

# CDC 2015 STD Treatment Guidelines: Update for IHS Providers

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Clinical Faculty,

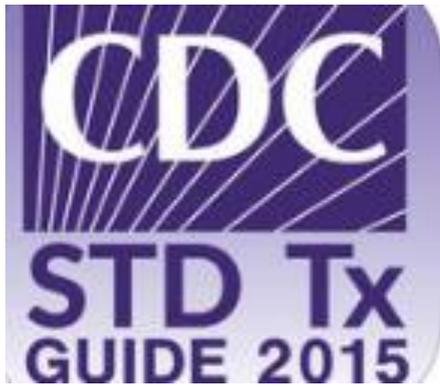
CA Prevention Training Center

Disclosure Information  
*Sharon Adler MD, MPH*

I have no financial relationships to disclose

# Overview

- CDC Treatment Guidelines development
- STD Management Highlights
  - ✓ Diagnostics for GC/CT
  - ✓ Gonorrhea treatment options
  - ✓ Antibiotic resistance: Gonorrhea
  - ✓ Chlamydia Treatment
  - ✓ Urethritis: *Mycoplasma genitalium*
  - ✓ Syphilis: Late latent dosing
  - ✓ HSV: Diagnostics
  - ✓ Vaginitis: Trichomonas



# CDC STD Treatment Guidelines Development

Evidence-based on principal outcomes of STD  
therapy

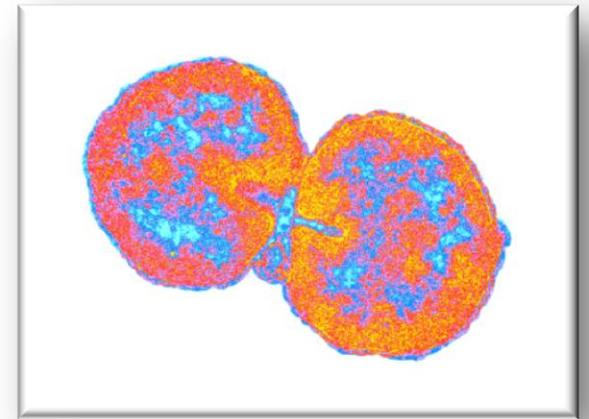
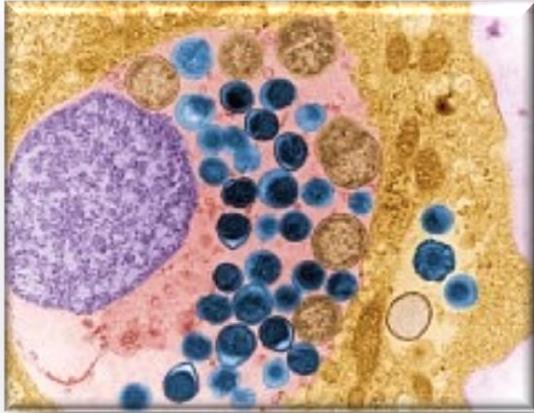
Recommended regimens preferred over alternative  
regimens

Alphabetized unless there is a priority of choice

Reviewed April 2013; available June 2015

Pocket guides, teaching slides, charts

<http://www.cdc.gov/std/tg2015/>



Diagnosatics for GC/CT

# Swabs vs. Urine for Women



## CDC RECOMMENDS:

- Nucleic acid amplification tests are the recommended method
- A self- or clinician-collected vaginal swab is the recommended sample type.
- A first catch urine specimen is acceptable but might detect 10% fewer infections when compared with vaginal and endocervical swab samples.



## Recommendations for the Laboratory-Based Detection of *Chlamydia trachomatis* and *Neisseria gonorrhoeae* — 2014

### Major conclusions

**NAATs recommended for detection of genital tract infections in men and women** – with and without symptoms

### **Optimal specimen types are:**

First catch **urine** for men

Self collected **vaginal** swabs from women

**NAATs recommended for:** detection of **rectal** and **oropharyngeal** infections

- not FDA-approved for rectal or pharyngeal specimens but remain the preferred testing method over culture

# Case Scenario

22 year old female

Asymptomatic, no prior STDs

STD Screening

NAAT testing for GC/CT

**GC positive**

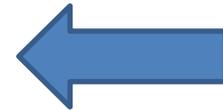
CT negative



## Audience Poll

What is recommended regimen  
to treat Gonorrhoea?

1. Cefixime 400 mg PO +  
azithromycin 1 g PO
2. Azithromycin 2 gm PO
3. Ceftriaxone 250 mg IM +  
azithromycin 1 g PO
4. Ceftriaxone 250 mg IM +  
doxycycline 100 BID x 7d



# Gonorrhea Dual Therapy

Uncomplicated Genital, Rectal, or Pharyngeal Infections

Ceftriaxone 250 mg IM  
in a single dose

**PLUS\***

Azithromycin  
1 g orally

or  
Doxycycline 100 mg  
BID x 7 days\*

\* Regardless of CT test result

New in 2015: Move doxycycline from recommended to alternative drug for co-treatment due to high level of tetracycline resistance ( 23.7 % in 2013) among GC isolates

# What does dual therapy mean?

- Ceftriaxone and azithromycin administered on the same day
- Preferably simultaneously and under direct observation

# Gonorrhea Treatment Alternatives

## Anogenital Infections

### **ALTERNATIVE CEPHALOSPORINS:**

- ❖ Cefixime 400 mg orally once

**PLUS**

- ❖ Dual treatment with azithromycin 1 g      doxycycline  
~~100 mg BID x 7 days, regardless of CT~~

➤ *Doxy removed as co-treatment (unless azithro allergy)*

### **IN CASE OF SEVERE ALLERGY:**

- ❖ ~~Azithromycin 2 g orally once~~

#### **2015 Revisions:**

Gentamicin 240 mg IM or 5mg/kg IM + azithromycin 2g PO  
OR

Gemifloxacin 320 mg orally + azithromycin 2g PO

# Alternative Urogenital GC Regimens

- NIH-sponsored non-comparative randomized trial in adults with urethral or cervical GC
  - gentamicin (240mg IM) + azithromycin 2 gm PO, or
  - gemifloxacin 320 mg PO + azithromycin 2 gm PO

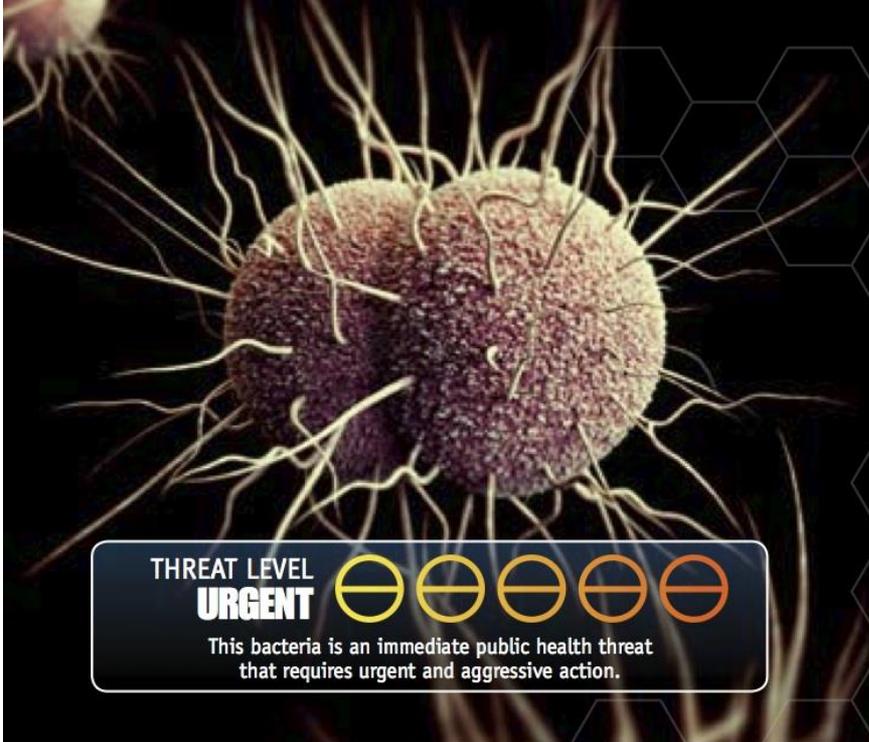
 Per-protocol efficacy:

- gent + AZ=100% (202/202)
  - gemi + AZ=99.5% (198/199)
- Nausea was common (27% and 37%), vomiting also occurred (7% and 5%), additional 3-7% vomited <1hr after administration

# Pharyngeal gonorrhea should not be treated with oral cephalosporins

- Cefixime 400mg PO provides lower bactericidal levels compared to ceftriaxone 250mg IM
- Time above the MIC is not as prolonged
- Efficacy is reduced
- **Test of Cure ( TOC)** for patients with pharyngeal GC treated with an alternative regimen
  - 14 days after tx, culture or NAAT

# DRUG-RESISTANT NEISSERIA GONORRHOEAE



THREAT LEVEL  
**URGENT**



This bacteria is an immediate public health threat that requires urgent and aggressive action.

**246,000**

DRUG-RESISTANT  
GONORRHEA INFECTIONS



**188,600** RESISTANCE TO  
TETRACYCLINE

**11,480** REDUCED SUSCEPTIBILITY  
TO CEFIXIME

**3,280** REDUCED SUSCEPTIBILITY  
TO CEFTRIAXONE

**2,460** REDUCED SUSCEPTIBILITY  
TO AZITHROMYCIN



**820,000**

GONOCOCCAL INFECTIONS  
PER YEAR

*Neisseria gonorrhoeae* causes gonorrhea, a sexually transmitted disease that can result in discharge and inflammation at the urethra, cervix, pharynx, or rectum.

## RESISTANCE OF CONCERN

*N. gonorrhoeae* is showing resistance to antibiotics usually used to treat it. These drugs include:

- cefixime (an oral cephalosporin)
- ceftriaxone (an injectable cephalosporin)
- azithromycin
- tetracycline

## PUBLIC HEALTH THREAT

Gonorrhea is the second most commonly reported notifiable infection in the United States and is easily transmitted. It causes severe reproductive complications and disproportionately affects sexual, racial, and ethnic minorities. Gonorrhea control relies on prompt identification and treatment of infected persons and their sex partners. Because some drugs are less effective in treating gonorrhea, CDC recently updated its treatment guidelines to slow the emergence of drug resistance. CDC now recommends only ceftriaxone

plus either azithromycin or doxycycline as first-line treatment for gonorrhea. The emergence of cephalosporin resistance, especially ceftriaxone resistance, would greatly limit treatment options and could cripple gonorrhea control efforts.

In 2011, 321,849 cases of gonorrhea were reported to CDC, but CDC estimates that more than 800,000 cases occur annually in the United States.

	Percentage	Estimated number of cases
Gonorrhea		820,000
Resistance to any antibiotic	30%	246,000
Reduced susceptibility to cefixime	<1%	11,480
Reduced susceptibility to ceftriaxone	<1%	3,280
Reduced susceptibility to azithromycin	<1%	2,460
Resistance to tetracycline	23%	188,600

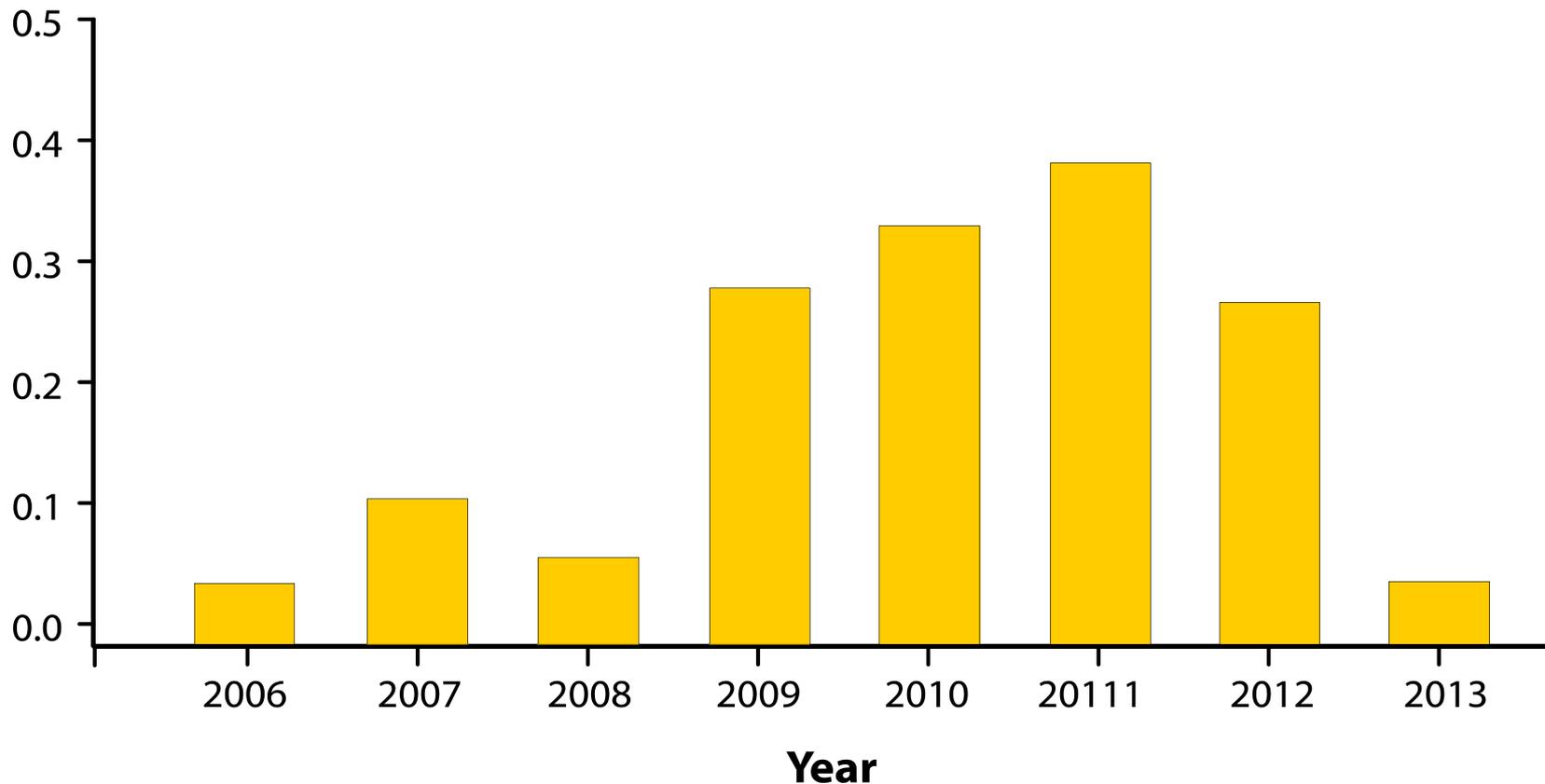
Source: The Gonococcal Isolate Surveillance Project (GISP)—5,900 isolates tested for susceptibility in 2011. For more information about data methods and references, please see technical appendix.



U.S. Department of  
Health and Human Services  
Centers for Disease  
Control and Prevention

***Neisseria gonorrhoeae* — Percentage of Isolates with Elevated Ceftriaxone Minimum Inhibitory Concentrations (MICs) ( $\geq 0.125$   $\mu\text{g/ml}$ ), Gonococcal Isolate Surveillance Project (GISP), 2006–2013**

**Percentage**



# *Suspected GC Treatment Failure: First Consider Reinfection\**

**TEST:** with culture and NAAT. If GC culture not available on-site, call local health department.

**REPEAT TREATMENT:** Gemifloxacin 320 mg + AZ 2g OR gentamicin 240 mg IM + AZ 2g. (If re-infection suspected see below)

**REPORT:** To your local health department within 24 hours

**TREAT PARTNERS:** Treat all partners in last 60 days with same antibiotic regimen as patient

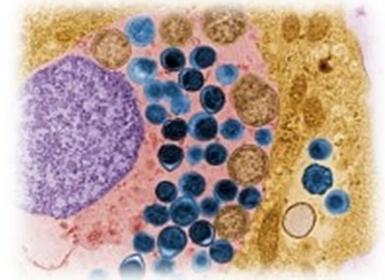
**TEST OF CURE (TOC):** TOC 7-14 days with culture and NAAT

## **\*When reinfection suspected:**

- If initial RX was Ceftriaxone 250 IM/Azithro 1gm **Retreat** with Same regimen
- If initial RX was Cefixime/Azithro **Retreat** with Ceftriaxone 250 IM plus Azithromycin 2 gm po

# Chlamydia Treatment

## Adolescents and Adults



### Recommended regimens (non-pregnant):

- ❖ Azithromycin 1 g orally in a single dose
- ❖ Doxycycline 100 mg orally twice daily for 7 days

***Doxycycline delayed-release 200 mg tablet QD x 7 d added as alternative regimen***

### Recommended regimens (pregnant\*):

- ❖ Azithromycin 1 g orally in a single dose
- ❖ ~~Amoxicillin 500 mg orally TID x 7 days~~

***Amoxicillin 500 TID moved to alternative for pregnant women***

\* Test of cure at 3-4 weeks only in pregnancy

# Rectal Chlamydia: Treatment

- **Azithromycin < Doxycycline**
  - Data from one nongonococcal urethritis trial and several rectal infection studies
  - Meta analysis
    - **Pooled cure rates: doxy 97.5%, azithro 94.4%**
- **Doxycycline marginally more effective than azithromycin for rectal CT infection**
- More research needed ( RCT)
- No change in CDC 2015 RX recommendations

# Case Scenario: Persistent Urethral Discharge



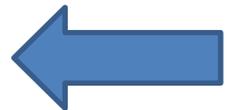
Seattle PTC

- 20 Year old Male complaint of persistent dysuria & urethral discharge.
  - Seen 1 week ago and treated for urethritis (Ceftriaxone 250 IM plus Azithromycin 1 gm PO)
  - States the discharge never really went away. No sexual exposures in past week ( h/o female partners)
  - GC/CT NAAT both negative from prior visit
- Urethral discharge confirmed on exam today

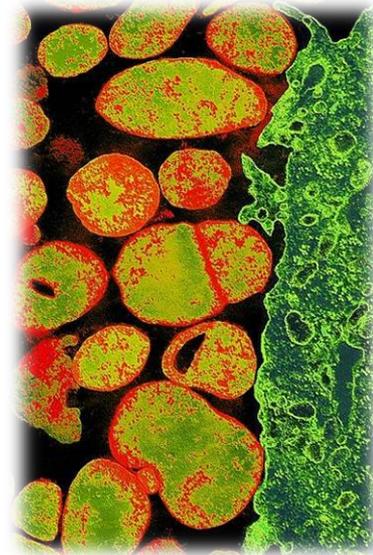
# Audience Poll

## How would you treat his persistent urethritis?

1. Ceftriaxone 250 mg plus azithromycin 1gm orally
2. Doxycycline 100 mg orally BID for 7 days
3. Metronidazole 2 gm orally
4. Moxifloxacin 400 mg orally QD for 7 days plus metronidazole 2 gm orally once



# ***Emerging Issues: Mycoplasma genitalium***



- Sexually transmitted pathogen
  - Urethritis: studies support association
    - Etiology in ~ 30% persistent urethritis
  - Cervicitis and PID ( data suggestive)
- FDA approved test not commercially available
  - Some centers have done CLIA validation
- Azithromycin superior to doxycycline for *M. genitalium* urethritis
  - 82% vs 39% ( older studies)
  - (\*AZ efficacy may be declining for *M.genitalium*)
- Moxifloxacin effective for *M.genitalium*

*\*Manhart et al, CID 2013*

# Persistent NGU Treatment

**If azithromycin NOT given for 1<sup>st</sup> episode:**

- ❖ Azithromycin 1 g orally in a single dose  
**PLUS**
- ❖ Metronidazole 2 g orally in a single dose OR
- ❖ Tinidazole 2 g orally in a single dose

**If azithromycin given for 1<sup>st</sup> episode:**

- ❖ Moxifloxacin 400 mg orally qd x 7d  
**PLUS**
- ❖ Metronidazole 2 g orally in a single dose OR
- ❖ Tinidazole 2 g orally in a single dose

**Urology referral if symptoms persist**

# Syphilis Treatment: No changes

## Primary, Secondary & Early Latent:

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

## Late Latent and Unknown Duration:

- ❖ Benzathine Penicillin G 7.2 million units total, given as 3 doses of 2.4 million units each at 1 week intervals

## Neurosyphilis:

- ❖ Aqueous Crystalline Penicillin G 18-24 million units IV daily administered as 3-4 million IV q 4 hr for 10 -14 d

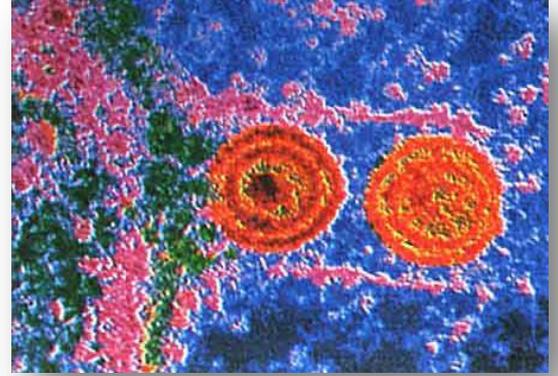
*Only one dose of PCN Is recommended for early syphilis in HIV-infected persons, extra doses not needed*

\*Always order an RPR on the day of treatment!

# Maximum time between doses when treating late latent syphilis?

- Clinical experience suggests 10-14 days ok for non-pregnant adults
  - <9 days is best based on limited pharmacologic data
- In pregnancy, must adhere to strict 7 days between doses
  - 40% of pregnant women are below treponemicidal levels after 9 days
  - Missed dose: **entire** series must be restarted

# Genital Herpes



HSV-1 infection- increasing proportion of anogenital herpes in young women and MSM

## Diagnosis

HSV NAAT ( PCR) or viral culture are preferred for diagnosis of genital ulcers

HerpeSelect HSV-2 ELISA might be falsely positive at low index values (1.1-3.5); should be confirmed with WB or Biokit

HerpeSelect HSV-1 ELISA is insensitive for HSV-1 Ab

IgM testing not useful- may detect recurrence

Treatment: No changes

# Trichomonas



- **Prevalence estimates ~3.7 million**
  - **Screening recommended**
    - HIV+ women (at least annually)
  - **Consider screening**
    - High prevalence settings (STD clinics, corrections) or at high risk of infection
  - **Retesting** recommended within 3 months after treatment for women
    - (insufficient data to recommend for men)
  - **Diagnostics: Limitations of wet mount microscopy**
    - Sensitivity low ~51%-65%, declines if delay in microscopy
- New testing algorithm:**  
**Wet mount first, if negative then NAAT ( NAAT FDA approved for women)**

# STD Clinical Consultation Network (STDCCN)

Provides STD clinical consultation services within 1-3 business days, depending on urgency, to healthcare providers nationally

Your consultation request is linked to your regional PTC's expert faculty

We are just a click away!

[www.STDCCN.org](http://www.STDCCN.org)



National Network of  
STD Clinical Prevention  
Training Centers

**STD Clinical Consultation Network**

#### Important for Requestors to Consider

The Clinical Consultation Service is intended for licensed healthcare professionals and STD program staff. We do not provide direct medical care, treatment planning, or medical treatment services to individuals.

The information provided through the Clinical Consultation Service is not a replacement for local expertise or your state STD program protocols. Information is offered as clinical decision support, is advisory in nature and is not intended to replace local healthcare decision-making or provision. Requestors are free to disregard any advice offered. Final clinical decisions are the sole responsibility of the healthcare provider.

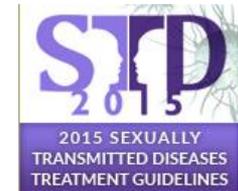
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# Additional Resources for Clinicians

- CDC 2015 STD Treatment Guidelines

- <http://www.cdc.gov/std/tg2015/>

- [CDC STD Treatment Guidelines free App available for Apple](#)



- National Network of STD/HIV Prevention Training Centers

- <http://nnptc.org/>



- CAPrevention Training Center

- [www.stdhivtraining.org](http://www.stdhivtraining.org)

