

HIV/STIs: an Overview for the Substance Abuse/Mental Health Professional

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[Alabama AETC - Southeast AIDS Education & Training Center \(seaetc.com\)](http://seaetc.com)



The University of Alabama at Birmingham (UAB) has been involved in the SE AETC's Practice Transformation Project since 2015. Now, as they step into the role of the Alabama AETC, they will be utilizing their extensive reach, expert faculty, and education experience to provide HIV capacity building to increase the HIV workforce and End the HIV Epidemic in Alabama. Please welcome to the SE AETC Team: Nick Van Wagoner, MD, PhD, and Greer Burkholder, MD, MSPH, as the Co-Principal Investigators; Ann Mosely Whitsett as the Program Coordinator; and Terilaine Wheeler, MS (tnwheele@uab.edu) as the Program Manager! If you are located in the state of Alabama, we encourage you to reach out to them with your HIV training needs. We would like to thank Medical Advocacy and Outreach (MAO) in Montgomery, Alabama for their service over the past seven years. They are an incredible resource for HIV care and community support.



Disclosure Statement

I have no real or perceived vested interests that relate to this presentation nor do I have any relationships with pharmaceutical companies, biomedical device manufacturers, and/or other corporations whose products or services are related to pertinent therapeutic areas.



Goals & Objectives

- This three hour course will provide an overview of current developments in Sexually Transmitted Infection(s) (STIs)/HIV diagnosis & management to the lay person/professional especially those involved in the counseling & education of individuals living w/a dual diagnosis, i.e. alcohol/drug addiction AND a STI, including HIV and/or HBV/HCV.
- Attendees will receive instruction on the nine most common STIs diagnosed in Alabama.
- Also, key Alabama laws regarding STIs/HIV will be discussed.



At the conclusion of this program, the attendee should be able to:

1. Define/identify the following terms: abstinence, safer sex, risk reduction, HIV, AIDS, STI/STD, nPEP, PrEP;
2. Conduct a brief, accurate and sensitive assessment of an individual's sexual risk-taking behavior;
3. Discuss the epidemiology, clinical manifestations, diagnosis and treatment for following STIs: HIV, gonorrhea, Chlamydia, syphilis, herpes, bacterial vaginosis, venereal warts, viral hepatitis and pubic lice; and
4. Review risk reduction/behavior change theories and models as they relate to STI/HIV infection.



Illicit drug use and sexually transmitted infections among young adults in the US: evidence from a nationally representative survey
Published in final edited form as:
[Int J STD AIDS. 2020 Nov; 31\(13\): 1238-1246.](#)

- Illicit drug use has been found to be positively associated with STIs. For example, use of methamphetamines, ketamine, and inhalants was found to be positively associated with high HIV-STI coinfection among urban men who have sex with men (MSM).² Furthermore, both injectable and non-injectable drug users are at a higher risk of contracting STI.³ Sharing needles and reusing drug paraphernalia increase the chance of blood-borne infections, while the influence of illicit drugs may increase the likelihood of engaging in unsafe sexual behavior, such as engaging in condomless sex, sex with multiple partners, and selling sex to pay for drugs.¹



Common Acronyms (revisited)

ART – Antiretroviral therapy
 AUD – Alcohol use disorder
 IDU – Injection or intravenous drug use
 MAT – Medication assisted treatment or
 Medications for addiction treatment
 MSM – Men who have sex with men
 OUD – Opioid use disorder
 PEH – Person(s) experiencing homelessness
 PEP – Post-exposure prophylaxis
 PrEP – Pre-exposure prophylaxis
 PLWH – Person(s) living with HIV
 PWID – Person(s) who injects drugs
 SUD – Substance use disorder

Clarifying Terms

- Substance Use Disorder (SUD): a diagnostic term referring to recurrent use of alcohol or other drugs (AOD) that causes “clinically and functionally significant” impairment, i.e. work, school, home, health
 - Classified as mild, moderate, or severe
- Addiction: a term used to indicate the most severe, chronic stage of SUD, when there is substantial loss of self-control, indicated by compulsive drug-taking despite the desire to stop using the substance
 - “Addiction” = DSM-5 Substance Use Disorder, Severe

Correcting Language to be Less Stigmatizing

Shifting from stigmatized to corrected, less judgmental terms is beneficial for engagement.

STIGMATIZING	CORRECTED
Abuser, addict, alcoholic	A person with a substance use disorder
Clean	A person in recovery
Substance abuse	Substance use disorder
Relapse	A recurrence of symptoms
Dirty	A person not yet in recovery, positive urine screen

Source: Centers for Disease Control and Prevention. (n.d.) A Guide to Talking About HIV. Retrieved from: <https://www.cdc.gov/actagainstaid/stigma/campaign/sfsh/cdc-hiv-together-stigma-talking-guide.pdf>. © Centers for Disease Control and Prevention

STD/HIV Home Testing

- STD/HIV home specimen collection and laboratory testing kits are now available by mail for all Alabama residents, and to selected individuals who are on PrEP therapy. Persons may request one test every three months.
- The following home test combinations are available:
 - Chlamydia/Gonorrhea (single-site), Syphilis, and HIV
 - Chlamydia/Gonorrhea (triple-site), Syphilis, and HIV
 - Chlamydia/Gonorrhea (triple-site), Syphilis, HIV, and Creatinine*
- *The third home-test kit combination will be for designated individuals enrolled in PrEP.
- [STD/HIV Home Testing | Alabama Department of Public Health \(ADPH\) \(alabamapublichealth.gov\)](#)



James Cadenhead

Infected with HIV for 18 years. Has had Hep B, C, toxoplasmosis.

"...I'm doing pretty well. I think my chances are better of going of a heart attack than of AIDS. My biggest problem now is , What do I do when I retire?"

New York Times, Aug. 17, 2004



Why discuss STIs/HIV?

- Raise awareness
 - Open DIALOGUE
 - "More awareness equals less stigma, equals better prevention and care."
- from an article on HIV/AIDS in Africa by Enid Vazquez, Positively Aware, March/April 2006 issue



Sex Education Not Adequate in Most US Schools

In most U.S. states, fewer than 1/2 of high schools and just 1 in 5 middle schools teach essential sex education topics recommended by the CDC, according to a CDC report.

The report shows the percent of schools providing sexual health education that meets CDC's criteria is generally low and varies widely by state. Among the key findings for schools that teach all essential topics were:

- high schools (grade 9, 10, 11, or 12) ranges from 21% to 90%
- middle schools (grade 6, 7, or 8) ranges from 4% to 46%

With nearly ¼ of HIV diagnoses and ½ of all STI in the U.S. occurring among those under 25, sex education in schools represents a missed opportunity for delivering critical HIV & STD prevention knowledge & skills

U.S. Centers for Disease Control and Prevention -
December 9, 2015



Why do we need to test everyone for HIV?

- **APPROXIMATELY 14% OF 1.2 MILLION HIV-INFECTED PEOPLE DO NOT KNOW THEIR STATUS**
 - DO NOT BENEFIT FROM TREATMENT
 - 20-40% DIAGNOSED WITHIN 1 YEAR OF AIDS DIAGNOSIS
- **PEOPLE WHO ARE UNAWARE OF THEIR INFECTION ACCOUNT FOR:**
 - 70% OF NEW SEXUALLY TRANSMITTED HIV INFECTIONS
 - MOST PEOPLE WHO LEARN THEY ARE INFECTED WITH HIV TAKE STEPS TO PROTECT THEIR PARTNER



Source: Aidsinfo.org/state/California

Epidemiology

- Up to 70% of people living with HIV have a h/o trauma; 54% have post-traumatic stress disorder (PTSD)
- People with HIV have twice the risk of depression as those at risk of HIV but without infection
- Higher rates of depression than general population

Depression ↔ HIV

- Key feature of depression, as compared to adjustment disorder or side effects from medication, is loss of pleasure
- Twenty-two percent (22%) of people with HIV have depression
 - Of those 78% ALSO have an anxiety disorder
 - Of those 61% have an SUD
- Six percent (6%) of people with HIV have schizophrenia
 - Compared to 1% in general population
- Those with schizophrenia are 1.5 times as likely to have HIV
- Those with affective disorders were 3.8 times as likely to have HIV



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HIV & STI National Strategic Plans Call for Enhanced Coordination of Efforts

- The recently released [STI National Strategic Plan](#) (STI Plan) and [HIV National Strategic Plan](#) were developed concurrently with the [Viral Hepatitis National Strategic Plan](#) and each calls for a more integrated approach to addressing the syndemic of HIV, STIs, viral hepatitis, and substance use and mental health disorders
- As federal agencies begin work to develop implementation plans for each of these five-year plans, we will explore opportunities to enhance integration of prevention, care, and treatment of STIs, HIV, viral hepatitis, and behavioral health issues by leveraging capacity and infrastructure across the domains and breaking down operational and funding silos.



What are our “Ending the Epidemic” goals?

Goals for HIV



Reduce new HIV infections in the United States by 75% in 5 years and by 90% by 2030⁵

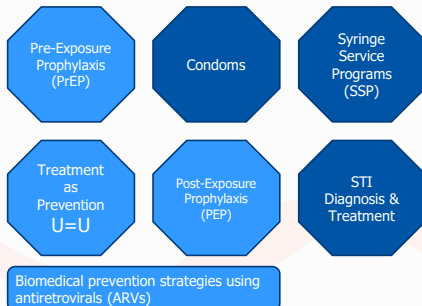
Goals for HCV



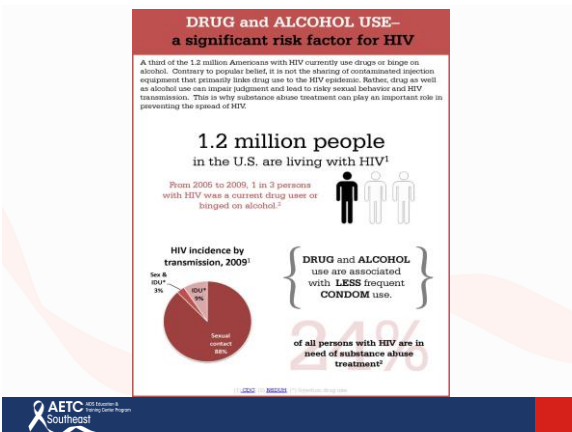
Prevent new viral hepatitis infections
Reduce deaths and improve the health of people living with viral hepatitis
Reduce viral hepatitis health disparities
Coordinate, monitor, and report on implementation of viral hepatitis activities⁶



HIV Prevention – Strategies to Stop HIV









Why do people take drugs?

To feel good
To have novel:
Feelings
Sensations
Experiences
AND
To share
them



To feel better
To lessen:
Anxiety
Worries
Fears
Depression
Hopelessness
Withdrawal

Source: NIDA

Drug Use and HIV

- The second-most common way HIV is transmitted is when people share needles and other injection-drug equipment. Although the HIV virus can't survive for long in the open air, it can stay alive inside a slim needle for more than a month.
- Although the number of HIV infections due to shared injection-drug equipment is lower than the number of HIV infections due to sex, the risk is higher: According to the CDC, it's around 63 transmissions per 10,000 acts, or 0.6%



SUD and HIV Risk

- The co-occurrence of HIV and SUD in a community increases the risk of HIV transmission due to:
 - Sharing of syringes
 - Intoxicant and/or stimulant involved unprotected sex
 - Sexual violence and victimization
 - Unaware of HIV status
 - Unsuppressed viral load

HIV can be a risk factor for substance use.

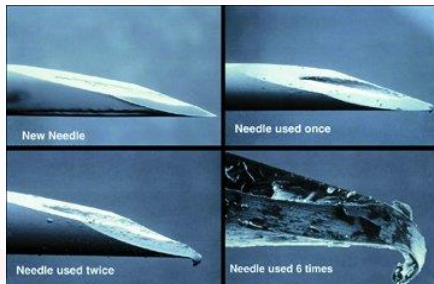
But also...

Substance use can be a risk factor for HIV transmission.



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Chemsex

Definition:

Chemsex (also known as sexualized drug use – SDU) is the use of drugs to enhance sexual experience. Common drugs used for Chemsex include methamphetamine, gamma-hydroxybutyrate (GHB), gamma-butyrolactone (GBL), cocaine, ketamine, poppers (amyl nitrite) or cannabis (the latter two gave rise to the term SDU)

What You Should Know:

- Chemsex is popular among some gay, bisexual, transgender, and queer persons, **but can be experienced by persons of any gender**
- Chemsex participants have higher odds of condomless anal sex with partners of different or unknown HIV status (bareback sex)
- Persons engaged in Chemsex have greater risk of acquiring sexually transmitted infections (STIs) and hepatitis C (HCV)
- Participants are at higher risk of HIV transmission
- The association with sexual risk indicates the importance of promoting harm reduction among this population (e.g., condoms, PrEP, PEP, drug knowledge).
- Hook-up apps: slang used include PnP, ParTy, Tina, G

HEALTH MANAGEMENT ASSOCIATES

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What is HIV?

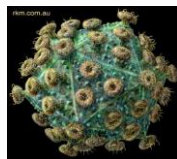
- **H**uman: Infecting human beings
- **I**mmunodeficiency: Decrease or weakness in the body's ability to fight off infections and illnesses
- **V**irus: A pathogen having the ability to replicate only inside a living cell



100% Response & Retention Program

What is HIV

- **H**uman
- **I**mmunodeficiency
- **V**irus



- HIV is a retrovirus that attacks the immune system.
- Its genetic material, RNA, must be converted to DNA during replication.
- Over time, the immune system and the body loses its ability to fight the virus.



100% Response & Retention Program

HIV and the Brain

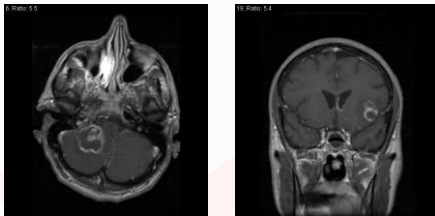
- HIV enters the brain soon after acute infection by migrating across the blood-brain barrier
- It appears to produce a reservoir of virus that is able to replicate in the central nervous system (CNS), and can rebound if combination antiretroviral therapy (cART) is interrupted

Source: Joseph et al., 2015; Gianella et al., 2016



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Neurologic complications are common in advanced disease



Why is it Important to Address SUD in Persons with HIV?

- Substance use accelerates the progression of HIV
 - Increases the viral load
 - Increases likelihood of AIDs related morbidity (even when adherent to antiretroviral medications)
 - Decreases medication adherence
- "Substances of abuse" weaken the blood brain barrier
 - HIV enters the brain
 - Allows infection and damage to nerves and supporting cells (glia)
 - Triggers release of neurotoxins
 - Precipitates neuroinflammation or brain swelling
 - 50% of people with HIV have neurocognitive disorders
 - Damage to subcortical areas of the brain
 - Producing dementia



Sources: Dash, 2015; Schaffer 2017; Strazza 2011; Dahal 2015; Andriote 2012; NIDA 2021 <https://www.drugabuse.gov/publications/research-reports/common-comorbidities-substance-use-disorders/>



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Where did HIV come from?

- Scientists identified a type of chimpanzee in West Africa as the source of HIV infection in humans
- Immunodeficiency virus (called simian immunodeficiency virus or SIV) transmitted to humans
- Virus mutated into HIV when humans came into contact with their infected blood (via meat)
- Zoonotic infection



2011

HIV CAN BE TRANSMITTED THROUGH...



Sexual Contact Pregnancy, Childbirth & Breast Feeding Injection Drug Use Occupational Exposure Blood Transfusion/Organ Transplant (and rarely)

<http://aids.gov>

AETC Southeast
HIV, Hepatitis B, and Hepatitis C Program

OKLAHOMA STATE DEPARTMENT OF HEALTH - CREATING A STATE OF HEALTH - WWW.HEALTH.OK.GOV

HIV

Can experience "flu-like" symptoms (if any) about 2-4 weeks after exposure:
Fever, Enlarged lymph nodes, Sore throat, Rash

What Fluids Transmit HIV?

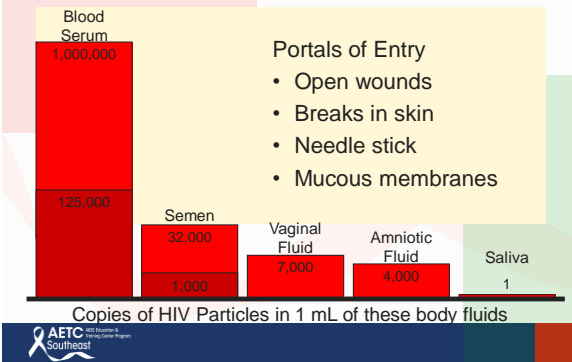
- Blood • Semen
- Vaginal Fluids
- Rectal Fluids
- Breast Milk

How Can HIV Enter the Body?

- Vagina • Mouth
- Penis • Nose
- Anus • Eyes
- Broken Skin • Ears

AETC Southeast
HIV, Hepatitis B, and Hepatitis C Program

How is HIV Transmitted?



SCIENCE'S COMPASS



Fig. 4. Human exposure to primate blood during food preparation. [Photograph courtesy of Karl Ammann]



HIV is a virus that infects and destroys cells of the immune system (CD4+ cells).

THIS PARTICULAR VIRUS CAN ONLY INFECT HUMAN BEINGS

HIV ATTACKS YOUR T-CELLS AND USES THEM TO MAKE COPIES OF ITSELF

WHEN HIV DESTROYS SO MANY OF YOUR CELLS... = AIDS

<http://aids.gov/hiv-aids-basics/hiv-aids-101/what-is-hiv-aids/>

AETC Southeast HIV Resources & Training Center Program

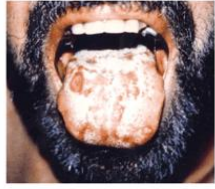
Primary HIV Infection

Rash



Trunk and face > limbs
Small pink macules

Mucosal Lesions



Oral ulcers,
thrush



Oral candidiasis



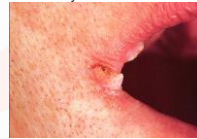
Pseudomembranous



Erythematous



Hyperplastic



Angular cheilitis



Oral hairy leukoplakia





- Shingles
 - Reactivation of VZV
 - Very common in HIV
 - Recurrent
 - May be multidermatomal



Opportunistic Infections (O.I.)

Candidiasis of bronchi, trachea, or lungs
Candidiasis esophageal
Cervical cancer (invasive)
Coccidioidomycosis, disseminated or extrapulmonary
Cryptococcosis, outside of the lungs
Cryptosporidiosis, chronic intestinal for longer than 1 month
Cytomegalovirus disease (other than liver, spleen or lymph nodes)
Encephalopathy (HIV-related)
Herpes simplex: chronic ulcer(s) (for more than 1 month); or bronchitis, pneumonitis, or esophagitis
Histoplasmosis, disseminated or outside the lung
Isosporiasis, chronic intestinal (for more than 1 month)
Kaposi's sarcoma (skin cancer—internal and external)

Lymphoma (Burkitt's), immunoblastic or if primary location is the brain
Mycobacterium avium complex (MAC)
Mycobacterium, other species, disseminated or if found outside the lungs
Pneumocystis jirovecii pneumonia (formerly Pneumocystis carinii)
Pneumonia (recurring, persistent infections)
Progressive multifocal leukoencephalopathy (PML)
Salmonella septicemia (recurrent)
Toxoplasmosis of the brain
Tuberculosis, disseminated (widespread or outside the lung)

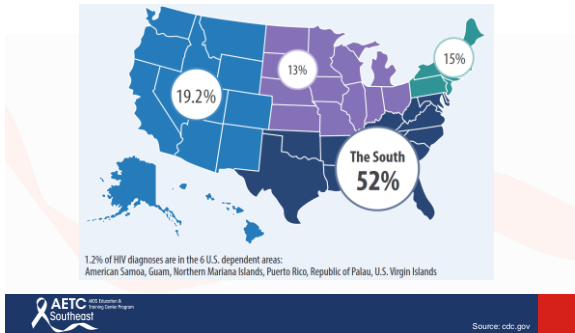
Wasting syndrome due to HIV

HIV Facts

- Once infected with HIV, the virus never goes away
- There is no cure for HIV yet, but medication can slow the progression of the disease which can lead to "viral suppression"
- People do not die of HIV, they generally die from opportunistic infections because of their crippled immune system



Percentage of New HIV Diagnoses in the U.S. and Dependent Areas by Region, 2018



HIV and AIDS in the US

- Total AIDS cases : 1,218,400 (2016)
- Of the above total, approx. 156,300 unaware of their infection
- % of those PLWHIV virally suppressed: 65% (2019)
- Estimated HIV prevalence : 650,000-- 900,000+
- 1 in 7 Americans don't know of their infection
 - 1 in 300 Americans (all ages)
 - 1 in 160 males (adult/adolescent)
 - 1 in 800 females (adult/adolescent)
 - 1 in 208 Alabamian is HIV-Ab+ (2018, "crude" estimate)



Alabama HIV/AIDS Statistics

As of 2021:

- 23,163 Cumulative cases since 1982
- 11% were 50+ at diagnosis
- 76% male
- 30% white, 64% black, and 2% Hispanic, 3% Multi-race
- 45% men who have sex with men (MSM), 28% had heterosexual relations, 9% used injectable drugs (IDU), 5% MSM/IDU and NIR 14%
- Pediatrics: 164 total



Ryan White Funding

- The Ryan White C.A.R.E. Act (P.L.101-381, 42 USC 3000ff-11, et seq.)

Provides formula-based assistance to states to provide health care and support services to individuals living w/a diagnosis of HIV/AIDS, as well as education and training for health care professionals

Alabama's 2017 Grant was \$30,100,000 (Parts B, C , D & other)



HIV Continuum of Care: PLwHIV in Alabama

As of 2019 (preliminary data)

- 16,301 estimated cases
- 13,774 HIV-diagnosed
- 87% (of the above) Linked to Care
- 58% (continuous vs. sporadic) Retained in Care
- 66% Suppressed Viral Load (less than/equal 200 copies/mL)
- 1 in 6 Alabamians LwHIV are UNAWARE of their infection



Alabama Law for HIV Testing

- Requires informed consent
- No premarital testing requirement
- Prenatal testing is required
- School notification not required for positive staff or students (universal precautions)



22-8-4 When minor may give consent generally.

- Any minor who is 14 years of age or older, or has graduated from high school, or is married, or having been married is divorced or is pregnant may give effective consent to any legally authorized medical, dental, health or mental health services for himself or his child or for herself or her child.



Alabama Law for HIV/STI Testing (cont.)

- Allows testing of individuals:
 - 12 years of age or older without parental consent
 - Mandatory testing for prison inmates court ordered testing for defendants charged with a sex offense as defined in the Code of Alabama and the Administrative Alabama Code



Basic Terms

- Antigen:** A substance which is recognized as foreign by the immune system. Antigens can be part of an organism or virus, e.g., envelope, core (p24) and triggers antibody production.
- Antibody:** A protein (immunoglobulin) made by the body's immune system to recognize and attack foreign substances



HIV-Ab/Ag Testing

- Requires a blood or oral fluid sample
- HIV test detects the body's antibody/antigen response to HIV infection
- An antibody test does NOT detect HIV itself
- Antigen present is evidence of the virus itself



HIV Testing

- Seroconversion (time from infection to positive antibody status) takes *generally* 6 weeks to 6 months (most convert in 90 days)
- Two-step method (Elisa, Western Blot) is preferred, but if pt. has to know now...
- OraQuick ADVANCE Rapid HIV 1/2 Ab test (results in twenty minutes. ELISA only)
- Alere Determine HIV Combo (Ag/Ab)
- INSTI HIV 1/2 Rapid HIV Test



22-11A-52 Informed consent implied under certain circumstances.

- "When a written consent for HIV testing has not been obtained, **consent shall be implied when an individual presents himself** to a physician for diagnostic treatment or other medical services and the physician shall determine that a test for HIV infection is necessary for any of the following reasons:



22-11A-53 Notification of positive test result; counseling; referral to appropriate health care services; ...

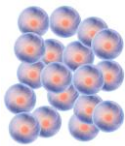
- An individual tested shall be notified of a positive test result by the physician ordering the test, his designee, a physician designated by the applicant or by the Department of Public Health. Such notification shall include:
 - (1) Face-to-face post-test counseling on the additional testing, and the need to eliminate behavior which may spread the disease to others;
 - (2) Information as to the availability of appropriate health care services, including mental health care, and appropriate social and support services;
 - (3) Explanation of the benefits of locating, testing, and counseling any individual to whom the infected individual may have exposed the HIV virus and a full description of the services of public health with respect to locating and counseling all such individuals.



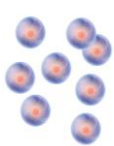
T-Cell Count^{1,2}

T-cell count shows how well someone's immune system is working

500 cells/mm³ or more
Normal immune system



200-499 cells/mm³
Weakened immune system



Less than 200 cells/mm³
Severely weakened immune system (high risk for infection)



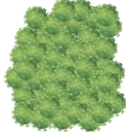
1. Centers for Disease Control and Prevention. HIV Testing: A Guide for Providers. Atlanta, Georgia: U.S. Department of Health and Human Services, 2005. Available at: http://www.cdc.gov/hiv/resources/qaandanswers/qaandanswers_english.htm

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Viral Load

Viral load = the amount of HIV in a sample of blood

High
>100,000 copies/mL



Low to Moderate
400-100,000 copies/mL



Undetectable
<400 copies/mL
or <50 copies/mL



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Treatment of HIV/AIDS

• Goals of Antiretroviral (HAART) Therapy

- Improve quality of life
- Reduce HIV-related morbidity and mortality
- Restore and/or preserve immunologic function
- Maximally and durably suppress HIV viral load
- Prevent HIV transmission

• Opportunistic Infection Drugs

- These drugs include treatments for HIV-associated opportunistic infections and cancers (e.g., *Pneumocystis jirovecii* pneumonia and Kaposi's sarcoma), along with drugs used to treat other consequences of HIV infection and side effects of anti-HIV treatment.

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Injectable ART FDA Approves First Extended-Release, Injectable Drug Regimen for Adults Living with HIV

FDA NEWS RELEASE

- Cabenuva (Rilpivirine + Cabotegravir) monthly injections
 - Non-inferior to oral ART among suppressed, treatment-experienced (ATLAS)
 - Non-inferior to oral ART (3TC/ABC/DTG) among treatment-naïve (FLAIR)
- Requires lead-in with ORAL Vocabria and rilpivirine (Edurant).
- Fairly well tolerated
- Injection site reactions common
- FDA says, "complete regimen for the treatment of human immunodeficiency virus type 1 (HIV-1) infection in adults to replace a current antiretroviral regimen in those who are virologically suppressed on a stable ART regimen with no history of treatment failure and with no known or suspected resistance to either cabotegravir or rilpivirine."

Swindells et al., NEJM 2020

Orkin et al., NEJM 2020



Current Antiretroviral Medications

NRTI

- Abacavir
- Didanosine
- Emtricitabine
- Lamivudine
- Stavudine
- Tenofovir AF or DF
- Zidovudine

NNRTI

- Doravirine
- Efavirenz
- Etravirine
- Nevirapine
- Rilpivirine

PI (include booster)

- Atazanavir
- Darunavir
- Fosamprenavir
- Indinavir
- Lopinavir
- Nelfinavir
- Saquinavir
- Tipranavir

Pharmacokinetic Booster

- Ritonavir
- Cobicistat

Integrase Inhibitor

- Bictegravir
- Dolutegravir
- Elvitegravir (with cobicistat)
- Raltegravir

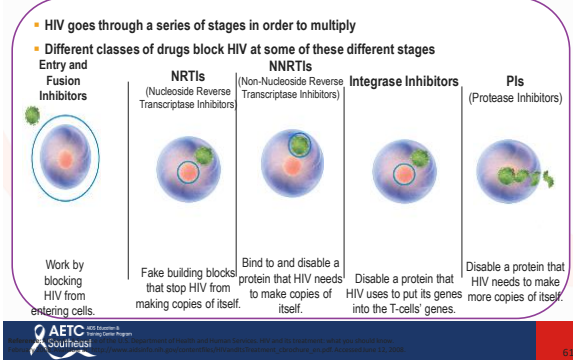
Entry Inhibitors

- Enfuvirtide
- Ibalizumab
- Maraviroc
- Fostemsavir



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How Does HIV Therapy Work?



Treatment as Prevention (TasP)

Viral suppression prevents sexual transmission among serodifferent couples



- Among serodifferent MSM couples with CAI, **NO** seroconversions with phylogenetically linked couples.
- Significantly reduced HIV incidence when partner living with HIV starts ART

Grabowski et al. NEJM 2017
 Rodger et al. Lancet 2016, Rodger et al. JAMA 2016
 Cohen et al. NEJM 2016, Cohen et al. NEJM 2011



PrEP as Prevention

Pre-Exposure Prophylaxis (PrEP): daily medicine that can stop HIV from replicating inside the body

- PrEP is only prescribed for HIV-negative individuals who are at **ongoing substantial risk** of getting HIV
- PrEP **reduces the risk** of getting HIV when taken **consistently**
 - more than **99%** from sexual contact
 - more than **75%** among IDUs



WHO SHOULD CONSIDER TAKING PREP?

- PEOPLE WHO ARE **HIV-NEGATIVE** AND HAVE **SUBSTANTIAL RISK OF GETTING HIV**

SEXUAL TRANSMISSION:

- ONGOING RELATIONSHIP WITH **HIV-POSITIVE PARTNER**
- SEX **WITHOUT REGULAR CONDOM USE** WITH:
 - PARTNERS OF **UNKNOWN HIV STATUS**
 - PARTNERS WITH **HIGH RISK OF GETTING HIV**
- STI** IN THE PAST 6 MONTHS

In particular,
--Transgender women
--Men who have sex
with men of color

INJECTION TRANSMISSION:

- INJECT ILLICIT DRUGS** IN THE PAST 6 MONTHS
- SHARING INJECTION EQUIPMENT**



<http://www.cdc.gov/hiv/basics/prep.html>

Which medications are prescribed for PrEP?

Truvada (TDF/FTC)



- Effectiveness:
 - For multiple populations
- Safety
 - Small in eGFR and BMD
- Cost
 - \$1845/month
 - Generic in 2020

Descovy (TAF/FTC)



- Effectiveness:
 - For MSM and transwomen
 - ? for other populations
- Safety
 - Small in LDL and weight
- Cost
 - \$1,845/month (patient assistance programs)



FDA Approves First Injectable Treatment for HIV Pre-Exposure Prevention

- [On December 20, 2021], the U.S. Food and Drug Administration approved Apretude (cabotegravir extended-release injectable suspension) for use in at-risk adults and adolescents weighing at least 35 kilograms (77 pounds) for pre-exposure prophylaxis (PrEP) to reduce the risk of sexually acquired HIV. Apretude is given first as two initiation injections administered one month apart, and then every two months thereafter. Patients can either start their treatment with Apretude or take oral cabotegravir (Vocabria) for four weeks to assess how well they tolerate the drug.



Needle Prick

1. Do not "milk" prick site
2. Wash the area with soap and water
3. Go to nearest emergency department for assessment and treatment

Relative Risk of Infection after Percutaneous (Needle) Exposure



HBV	1.9 - 40 %
HCV	2.7 - 10 %
HIV	0.2 - 0.44 %

Gerberding, 1995

HIV Occupational Exposure

- Review facility policy and report the incident
- Medical follow-up is necessary to determine the exposure risk and course of treatment
- Baseline and follow-up HIV testing
- Four-week course of medication initiated one to two hours after exposure (PEP)
- Liver function tests to monitor medication tolerance
- Exposure precautions practiced

NON-OCCUPATIONAL **POST** EXPOSURE PROPHYLAXIS

- HIGH RISK EXPOSURE
- AS SOON AS POSSIBLE (<72H FROM EXPOSURE)
- 28-DAY COURSE
- PREFERRED REGIMEN:

TRUVADA ONCE DAILY (FIXED DOSE COMBO 200MG
EMTRICITABINE/300MG TENOFOVIR)

PLUS

RALTEGRAVIR (ISSENTRESS) 400MG TWICE DAILY
OR

DOLUTEGRAVIR (TIVICAY) 50 MG DAILY

TOXICITY MONITORING: BUN, CREATININE, LFTS
(TENOFVIR); RASH (EMTRICITABINE); HEADACHE/NAUSEA
(RALTEGRAVIR)



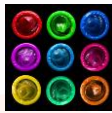
<https://www.cdc.gov/stophivtogether/library/prescribe-hiv-prevention/brochures/cdc-lhph-brochure-pep-faq.pdf>



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Male Condoms

More than **98%** effective when used
correctly and consistently



Latex (most common and effective)

"Non-Latex": Polyurethane, Polyisoprene

Natural Membrane: Lambskin*



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More Protection



Female Condoms

- Worn inside the vagina (or anus)
- Thicker and more tear-resistant
- Always latex-free
- Wider opening covers more pelvic area



Dental Dams

- Thin, square pieces of latex
 - Used for oral sex
 - Could make your own dental dam (from a condom, latex glove, or non-microwavable plastic wrap)

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Condom Efficacy?



Penile piercing is thought to increase stimulation of the woman's G spot.

Medical complications of body piercing



The ring purportedly stimulates the root of the clitoris, and its small ball closure provides direct stimulation of the clitoral head.

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Major Hepatitis Viruses

Virus	Means of transmission
Hepatitis A	Fecal-oral: Contaminated food or water
Hepatitis B	Sexual, mother-to-child, blood exposure (transfusion, IDU, tattoo)
Hepatitis C	Blood exposure (transfusion, IDU, tattoo); sexual, mother-to-child less common

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Hepatitis: definition

- Inflammation of the liver caused by many different agents, including:
 - Viruses (A through E)
 - Alcohol
 - Drugs/prescriptions
 - Herbs
 - Genetic disorders
 - Obesity (NASH)



Viral Hepatitis cont'd

- All forms of viral hepatitis have the similar signs and symptoms: jaundice, fatigue, abdominal pain, loss of appetite, nausea, & vomiting
- Signs and symptoms of hep B & C also include joint pain and dark urine
- IDU's are at high risk for contracting either Hepatitis B or C
- It is estimated that 50%-90% of IDUs with HIV also have Hep C



Viral Hepatitis cont'd

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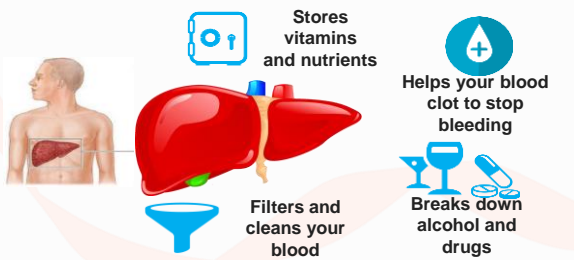


The Liver – A Chemical Factory

- Largest internal organ
- Size of a football
- Approximately 3 lbs in the average sized male
1.5 quarts of blood flow through it every minute



What Does My Liver Do?



WHAT IS CIRRHOSIS ?

- Scarring of the liver with loss of function
- Liver function tests may be normal due to a decrease in the number of normal liver cells





Hepatitis C Testing: What Do the Results Mean?

A simple blood test or rapid finger prick that can show if you have ever been exposed to hep C

Test	What it Detects	Result Interpretation
PCR	<ul style="list-style-type: none"> Detects active hep C infections Blood test 	<p>PCR + antibody — NEW hep C infection</p>
Antibody	<ul style="list-style-type: none"> Detects previous exposure to hep C Rapid finger prick test 	<p>PCR + antibody + CHRONIC hep C infection</p> <p>PCR — antibody + CLEARED hep C infection</p>

CDC Morbidity and Mortality Weekly Report Testing for HCV Infection: An Update of Guidance for Clinicians and Laboratories. <https://www.cdc.gov/mmwr/pdf/wkhtml/mm5602a2.pdf>. Accessed 8/3/21.

Who Is at Risk for Hep C?

ALL ADULTS!

- Born 1945–1965
- Drug use: injection or snorting
- Tattoos, piercings
- Ever been in jail or prison
- Having HIV or other sexually transmitted infections
- Transplant/transfusion before 1992, or dialysis
- Unprotected sex that causes bleeding

CDC: What Is Viral Hepatitis? <https://www.cdc.gov/hepatitis/a/index.html>. Accessed 2/23/22.

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All Hepatitis & HIV Testing Program

Hepatitis C Statistics

U.S. Population

- 2.7 – 3.9 Million Americans Chronically Infected





PATIENT WITH END-STAGE LIVER FAILURE DUE TO CIRRHOSIS



2010 ST Treatment Guidelines Hepatitis A and B Emphasis

- | | |
|---|---|
| <ul style="list-style-type: none"> ▪ Hepatitis B... ▪ Is an STD in this country!!!! <ul style="list-style-type: none"> ▪ 55% acute cases 1991-2000 with known risk factor sexual ▪ Blood/fluid/mucus membranes ▪ VACCINATE! ▪ CONDOMS! | <ul style="list-style-type: none"> ▪ Hepatitis A... ▪ Can be an STD <ul style="list-style-type: none"> ▪ Approx. 24% cases with known risk factor 1990-2000 implicate sexual transmission ▪ Fecal-oral contact ▪ VACCINATE! ▪ DENTAL DAMS? |
|---|---|



HIV/HCV Coinfection:

Who to Treat?

- Degree of Liver fibrosis or cirrhosis
- Consider comorbid conditions that limit life expectancy or increase the risks associated with HCV therapy
- HIV disease should be stable with or without HAART
 - CD4 cell count <200 cells/mm³
 - Treat HIV and defer HCV
- Interferon can exacerbate pre-existing mental illness
 - Evaluate patients with underlying psychiatric disease before initiating HCV treatment with interferon
- Substance abuse
 - Active substance abuse is not a contraindication
 - Associated with high rates of treatment nonadherence and may compromise treatment outcomes

Sulkowski MS, et al. *J Viral Hepatitis*. 2007;14:371-386.



How Long Will HBV Survive Outside the Human Body?

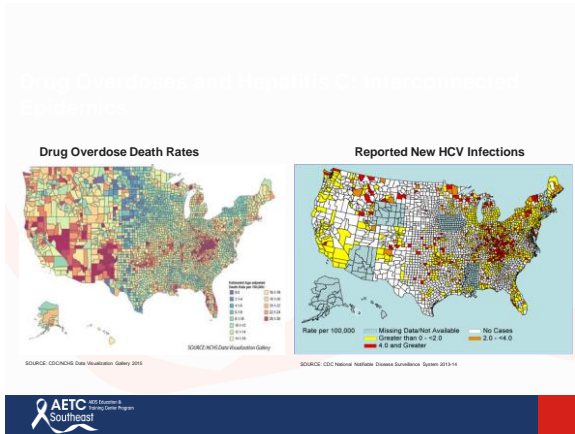
- 7 days
- Hepatitis B virus can survive outside the body at least **7 days**. During that time, the virus can still cause infection if it enters the body of a person who is not infected. May 23, 2016
- [Hepatitis B FAQs for the Public | Division of Viral Hepatitis | CDC](#)
- <https://www.cdc.gov/hepatitis/hbv/bfaq.htm>



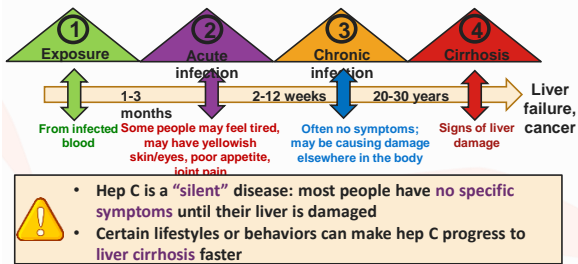
How long does the Hepatitis C virus survive outside the body?

- The Hepatitis C virus can survive outside the body at room temperature, on environmental surfaces, for up to **3 weeks**. Oct 17, 2016
- [Hepatitis C FAQs for the Public | Division of Viral Hepatitis | CDC](#)
- <https://www.cdc.gov/hepatitis/hcv/cfaq.htm>



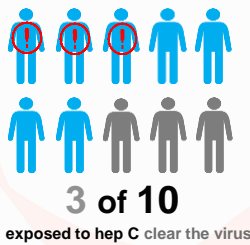


Hep C Timeline



CDC. Hepatitis C Q&As for Health Professionals. <https://www.cdc.gov/hepatitis/hc/hcp/qas.htm#section1>. Accessed 8/20/21.

Can My Body Fight Off Hep C?



2-4 of 10
with chronic hep C
develop **cirrhosis**

The Hepatitis C Trust. <http://www.hepatitis-trust.org/information/hepatitis-c-disease/progression-hepatitis-c/>. Accessed 8/20/21.

Disease Progression

- 10-25% of HCV positive people progress on to serious disease over 10-40 years
 - Fibrosis
 - Light scarring
 - Cirrhosis
 - Compensated vs. decompensated
 - Steatosis
 - Fatty deposits in the liver

Should I Be Treated Now, or Can It Wait?

Experts recommend that **everyone** with hep C should be treated, including:

- ✓ People with **all stages of liver disease**
- ✓ People with **drug addiction** or who **inject drugs**

Starting treatment early and curing hep C is important, as it leads to:

- ✓ Less scarring in the liver
- ✓ Lower risk of liver cancer
- ✓ Relief from any symptoms
- ✓ Improved physical and emotional well-being



Ask your doctor/nurse/counselor about hep C treatment and how and where to access it.

AASLD/IDSA, HCV Guidance: Recommendations for Treating Hepatitis C Virus Infection, 2020.



Genotype Test

- Genotype (1,2,3,4,5,6)
 - U.S. population
 - ~70% genotype 1
 - ~30% genotypes 2 & 3
- Why Is a Genotype Test Important?
 - Medication and treatment duration



Tests to Check the Health of Your Liver

Date	Test	What does it mean?
	ALT (U/L)	A liver enzyme test that measures inflammation in your liver. If it is elevated, it means your liver is affected; this does not measure liver function.
	Viral load (IU/mL)	This test shows how much Hep B virus you have in your blood. If your viral load starts to increase, your doctor will need to monitor you carefully.
	Fibrosis score	This shows the amount of scarring in the liver on a scale from F0 (normal) to F4 (cirrhosis).
	Ultrasound	This can show if you have cirrhosis or liver cancer.
	AFP (ng/mL)	This test can help detect liver cancer or predict risk of liver cancer.
	Hepatitis A antibody	If this test result is positive, it means that you are immune to the Hep A virus.
	Hepatitis C	If this test is positive, it means that you were exposed to hep C and need PCR testing.



Simplifying the Hepatitis Talk

Acute	Sudden; short-term	Hepatocellular carcinoma	Liver cancer
Alb	Albumin; a protein made by the liver	Incidence	Rate of new infections
Antibody	Proteins produced by the body as a response to infections	INR	Internal normalized ratio; measures blood clotting
Asymptomatic	Infection or disease without signs of illness	Jaundice	Yellowing of the skin or eyes
ALT, AST	Proteins that indicate whether the liver is inflamed or not	LFTs	Liver function tests; provide information about how liver is working
Bili	Bilirubin; produced by liver to help eliminate waste	Morbidity	Sickness
Chronic	Persistent; long-term	Mortality	Deaths
DNA	Amount of virus in the blood	Prevalence	Number of existing infections
Fibrosis	Scarring of the liver	Perinatal/vertical transmission	Passing of an infection from the mother to the baby during birth
Cirrhosis	Severe liver damage caused by excessive scar tissue	RNA	Amount of virus in the blood
Hepatic	Liver-related	SVR	Sustained virological response; cure

CDC. Easy-to-Use Guide for Public Health Communication. <https://www.cdc.gov/hepatitis/communication/200216-final.pdf>. Accessed 5/1/2020. The Hepatitis B Foundation. <http://www.hepb.org/resources-and-support/glossary-of-terms-related-to-hepatitis-b/>. Accessed 5/20/21.



Hepatitis C Treatment Just Got Much Better

- HIGHER CURE RATES!
- EASIER! **Interferon free**, fewer side effects
- SHORTER! 3-6 months instead of a year



Approved Medications

Brand Name	Genotype(s)	Cure Rates
Epclusa	1-6	Up to 100%
Viekira Pak & XR	1	Up to 100%
Zepatier	1 & 4	Up to 100%
Technivie	4	Up to 100%
Daklinza (with sofosbuvir)	3	Up to 93%
Harvoni	1, 4, 5, 6	Up to 100%
Sovaldi / Olysio	1	Up to 92%

Visit <http://hepatitismedications.hcvadvocate.org/> for information about current HCV medications



Treatment Options for Hep C

Sofosbuvir/velpatasvir (Epclusa®)

1 pill per day for 12 weeks

Glecaprevir/pibrentasvir (Mavyret®)

3 pills per day for 8 weeks

If you took one of the medications listed above and it did not cure your hep C, your doctor may prescribe:

Sofosbuvir/velpatasvir/voxilaprevir (Vosevi®)

1 pill per day for 12 weeks



Other treatment options exist for hep C; discuss with your health care provider which medication is right for you.



Select resources

- ✦ "Effectiveness of Prevention Strategies to Reduce the Risk of Acquiring or Transmitting HIV" (CDC): https://www.cdc.gov/hiv/risk/estimates/preventionstrategies.html?deliveryName=USCDC_1046-DM64284
- ✦ "Hepatitis C Questions and Answers for Health Professionals" (CDC): <https://www.cdc.gov/hepatitis/hcv/hcvfaq.htm>
- ✦ Opioid Response Network (ORN): <https://opioidresponsenetwork.org/>
- ✦ National HIV Curriculum, Hepatitis C Online: <https://www.hiv.uw.edu/>, <https://www.hepatitisc.uw.edu/>
- ✦ National AETC Program
 - Regional Training Centers: <https://aidsetc.org/directory>
 - Clinician Consultation Center– HIV Warmline/Perinatal Hotline, HCV Warmline, PrEPline, Substance Use Warmline: ncc.ucsf.edu
 - National Coordinating Resource Center– Provider resources: <https://aidsetc.org/>



Reference

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2. Cunningham, C.O. Opioids and HIV Infection: From Pain Management to Addiction Treatment. *Topics in Antiviral Medicine*. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5936216/>
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4. Substance Abuse and Mental Health Services Administration. https://www.samhsa.gov/sites/default/files/hiv-epidemiology_letter-signed.pdf
5. What is "Ending the HIV Epidemic: A Plan for America"? <https://www.hiv.gov/federal-response/ending-the-hiv-epidemic/overview>
6. Action Plan Overview. <https://www.hhs.gov/hepatitis/action-plan/national-viral-hepatitis-action-plan-overview/index.html>
7. Pital, et al. HIV Testing in 50 Local Jurisdictions Accounting for the Majority of New HIV Diagnoses and 7 States with Disproportionate Occurrence of HIV in Rural Areas, 2016-2017. *Morbidity and Mortality Weekly Report*. 2019 Jun 26; 68(25): 561-567.
8. Cohn, A., et al. Characteristics of U.S. Substance Abuse Treatment Facilities Offering HIV Services: Results From a National Survey. *Psychiatric Services*. <https://www.ncbi.nlm.nih.gov/pubmed/29975617>
9. Asteris, L., and Roman, P.M. Provision of Onsite HIV Services in Substance Use Disorder Treatment Programs: A Longitudinal Analysis. *Journal of Substance Abuse Treatment*. <https://www.ncbi.nlm.nih.gov/pubmed/29934459>
10. Fimpong, J., et al. Spillover Effects of HIV Testing Policies: Changes in HIV Testing Guidelines and HCV Testing Practices in Drug Treatment Programs in the United States. *BMC Public Health*. <https://www.ncbi.nlm.nih.gov/pubmed/27473619>
11. Fimpong, J., and D'Amico, R. Hepatitis C Testing in Substance Use Disorder Treatment: The Role of Program Managers in Adoption of Testing Services. *Substance Abuse Treatment, Prevention, and Policy*. <https://www.ncbi.nlm.nih.gov/pubmed/27066116>
12. Yaw, S., et al. Hepatitis C Cascade of Care Among People Who Inject Drugs in Vancouver, Canada. *Substance Abuse* 2018; 39(4): 461-468. DOI: [10.1080/08900185.2018.1481424](https://doi.org/10.1080/08900185.2018.1481424)
13. Morris, et al. Treatment Cascade for Hepatitis C Virus in Young Adult People Who Inject Drugs in San Francisco: Low Number Treated. *Hepatology*. 2019; 69(1): 158-166. DOI: [10.1002/hep.24110](https://doi.org/10.1002/hep.24110)



The Major STIs

Treatable...but repeatable

Syphilis

Chlamydia

Gonorrhea

Trichomonas

Crabs (pubic lice)

Also treatable...some life-long

Herpes

HPV (Human Papilloma virus)

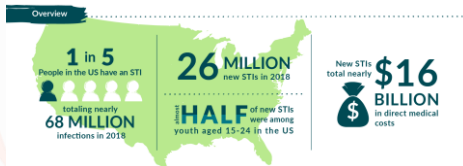
HIV (Human Immunodeficiency Virus)

Hepatitis B ("curable")

Hepatitis C ("curable")



STI Numbers in the U.S.

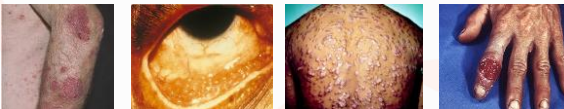


<https://www.cdc.gov/std/statistics/prevalence-2020-at-a-glance.htm>



Antibiotics can cure bacterial
STDs...

but not always the long-term
damage.



How to use it. **200 mg of doxycycline taken within 24 hours (no later than 72 hours) after condomless oral, anal, vaginal and/or front hole sex.** If you have sex again, take another dose 24 hours after your last dose. You can take Doxy PEP as often as every day, but don't take more than 200 mg every 24 hours. Dec 2, 2022

About Doxy PEP for prevention of STIs - San Francisco AIDS ...



Alabama & STIs

- In Alabama, the Div. of STI Prev. and Control, ADPH, conducts disease investigations and partner notifications for chlamydia, gonorrhea, HIV, syphilis, and trichomoniasis.
- "The long-term goals for this division are to reduce the incidence of STIs..., to improve the integration of STI services into clinical care..., increase access to services for populations most at-risk, reduce the threat of antibiotic-resistant gonorrhea, OTHER EMERGING STIs, and congenital syphilis."

www.alabamapublichealth.gov/healthrankings/stid.html



Alabama & STIs in 2018

▪ Chlamydia	28,437
▪ Gonorrhea	12,742
▪ Syphilis (1 st & 2 nd)	477
▪ Congenital Syphilis	7
▪ HIV diagnoses	572

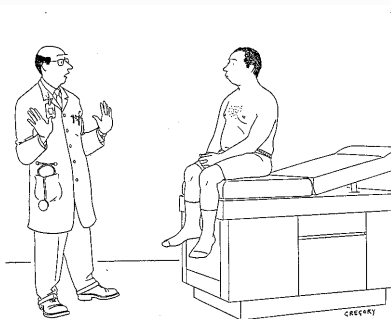


Critical Conversations

"A clinician has seen you naked. A clinician has given you a breast, testicle, or rectal exam. A clinician knows the location of your most discrete tattoos. A clinician knows how regularly you poop. A clinician knows your home address and Social Security number. If clinicians know some of the most intimate details about patients, why do clinicians fail to have critical/sensitive conversations about s-e-x?"

quote from "Critical Conversations: Sex and the doctor-patient relationship," Lisa Fitzpatrick, MD, MPH *Positively Aware* May-June 2013





"Whoa—way too much information."



Alabama Teens Sexual Health

- In 2017, Alabama ranked 9th out of 50 states for teen birth rates
- In 2011,
 - Alabama ranked 9th in the U.S. for HIV infection rates among adults and adolescents aged 13-19
 - Alabama ranked 5th in the U.S. for HIV infection rates among adolescents aged 20-24
 - Alabama ranked 4th for new diagnoses of chlamydia, 3rd for gonorrhea and 12th for primary/secondary syphilis



Adolescents/Young Adults

- Risk is due to behaviors: multiple partners, "serial monogamy", alcohol & drug use
- Cervical anatomy different in adolescents (ectopy)
- Teen women often have sex with 20-25 year old men



Teens have heard....

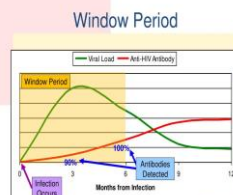
- Meth can help control weight
- Meth can increase endurance, enhancing performance in sports
- Meth can heighten sexual desire and/or activity



Window Periods

This is how long it takes for the infection to show up in tests.

2 weeks chlamydia and gonorrhea
4 weeks syphilis
2-4 weeks Hepatitis B and C
1-3 months HIV



Genital Warts

- Caused by Human Papilloma Virus (HPV)
- Sexually active persons who have had > 3 partners or ***whose partners have had > 3 partners*** have a 75 % chance of being infected with virus.
- Over 80% of sexually active students will contract and transmit HPV by the time they graduate from college.



Human Papillomavirus

- > 100 types of HPV with > 30 types infecting genital tract
 - Type that causes genital warts not same as types that cause cervical cancer
- 20 million infected with HPV in U.S.
- 6 million new infections each year
- 50% of people will become infected at some point in life



HPV Vaccines

Cervarix™ – GSK
(discontinued in the USA)

- HPV 16 and 18
- 0, 1, 6mo dosing
- Females 10-25yrs

Gardasil 9™ - Merck

- HPV types 6,11,16,18,31,33,45, 52,58
- 0, 2, 6mo dosing
- Females 9-45yrs
- Males 9-45:for wart prevention

Efficacy approximately 100% against precancerous lesions caused by specific types in the vaccine, >90% for warts



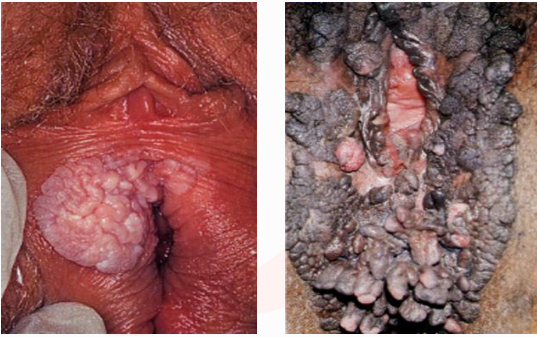


Condyloma acuminata, penile





Female HPV



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The human papillomavirus causes warts resembling cauliflower at the infected site.

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Condyloma acuminata, vulva



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Clinical Manifestations

Intrameatal Wart



Source: Cincinnati STD/HIV Prevention Training Center



Clinical Manifestations

Perianal Warts



Source: Seattle STD/HIV Prevention Training Center at the University of Washington/ UW HSCER Slide Bank



HPV

Perianal Wart



Source: Cincinnati STD/HIV Prevention Training Center



HPV infection in the throat

Normal larynx



HPV infected larynx
exhaling



Herpes: Signs & Symptoms

- First outbreak can occur within 2 weeks after exposure
 - Blisters in genital area → eventually break leaving painful ulcers/sores → 2-4 weeks to heal
- Can be weeks or months for another outbreak
 - Usually less severe & shorter duration
 - Number of outbreaks tend to decrease over years





Herpes Simplex Virus - 1







Herpes

Herpes in a Man



Source: Cincinnati STD/HIV Prevention Training Center





Herpes

You can get herpes anywhere . . .



Source: Cincinnati STD/HIV Prevention Training Center



The clinical diagnosis of herpes is both insensitive and nonspecific

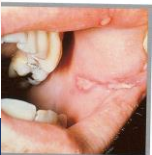




▪ Tonsillar herpes



▪ Pharyngeal herpes



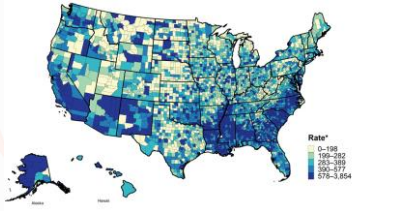
▪ Mucosal herpes

Chlamydia

- 5% of college students infected
- Frequent association with other STD's
- Symptoms
 - Often no symptoms
 - Women: discharge, painful urination, pain with sex, heavy and irregular menstrual periods
 - Men: discharge, epididymitis (painful scrotum)
- Can cause PID and infertility



Chlamydia, 2019



Normal Cervix



Purulent Cervical Discharge





Chlamydia: Complications

- 10-15% develop PID
- ↑ risk of HIV infection
- Perinatal exposure ➔ leading cause of early infant pneumonia and conjunctivitis in newborns







Gonorrhea

Swollen or Tender Testicles (Epididymitis)

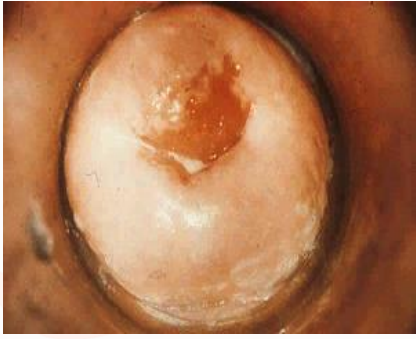


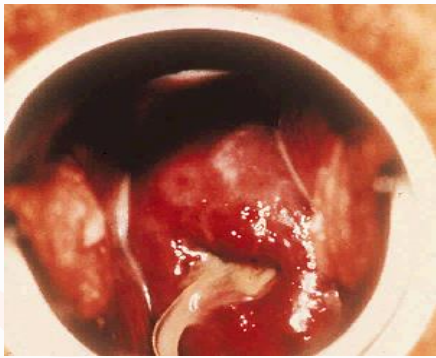
Source: Health Awareness Connection,
<http://www.healthac.org/images.html>



Normal Cervix











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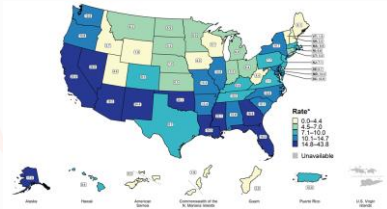
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Faculty Learning Program

Syphilis

- Rates increasing among youth/young adults
- Progressive disease
 - Primary phase: single genital chancre (ulcer), swollen lymph nodes
 - Secondary phase: more sores, usually on genitals
 - Late phase: involvement of multiple organs
- Curable with antibiotics

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All Students &
Faculty Learning Program

Syphilis, Primary and Secondary, 2019



Syphilis - *Treponema pallidum* on darkfield



Primary syphilis - chancre



STIs: Primary Syphilis



Laura Bachman, MD





OKLAHOMA STATE DEPARTMENT OF HEALTH - CREATING A STATE OF HEALTH - WWW.HEALTH.OK.GOV

Secondary Syphilis

- Appears about 4 weeks after chancre heals
- Will go away without treatment, but infection will progress



non-itchy **RASH** with
rough red or
reddish brown spots
Condylomata lata



Alopecia or
patchy hair loss



Mucous Patches
usually in the mouth,
vagina, or anus
or "fleshy warts" in anogenital region



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Secondary syphilis -
papulosquamous rash



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Latent Syphilis

The period when there are no signs/symptoms but syphilis is still present in the body

If left untreated, you can continue to have syphilis in your body for years without any signs or symptoms.

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Late (Tertiary) Syphilis

Typically Occurs 10-30 years after infection begins!

- Can damage almost any part of the body including the **heart, brain, spinal cord, eyes and bones**
- Can result in **mental illness, blindness, deafness, heart disease and death**
- **Gumma**: soft, gummy tumor

Types

- **Cardiovascular Syphilis**
- **Late Benign Syphilis**
- **Neurosyphilis Syphilis**

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Congenital Syphilis

40% will be stillborn or die in the hospital

Transmission can occur during any stage of syphilis and during any trimester of pregnancy

Can cause:

- Prematurity
- Birth defects
- Hutchinson's teeth
- Osteochondritis
- Developmental delays



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Neurosyphilis Syphilis

Usually occurs during late syphilis but can occur at anytime during the infection


Symptoms:

- Difficulty coordinating muscle movements
- Paralysis (not able to move certain parts of your body)
- Numbness
- Blindness
- Dementia (mental disorder)
- Damage to internal organs
- Can result in death

More likely to occur early in the disease process if HIV infection is also present!

Vaginitis and Cervicitis

- Symptoms: discharge, lower abdominal pain, abnormal menstrual bleeding, pain with urination, frequent urination
- Sexually transmitted: trichomonas, bacterial vaginosis, yeast
- Non-sexually transmitted: bacterial vaginosis, yeast, soap or spermicide allergies, perfumes, foreign bodies (e.g. forgotten tampons)

 AETC Southeast
Acute Care & Emergency Medicine Program

Trichomoniasis

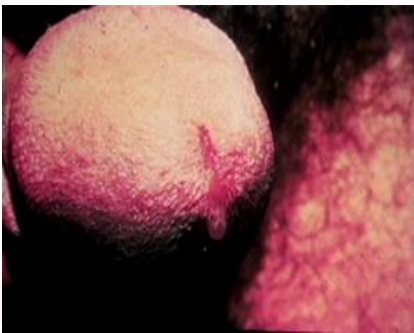
- Parasite: *Trichomonas vaginalis*
- 7.4 million new cases each year in the U.S.
- Symptoms develop 5-28 days after exposure
 - Frothy, yellow-green vaginal discharge with strong odor
 - Dysuria
 - Pain during sex
 - Genital irritation/itching



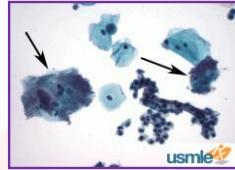


Trichomonal Vaginitis
(Tric)





Bacterial Vaginosis



Bacterial Vaginosis

- Clinical syndrome - normal balance of bacteria disrupted (usually Gardnerella)
- Most common cause of vaginal infection in women of childbearing age
- Some activities increase risk → douching, bubble baths, new/multiple partners
- Usually asymptomatic but if present:
 - Thin, white/gray discharge with unpleasant odor
 - Pain during sex
 - Dysuria
 - Genital itching

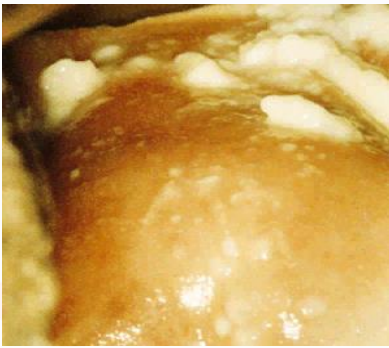


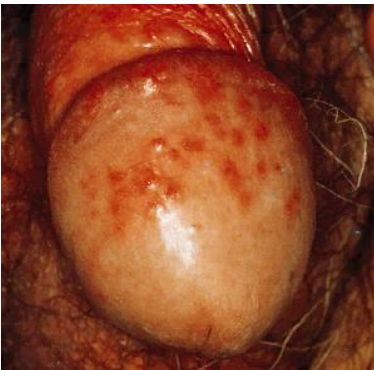
Other Genital Disorders

- Yeast infections (Candida Albicans)
- Scabies
- Pubic lice
- Molluscom contagiosum
- Tinea cruris (jock itch)
- Folliculitis (infected hair follicles)





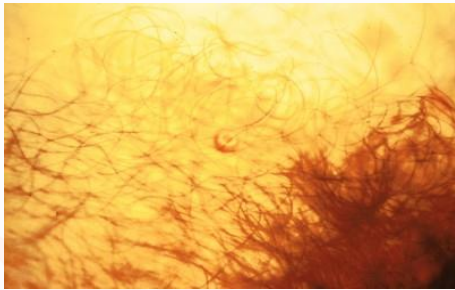


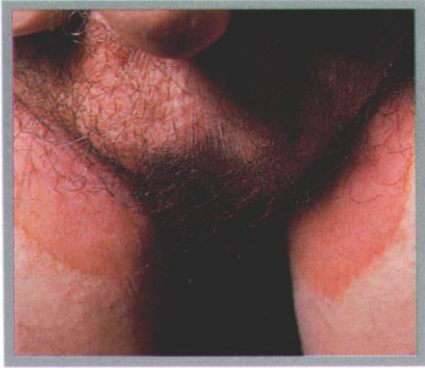






Molluscum contagiosum







The Good News

- HIV education is increasing awareness of HIV and other STIs
- Studies show modest but significant decrease in recent sexual activity
- Use of condoms is increasing
- Research has brought new and better therapies for many STIs in recent years



Substance Abuse Assessment/ Referral

- Ask open-ended questions to elicit complete and accurate information
- Use permissive language for “permission” to answer truthfully without shame
- Acknowledge and respect
 - gender
 - ethnic differences
 - cultural differences
 - sexual orientation



Substance Abuse Assessment/ Referral

- Help patient find his or her own motivation for change:
Two questions to suggest are:
 - “What changes do you feel it’s important for you to make?”
 - “What changes do you feel you’re capable of making right now?” (Miller and Rollnick, 1991)
- Give a menu of options, help the patient explore the pros and cons of each option
 - If the patient chooses the treatment, he or she will be more likely to be adherent



Substance Abuse Assessment/ Referral

Instruments to detect and assess drug and alcohol abuse include:

- Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) alcohol/drug abuse/dependence diagnostic criteria
- CAGE survey
 - four-question format designed for use in primary care settings
 - A positive answer to two or more questions indicates a problem with drug or alcohol use, suggesting further assessment



CAGE

- C** Have you ever tried to cut down on your drinking (or drug use)?
- A** Have you ever gotten annoyed or angry when people talk to you about your drinking (or drug use)? (You might ask “does anyone ever get on your case about your drinking or drug use?”)
- G** Have you ever felt guilty about your drinking (or drug use)?
- E** Have you ever had a drink (or a drug) first thing in the morning or to get rid of a hangover (an eye opener)? (You might ask if they ever drink or use without eating)



Readiness: *Stages of Change*

Precontemplative “What problem?”	Client sees no need to change behavior	Raise risk awareness Discuss impact of behavior on others
Contemplative “Yes, but...”	Sees the need to change behavior, but has barriers	Discuss pros & cons, ambivalence/barriers
Ready for action “Let’s do it”	Is ready to change behavior and may have already taken some steps	Assist in goals Teach skills Develop a plan
Action Doing it	Has changed behavior for a short period of time	Reinforce goals Reinforce skills
Maintenance Living it	Has changed behavior for a long period of time	Praise success Promote self-efficacy

Prochaska et al. Stages of change in the modification of problem behaviors, 1992

Steps for Brief Behavioral Counseling

- 1) Summarize patient risk behavior/interactive
- 2) Identify patient perception of risk and barriers for change/individual circumstances
- 3) Assess readiness for change
- 4) Set a safer goal/realistic
- 5) Negotiate a first step/harm-reduction approach



Take Home Question

- What will I do to help stop STIs?
 - In daily practice: ask about risk factors, encourage abstinence (especially in the young), safer sex practices, support behaviors to decrease risk
 - Screen asymptomatic people based on epidemiology of the area and your patient population
 - Give all available vaccines
 - In community: disease reporting, support evidence-based decisions, teach young people to be safe



Protective Factors for HIV, STDs, and Unintended Pregnancy

- Internal Protective Factors
 - Connectedness to parents, family, school, community, culture
 - Positive values, sense of purpose, hope for future, and resiliency
 - Social and cultural competency
 - Self-esteem, self-efficacy, self-reliance and autonomy
 - Critical thinking, decision-making, and problem-solving skills
 - Communication, negotiation, and refusal skills



continued ...

- External Protective Factors
 - Adult role models/mentors
 - Opportunities for preparation
 - After school activities
 - Communities that value youth



SO HAVE A GREAT DAY...

...and wash your damn hands!

Also remember this: *"If you come across something that is wet & sticky and isn't yours...leave it alone AND DON'T TOUCH!"*



TIP 37: Substance Abuse Treatment for Persons With HIV/AIDS

This manual helps clinicians improve care for people living with HIV/AIDS and substance use disorder conditions. It discusses prevention, assessment, and treatment of HIV/AIDS. The manual also examines mental illness, integrated services, case management, counseling, ethical and legal issues, and funding sources.

Publication ID
SMA12-4137
Publication Date
July 2012



Resources

- Recreational Drugs and HIV:
http://www.aidsinfo.net/oc/fact_sheets/view/494#DRUG_INTERACTIONS
- Substance Abuse and HIV/AIDS:
<https://americanaddictioncenters.org/health-complications-addiction/substance-abuse-hiv-aids>
- Jaimie P. Meyer, Amy L. Althoff, and Frederick L. Altice. Optimizing Care for HIV-Infected People Who Use Drugs: Evidence-Based Approaches to Overcoming Healthcare Disparities. *Clinical Infectious Diseases*, Volume 57, Issue 9, 1 November 2013, Pages 1309–1317, <https://doi.org/10.1093/cid/cit427>



Resources

- Clinical Consultation Center
<http://nccc.ucsf.edu/>
 - HIV Management
 - Perinatal HIV
 - HIV PrEP
 - HIV PEP line
 - HCV Management
 - Substance Use Management
- Present case on ECHO
<https://echo.unm.edu/locations-2/echo-hubs-superhubs-united-states/>
- AETC National HIV Curriculum
<https://aidsetc.org/nhc>
- AETC National HIV-HCV Co-infection Curriculum
<https://aidsetc.org/resource/hiv-hcv-co-infection-aetc-national-curriculum>
- AETC National Coordinating Resource Center
<https://targethiv.org/library/aetc-national-coordinating-resource-center-0>



(202)



HIV/STIs: an Overview for the Substance Abuse/Mental Health Professional

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