BIOMEDICAL PREVENTION: NON-OCCUPATIONAL POST EXPOSURE PROPHYLAXIS (NPEP)

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Speaker: The following speaker has nothing to disclose in relation to this activity: Orlando O. Harris, PhD., RN, FNP, MPH
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CME Disclosures:
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ATTN: Project Coordinator. Please indicate in your email or FAX if you would like to receive CMEs.
TEST YOUR KNOWLEDGE
A patient is started on nPEP and the baseline HIV test comes back showing the person is positive. The clinician should:

A. Immediately stop the nPEP regimen  
B. Request a confirmatory HIV test  
C. Add an additional antiretroviral to the nPEP regimen  
D. Repeat the test using a rapid HIV test
Which regimen is preferred to nPEP?

A. A triple nucleoside combination
B. Dolutegravir, tenofovir, emtrictibine
C. Atripla
D. Kaletra/Combivir
A patient presents to the ER for testing suspecting they may have acute HIV infection. What single test would be most useful in determining this?

A. A viral load (HIV RNA)
B. A western blot
C. A fourth-generation HIV test
D. A home HIV test
LEARNING OBJECTIVES

Upon completion of this webinar, participating providers will be able to:

1. Discuss CDC guidelines for non-occupational HIV post-exposure prophylaxis (nPEP)
2. Discuss timing of Post Exposure Prophylaxis treatment initiation
3. Describe post-exposure prophylaxis therapy and side effects
4. Explain transmission risks for various nPEP exposures.
5. Identify the dynamics of HIV transmission and early infections and select tests likely to be most accurate based on the patient's stage of infection
6. Assess the level of risk of transmission for a patient presenting for nPEP
EPIDEMIOLOGY OF HIV AMONG COLLEGE-AGED YOUTH (18-24*)
HIV AMONG YOUTH (13-24)

- Youth aged 13-24 accounted for more than 1 in 5 new HIV diagnoses in 2015.
- Young people in that same age group accounted for 22% of all new HIV diagnoses in the United States.
- Most of those new diagnoses among youth (81%) occurred among gay and bisexual males.
- Black and Latino gay and bisexual males are disproportionately affected.
- Within this bleak landscape, we are seeing some progress.
  - Estimated annual HIV infections fell 18% among young gay and bisexual males from 2008-2014.

CDC, 2017
ESTIMATED NEW HIV DIAGNOSES AMONG YOUTH AGED 13-24 IN THE UNITED STATES, BY RACE/ETHNICITY AND SEX, 2014

HIV DIAGNOSES IN THE UNITED STATES FOR THE MOST-AFFECT SUBPOPULATIONS, 2015

Source: Diagnoses of HIV infection in the United States and dependent areas. 2015
From 2005 to 2014, HIV diagnoses among both Black and Hispanic/Latino gay and bisexual men aged 13 to 24 increased about 87%.

Among young White gay and bisexual men, HIV diagnoses increased 56%. However, the most recent 5 data (2010-2014) indicate that the diagnoses among Black and White gay and bisexual men aged 13 to 24 have stabilized and the increase has slowed to 16% among Hispanic/Latinos.

In 2014, an estimated 1,716 youth aged 13 to 24 were diagnosed with AIDS, representing 8% of total AIDS diagnoses that year.
HIV AMONG YOUTH (13-24)

According to the CDC, 8,807 youth were diagnosed with HIV in the United States in 2015:
- Eighty percent (7,084) of those diagnoses occurred in persons aged 20 to 24.

Among youth diagnosed with HIV in 2015, 81% (7,109) were gay or bisexual males:
- Of the newly diagnosed males, 55% (3,888) were black, 24% (1,672) were Hispanics/Latino, and 16% (1,159) were white.

A total of 1,489 youth were diagnosed with AIDS, representing 8% of the total AIDS diagnoses in 2015.
Risk Factors that put college students at a risk for HIV infection

- Peer pressure
- Lack of maturity
- Alcohol and drug use multiple sex partners
- Inconsistent condom use (vaginal, anal, oral - *Dental Dams; Cervical caps; Diaphragms*)
- Tendency to combine alcohol and/or other drugs with their sexual experiences
- Limited communication among partners about safer sex
- Intimate partner violence

PREVENTION CHALLENGES

➢ Inadequate sex education
  ▪ The status of sexual health education varies throughout the United States
  ▪ Many curricula do not include prevention information for young gay and bisexual youth
  ▪ Sexual education is not starting early enough

➢ Risk behaviors
  ▪ Low rates of testing
  ▪ Substance use
  ▪ Low rates of condom use and increase number of partners

➢ High rates of sexually transmitted infections (STIs)
  ▪ Some of the highest rates of STIs are seen among youth of color aged 20 to 24
  ▪ The presence of another STI greatly increases the likelihood that a person exposed to HIV will become infected
PREVENTION CHALLENGES

- **Stigma around HIV**
  - A 2012 Kaiser Foundation survey indicated that 84% of youth aged 15-24 said there is stigma around HIV in the United States
  - This could mean that they are not comfortable discussing their status with others and talking with their partners about ways to protect themselves from HIV
  - For gay and bisexual youth who are just beginning to explore their sexuality, homophobia can pose obstacles to utilizing HIV prevention services, testing, and treatment

- **Feelings of isolation**
  - Gay and bisexual high school students may engage in risky sexual behaviors and substance abuse because they feel isolated and lack support
  - They are more likely than heterosexual youth to experience bullying and other forms of violence
BIOMEDICAL PREVENTION: NON-OCCUPATIONAL POST EXPOSURE PROPHYLAXIS (nPEP)
The most important methods for preventing HIV infection are those that protect against exposure.

- However, antiretroviral therapy cannot replace behaviors that help avoid HIV exposure.
  - Sexual abstinence, sex only in a mutually monogamous relationship with an HIV-uninfected partner, consistent and correct condom use, abstinence from injection drug use, and consistent use of sterile equipment by those unable to cease injection use.

- Provision of ART medication after isolated sexual, IDU, or other nonoccupationally HIV exposure is less effective at preventing HIV infection than avoiding exposure.

- Non-occupational post-exposure prophylaxis (n-PEP) involves taking antiretroviral medicines (ART) after being potentially exposed to HIV to prevent becoming infected.
In the early 1990s, medications were given to HIV positive expecting mothers to prevent HIV from being transmitted to their unborn child.

- This innovative approach led to a 90% decrease to maternal-to-child transmission of HIV in the United States
  - As a result, today, infected moms have a less than 1% chance of infecting their baby

In the mid-1990s, the introduction of highly active antiretroviral therapies (HAART) expanded the life expectancy in people living with HIV

In the 1990s, post-exposure prophylaxis was used for the prevention of HIV in persons who were occupationally exposed to HIV

Grant et al., 2010; UCSF, 2015
In the early parts of 2000s, research evidence emerged that showed that treatment of HIV-positive people could keep their HIV-negative partners uninfected.

- This supported the rational for treatment as prevention
- HIV Prevention Trials Network (HPTN) 052 study (2011) found a 96% reduction in HIV acquisition in sero-discordant relationships.

Grant et al., 2010; UCSF, 2015
The United States Department of Health and Human Services (DHHS) released its first recommendations for n-PEP use to reduce the risk for HIV infection after exposure to blood, genital secretions, and other body fluids that may contain HIV in 2005.

This is different from occupational post-exposure prophylaxis or oPEP, which is used in the management of persons with possible exposures as a result of their work in health care settings. These guidelines are different from nPEP and as a result should not be used for persons outside of health care settings.
HISTORY AND EVIDENCE OF n-PEP EFFECTIVENESS

- No randomized, placebo-controlled clinical trial of n-PEP has been conducted.

- Data relevant to n-PEP guidelines are available from animal transmission models, perinatal clinical trials, observational studies of health care workers receiving prophylaxis after occupational exposure, and observational and case studies of n-PEP use.

- The data as continued to support the assertion that n-PEP initiated soon after exposure and continued for 28 days with sufficient medication adherence can reduce the risk for acquiring HIV infection after non-occupational exposure.
LESSONS LEARNED FROM oPEP STUDIES?

- A case control study demonstrating an 81% (95% confidence interval = 48% - 94%) reduction in the odds of HIV transmission among health care workers with percutaneous exposure to HIV
  - After they have received zidovudine (ZDV)

- Due to the ethical and operational challenges, no randomized controlled trials have been conducted to test the efficacy of n-PEP directly -
  - In the absence of a randomized controlled trial for nPEP, this case-control report the strongest evidence of benefit of antiretroviral prophylaxis initiated after HIV exposure in humans
In the majority of the studies, failure of nPEP, defined as HIV seroconversion despite taking nPEP as recommended, was typically confirmed by a seronegative HIV enzyme-linked immunosorbent assay (ELISA) at baseline visit. This is followed by a positive ELISA and Western blot or indirect fluorescent antibody (IFA) during a follow-up visit.

Subgroups
- Men who have Sex with Men (MSM)
  - Based on 1 case report and 6 studies reporting results exclusively or separately among MSM, 49 seroconversions were reported after nPEP use.
  - The case report from Italy described an nPEP failure in an MSM despite self-reported 100% adherence to his 3-drug regimen consisting of ZDU, lamivudine (3TC), and indinavir (IDV) and denial of ongoing HIV risk transmission behaviors after completing nPEP.
    - Consistent hepatitis C virus seroconversion was also diagnosed.
  - In the 6 studies, 48 of 1,535 MSM participants became HIV infected despite nPEP use. At least 40 of the 48 seroconversions likely resulted from ongoing risk behavior after completing nPEP.
  - 35 of the 40 seroconversions occurred less than 180 days subsequent to nPEP initiation and are unlikely to constitute nPEP failures.
Subgroups
- Men who have Sex with Men (MSM)
  - In a 2-year prospective study in Brazil, investigators provided 200 seronegative MSM at high risk with education regarding nPEP and a 4-day starter pack with instructions to initiate its use for a suspected eligible exposure.
  - A follow-up 24-day pack (to complete a 28-day course) was provided only for those men with eligible exposures.
  - 68 of the 200 MSM initiated nPEP. Adherence to nPEP medications was estimated on the basis of questions at the 28-day visit and remaining pill count.
  - 89% of the men completed the 28 day regimen; 1 participant seroconverted; 10 of 11 seroconversions occurred among men who did not initiate nPEP.

- Sexual Assault
  - Globally, 3 systematic reviews and 1 prospective cohort study spanning childhood through adulthood reported wide-ranging proportions of participants being eligible for nPEP, being offered nPEP, accepting nPEP, or completing nPEP. Among the 3 reviews, none reported HIV screening results or the number of nPEP failure.
  - Although nPEP use for sexual assault survivors has been widely encouraged both in the US and elsewhere, documented cases of HIV resulting from sexual assault of women or men rarely have been published.
STI AND HIV TRANSMISSION
SEXUALLY-TRANSMITTED INFECTIONS AND HIV TRANSMISSION

- STI's result in inflammation and migration of immune cells into the genital tract. Inflammatory cytokines increase HIV replication and make immune cells more susceptible to HIV infection.

- Genital Ulcer Disease (GUD) caused by STI's (HSV-1,2, syphilis) compromise the integrity of the mucosal barrier and facilitate HIV transmission.
STI’s (e.g. gonorrhea) can increase the amount of HIV in semen and vaginal fluids up to 10x increasing exposure to the partner.

Reproductive Tract Infections (RTI; bacterial vaginosis, *Trichomonas*) increase HIV in vaginal fluids and risk of transmission.

STI’s and RTI’s increase the risk of HIV transmission from seropositive individuals and also HIV acquisition by a seronegative individual.
Sexually transmitted diseases (STDs), or sexually transmitted infections (STIs), are generally acquired by:

**SEXUAL CONTACT**
- Blood
- Semen
- Vaginal
- Anal
- Other bodily fluids

**NON-SEXUALLY**
- Neonatal transmission
- Blood transfusions
- Shared needles
- Shared sex toys
## RISK OF HIV TRANSMISSION BY TYPE OF SEX

<table>
<thead>
<tr>
<th>Type of Exposure</th>
<th>Risk per 10,000 Exposures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receptive anal intercourse</td>
<td>50</td>
</tr>
<tr>
<td>Receptive penile-vaginal intercourse</td>
<td>10</td>
</tr>
<tr>
<td>Insertive anal intercourse</td>
<td>6.5</td>
</tr>
<tr>
<td>Insertive penile-vaginal intercourse</td>
<td>5</td>
</tr>
<tr>
<td>Receptive oral intercourse</td>
<td>Low&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Insertive oral intercourse</td>
<td>Low&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
</tbody>
</table>
SCREENING FACTORS TO CONSIDER
TIME-COURSE OF HIV INFECTION SEROLOGY

The diagram illustrates the time-course of HIV infection serology, showing the appearance and decline of specific markers across days post infection.

- **HIV-RNA**
- **p24 Ag EIA**
- **3rd Generation HIV Ab EIAs**
- **1st Generation HIV Ab EIAs**
- **Anti-HIV Ab**
- **HIV p24 Ag**

Markers like HIV RNA (plasma), p24 Ag EIA, and Anti-HIV Ab are depicted with their respective peaks and declines, indicating the progression of the infection and serological response.
HIV TESTS FOR SCREENING AND DIAGNOSIS

- **Antibody tests**
  - Detect the presence of antibodies, proteins that a person’s body makes against HIV, not HIV itself.
  - Most HIV tests, including most rapid tests and home tests, are antibody tests.
  - It can take three to twelve weeks for a person’s body to make enough antibodies for an antibody test to detect HIV infection.
  - In general, antibody tests that use blood can detect HIV slightly sooner after infection than tests done with oral fluid.

- **Combination or fourth-generation tests**
  - Looks for both HIV antibodies and antigens.
  - Antigens are a part of the virus itself and are present during acute HIV infection.
  - It can take two to six weeks for a person’s body to make enough antigens and antibodies for a combination test to detect HIV.
  - Combination tests are now recommended for testing done in labs and are becoming more common in the United States.
  - There is also a rapid combination test available

https://www.cdc.gov/hiv/testing/
HIV TESTS FOR SCREENING AND DIAGNOSIS

- **PCR**
  - Detect HIV the fastest by looking for HIV in the blood.
  - It can take 7 to 28 days for NATs to detect HIV.
  - This test is very expensive and is not routinely used for HIV screening unless the person recently had a high-risk exposure or a possible exposure with early symptoms of HIV infection.

- **An initial HIV test**
  - Will either be an antibody test or combination test.
  - It may involve obtaining blood or oral fluid for a rapid test or sending blood or oral fluid to a laboratory.
  - If the initial HIV test is a rapid test and it is positive, the individual will be directed to get follow-up testing.
  - If the initial HIV test is a laboratory test and is positive, the laboratory will usually conduct follow-up testing on the same blood specimen as the initial test.
  - Although HIV tests are generally very accurate, **follow-up testing** allows the health care provider to be sure the diagnosis is right.

https://www.cdc.gov/hiv/testing/
STI SCREENING RECOMMENDATIONS

- **Take a Comprehensive Sexual History using the Five P’s**
  - **Partners**
    - “Do you have sex with men, women, or both?”
    - “In the past 2 months, how many partners have you had sex with?”
  - **Practices**
    - “To understand your risks for STDs, I need to understand the kind of sex you have had recently.”
    - “Have you had vaginal sex, meaning ‘penis in vagina sex’?” If yes, “Do you use condoms: never, sometimes, or always?”
  - **Prevention of pregnancy**
    - “What are you doing for family planning?”
  - **Protection from STIs**
    - “What do you do to protect yourself from STIs and HIV?”
  - **Past history of STIs**
    - “Have you ever had an STI?”
    - “Have any of your partners had an STI?”

https://www.cdc.gov/hiv/testing/
Screening of Asymptomatic and Symptomatic STIs

- Men who have sex with men should be screened at least annually at sites of contact (pharynx, urethra, rectum) regardless of condom use. (If unable to obtain samples, an examination of these sites may assist in identifying and treating potential health-related conditions.)
- Every 3 to 6 months if at increased risk
- For persons living with HIV and is sexually active, screen at first HIV evaluation, and at least annually thereafter.
- More frequent screening might be appropriate depending on individual risk behaviors and local epidemiology.
- Provide treatment for asymptomatic and symptomatic STI as appropriate.
INDICATIONS FOR NPEP

- Receptive or insertive vaginal or anal sex
- Sharing needles for drug-use
- Injuries with exposure to blood or other high-risk fluids from a person known to be HIV+ or of unknown status

nPEP is NOT indicated for low-risk exposures!
INITIATING nPEP
FACTORS TO CONSIDER IN nPEP REGIMEN

- Efficacy
- Cost
- Tolerability/Toxicity
- Adherence
HIV SCREENING AFTER INITIATING NPEP

- Perform baseline testing
- Perform testing of the source (if possible)
- Test patient at baseline, week four post-exposure and week 12
- Treatment should be initiated ideally with 36 hours of exposure, certainly with 72 hours, and continued for 28 days
**FACTORS TO CONSIDER IN nPEP REGIMEN- SUMMARY**

**Figure 2. nPEP considerations summary**

### Initial nPEP Evaluation

- Obtain history of potential exposure event
  - HIV and HBV status of exposed person and source person, if available
  - Timing of most recent potential exposure
  - Type of exposure event and risk for HIV acquisition
  - Make determination if nPEP is indicated

- If nPEP is indicated
  - Conduct laboratory testing
    - HIV blood test (rapid combined Ag/Ab test, if available)
    - STIs, HBV, HCV, pregnancy, and chemistries, as indicated
  - Prescribe 28-day nPEP course
    - Educate patient about potential regimen-specific side effects and adverse events
    - Counsel patient about medication adherence
    - Provide patient with nPEP prescription or full 28-day nPEP course or nPEP starter pack and prescription
  - When necessary, assist patients with obtaining nPEP medication through a medication assistance program for the prescribed regimen

- For all persons evaluated
  - Prescribe prophylaxis for STIs and HBV infection, if indicated
  - Provide counseling related to HIV prevention strategies, as appropriate
  - Document sexual assault findings and fulfill local reporting requirements
  - Conduct confidential reporting of newly diagnosed STIs and HIV infection to health department
  - Link HIV-infected persons to relevant medical and psychosocial support services

### Follow-up evaluations for persons prescribed nPEP

- Conduct HIV and any other indicated laboratory testing
- Consider changing nPEP regimen if indicated by side effects or results of initial testing
- Provide additional counseling and support for medication adherence and HIV prevention, if indicated

**Abbreviations:** Ag/Ab, antigen/antibody combination test; HBV, hepatitis B virus; HCV, hepatitis C virus; HIV, human immunodeficiency virus; nPEP, nonoccupational postexposure prophylaxis; STI, sexually transmitted infection.
### Preferred Regimens - Summary

Table 5. Preferred and alternative antiretroviral medication 28-day regimens for nPEP<sup>a,b</sup>

<table>
<thead>
<tr>
<th>Age group</th>
<th>Preferred/alternative</th>
<th>Medication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults and adolescents aged ≥13 years, including pregnant women, with normal renal function (creatinine clearance ≥60 mL/min)</td>
<td>Preferred</td>
<td>A 3-drug regimen consisting of tenofovir DF 300 mg &lt;em&gt;and&lt;/em&gt; fixed dose combination emtricitabine 200 mg (Truvada®) once daily with raltegravir 400 mg twice daily or dolutegravir 50 mg once daily</td>
</tr>
<tr>
<td></td>
<td>Alternative</td>
<td>A 3-drug regimen consisting of tenofovir DF 300 mg &lt;em&gt;and&lt;/em&gt; fixed dose combination emtricitabine 200 mg (Truvada) once daily with darunavir 800 mg (as 2, 400-mg tablets) once daily &lt;em&gt;and&lt;/em&gt; ritonavir&lt;sup&gt;b&lt;/sup&gt; 100 mg once daily</td>
</tr>
<tr>
<td>Adults and adolescents aged ≥13 years with renal dysfunction (creatinine clearance ≤59 mL/min)</td>
<td>Preferred</td>
<td>A 3-drug regimen consisting of zidovudine &lt;em&gt;and&lt;/em&gt; lamivudine, with both doses adjusted to degree of renal function with raltegravir 400 mg twice daily or dolutegravir 50 mg once daily</td>
</tr>
<tr>
<td></td>
<td>Alternative</td>
<td>A 3-drug regimen consisting of zidovudine &lt;em&gt;and&lt;/em&gt; lamivudine, with both doses adjusted to degree of renal function with darunavir 800 mg (as 2, 400-mg tablets) once daily &lt;em&gt;and&lt;/em&gt; ritonavir&lt;sup&gt;b&lt;/sup&gt; 100 mg once daily</td>
</tr>
</tbody>
</table>
LABORATORY SCREENING WHILE ON nPEP

- Clinical chemistries for monitoring patients on nPEP at baseline, 4-6 weeks, 3 months, and 6 months post-exposure
  - liver enzymes, BUN, creatinine, CBC

- Test for other STI’s at baseline
  - gonorrhea/chlamydia NAAT
  - syphilis RPR

- HCV/HBV/HIV

- Pregnancy test
CASE STUDY DISCUSSION
CASE STUDY

- John reports to an emergency room early Sunday morning after attending a party the previous night. He expressed concern that he was drunk and may not have consented to anal receptive sex with Pete, a guy he had just recently met earlier that night. Two days later, after telling one of his friends what had happened to him, he heard that it was rumored in the community that Pete was HIV positive. He is not sure what to do at this point; however, his friend Chris, an HIV/AIDS educator, instructed him to go for a check-up.

- John tested negative by rapid test in the ER

- He request to start nPEP immediately

Case submitted by Demetre C Daskalakis MD, MPH to IAS-USA. Case study modified.
https://www.iasusa.org/content/antiretroviral-drugs-prevention-men-who-have-sex-men-breakthroughs-and-challenges
WHAT WOULD YOU DO?
CONSIDER……..

- Sensitivity and specificity of rapid HIV tests
- Proper use and interpretation of results
- Detection of acute HIV infection by rapid tests
- Is the subject a candidate for nPEP?
Case Study (Cont.)

- Patient started on nPEP
- Regimen initiated was Dolutegravir, tenofovir and emtricitabine

<table>
<thead>
<tr>
<th>Baseline Lab test</th>
<th>Result/Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rapid HIV test</td>
<td>negative</td>
</tr>
<tr>
<td>AST</td>
<td>98 IU/L (10-35 IU/L)</td>
</tr>
<tr>
<td>ALT</td>
<td>101 IU/L (9-60 IU/L)</td>
</tr>
<tr>
<td>creatinine</td>
<td>normal</td>
</tr>
<tr>
<td>BUN</td>
<td>normal</td>
</tr>
<tr>
<td>CBC</td>
<td>normal</td>
</tr>
</tbody>
</table>
ER clinician concerned that nPEP was started based on patient’s prior history and concerned that partner may have acute HIV infection

Transaminases are elevated

ID consults advise to do a viral load (HIV RNA) on the patient and screen for acute HCV/HBV infection
WHAT WOULD YOU DO?
### Patient’s Laboratory Values at Follow-Up Visit

<table>
<thead>
<tr>
<th>Laboratory Measure or Test</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oropharyngeal gonorrhea</td>
<td>Negative</td>
</tr>
<tr>
<td>Rectal gonorrhea</td>
<td>Positive</td>
</tr>
<tr>
<td>Rectal chlamydia</td>
<td>Negative</td>
</tr>
<tr>
<td>Urine gonorrhea</td>
<td>Negative</td>
</tr>
<tr>
<td>Urine chlamydia</td>
<td>Negative</td>
</tr>
<tr>
<td>Syphilis immunoglobulin</td>
<td>Nonreactive</td>
</tr>
<tr>
<td>Hepatitis B virus (HBV) surface antibody</td>
<td>Positive</td>
</tr>
<tr>
<td>HBV surface antigen</td>
<td>Negative</td>
</tr>
<tr>
<td>Hepatitis C virus (HCV) serology</td>
<td>Negative</td>
</tr>
<tr>
<td>Plasma HCV RNA</td>
<td>Below limit of detection</td>
</tr>
<tr>
<td>Plasma HIV RNA</td>
<td>900 copies/mL</td>
</tr>
</tbody>
</table>
What do the previous series of labs indicate about the HIV status of this patient?

What other issues need to be managed?
CASE STUDY: CONCLUSION

- What were the risk factors for transmission in this case?

- The gonorrhea was treated with ceftriaxone 250 mg IM, and azithromycin 1g orally

- The nPEP regimen was changed to raltegravir, tenofovir, emtricitibine

- Does the very early initiation of a potent, suppressive regimen in the patient influence the natural history of the infection in this patient?
Summary!!!
If you are HIV-negative or don’t know your HIV status, and in the last 72 hours you:
- Think you may have been exposed to HIV during sex (for example, if the condom broke)
- Shared needles and works to prepare drugs (for example, cotton, cookers, water)
- Were sexually assaulted

n-PEP should be used only in emergency situations and must be started within 72 hours after a recent possible exposure to HIV.

It is not a substitute for regular use of other proven HIV prevention methods such as
- Pre-exposure prophylaxis (PrEP), which means taking HIV medicines daily to lower your chance of getting infected
- Using condoms the right way with every sexual encounter
- Using a new sterile needle when injecting drugs
WHEN SHOULD n-PEP BE TAKEN?

- n-PEP must be started within 72 hours after a possible exposure.
  - The sooner the better

- Starting n-PEP as soon as possible after a potential HIV exposure is important.
  - Research has shown that n-PEP has little or no effectiveness in preventing HIV infection if it is started later than 72 hours after HIV exposure.

- Patients are instructed to take the medication as prescribed and for the duration of the time of the prescription
  - Once or twice daily for 28 days
IS n-PEP AFFORDABLE? HOW CAN IT BE PAID FOR?

- Persons who were victims of sexual violence (assault) may qualify for partial or total reimbursement for medicines and clinical care costs through the Office for Victims of Crime, funded by the US Department of Justice (see state-specific information).

- Providers prescribing n-PEP to persons who may have other reasons for HIV exposure and who may not have insurance coverage (Medicaid, Medicare, private, or employee-based), should apply for free n-PEP medicines through the medication assistance programs run by the manufactures.

- Medicaid, Medicare, private, or employee-based insurance providers may cover the cost of the medications; however, check to ensure prior approval is not needed as this can result in unnecessary delays.
WHAT ABOUT EVENT-BASED n-PEP?

- n-PEP should only be used in emergency situations

- It is not the right choice for people who may be exposed to HIV frequently
  - For example, if you often have sex without a condom with a partner who is HIV-positive

- Because n-PEP is given after a potential exposure to HIV, more drugs and higher doses are needed to block infection than with PrEP
  - For patients with ongoing risk, PrEP is highly encouraged
Thank You
REFERENCES

Update: HIV Prophylaxis Following Non-Occupational Exposure, April 2016

Updated guidelines for antiretroviral post exposure prophylaxis after sexual, injection drug use, or other non-occupational exposure to HIV—United States, 2016  https://stacks.cdc.gov/view/cdc/38856

HIV Post-Exposure Prophylaxis for Occupational and Non-occupational Exposure
http://www.ceiconnect.org/p43148073/?launcher=false&fcsContent=true&pbMode=normal
TEST YOUR KNOWLEDGE
A patient is started on nPEP and the baseline HIV test comes back showing the person is positive. The clinician should:

A. Immediately stop the nPEP regimen
B. Request a confirmatory HIV test
C. Add an additional antiretroviral to the nPEP regimen
D. Repeat the test using a rapid HIV test
Test Your Knowledge
Question #5

Which regimen is preferred to nPEP?

A. A triple nucleoside combination
B. Dolutegravir, tenofovir, emtrictibine
C. Atripla
D. Kaletra/Combivir
A subject presents to the ER for testing suspecting they may have acute HIV infection. What single test would be most useful in determining this?

A. A viral load (HIV RNA)
B. A western blot
C. A fourth-generation HIV test
D. A home HIV test
As a Reminder: At the end of the Webinar, all participants are required to complete and return the CME Evaluation Survey. It may be scanned and emailed back to den_bailey@howard.edu, or faxed to: AETC-Capitol Region Telehealth Center (FAX#: 202.667.1382) ATTN: Training Coordinator.

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