

SEXUALLY TRANSMITTED DISEASES - CHLAMYDIA, GONORRHEA, SYPHILIS AND HIV

DISEASE 101 ONLINE CONFERENCE
SARAH WENINGER, MPH, HIV STD VIRAL HEPATITIS PREVENTION COORDINATOR
LEXIE BARBER, MPH, HIV STD VIRAL HEPATITIS SURVEILLANCE COORDINATOR
DECEMBER 3, 2015



OBJECTIVES

- Identify the Key Changes of the 2015 STD Treatment Guidelines for Chlamydia and Gonorrhea.
- Describe Strategies used to Provide Partner Services in North Dakota.
- Detail the STD screening Recommendations for At-Risk Populations.



CHLAMYDIA

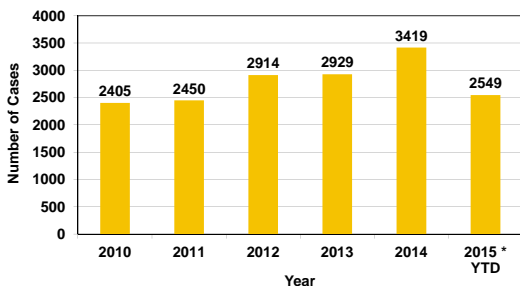


CHLAMYDIA IS THE MOST COMMONLY REPORTED BACTERIAL SEXUALLY TRANSMITTED DISEASE.

- ~1.5 Million Infections Reported Annually
- Estimated **1 in 20** Sexually Active Young Women Aged 14-19 Years currently has chlamydia



Over the Past 5 Years, There Has Been a **42%** Increase in Reported Chlamydia Cases.



*2015 - 1/1/15 - 11/4/15 (Preliminary)



BASICS OF CHLAMYDIA

- **Bacteria:** *Chlamydia trachomatis* (CT)
- **Incubation period:** 7 – 14 days or longer
- **Duration of illness:** Unknown, may be months up to a year
- **Transmission:** Sexual (vaginal, anal, oral) or Vertical
- Majority of infections are **asymptomatic**



SYMPTOMATIC PID OCCURS IN ABOUT **10-15%** OF WOMEN WITH UNTREATED CHLAMYDIA

Additional Complications:

- Ectopic Pregnancy (6%)
- Infertility (10-15%)
- Chronic pelvic pain (18%)



ALL WOMEN <25 SHOULD BE SCREENED FOR CHLAMYDIA ANNUALLY

USPSTF categorizes chlamydia/gonorrhea screening as level "B" evidence

Women: Annual screening for chlamydia/gonorrhea

- Women < age 25 (harmonized) or older women with risk factors (Updated from 2015 Guidelines)

Heterosexual men

- Chlamydia, consider screening in high prevalence settings (adolescent clinics, corrections, STD clinics)
- Gonorrhea screening not recommended

CDC, 2015 STD Treatment Guidelines, MMWR. 2015; 64(3):55.



HIGH RISK MSM SHOULD BE SCREENED EVERY 3-6 MONTHS FOR CT/GC.

Sexually active MSM (at least yearly) including HIV

- HIV serology
- Syphilis serology
- CT/GC: Urethral infection (insertive intercourse)
- CT/GC: Rectal infection (receptive anal intercourse),
- CT/GC: Pharyngeal infection (receptive oral intercourse)
- Hepatitis A, B (vaccination if nonimmune)
 - Sexual transmission of Hepatitis C (MSM with HIV)
- Recent or concurrent STI and HIV

More frequent STI screening dependent on risk behavior (3-6 months)

CDC, 2015 STD Treatment Guidelines, MMWR. 2015; 64(3):13-16.



CHLAMYDIA TREATMENT GUIDELINES

Recommended:

Azithromycin 1 g orally in a single dose
OR
Doxycycline 100 mg orally twice a day for 7 days

If Pregnant, Recommended:

Azithromycin 1 g orally in a single dose

- **Abstain from sexual activity for 7 days** after completing antibiotics
- **Follow-Up:** All positive CT/GC patients should be retested in 3 months



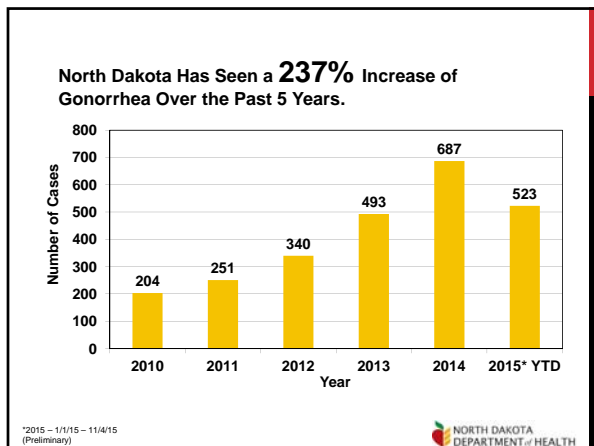
GONORRHEA



GONORRHEA

- Gonorrhea is the second most commonly reported notifiable disease in the US
- ~ 820,000 new gonorrheal infections occur in the United States each year
- CDC estimates that 570,000 of them were among young people 15-24 years of age





FACTS ABOUT GONORRHEA

- **Caused by the bacteria, *Neisseria gonorrhoeae***
- **Incubation period:** 1- 14 days, or longer
 - Most men becoming symptomatic within 2-5 days after exposure.
- **Transmission:** Sexual (vaginal, anal, oral) or vertical
- **Duration:** unknown, may be months up to a year
- **Highly transmissible**
- **Asymptomatic infections**

NORTH DAKOTA DEPARTMENT OF HEALTH

RISK OF SEQUELAE FOLLOWING GC INFECTION

Women: Untreated gonorrhea can cause PID

Men: gonorrhea may be complicated by epididymitis

- **Rare:** Infertility

Untreated gonorrhea can also spread to blood and cause disseminated gonococcal infection (DGI)

NORTH DAKOTA DEPARTMENT OF HEALTH

DUAL THERAPY IS RECOMMENDED FOR GONORRHEA DUE TO THREAT OF ANTIBIOTIC RESISTANCE.

Recommended:

**Ceftriaxone 250 mg IM
PLUS
Azithromycin 1 g orally**

**Change from 2010 to 2015:
Removed Doxycycline as
Second Agent**

Alternatives:

Cefixime 400 mg PLUS Azithromycin 1 gram
➤ Can use alternative regimen for EPT



NEW TREATMENT OPTION FOR GC

Monotherapy of 2g Azithromycin is **Not Recommended**

New treatments:

Gentamicin 240 mg IM + Azithromycin 2 g PO

Or

Gemifloxacin 320 mg PO + Azithromycin 2 g PO

CDC STD Tx Guidelines, pg. 63
The Efficacy and Safety of Gentamicin Plus Azithromycin and Gemifloxacin Plus Azithromycin as Treatment of Uncomplicated Gonorrhea, *Kirkaldy, CID 2014*



IMPROVE PARTNER SERVICES BY UTILIZING EXPEDITED PARTNER THERAPY (EPT)

- **Treatment of partners without an intervening personal assessment by a health-care provider**
- **Accepted method of treatment of CT and GC infections in ND as of January 2009**
 - ND Administrative Code, Chapters 61-04-04-01 Unprofessional Conduct, 54-05-03.1-10 Authority to Prescribe, 50-05-01 Expedited partner therapy




SYPHILIS:
TREPONEMA PALLIDUM



THERE ARE 3 STAGES OF SYPHILIS

Primary	> Chancere > Highly Infectious
Secondary	*Great Imitator* > Rashes, Often Palms and Soles
Tertiary	> Gummas & Cardiovascular Syphilis
Neurosyphilis	> CNS Involvement
Congenital	> Mother to Child Transmission

Latent: Lacking Clinical Manifestations



**PRIMARY SYPHILIS-
CHANCERE**



SECONDARY SYPHILIS - RASH



NORTH DAKOTA DEPARTMENT OF HEALTH

TRADITIONAL SYPHILIS SCREENING ALGORITHM

Presumptive diagnosis

- Non-treponemal tests: RPR and VDRL
 - Both are usually quantified
 - Titer correlates with disease activity

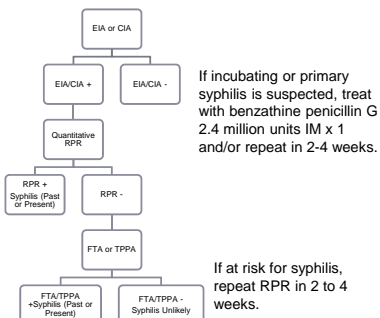
Confirmed diagnosis

- Treponemal tests: TP-PA and FTA-ABS

NORTH DAKOTA DEPARTMENT OF HEALTH

REVERSE SCREENING ALGORITHM

Evaluate clinically, determine if treated for syphilis in the past, assess risk of infection, and administer therapy according to guidelines if not previously treated.



NORTH DAKOTA DEPARTMENT OF HEALTH

SYPHILIS SCREENING RECOMMENDATIONS

- **Pregnant Females**
- **Partners Exposed to Positive Case**
- **Blood Donors**
- **MSM**
 - Screen CT, GC and syphilis at 3 – 6 mo intervals if reporting multiple and anonymous sex partners
- **HIV+ individuals should be tested once a year**



SYPHILIS TREATMENT GUIDELINES

Primary & Secondary:

- Benzathine penicillin G 2.4 million units IM in a single dose

Early Latent:

- Benzathine penicillin G 2.4 million units IM in a single dose

Late Latent or Unknown:

- Benzathine penicillin G 7.2 million units total (3 doses of 2.4 million units IM at 1-week intervals)




INDIVIDUALS WHO ARE INFECTED WITH STDs ARE AT LEAST 2-5X MORE LIKELY TO ACQUIRE HIV INFECTION

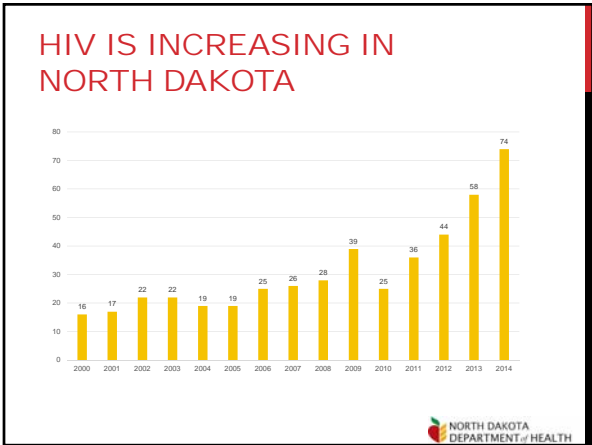
- People with STDs > 2x as likely to have HIV in genital secretions; the median concentration of HIV in semen is 10x higher in men infected with GC and HIV than in men only infected with HIV
- STD treatment reduces an individual's ability to transmit HIV
- HIV testing should always be recommended for individuals who are diagnosed with or suspected to have an STD.



HIV/AIDS 101


Lexie Barber, MPH
HIV,STD,Viral Hepatitis Surveillance Coordinator





HIV 101

- Human Immunodeficiency Virus
- Replicates in cells of the immune system—Replication process destroys the cells
- The body needs these immune system cells to protect itself from other infections
- The body is unable to get rid of HIV
- There is no cure for HIV, but there are medications to control it



HIV 101

- HIV replicates in CD4 T cells
- CD4 T cells: part of the immune system
- As HIV replicates, CD4 T cells are destroyed
 - This compromises the immune system
- When CD4 T cells reach a 200 cells/mm³, an HIV patient is considered to have AIDS



STAGES OF HIV INFECTIONS

- **Acute Infection**
- **Clinical Latency**
 - Inactivity or dormancy
- **AIDS**
 - Acquired immunodeficiency syndrome



ACUTE INFECTION

- 2 to 4 weeks after infection
- Flu like symptoms—acute retroviral syndrome (ARS) or primary infection—this is the body's natural response to the HIV infection
- Not everyone develops ARS
- Large amounts of HIV are being replicated during this time. The virus is using CD4 T cells to replicate. This destroys these cells—CD4 T cell count falls
- The ability to spread HIV is highest during this time—viral load in the blood is very high



ACUTE INFECTION

- **Symptoms include**
 - Fever
 - Enlarged lymph nodes
 - Sore throat
 - Rash
 - Last a few days to several weeks
- **Infection may not show up on an HIV test during this time, but people are still highly infectious during this time**



CLINICAL LATENCY

- Inactivity or dormancy
- Sometimes called asymptomatic HIV infection or chronic HIV infection
- HIV is still active, but reproduces more slowly
- People on Antiretroviral therapy (ART) may live with clinical latency for decades
- For people who are not on ART this may last up to a decade
- Can still transmit HIV to others, even when on ART
- During the middle and end of this stage, viral load begins to rise and CD4 cell counts begin to decrease
- As the immune system becomes too weak, symptoms may begin to show



AIDS

- Acquired immunodeficiency syndrome
- Immune system is badly damaged and patient is vulnerable to opportunistic illnesses
- Normal CD4 counts are between 500 and 1600 cells/mm³ of blood
- When CD4 T cell counts fall below 200 cells/mm³ of blood, the patient is considered to have progressed to AIDS
- An HIV patient can also be diagnosed with AIDS if they develop an opportunistic illness
- Without treatment, people diagnosed with AIDS typically live about 3 years
- Once a serious opportunistic illness develops, life expectancy is about 1 year without treatment



TREATMENT

- HIV can be controlled with antiretroviral therapy (ART)
- ART can help to stop the replication of HIV
- ART can help decrease viral load and increase CD4T cell counts
- People with lower viral loads are less likely to transmit HIV



TRANSMISSION

- United States—HIV is transmitted most commonly by having sex with or sharing injection drug equipment with someone who is HIV positive

Although less common, transmission may also occur through

- Transmission from HIV positive mother to infant during pregnancy, at birth, or while breastfeeding
- Being stuck with a needle contaminated with HIV (health care workers)
- Receiving blood transfusions, blood products, or organ or tissue transplants contaminated with HIV (extremely rare in the United States due to testing)
- Oral sex



HIV AND SEX

- Anal sex is the riskiest type of sex for HIV transmission
- Although not as risky, HIV is still transmitted through vaginal sex
- Condoms and antiretroviral medications can reduce the risk of transmitting HIV to sexual partners



HIV IS NOT SPREAD BY

- Air or water
- Insects
- Saliva
- Tears
- Sweat
- Spitting
- Casual contact
 - Shaking hands
 - Sharing dishes
- Closed mouth kissing
- Toilet seats



STD & HIV PREVENTION!!!

- Condom use every time you have sex
- Use clean needles and never share needles
- Get tested if you are pregnant
 - Take anti-HIV drugs if you are pregnant and HIV positive
 - Avoid breastfeeding if you are HIV positive
- Consider male circumcision
- Test patients who test positive for other STDs
- PeP (Post-exposure Prophylaxis)
 - Take after a high risk event occurs (within 72 hours)—stops HIV from replicating and spreading throughout the body
- PrEP (Pre-Exposure Prophylaxis)
 - Take daily (along with regular condom use) to prevent HIV infection if you are exposed



GET TESTED!

- Symptoms are not enough to determine HIV status
- The only way to know if someone has an HIV infection is to be tested
- Many people do not have symptoms for about 10 years



TESTING

- HIV tests usually test a patients blood for HIV antibodies
- These antibodies may not show up in the first few weeks of infection (though the person can still transmit HIV to others)
- Within the first 3 months, 97% of people will develop enough antibodies to be detected. Some people may take longer
- Patients need to be tested at 3 months after potential exposure for the antibody test



CDC TESTING RECOMMENDATIONS

- Everyone 13-64 should be tested at least once
- In addition, people should be tested if they:**
- Have had sex with someone who is HIV-positive or whose HIV status they don't know
 - Have ever injected drugs and shared needles or other equipment to do so
 - Have exchanged sex for drugs or money
 - Have been diagnosed or sought treatment for another sexually transmitted disease
 - Have been diagnosed or sought treatment for TB or hepatitis
 - Have had sex with someone who has done any of the above
 - If someone continues to have unsafe sex or shares drug injection equipment, they should be tested once a year
 - Sexually active gay and bisexual men should be tested more frequently (once every 3 to 6 months)
 - Someone who has been sexually assaulted should be tested
 - Women who are pregnant or planning to become pregnant should be tested



THE INTERVIEW

Taking a sexual history

- Discuss confidentiality
- All partners in the past 60 days
- Client-centered counseling
- Use open-ended questions when possible
- Inquire about HIV status and test
- Abstain from sex for 7 days following completion of antibiotic therapy
- Come back in 3 months to get tested again

Partner referrals

- Provider, Patient, Contract, Dual
- Test and treat all partners
- Refer for HIV testing and HPV vaccine



TO PROPERLY TREAT A CASE, YOU NEED TO ALSO TREAT THEIR PARTNERS

- **Screening and Referrals for Treatment for Identified Partners**
- **NDDoH Does Partner Services For:**
 - Gonorrhea, Syphilis & HIV
 - Limited Chlamydia Cases (Pregnant)
- **Utilize EPT**
- **Collect Partner Information in the Clinic Setting**
- **Internet Partner Notification**



ADDITIONAL RESOURCES

- **Online reporting at**
www.ndhealth.gov/disease/reportcard/
 - North Dakota STD stats
 - Free resources: Condoms, Brochures, Posters
- **Reference materials**
- **2015 STD Treatment Guidelines:**
<http://www.cdc.gov/std/tg2015/>.
- **CME Activities:** www2a.cdc.gov/stdtraining/self-study/default.htm



Questions?

SARAH WENINGER
HIV,STD,VIRAL HEPATITIS PREVENTION COORDINATOR
PHONE: 701.328.2366
FAX: 701.328.2499
EMAIL: SWENINGER@ND.GOV

LEXIE BARBER
HIV,STD,VIRAL HEPATITIS SURVEILLANCE COORDINATOR
PHONE: 701.328.1059
FAX: 701.328.2499
EMAIL: ABARBER@ND.GOV