISCOVER Trial of HIV-1 Uninfected Participants**

	DESCOVY (N=2,694)	TRUVADA (N=2,693)
Diarrhea	5%	6%
Nausea	4%	5%
Headache	2%	2%
Fatigue	2%	3%
Abdominal pain[a]	2%	3%

a. Includes the following terms: abdominal pain, abdominal pain upper, abdominal pain lower, gastrointestinal pain, and abdominal discomfort

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DISCOVER TRIAL TAF VS TDF: Renal

Table 3 **Laboratory Assessments of Renal Function Reported in HIV-1 Uninfected Participants Receiving DESCOVY or TRUVADA in the DISCOVER Trial**

	DESCOVY (N=2,694)	TRUVADA (N=2,693)
Serum Creatinine (mg/dL)[a] Change at Week 48	−0.01 (0.107)	0.01 (0.111)
$eGFR_{CG}$ (mL/min)[b] Change at Week 48	1.8 (−7.2, 11.1)	−2.3 (−10.8, 7.2)
Percentage of Participants who Developed UPCR >200 mg/g[c] At Week 48	0.7%	1.5%

$eGFR_{CG}$=estimated Glomerular Filtration Rate by Cockcroft-Gault; UPCR=urine protein/creatinine ratio
a. Mean (SD).
b. Median (Q1, Q3).
c. Based on N who had normal UPCR (≤ 200 mg/g) at baseline.

*Long term clinical significance unknown

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DISCOVER TRIAL TAF VS TDF: BMD

Table 7: Percentage Change from Baseline in Hip and Spine BMD at Weeks 48 and 96, Observed Data (DISCOVER)

	F/TAF	F/TDF
Hip BMD[1]		
Baseline	N=190	N=185
Mean (SD) (g/ cm^2)	1.029 (0.154)	1.02 (0.132)
Week 48	N=158	N=158
Mean (SD) % Change from Baseline	+0.183 (2.384)	-0.988 (2.435)
Week 96	N=100	N=105
Mean (SD) % Change from Baseline	+0.424 (2.612)	-1.202 (2.897)
Spine BMD[2]		
Baseline	N=190	N=188
Mean (SD) (g/cm^2)	1.131 (0.161)	1.131 (0.138)
Week 48	N=159	N=160
Mean (SD) % Change from Baseline	+0.496 (2.988)	-1.123 (2.945)
Week 96	N=100	N=112
Mean (SD) % Change from Baseline	+0.877 (3.143)	-1.248 (3.918)

[1] Hip BMD = Femur Total Corrected Bone Mineral Density (g/cm2)
[2] Spine BMD = Spine Total Adequate Corrected Bone Mineral Density (g/cm2)
Source: FDA analysis of ADDXA dataset from DISCOVER trial

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DISCOVER TRIAL TAF VS TDF: Lipid

- TDF greater decreases in fasting lipids
- TDF higher incidence of fasting lipids
- No association with cardiovascular risk
- Two-fold increase in lipid lowering therapy

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TDF VS TAF?

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Unclear

- "TAF is noninferior to TDF"
- Pre-existing renal function, BMD, hyperlipidemia
- Age?*
- Length of time on TDF?*
- New to PrEP?*

* Off label considerations

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You're a PA in Sexual Health (LA)

A 45 year old white man presents for PrEP follow up

- **PMHx**: Rectal CT, negative repeat testing on multiple occasions
- **Medications:** Truvada (TDF/FTC) for 5 years
- **NKDA**, no significant family Hx
- **Social Hx**: Denies alcohol and drug use, non-smoker, stable housing, occupation: sex worker, travels for work monthly
- Does not want to take PrEP everyday because knows his sexual schedule due to occupation.

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You're a PA in Sexual Health

- **Sexual practices include**:
  - M, AMAB (assigned male at birth) reports oral sex, anal receptive, and anal insertive sex
  - Clients: 3 regular clients, engages 3 times monthly; 0% condom use
  - Non-clients: 100% condom use

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You're a PA in Sexual Health

- Patient concerned about long term use of Truvada (TDF/FTC). Does not want to switch to Descovy (TAF/FTC). Very adamant about scheduled sexual encounters. Does not want to continue daily PrEP.
- What recommendations are appropriate for this patient?

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"On Demand" or 2-1-1 Dosing

- Ipergay (France) 414 HIV-negative, high risk MSM
- 86% reduction (39.4-98.5%) P=0.002
- (14 seroconversions in Placebo arm; 2 in PrEP arm)
- Median of 14 pills/mo
- (4/wk is ~90%+ effective)

***Tenofovir/emtricibine is NOT approved or recommended for intermittent use

Molina 2015

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"On Demand" or 2-1-1 Dosing

- **Tenofovir/emtricibine is NOT approved or recommended for intermittent use**
- Relies on anticipation of sex
- Less drug = less potential for side effects and adverse events
- Glidden *et al* suggest:

  "[Intermittent dosing] is clearly preferable to no PrEP at all"

Glidden 2016

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What's Next: PrEP Pipeline

- **Dapivirine ring** (27% effective women in Sub-Saharan Africa)
- **Injectable cabotegravir** every 8 weeks (HPTN-083)
- **Implantable PrEP** ($140 million grant)
- **Topical tenofovir** for MSM (Rectal Microbicides)

None of these are approved or recommended for PrEP

Molina 2015, Baeten 2016, HPTN, Bill & Melinda Gates Foundation, MTN 2016

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You're a PA in Gastroenterology…

A 45 year old female patient presents for a second opinion

- Diagnosed with Crohns vs. UC with OSH
- BRBPR, tenesmus, mucous discharge, no significant abd Sx
- **PMHx**: PE (10 years prior)
- **Medications**: ASA 81 mg, **Mesalamine suppository**
- **NKDA**, no surgical Hx
- **Family Hx**: Denies family Hx of IBD
- **Social Hx**: single, etoh social, denies drug use, travels frequently for work,

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You're a PA in Gastroenterology…

- Your culturally sensitive sexual history identifies:
  - F, AFAB, She pronouns, reports male sexual partner. No primary partner. Consistently uses condoms with RVI, **but not** for RAI, oral sex. 4 partners in the last 6 months.
- Rectal gc+, treated with ceftriaxone/azithromycin and symptoms fully resolve
- What patient education is appropriate?

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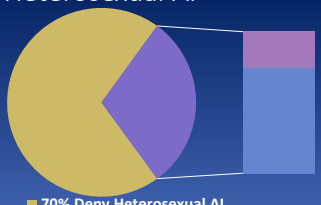
Domestic Heterosexual AI



- 70% Deny Heterosexual AI
- 30% Report Heterosexual AI
- 20-30% Report Condom Use During AI
- 70-80% Deny Condom Use During AI

Habel 2018

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AI and HIV Risk

Estimated Per-Act Probability of Acquiring HIV from an Infected Source, by Exposure Act

Type of Sexual Exposure	Risk per 10,000 Exposures
Receptive anal intercourse	138
Receptive penile-vaginal intercourse	8
Insertive anal intercourse	11
Insertive penile-vaginal intercourse	4
Oral intercourse	low

CDC 2013

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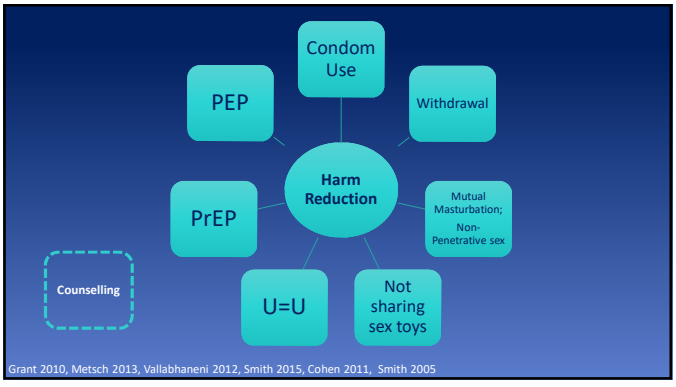

Grant 2010, Metsch 2013, Vallabhaneni 2012, Smith 2015, Cohen 2011, Smith 2005

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1.2 Million Americans Meet Eligibility for PrEP

MSM with male sexual partner in last 6 months
AI without condoms in past 6 mos **OR** STI in prior 6 mos **OR** sexual relationship with HIV+ partner
492,200

Heterosexual with opposite gender sexual partner in last 6 months
Infrequent condom use with 1+ partners with HIV risk factors **OR** sexual relationship with HIV
624,000

IV drug users who injected non-Rx drugs in last 6 months
Any equipment sharing **OR** in treatment program in last 6 months **OR** risk of sexual acquisition
115,000

Smith 2015

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Take Home Points

- HIV prevention IS the responsibility of health care providers, especially in primary care
- Biomedical HIV prevention options vary and meet the needs of a diverse patient population
- Tenofovir/emtricitibine as daily pre-exposure prophylaxis for HIV is highly effective, safe, and easy to manage in a primary care setting

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"No more excuses,
We have the tools to end the epidemic:
It is up to us to do it."

-Anthony S. Fauci
Director of the NIAID at NIH

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Resources

Finding a PrEP Provider	www.preplocator.org www.greaterthan.org/get-prep/
Uninsured/underinsured/ Copay Assistance	www.panfoundation.org www.copays.org www.health.ny.gov/ (PrEP-AP) Manufacturer rebate programs

FREE CME: Preventing HIV Infection in the Primary Care Setting
The Role of Pre-Exposure Prophylaxis (PrEP)
http://www.medscape.org/viewarticle/867876_slide

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Question 1

Order the below interventions from most effective to least effective intervention for reducing risk of HIV transmission

1. Condoms, PrEP, UVL, Counselling
2. PrEP, Condoms, UVL, Counselling
3. Counselling, Condoms, PrEP, UVL
4. UVL, PrEP, Condoms, Counselling

CONDOMS: Consistent condom use
UVL: Viral Suppression of partners with HIV
PREP: Tenofovir/emtricitabine pre-exposure prophylaxis (PrEP)
COUNSELLING: Safe Sex Counselling by their PCP

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Question 2

Your patient presents for 3 month follow up for tenofovir/emtricitabine PrEP and reports increased number of sexual partners and decreased condom use. All of the following are appropriate, except:

1. Encourage your patient to undergo asymptomatic STI screening every 3-6 mos and sooner if needed
2. Discontinue tenofovir/emtricitabine PrEP
3. Discuss tenofovir/emtricitabine PrEP adherence
4. Draw bloodwork for HIV and Creatine

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Question 3

A patient on tenofovir/emtricitabine PrEP presents to the ED within 72 hours of potential HIV exposure, what is the most appropriate practice?

1. Discontinue tenofovir/emtricitabine PrEP and test at 6 wks, 3 mos, and 6 mos
2. Continue patient on tenofovir/emtricitabine, and add raltegravir for 28 days as PEP
3. Reassure the patient that their risk of HIV acquisition is minimal and they should continue daily tenofovir/emtricitabine PrEP
4. Check a viral load (HIV RNA) for earliest detection of HIV

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Questions?

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