



Northeast & Caribbean (HHS Region 2)

**ATTC**

Addiction Technology Transfer Center Network  
Funded by Substance Abuse and Mental Health Services Administration

## *WEBINAR SERIES*

### HIV/AIDS Today:

What you need to know when  
providing services to individuals with  
HIV/AIDS

(Part One)

Presented live August 7, 2018



## *Mary McCarty-Arias, M.A., CRC*

More than 25 years experience training in co-occurring disorders, HIV, and vocational rehabilitation.



*This webinar training is provided under New York State Office of Alcoholism and Substance Abuse Services (OASAS) Education and Training Provider Certification Number 0115. Training under a New York State OASAS Provider Certification is acceptable for meeting all or part of the CASAC/PPP/CPS education and training requirements.*



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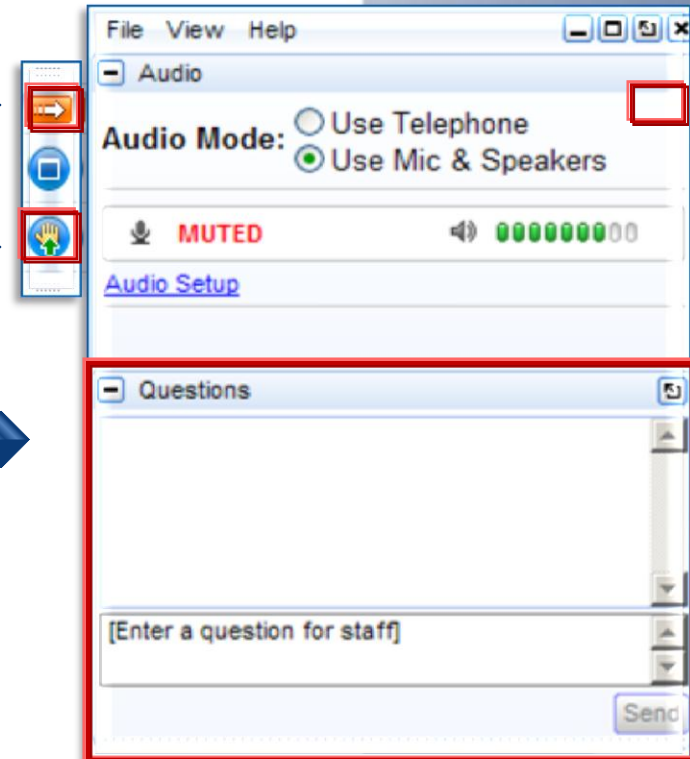
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# *Webinar Logistics:*

- Control Panel ➔
- Raise your hand ➔
- Q & A ➔





*Write in...*

What would you  
like to learn  
today?







# Goals

- Increase knowledge about HIV/AIDS from definition, transmission, and treatment adherence
- Review information about the important advancements in HIV prevention: U=U, PreP, and PEP





# Agenda – Part 1

- Introduction
- HIV 101: definition, basics of the immune system and transmission





# Objectives – Part 1

- Define HIV/AIDS
- State how HIV is transmitted and not transmitted
- Identify fluids that contain enough HIV to infect another person
- Review parts of the immune system







# Objectives – Part 2

- Describe the terms “viral load” and “CD4”
- Define HIV treatment adherence & why it is important
- List reasons people adhere to medications & barriers to adherence
- Describe the latest information U=U (Undetectable vs. Untransmittable) & what that means for people with HIV
- State the purpose of PrEP & how it is used in HIV prevention
- State the purpose of PEP & how it is also used in HIV prevention





## Ending the AIDS Epidemic in NYS by 2020



- Decrease new HIV infections
- “The end of the AIDS epidemic in New York will occur when the total number of new HIV infections has fallen below the number of HIV-related deaths.”



## 3 Pillars

1. Identifying persons with HIV who remain undiagnosed
2. Linking & retaining persons to health care & getting them on anti-HIV therapy to maximize HIV virus suppression so they remain healthy & prevent further transmission
3. Providing access to Pre-Exposure Prophylaxis (PrEP) for high-risk persons to keep them HIV negative.”





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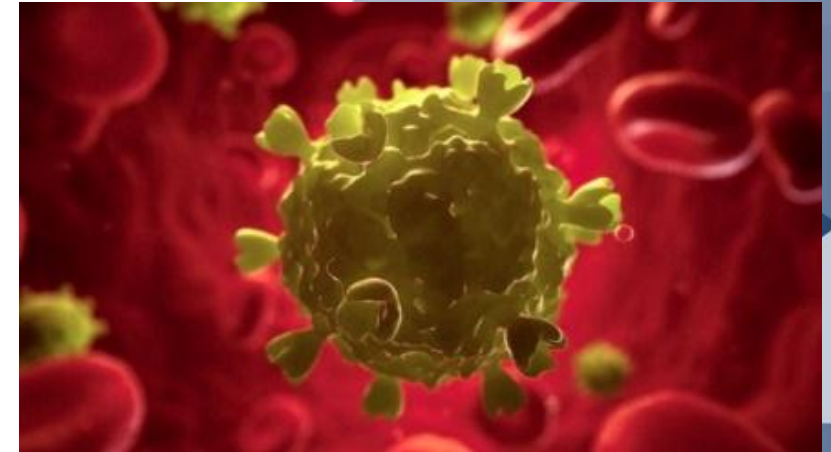
# HIV/AIDS 101





# What is HIV?

- HIV stands for Human Immunodeficiency Virus
- HIV is a virus that can weaken the immune system
- Lifelong infection
- No vaccine
- Needs a warm, moist, dark place to grow





# What is AIDS?

Acquired  
Immune  
Deficiency  
Syndrome







# An AIDS Diagnosis

HIV infection and 1 indicator disease

OR

HIV infection and T-cells less than 200

Once you have an AIDS diagnosis, you always have it even though you might feel better



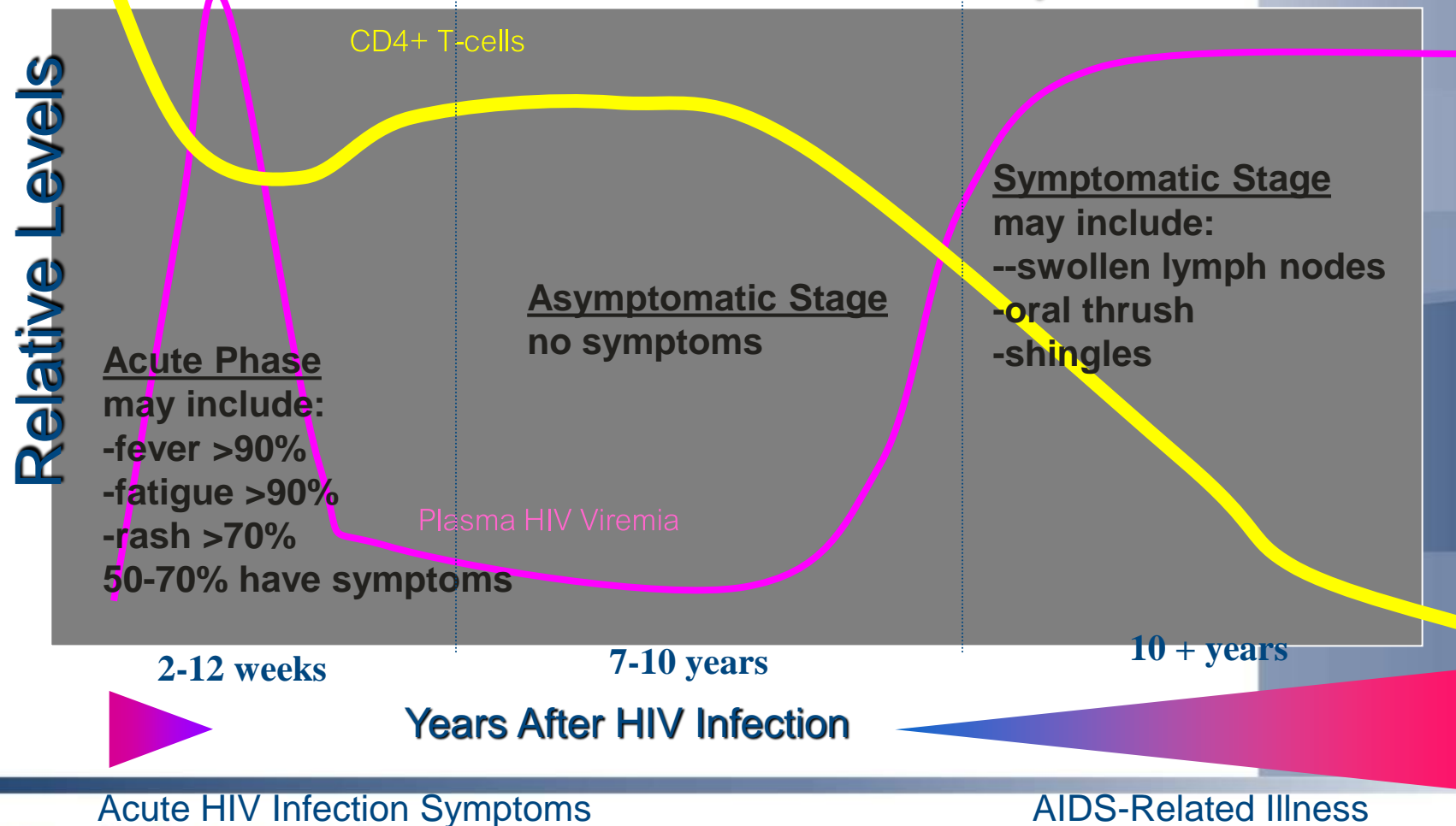
# AIDS Indicator Diseases

Certain types of infections which may be caused by:

- Parasites (PCP)
- Viruses (CMV)
- Fungi (Candida)
- Bacteria (TB)
- Wasting syndrome
- Dementia
- Certain types of cancers (KS, invasive cervical cancer)



## Natural Course of HIV Infection w/o Treatment





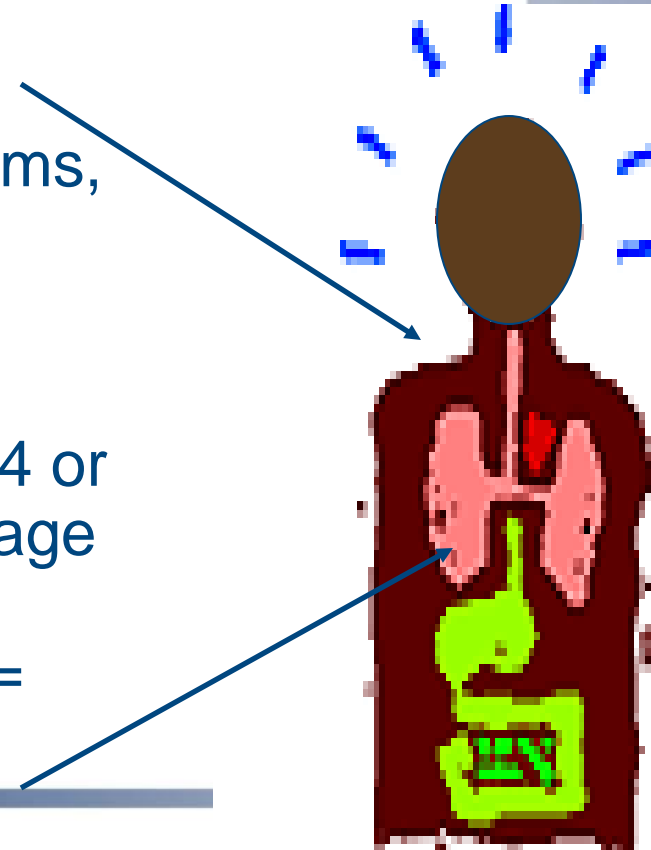
# Immune System

## External

- skin (protects against germs, viruses, & bacteria)

## Internal

- various cells such as CD4 or T-cells, B cells, macrophage cells
- healthy immune system = 800-1200 T-cells





# Functions of the CD4 or T-cell

CD4 cell, T-cell, or helper cell:

- type of white blood cell
- major role in immune response



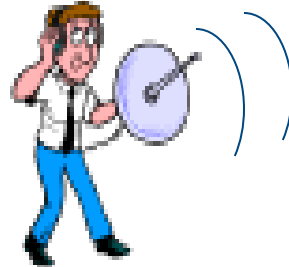


## How Does a Healthy Immune System Work?

**Macrophage cells-** scavengers that collect foreign antigens



Macrophage cells-  
sends out a signal  
to the helper cells



CD4/T-cell or helper cell-  
“The Helper” instructs the B  
cells to plan a response



B cells- fights  
germs by making  
plastic mold  
particles of the  
germ called  
antibodies



T8 suppressor cells- tells your body  
that the germ is gone & your body will  
remember or take a picture of the  
antibodies

Macrophage cells- takes the germ away



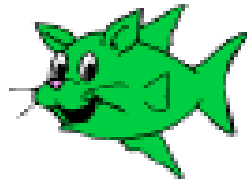
Antibodies- surround the germ, like  
a lock and key preventing it from  
infecting





# How Does HIV Affect the Immune System?

HIV- virus that needs a host in order to live & replicate



HIV's receptor sites connect to the T-cells' receptor sites like a lock & key



HIV attaches, penetrates, integrates & replicates in the CD4/T-cell and....

**Slows down or stops the immune system from functioning!**

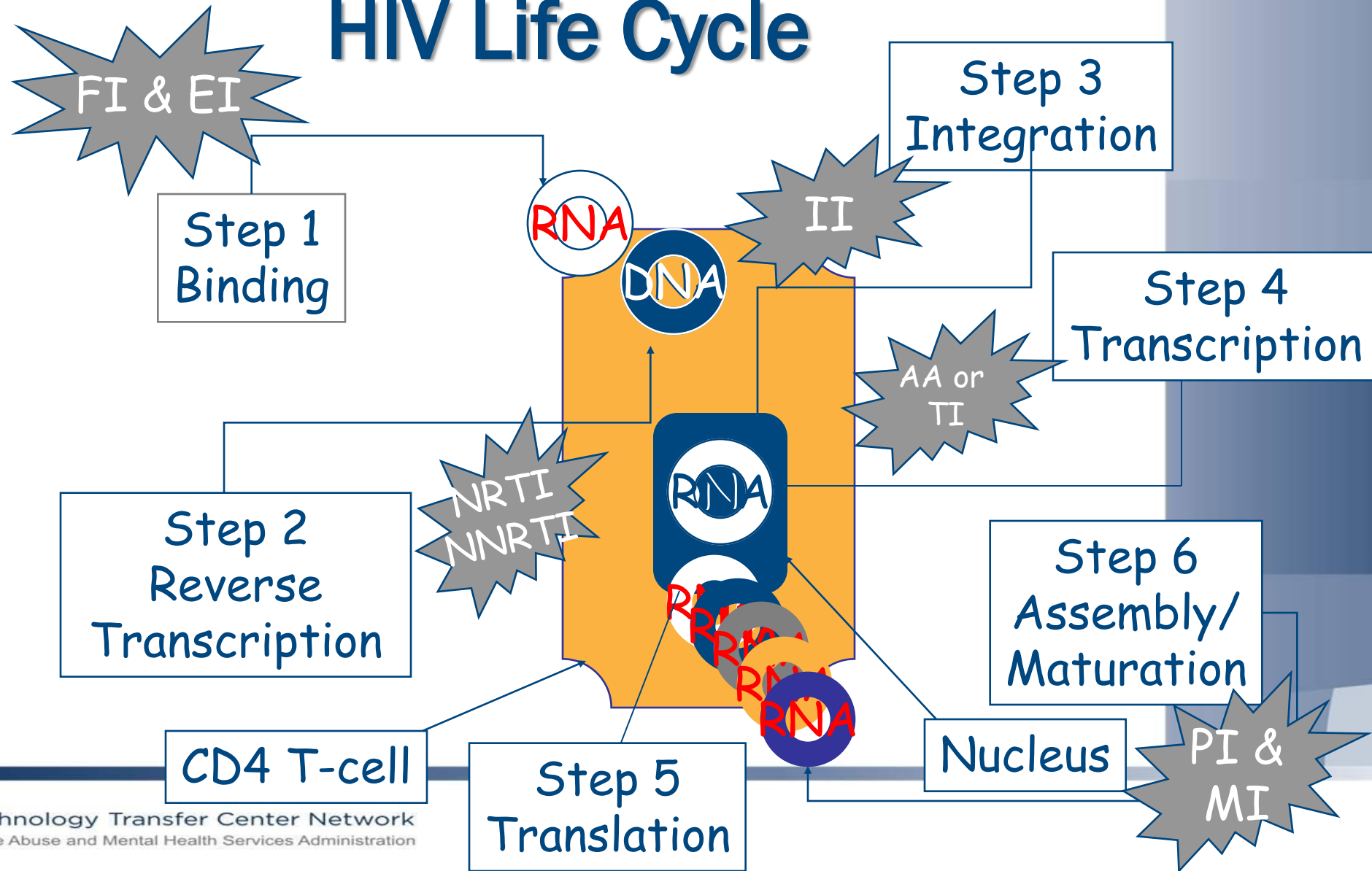


# Important Steps of HIV Life Cycle

1. Binding
2. Reverse Transcription
3. Integration
4. Transcription
5. Translation
6. Viral Assembly & Maturation



# HIV Life Cycle





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# HIV Transmission





# Fluids that have Enough HIV to Infect a Person

- Blood
- Semen
- Vaginal fluids
- Breast milk
- Fluid around body parts (brain, joints, etc.)





# HIV Transmission Behaviors

How HIV **is** transmitted:

Anal, vaginal, & oral intercourse

Sharing needles or works

Mother to infant

- Labor & delivery
- Pregnancy
- Breast feeding

Occupational exposure

How HIV **is not** transmitted:

Kissing

Toilet seats

Hugging

Holding hands

Donating blood & body parts





# Write In.....

- For each activity that I say, please write in “low”, “moderate”, or “high risk” for HIV.
- What risk-reduction activities would you recommend?







**If you are sharing a  
computer, please  
remember to type all  
names in!**

***Thank you!***



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# ***HIV/AIDS Today: What you need to know when providing services for individuals with HIV/AIDS***

## ***End of Part One***

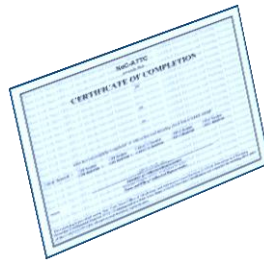
***Part two will take place on August 14, 2018***

**Presenter:**

Mary McCarty-Arias, M.A., CRC  
Program Manager/Senior Trainer

**Organizer:**

Clyde Frederick  
Technologist/Program Support



**A follow-up email** will be sent to your in-box one hour after part 2 on August 14, 2018. Please complete your evaluation to receive your OASAS "Certificate of Completion". It will only take a few minutes. This course provides 3 CASAC hours.



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## *WEBINAR SERIES*

# HIV/AIDS Today:

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# *Welcome Back!*







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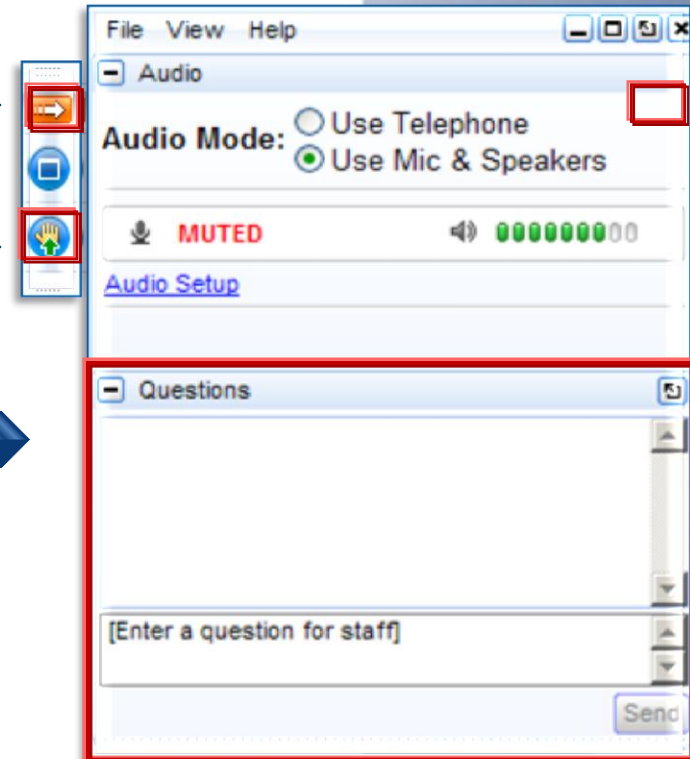
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# *HIV Treatment*



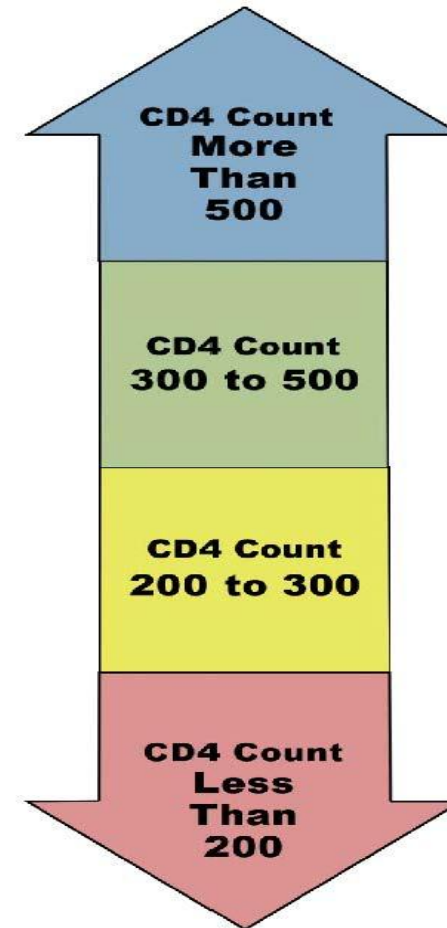




# ***What is a CD4 Count?***

More CD4 cells = stronger immune system

Fewer CD4 cells = weaker immune system

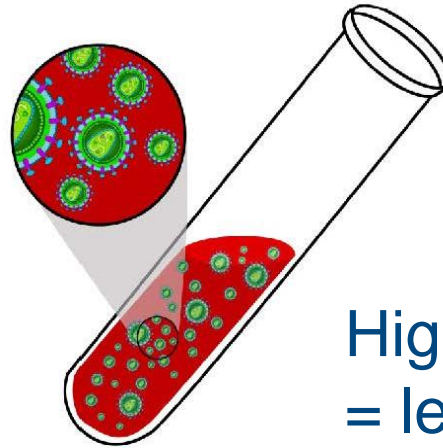
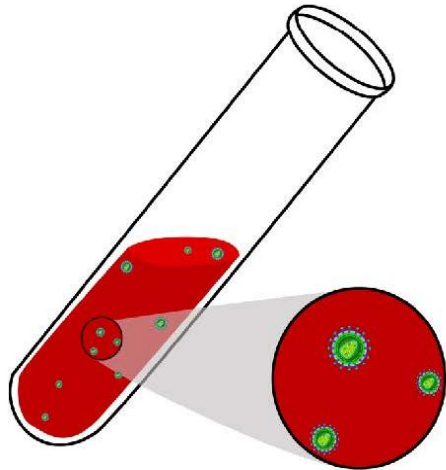




# ***What is Viral Load?***

*Viral Load is the amount of HIV in your blood*

Low viral load  
= healthier



High viral load  
= less healthy





# ***HIV Treatment***

- HIV Treatment is the use of medications to interfere with the ability of HIV to replicate
- Antiretroviral treatment (ART) uses a combinations of antiretroviral drugs
- Recommendations from CDC & DOH suggest that people start medications as soon as they find out they are HIV infected



## ***HIV Treatment (continued)***

- Designed to slow down HIV reproduction
- Can help your immune system stay stronger
- Does not eliminate or cure HIV infection



# ***Websites for Current Antiretrovirals***

[www.health.state.ny.us/publications/staying\\_on\\_schedule.pdf](http://www.health.state.ny.us/publications/staying_on_schedule.pdf)

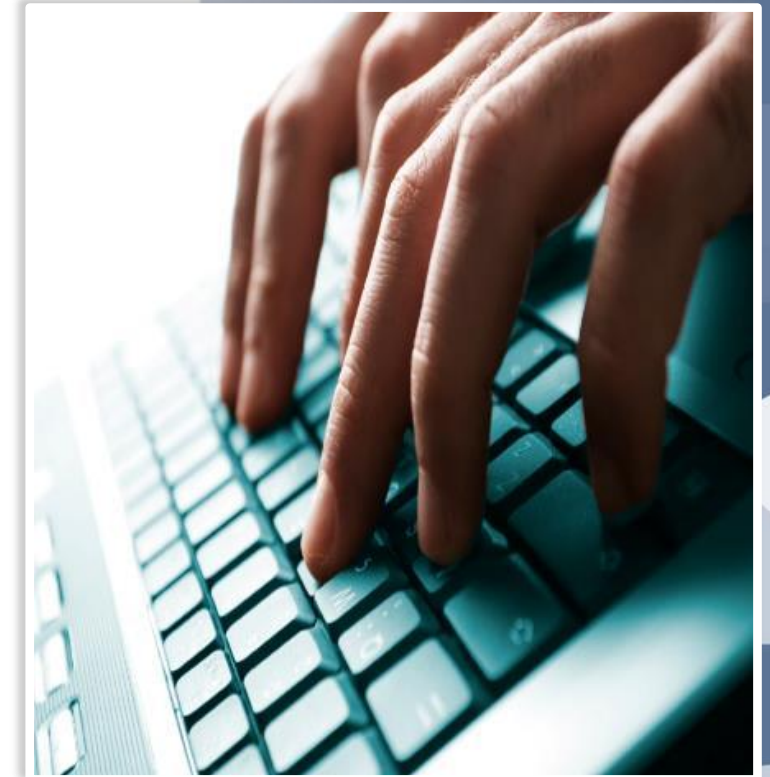
[www.aidsmeds.com/list.shtml](http://www.aidsmeds.com/list.shtml)



# *Write in...*

## Have you...

1. Ever told your doctor that you took all of your medications when you didn't?
2. Ever taken more or less of a medication despite instructions?
3. Ever decided not to take a medication because you didn't trust your doctor?

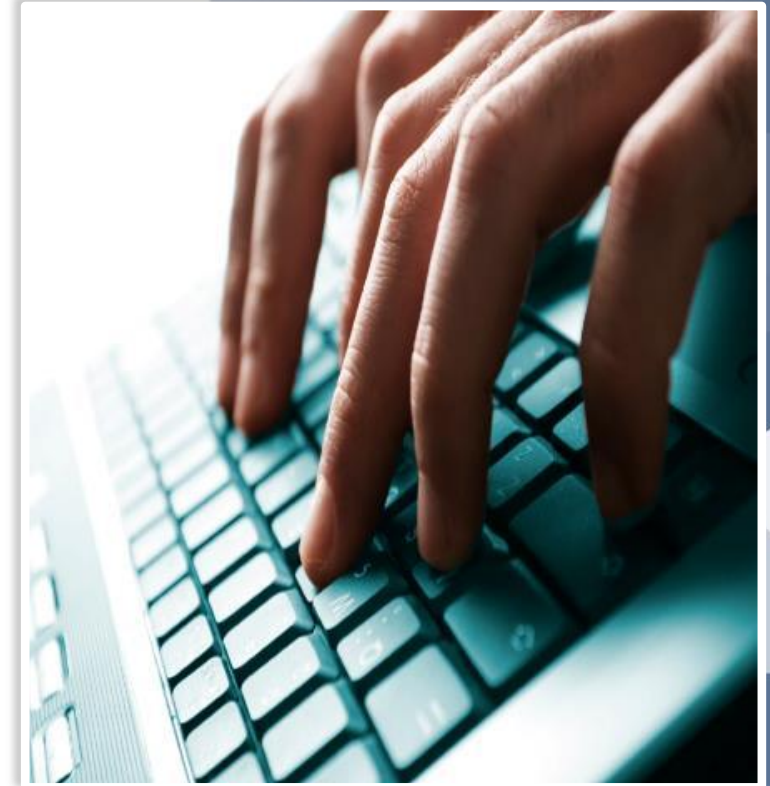




## *Write in...*

### Have you...

4. Ever needed help from family & friends re: medication?
5. Ever forgotten to take your medication?





# *Treatment Adherence*

- Taking the correct medications
- Taking medications at the prescribed time every day (on schedule)
- Taking the full dose as prescribed
- Following any dietary restrictions
- Avoiding herbs, supplements and other medications that cause interactions





# ***Why Adherence Matters***

- In order to stop HIV from reproducing, the proper amounts of medication must get into the body
- Specifically, the drug needs to be at the proper level in the blood - inhibitory concentration (IC)
- If the concentration is allowed to drop, HIV will reproduce unimpeded
- If this occurs too often, HIV can mutate and develop drug resistance to anti-retrovirals





# ***Drug Resistance***

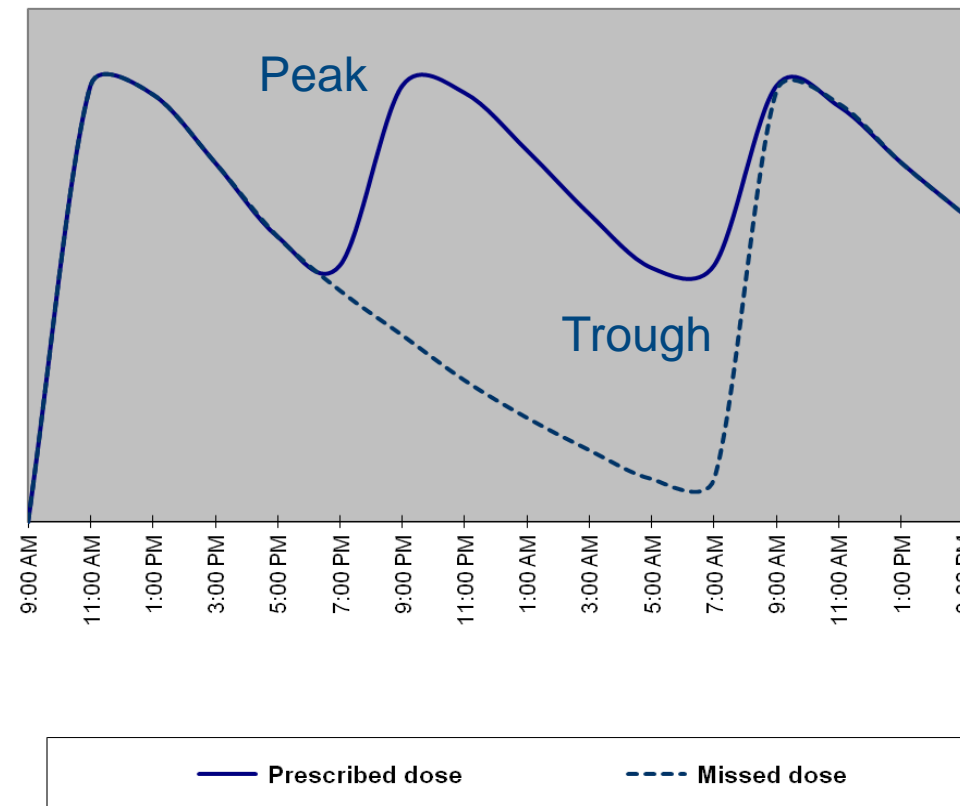
If HIV continues to reproduce during treatment, it can change – or mutate – making an antiretroviral ineffective.

This is called drug resistance.



## *Taking the incorrect dose inconsistently can cause problems:*

- Taking too much of a drug can cause toxic side effects
- Not taking enough allows the virus to replicate, possibly leading to resistance



Inhibitory  
Concentration



# What are factors that negatively affect treatment adherence?





# *Reasons People Miss Doses*

- Fear of side effects
- Feeling sick from side effects
- Work or travel schedules
- # of pills & with or without food
- Lifestyle issues
- Mental health issues
- Substance use



# ***Additional Reasons***

- Caretaker issues
- Lack of understanding about dosing schedules
- Poor communication with PCP, support service provider
- Distrust of health care system
- No access to health care
- Lack of social support



# *Possible Side Effects of Medications*

- Fatigue
- Anemia
- Diarrhea, nausea, or vomiting
- Dizziness or headaches
- Insomnia
- Pain and nerve problems
- Skin rashes
- Injection site reactions
- Dry mouth
- Weight loss
- Vivid dreams



# ***Some Advice on Side Effects***

- Discuss with doctor!
- Deal with other factors that contribute to them, such as smoking or diet
- Treat the side effect itself
- Change to another treatment regimen or change the dose or ways a person is taking the medication





# What are Factors that Positively Affect Treatment Adherence?





# ***Factors that Help Adherence***

- Teamwork on behalf of providers
- Belief in anti-retrovirals
- Understanding dosing schedules
- Positive communication with providers
- Simpler treatment regimens
- Preparation for side effects
- Routine behaviors



## ***Factors that Help Adherence*** (continued)

- Mental health treatment
- Substance use treatment
- Secure housing
- Employment
- Deciding to be adherent
- Identifying & addressing challenges to adherence
- Social support systems
- Adherence aides



# ***Adherence Readiness***

- Process of evaluating and exploring personal, psychological, emotional, and logistical factors before beginning antiretroviral therapy
- Treatment is most successful if a person is prepared to participate in treatment
- Clients have the right to self-determination



# ***Co-Existing Disabilities***

- Substance Use Disorder
- Mental Health Disorder
- Hepatitis C



# ***Commonalities***

- High stigma
- People blame you for getting these disorders
- One may influence the other positively
- One may influence the other negatively
- Poverty
- Cultural barriers to seeking treatment
- Lack of access to treatment





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# *HIV Prevention*





# ***CDC Latest Information***

U = U

Undetectable = Untransmissable



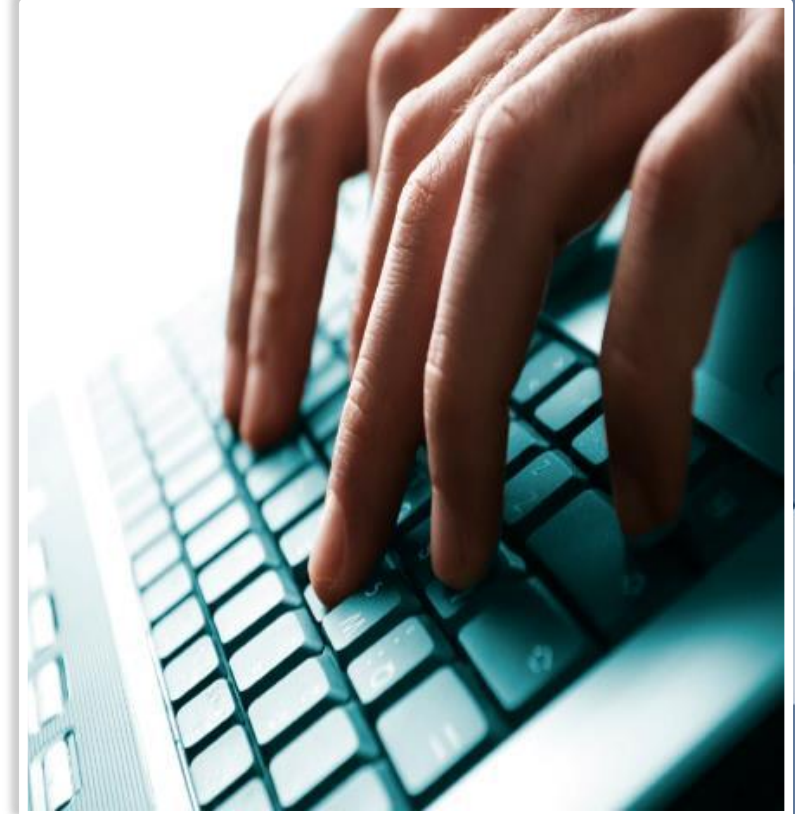
# ***What does undetectable mean?***

- ***Undetectable*** – the level of HIV in a person's blood is so low that it doesn't show up on a viral load test
- A person needs to be undetectable for 6 months



*Write in...*

Should a person still use  
condoms?





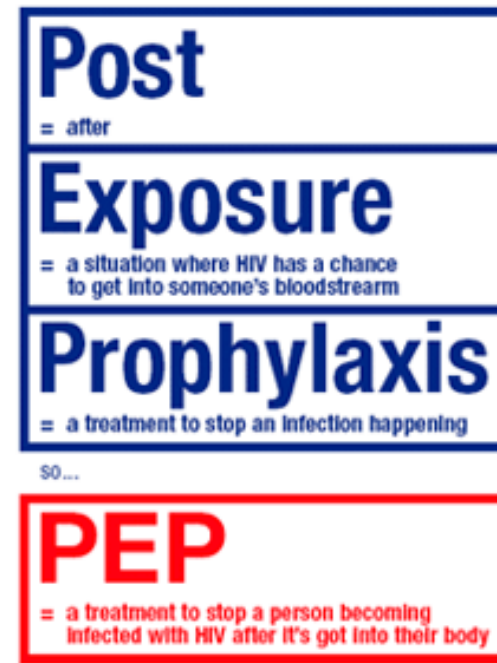
## *Reasons to use condoms*

- It depends.....
- Condoms protect against other STIs and unintended pregnancy



# ***PEP: Post-Exposure Prophylaxis***

- Taking HIV meds **AFTER** exposure
- Effective in open-label studies
- Vaginal or anal sex, sharing needles
- CDC: 72 hours / NYC: 36 hours
- NYS: Truvada + Isentress or Tivicay
- Few side effects
- Take for 28 days







# ***PrEP: Pre-Exposure Prophylaxis***

- Taking HIV meds **BEFORE** exposure
- Only for people with recent documented negative HIV test
- Once a day
- With or without food
- Good safety record
- Limited side effects







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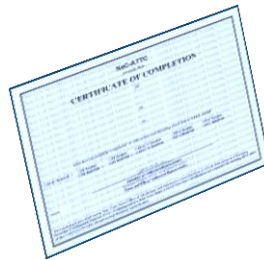
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