HIV Updates for the Pharmacy Technician

NISHP Technician Champions Webinar

Tuesday, October 22, 2019

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Speaker serves on Gilead Sciences Advisory Board – All conflicts resolved through peer review

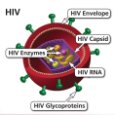
Objectives

- Review HIV statistics
- Discuss updates in HIV treatment and antiretrovirals
- Review roles of pharmacy technicians in HIV care

Pathophysiology of HIV

Anderson PL, et al. *Pharmacotherapy: A Pathophysiologic Approach, 10e.*

- Retrovirus:
  - Converts viral RNA → viral DNA
- Affects our immune system and organs
  - T-lymphocytes
    - CD4
    - CD8
  - Heart, lungs, kidneys, brain, and other organs
- Virus Structure
  - Cylindrical structure
  - Outer glycoprotein gp160 bi-layer
  - Multiple enzymes



Source: aidsinfo.nih.gov/understanding-hiv-aids/glossary/325/human-immunodeficiency-virushttps://

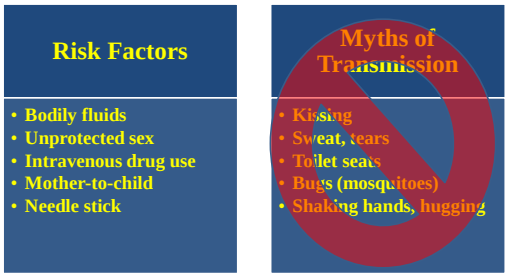
AIDS & Defining Illnesses

AIDS = Acquired Immunodeficiency Syndrome
- HIV-infected PLUS
- CD4 <200 - OR an AIDS defining illness diagnosis

- Candidiasis
- Cervical Cancer
- Coccidioidomycosis
- Cytomegalovirus (CMV)
- Cryptosporidiosis
- Cryptococcosis
- Encephalopathy
- Esophagitis, Bronchitis, or Pneumonitis
- Herpes Simplex
- Histoplasmosis
- Isosporiasis
- Kaposi sarcoma
- Leukoencephalopathy
- Lymphoma
- *Mycobacterium*
- *Pneumocystis jirovecii* pneumonia
- Pneumonia
- *Salmonella* septicemia
- Toxoplasmosis of brain
- Wasting syndrome

Anderson PL, et al. *Pharmacotherapy: A Pathophysiologic Approach, 10e.*

Transmission



Anderson PL, et al. *Pharmacotherapy: A Pathophysiologic Approach, 10e.*

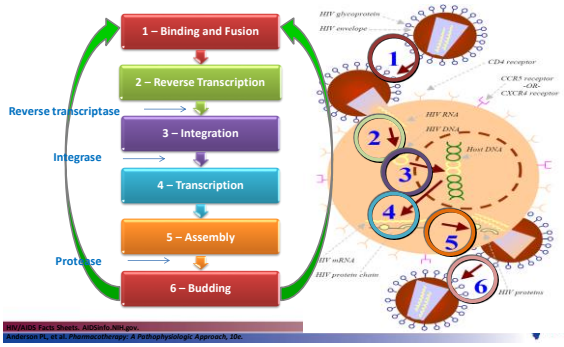
Prevention

- Practice safe sex
  - Abstinence
  - Condoms
- Use clean, unused needles
- Do not share personal items
- Take your medications
- Mothers: do not breastfeed
- Post-exposure prophylaxis (PEP)?
- Pre-exposure prophylaxis (PrEP)?

Anderson PL, et al. *Pharmacotherapy: A Pathophysiologic Approach, 10e.*

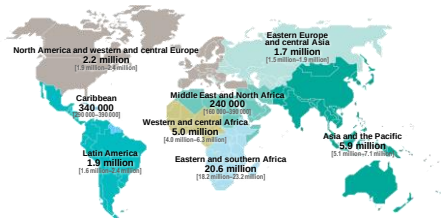
The HIV Life Cycle

1×10^{10} copies/day!



HIV/AIDS Facts Sheets. AIDSinfo.NIH.gov.
Anderson PL, et al. *Pharmacotherapy: A Pathophysiologic Approach, 10e.*

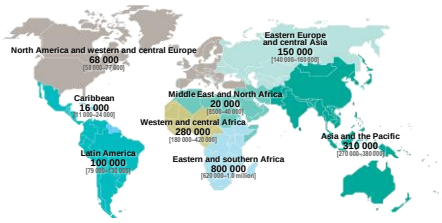
Adults and children estimated to be living with HIV | 2018



Total: 37.9 million [32.7 million–44.0 million]

UNAIDS Core epidemiology July 2019.

Estimated number of adults and children newly infected with HIV | 2018

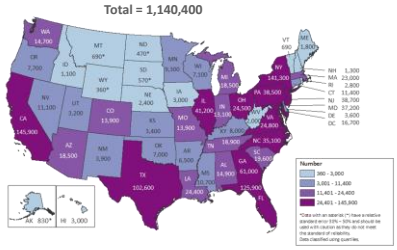


Total: 1.7 million [1.4 million–2.3 million]

UNAIDS Core epidemiology July 2019.

Estimated HIV Prevalence among Persons Aged ≥13 years, by Area of Residence 2016—United States

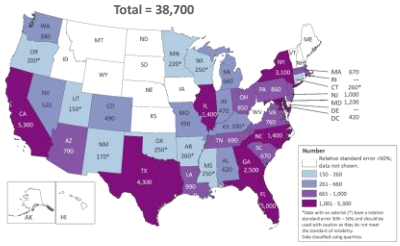
Total = 1,140,400



Note. Estimates were derived from a CD4 depletion model using HIV surveillance data. Estimates rounded to the nearest 100 for estimates >1,000 and to the nearest 10 for estimates ≤1,000 to reflect model uncertainty.

Estimated HIV Incidence among Persons Aged ≥13 Years, by Area of Residence 2016—United States

Total = 38,700



Note. Estimates were derived from a CD4 depletion model using HIV surveillance data. Estimates rounded to the nearest 100 for estimates >1,000 and to the nearest 10 for estimates ≤1,000 to reflect model uncertainty.

Stop and think

In the year 2016 in the United States, it was estimated that there were ____ many people living with HIV above the age of 13 years.

A. 38,700
B. 100,000
C. 1,140,400
D. 1,700,000

What Is Antiretroviral Therapy (ART)?

- HIV is considered a chronic disease state.
- ART (AntiRetroviral Therapy) is a combination of AntiRetroViral (ARV) medications that results in effective treatment of HIV.
- ART is also called combination therapy, HIV cocktail, HIV regimen, HAART (Highly Active ART), or cART (Combination ART).
- Traditionally, ART combines at least 3 active ARVs from 2 different classes.
- Each ARV class interferes with HIV replication at a different stage of the HIV life cycle.

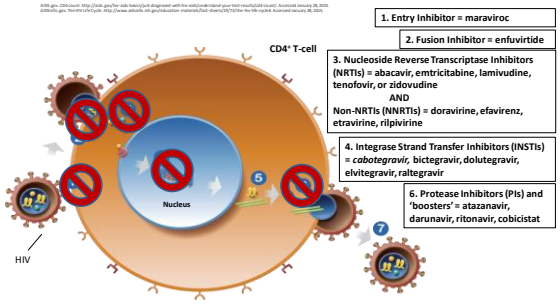
History of DHHS Recommendations

Evolution to Initiating Treatment Early to Improve Outcomes

	1998	2001	2002	2004	2008	2009-11	2015-18
FACTOR	**RECOMMENDATION FOR TREATMENT**						
AIDS	Treat	Treat	Treat	Treat	Treat	Treat	Treat
CD4	<500	• Recommended at <200 • Offer at <350 • Individualize decision at >350			• Recommended <350 • Risks/Benefits >350	• Recommended <500 • Favor/Optional >500	• Recommended for any CD4 cell counts
Viral Load	>20,000	>55,000		>100,000	No specific viral load		
Other Factors					Pregnant women HBV co-infected HIVAN		ART is also recommended for HIV-infected individuals for the prevention of HIV transmission

DHHS. Guidelines for the Use of Antiretroviral Agents in HIV-1-Infected Adults and Adolescents. March 2018 and other years as noted. http://aidsinfo.nih.gov/guidelines

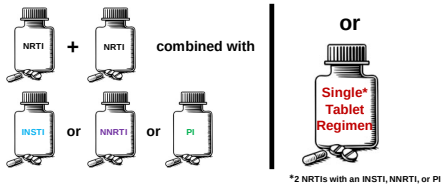
Treating HIV: Where ARVs Attack



1) Italicized = not yet FDA approved
2) The list of ARVs is NOT all inclusive

Typical Recommended ART – For Treatment-naïve Patients

"Backbone" of 2 NRTIs combined with a "3rd agent"
Historically Want At least 3 active ARVs from 2 different classes



*2 NRTIs with an INSTI, NNRTI, or PI

Key:
NRTI = nucleoside reverse transcriptase inhibitor
NNRTI = non-nucleoside reverse transcriptase inhibitor
PI = protease inhibitor
INSTI = integrase strand transfer inhibitor

Available at: http://aidsinfo.nih.gov/guidelines/html/1/adult-and-adolescent-arv-guidelines/0/. Accessed August 2018.
HIV Overview 2016. Gilead Sciences.

Recommendations for ART Initiation – for MOST Patients Living with HIV

All US guideline-recommended initial regimens are integrase inhibitor-based, triple therapy regimens

IAS-USA 2018[1]
GENERALLY RECOMMENDED INITIAL REGIMENS
BIC/FTC/TAF aka Biktarvy®
DTG/3TC/ABC aka Triumeq®
DTG + FTC/TAF aka Tivicay® + Descovy®

DHHS 2018[2]	
RECOMMENDED REGIMENS FOR MOST PEOPLE WITH HIV*	
BIC/FTC/TAF† (AI) aka Biktarvy®	
DTG/3TC‡/ABC** (AI) aka Triumeq®	
DTG+ (aka Tivicay®)	FTC‡/TAF† (AI) (Descovy®) or FTC‡/TDF† (AI) (Truvada®)
RAL§+ (aka Isentress or IsentressHD)	FTC‡/TAF† (AII) or FTC‡/TDF† (AI) (Descovy® or Truvada®)

* eGFR cut-offs based on NRTIs: FTC/TAF 30 mL/min, FTC/TDF and 3TC/ABC 50 mL/min
† TAF and TDF are two forms of tenofovir approved by FDA. TAF has fewer bone and kidney toxicities than TDF, while TDF is associated with lower lipid levels. Safety, cost and access are among the factors to consider when choosing between these drugs.
‡ 3TC may substitute for FTC or vice versa
** Only for HLA-B*5701 negative
§ RAL can be given as 400 mg BID or 1200 mg (two 600-mg tablets) once daily

Key:
BIC/FTC/TAF = bictegravir/emtricitabine/tenofovir alafenamide
DTG/3TC/ABC = dolutegravir/lamivudine/abacavir
RAL = raltegravir
TDF = tenofovir disoproxil fumarate

1. Gong M, et al. JAMA. 2016;315(3):279-281. https://www.iasusa.org/guidelines
2. DHHS. Guidelines for the Use of Antiretroviral Agents in HIV-1-Infected Adults and Adolescents, 2018

Certain Clinical Scenarios

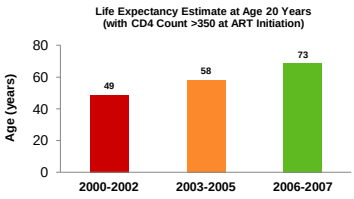
- **Traditionally…3 antiretrovirals from at least 2 different classes**
  - **Most commonly 2 nucleoside reverse transcriptase inhibitors**
    - **Most commonly emtricitabine + tenofovir (alafenamide > disoproxil) or abacavir + lamivudine**
      - ***Emtricitabine and lamivudine should NEVER be prescribed together***

PLUS

  - **Could also consider non-nucleoside reverse transcriptase (NNRTI) or protease inhibitor (PI)**
    - **Common NNRTI = rilpivirine, doravirine, efavirenz, etravirine**
    - **Common PI = darunavir (with EITHER cobicistat or ritonavir), atazanavir (alone, with cobicistat, or with ritonavir), lopinavir/ritonavir**

Life Expectancy Estimates for a 20-Year-Old HIV-Positive Patient Treated Early

Analysis of almost 23,000 HIV+ individuals from NA-ACCORD



A 20-year-old HIV-positive adult on ART in the US or Canada is expected to live in to their early 70's, which is a life expectancy approaching that of the general population

Samji H, et al. PLoS One. 2013 Dec 18;8(12):e81355

Let's Recap

HIV treatment landscape: Then And Now

- Nearly 1.1 million people in the US are estimated to have HIV[1]
- 75% of patients newly diagnosed with HIV are 44 years or younger[2]
- HIV requires lifelong treatment
- Prevention and/or management of comorbidities are key considerations when selecting ARV regimens
- Adherence and persistence differ between regimens and remain important factors in ARV selection

	1996	2019
% 50 years or older	<15%[2]	45%[3]
Average Life Expectancy	39 years[4]	73 years[4]
Daily Pill Burden	21[5]	1*

*Daily pill burden as low as 1 due to availability of single-tablet regimens

1. Centers for Disease Control and Prevention. https://www.cdc.gov/hivpdf/statistics/overview/cdc-hiv-us-stagiance.pdf. Accessed February 2019. 2. Linek NL. AIDS Read. 2000;10(7) 3. Centers for Disease Control and Prevention. HIV Surveillance Report, 2016; vol. 28. http://www.cdc.gov/hiv/library/report/hiv-surveillance.html. 4. Marcus JL et al. Narrowing the gap in life expectancy for HIV+ compared with HIV- individuals. CROI, Boston, abstract 54, 2016. (Expected years of life remaining at age 20 for an HIV-infected individual is 19 years from 1996-1997. Expected years of life remaining at age 20 for an HIV-infected individual is 53 years in 2011. http://www.natap.org/2016/CROI/croi_25.htm) 5. Fuller et al. AIDS Patient Care STDs. 2004;18(10):568-86.

BUT….2 Drug Treatments

- **Now, 2 drug regimens are being used for treatment as well as pre-exposure prophylaxis (PrEP)**
  - **FDA approved for TREATMENTS**
    - **Dolutegravir 50 mg/lamivudine 300 mg (Dovato®, approved for tx-naïve) 1 tab PO daily**
    - **Dolutegravir 50 mg/rilpivirine 25 mg (Juluca®, approved for patients who have been virologically suppressed on a previous ART for at least 6 months) 1 tab PO daily with a MEAL (>500 calories)**
  - **OTHER Guideline noted dual therapy**
    - **Darunavir 800 mg + ritonavir 100 mg + raltegravir 400 mg PO BID**
      - **ONLY if CD4 >200 cells/mm³ and HIV-RNA <100,000 copies/mL**
    - **Darunavir 800 mg + ritonavir 100 mg + lamivudine 300 mg PO daily**

BUT….2 Drug PrEP

- **Now, 2 drug regimens are being used for treatment as well as pre-exposure prophylaxis (PrEP)**
  - **FDA approved for PrEP**
    - **Emtricitabine 200 mg/tenofovir disoproxil fumarate 300 mg (Truvada®) PO daily**
    - **Emctricitabine 200 mg/tenofovir alafanamide 25 mg (Descovy®) PO daily**
      - **Approved for those at risk of HIV sexual acquisition EXCEPT receptive vaginal intervours**
  - **PrEP Treatments on the Horizon**
    - **Cabotegravir (~1 year) injectable for PrEP**
    - **In the further future (several years?) islatravir**

Medication Generic	Brand(s)	Combo(s)	Dose(s)	Comments/ points	Common SE	Miscellaneous/Notes
Darunavir/ cobicistat/ emtricitabine/ TAF	Symtuza®	Only as combo	800 mg/ 150 mg/ 200 mg/ 10 mg	With food	Nausea, diarrhea, rash	First and currently ONLY single tablet regimen with PI
Dolutegravir/ lamivudine	Dovato®	Only as combo	50/300 mg	w/o regard go meals	HA, insomnia, upset stomach	Drug-drug interactions with polyvalent cations (Ca^{2+}, Mg^{2+}, Al^{3+}, etc.) separate ~6 hours and/or take WITH food
Dolutegravir/ rilpivirine	Juluca®	Only as combo	50/25 mg	W/ meal >500 calories	HA, insomnia, upset stomach	DRUG interactions with acid lowering meds (H2 – ranitidine, even Tums, Maalox), contraindicated with PPI (i.e., omeprazole); counsel on separating administering, or d/c acid-lowering meds, if appropriate
Doravirine	Pifeltro®	Delstrigo (with TDF and 3TC)	100 mg	W/o regard to meals	Nausea, dizziness, HA, fatigue, diarrhea, abdominal pain, abnormal dreams	NO acid restriction (compared to rilpivirine), less CNS AE's compared to efavirenz
Ibalizumab-uiyk	Trogarzo®	n/a	2000 mg IV loading dose x1; then 800 mg IV every 2 weeks	Must be administered IN CLINIC	Diarrhea, dizziness, nausea, rash	Must be used in combination with other ARVs considered to be an "optimized background regimen" **Fill out paperwork for Trogarzo application** Very helpful phone # including patient helpline
Tenofovir alafenamide (TAF)	Vemlidy®	Descovy Odefsey Genvoya Biktarvy Symtuza	25 mg unless in Genvoya or Symtuza aka w/ "booster" then 10 mg	W/o regard to meals	Less kidney and bone concerns compared to TDF	DOES have drug-interactions with some tuberculosis meds and TDF is preferred *Note, Vemlidy ONLY HBV indication*

New ARVs in the Pipeline

Medication Generic	Combination(s)	Dose(s)	Miscellaneous/Notes
Cabotegravir	TBD	TBD	Oral med for lead in (assess tolerability) then can transition to long-acting IM suspension + rilpivirine long-acting IM suspension; tx AND PrEP (PrEP will only be cabotegravir)
Fostemsavir	TBD	TBD	For heavily treatment experienced/resistant patients Will be used in combination with other meds as optimized background regimen
Islatravir	TBD	TBD	NEW mechanism of action and has potential for dual therapy, long-acting treatment, and/or PrEP Phase III trials to enroll in the near future

Stop and think

The difference between dual antiretrovirals (ARVs) for antiretroviral therapy compared to dual ARVs for pre-exposure prophylaxis (PrEP) is that:

A. **ART = 2 of the same class; PrEP = 2 different classes**
B. **ART = 2 different classes; PrEP = 2 of the same class**
C. **No difference, ARVs for dual ART are the same as PrEP**
D. **No difference, can use any ARV for PrEP that you would use for ART**

Pearls from Various Pharmacies and Pharmacy Technicians

Walgreens C&M Specialty – One Technician's Perspective

- Rx information
  - Primary person who enters in new Rxs
  - Checks complete file/medication reconciliation
  - If possible, verifies regimen with HIV Expert RPh/PharmD on staff (AAHIVP/AAHIVM trained/certified)
    - "Sometimes MDs will send a drug by accident, so I like to double check that."
  - If a patient has commercial insurance, I will look up a copay card online for them.
  - If they have a Medicare Part D and it has a high copay and they have no sort of secondary insurance or any assistance, we advise the patient to enroll in ADAP (AIDS Drug Assistance Program) or PAN (Patient Access Network)
  - Prior Authorizations
    - Specialty = Expert RPh/PharmD will assist providers with completing PAs; may send via CoverMyMeds
    - Retail = often rely solely on the providers completing them most often via faxing provider's office.
- Inventory
  - Being well-stocked is important!
    - Varies from store to store ('specialty' vs. 'normal' retail) → have patient remind pharmacy to stock the med can help
- Filling
  - For the most part when we fill HIV drugs we label the manufacturer bottle unless it is being filled in bubble packs or if for whatever reason we are filling 28 days.
- Regimen Changes
  - Can be tricky if it's between refill cycles.
  - Will check with patient, provider, and expert RPh/PharmD to assess if change can wait or should be shipped ASAP

Walgreens C&M Specialty – One Technician's Perspective

- Calendar reminders
  - Patients with compliance/adherence issues
    - Calls weekly or monthly (reaching out for refill reminders)
    - Helps with refill reminders as well
  - Encouragement and open communication
  - Encourage patients to follow up with their providers on a regular basis to prevent them from running out of refills.
- Proactively reach out to providers for refills reminders, here is the process:
  - When patient comes due for refills 30 days after last dispense
  - User processes an order for patient and notices that there are no remaining refills on file
    - Ideally have refills on file so no delay/interruption in therapy
  - User creates a task for follow up one week later
  - Follow up one week later and attempt to reach provider for proactive refills for up to 3 attempts until refills are approved/denied.
    - If denied we reach out to patient and advise them to follow up with provider hopefully well before they are due for their next refill

Wood Street PCC Pharmacy

- Entering the Rx
  - Once insurance information is entered into patient's profile, we are then able to enter the prescription and submit the claims accordingly
- Billing Insurance
  - Obtain Patient Insurance Information which can be done the following ways:
    - looking into patient's medical record and searching for any insurance cards that may have been scanned in during clinic visits or any hospital admissions
    - requesting insurance card directly from patient
    - We are able to use Passport One Source which a site that assist in searching for patient's active coverage (most useful for patients with public aid and Medicare plans)
  - When collecting insurance information, the primary processing information that must be obtained are the BIN#, PCN#, Patient ID#, and Group#.
    - If any of these numbers are missing then we are unable to process the prescriptions through patients insurance.
- Reasons why a processed prescription may not go through insurance
  - Insurance information may not be entered correctly
  - DUR rejections
    - These rejections flag the pharmacist of any possible drug-drug interactions, drug-disease state interactions, etc.
    - When these rejections come up, pharmacist must put in appropriate override codes to acknowledge that we looked into to the interaction to ensure that it poses no harm to patient if filled as written.
    - In the event that Rx should not be filled due to the interaction that comes up—we usually follow up with the doctor or patient at that time and hold off on filling the Rx until we receive clarification from MD
  - Refill too soon rejection
  - Prior Authorization
    - Expensive meds or "specialty" meds which most times HIV meds fall under this category
    - In this care, the prescribing MD or representative must submit clinical information to the insurance company to justify as to why the patient needs the medication

Wood Street PCC Pharmacy

- Billing Copay Cards
  - There are several HIV meds that have copay cards and copay assistance available in which patients can apply for. When billing these copay cards the process is very similar to billing commercial insurance.
  - The copay card must be applied for which is typically done either by patient or health care provider online.
  - Similar to insurance, we have to obtain BIN #, PCN#, Patient ID#, and Group# which is provided once registration is completed.
    - Again if any of these numbers are missing, then we are unable to process the copay card
  - Some copay cards work almost as an individual coverage and some work in conjunction with patient insurance in which you have to bill both the insurance and the copay card which will cover the balance.
    - Must bill pt's INSURANCE FIRST and THEN COPAY CARD, otherwise will use up copay card amount in 1-3 fills (depending on amount on card and cost of med[s])

Common Themes?

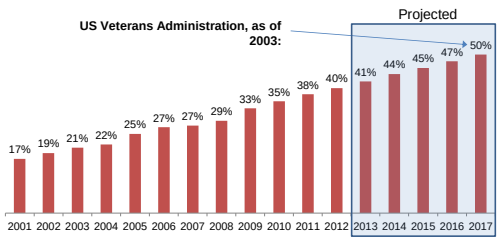
- Insurance
- Prior Authorizations
  - Can assist with completing on own, or request assistance with clinical team
- Copay cards
  - Searching independently
  - Activating accordingly
  - Billing correctly!
- Stocking meds
  - Be proactive!
- Proactive refills, phone calls, adherence, and tolerability assessments

Polypharmacy and Other Roles

Living with HIV

Nearly Half of HIV-Positive Persons in US Estimated to be >50 Years Old by 2017

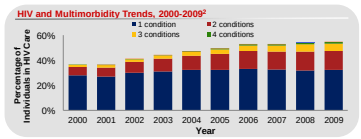
Projected Proportion of PLWH in US, 50+ Years Old* 2001-2017



Centers for Disease Control and Prevention. *HIV Surveillance Report, 2013*; vol. 25. http://www.cdc.gov/hiv/library/reports/surveillance/. Published February 2015. Accessed July 28, 2015

Comorbidities and their risk factors are important considerations for selection of ARVs

- Older adults (>50 years) with HIV represent a growing population[1], with an increased risk of co/multimorbidities, such as chronic kidney disease[2], cardiovascular disease[3], and osteoporosis[3]
- The proportion of HIV+ patients with comorbidities **is increasing over time**, across age groups and payer types[2,4]
- People living with HIV have similar prevalence of comorbidities as that of HIV- individuals who are 10 years older[5]



With patients living with ART for decades, bone, kidney, and cardiovascular health are important factors for selection of ARV regimens

1. UNAIDS. People aged 50+ living with HIV. http://aidsinfo.unaids.org/. Accessed January 2015. 2. Nth-ACORD. Clin. Infect Dis. 2016; 66(8):1230-1238. Comorbidities included: hypertension, type-2 diabetes, CKD, hypercholesterolemia, ICLD, NON-AIDS-related malignancies. 3. Escota GV, et al. Int J Infect Dis. 2016;50:56-64. 4. Gallant J, et al. J Infect Dis. 2017;216(12):1525-1533. 5. Guaraldi et al. Clin Infect Dis. 2011; 52(11):1-1

Common Rx Drug-Drug Interactions

	NRTI	NNRTI	PI and cobicistat boosted-EVG	INSTI (NOT EVG)	Notes
"Statins"			CONTRAINDICATED w/ simvastatin or lovastatin		Atorvastatin or rosuvastatin may be used, but at lower doses (i.e., max atorvastatin is 20 mg; consult DHHS guidelines) Preferred = pravastatin or pitavastatin
Other ARVS	Never lamivudine and emtricitabine together	Never 2	Never 2	Never 2	Consult DHHS HIV guidelines
Phenytoin, carbamazepine	Consult DHHS guidelines				Typically prefer levetiracetam
Hepatitis C	Consult DHHS guidelines and/or HCV guidelines				
Anticoagulants		May prefer doravirine or rilpivirine	MANY interactions; consult DHHS guidelines		
Corticosteroids			DO NOT coadminister fluticasone, betamethasone, budesonide, mometasone Inhaled or intranasal		Beclomethasone inhaled and intranasal okay
Long Acting Beta Agonist			Salmeterol NOT preferred with boosted regimen		
BPH			Tamsulosin NOT preferred; Alfuzosin and silodosin = CONTRAINDICATED with boosted		

Common OTC Drug-Drug Interactions

	NRTI	NNRTI	PI and cobicistat boosted-EVG	INSTI (NOT EVG)	Notes
Polyvalent Cations (e.g. Tums, Maalox, Mylanta, multivitamin)			Atazanavir (Reyataz or Evotaz) with Tums	Concern for chelation/binding; most require separation some should be avoided (RAL and AI or Mg)	
Acid Lowering Medications		rilpivirine (separate RPV 4 hours before or 12 hours after H2; separate RPV 4 hours before or 6 hours after antacid; contraindicated with PPI like omeprazole)	atazanavir (separate ATV 2 hours before or 10 hours after H2; separate ATV 12 hours from PPI/avoid if possible, not recommended in PI-experienced)		
St John's Wort	NO!				NO!!

Stop and think

A pharmacy technician's role with a person living with HIV is:

A. defer the Rx, including entering, insurance, and adjudication for the senior tech.
B. filling any med they can for the patient regardless of fill cycle, complete/full regimen, or change in regimen.
C. no different than providing pharmacy care to a person without HIV.
D. to recommend the patient be seen at an HIV specialty pharmacy.

Summary

- Antiretrovirals can be intimidating, but there are plenty of references or people for assistance!
- Typically want a total of 3 ARVs from 2 different classes
  - Often emtricitabine/TAF + an integrase inhibitor (bictegravir, dolutegravir, raltegravir, or elvitegravir/cobicistat)
  - Cobicistat and ritonavir do NOT COUNT as 1 of 3 ARVs
- Two drug regimens may trick us
  - The ONLY FDA-approved 2 drug regimens currently for TREATMENT = dolutegravir/lamivudine or dolutegravir/rilpivirine
  - The ONLY FDA-approved 2 drug regimens for PrEP = emtricitabine/tenofovir disoproxil or emtricitabine/TAF
- Insurance and prior authorizations can limit patient access to meds
- Be proactive with
  - Restocking/ordering ARVs/ARTs on shelves
  - Activating copay cards for patients
  - Phone calls for adherence and refills
- Look at what else the patient has on their profile or purchasing OTC

Other Resources

- AIDS Education & Training Center Program National Coordinating Resource Center
  - https://aidsetc.org/
  - Also has National HIV Curriculum (FREE!)
- Drug-Drug Interactions
  - Guidelines - https://aidsinfo.nih.gov/
    - Including tables that are very user friendly
  - https://www.hiv-druginteractions.org/
    - University of Liverpool, also very user friendly
- HIV, STI, HCV, mental health, PrEP and others (MATEC)
  - https://uofi.app.box.com/v/matechivresources
  - https://aidsetc.org/

Thank you