2021 STI Update

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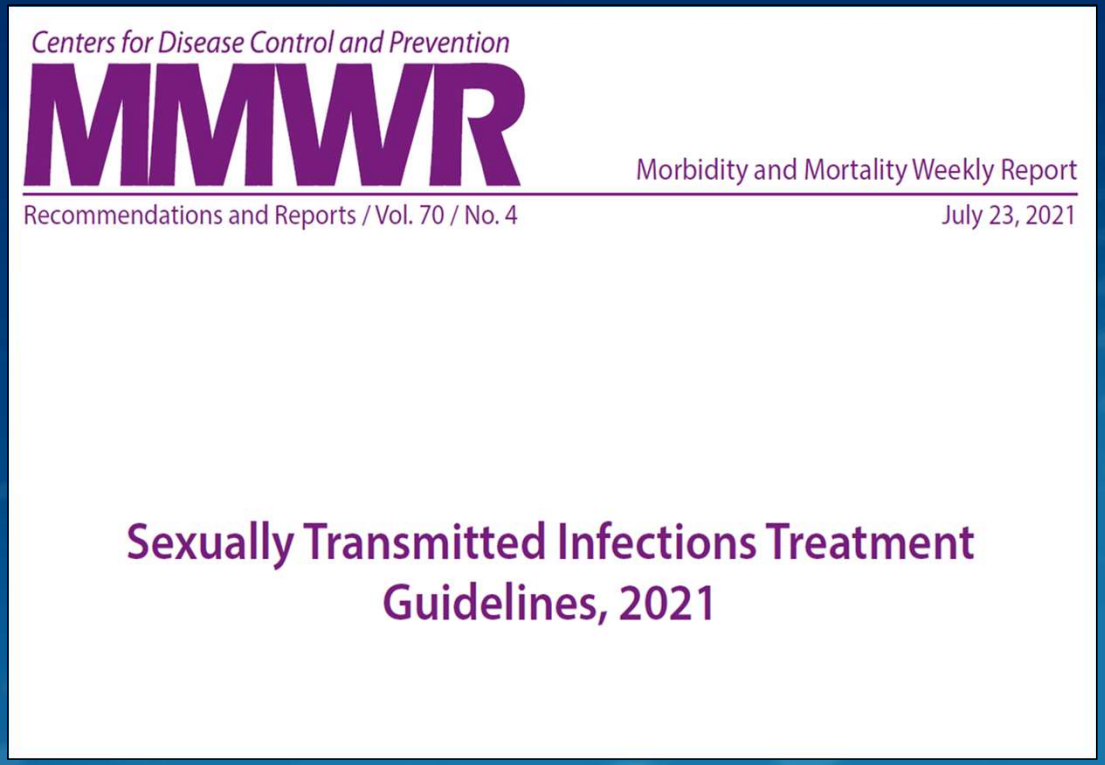

Disclosures

UpToDate: Royalties (Herpes section)

Consultant: Gilead, AbbVie

Data Safety Monitoring Board: Medpace

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Acknowledgements

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Changes to the 2021 STI Guidelines

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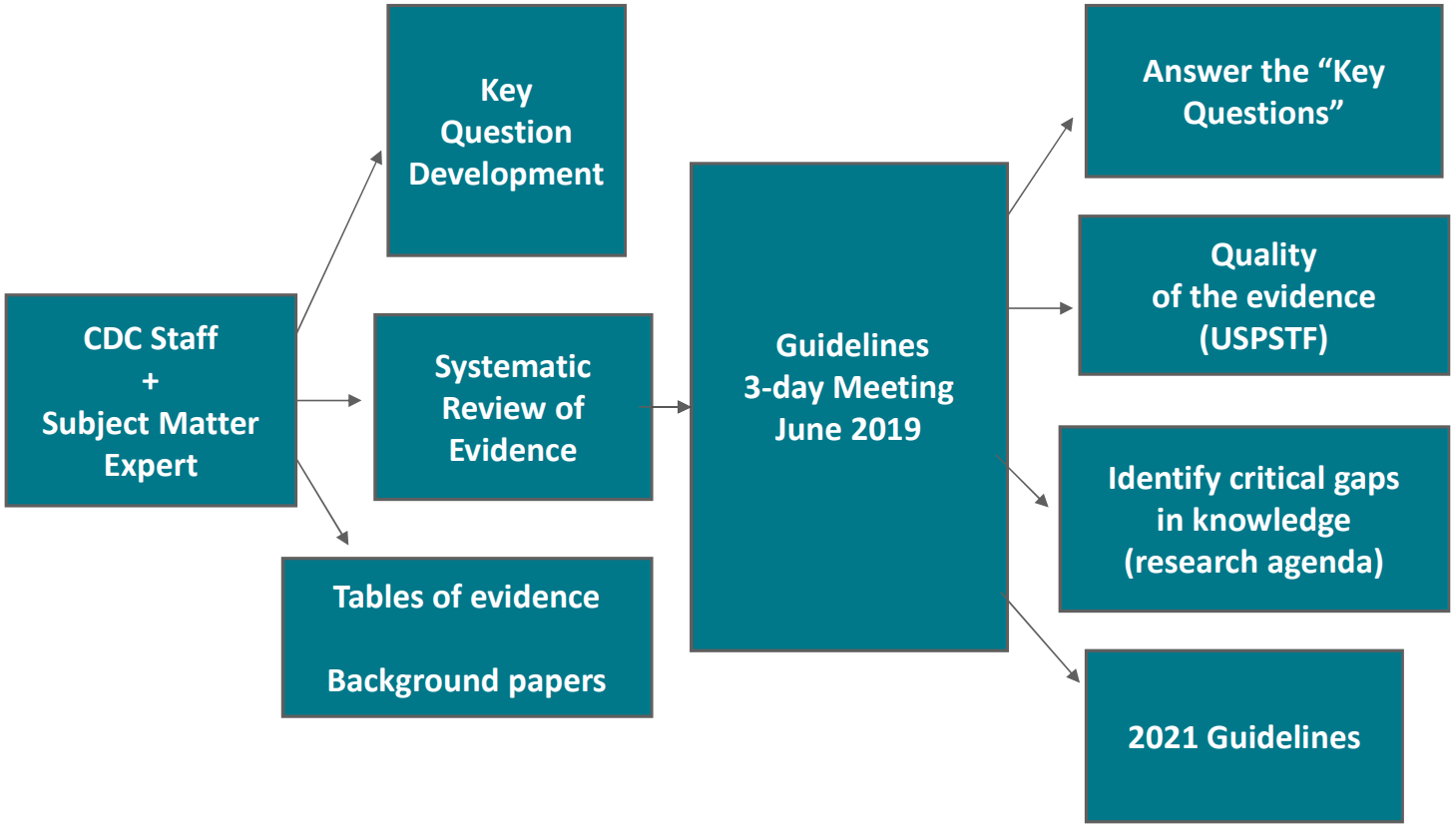
Goals

Goals

- Share updates included in the 2021 STI Treatment Guidelines
- Discuss the rationale for these updates
- Align clinical practice with updated guidelines

Evidence-based Approach to Guideline Development



Themes

- Antimicrobial Resistance and stewardship
  - *Neisseria gonorrhoeae*
  - *Mycoplasma genitalium*
    - Regimen changes
    - Future: Resistance guided therapy?
  - Antibiotic allergies

  - Evidence based antimicrobial regimens
    - Rectal chlamydia
    - *Trichomonas vaginalis*
    - PID

  - Diagnostics
    - BV, M. genitalium, HSV

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Name Change!

STD vs STI

- Sexually transmitted disease
- Refers to disease state

- Sexually transmitted infection
- Refers to pathogen
- Often asymptomatic
- Sexual health model

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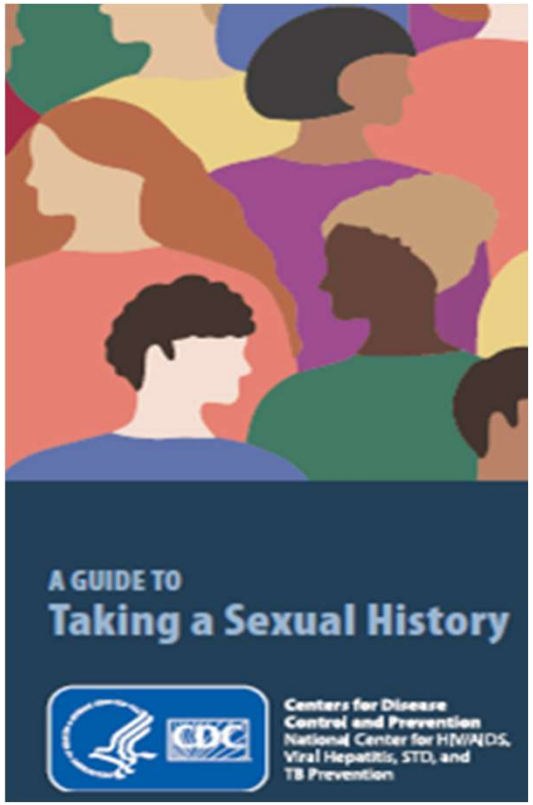
New Sexual History Taking Guide



Revised “5Ps”

1. Partners – What is the gender…
2. Practices
3. Protection from STIs
4. Past history of STIs
5. Pregnancy intention (new)
   - Previously “prevention”

https://www.cdc.gov/STI/treatment/sexualhistory.pdf

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Caveats

- Use of gender-based recommendations
  - Screening guidelines for “women” and “men”
  - For clinical purposes, consider anatomy and anatomic sites of exposures

  - Use of MSM, transgender
    - Could do more on inclusive language, gender non-binary persons

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Screening

STI Screening for persons with HIV

	First HIV evaluation	Annual, if sexually active	More frequent depending on risk behaviors
Chlamydia	X	X	X
Gonorrhea	X	X	X
Syphilis	X	X (MSM)	X (MSM)
HSV	X (consider)		
Trichomonas (women)	X	X	
Cervical cancer	X*	X**	
Anal cancer (DARE)	X	X	
Hepatitis B	X		
Hepatitis C	X	X (MSM)	

*repeat within 6 months. **With 3 normal consecutive paps, screening every 3 years

Extragenital screening based on exposure:

GC/CT: rectal (if receptive AI)
GC: pharyngeal if receptive oral sex)

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Major change to screening

Hepatitis C screening recommended for:

- Cis-gender women: at least once if >=18yo (unless prevalence of HCV<0.1%)
- Pregnant persons: With every pregnancy (Unless prevalence of HCV<0.1%)
- Cis-MSM: at least once if >=18yo (unless prevalence of HCV<0.1%)

STI Screening: Non-Pregnant Cis-Women *(partners of any gender)*

Women under 25 years of age

- **Chlamydia/gonorrhea annually**
- **HIV at least once**
- **Hep C at least once if ≥ 18 yo (unless prevalence of Hep C < 0.1%)**

Women 25 years of age and older

- **Chlamydia/gonorrhea if at risk**
- **HIV at least once**
- **Hep C at least once (unless prevalence of Hep C < 0.1%)**

Screening not recommended for M. genitalium or Trichomonas vaginalis

STI Screening: Pregnant Cis-Women
(partners of any gender)

Everyone

- **HIV @ first prenatal visit;**
  - If at risk, retest during 3rd trimester by 36 weeks.
- **Syphilis @ first prenatal visit**
  - If at risk, retest during 3rd trimester (ideally at 28 weeks) PLUS delivery.
- **HepB sAg @1st prenatal (even if vaccinated or previously tested)**
- **Hep C (unless prevalence of Hep C < 0.1%) WITH EVERY PREGNANCY**

If <25 years of age or with risk:

- **Chlamydia and Gonorrhea @ first prenatal plus retest in 3rd trimester**

Screening not recommended for M. genitalium or trichomonas

STI Screening:
Cis-Men who have Sex with Men (MSM)

- **HIV***
- **Syphilis***
- **Urethral GC and CT***
- **Rectal GC and CT (if receptive anal sex)***
- **Pharyngeal GC (if oral sex)***
- **Hepatitis B (HBsAg, HBV core ab, HBV surface ab)**
- **Hepatitis C: (At least once if ≥ 18 yo, unless prevalence of infection < 0.1%)**
- **Anal cancer: annual digital anorectal exam may be useful (no anal Pap rec yet)**
- **HSV-2 serology (consider)**

Annually, more frequent (3-6 months) if multiple/anonymous partners, drug use, or partners w/ risk

Screening not recommended for M. genitalium or trichomonas

STI Screening: Transgender (TG) Persons

Based on current anatomy and gender of sex partners

- **Offer HIV screening to all transgender persons**
- **TG persons who have sex with cisgender men, at similar risk for STIs as cis-MSM**

Transgender women post vaginoplasty

- **GC/CT at all sites of exposure: oral, anal, genital**
  - **Urine vs neovaginal swab not specified.**

Transgender Men post metoidioplasty

- **If vagina still present and need to screen for STIs, use cervical/vaginal swab**

STI Screening: Adolescents

- **Chlamydia/Gonorrhea**
  - Female - Yes. Consider rectal screening (GC/CT) and pharyngeal (GC)
  - Male with female-only partners - Shared decision, consider in setting serving populations with high incidence
- **HIV:** Offer to all adolescents. Frequency based on risk.
- Routine screening for syphilis, trichomoniasis, BV, HSV, HAV, and HBV is not typically recommended.
- **T. vaginalis:** Consider local prevalence when deciding whether to screen
- **Syphilis:** Young MSM and pregnant females should be routinely screened

STI Screening: Corrections

- **All persons** in juvenile and adult correctional facilities:
  - HIV
  - HAV and HBV
  - HCV, depending on local prevalence
  - Vaccination for HAV and HBV should be offered if the person is susceptible
- **Females aged ≤35 years:** Chlamydia and Gonorrhea , Trichomonas - opt-out
  - Cervical Cancer Screening if indicated,
- **Males aged <30 years:** Chlamydia and Gonorrhea.

- **What about Syphilis?** based on local area and institutional prevalence of early (primary, secondary, or early latent) infectious syphilis.

Sexual Assault: Adolescents and Adults

Evaluation: "An initial examination after a sexual assault might include the following:" (decide on case-by-case basis) **Includes both Males and Females**

- **NAATs for GC/CT** at sites of penetration or attempted penetration
- **Serology HIV, HBV, and syphilis**
- **Females:**
  - NAAT testing for *T. vaginalis* (urine or vaginal)
  - POC or wet mount with pH/KOH for BV/candidiasis, especially if Sx
- **MSM:**
  - GC/CT screening if receptive oral or anal sex during the preceding year, regardless of whether contact occurred at these sites during the assault.
  - Consider anoscopy if reported anal penetration.

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Sexual Assault Continued

Presumptive Treatment

- Empiric treatment for chlamydia, gonorrhea (any gender)
- Empiric treatment for trichomonas if female
- Emergency contraception when the assault could result in pregnancy.
- Postexposure hepatitis B vaccination (without HBIG) if the hepatitis status of the assailant is unknown and survivor has not been previously vaccinated.
  - If the assailant is known to be HBsAg positive, unvaccinated survivors should also receive the vaccine plus HBIG
- HPV vaccination for survivors aged 9–26 years not/incompletely vaccinated
- HIV PEP on a case-by-case basis according to risk

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Chlamydia

Doxycycline is preferred treatment for chlamydia at any site

Recommended Regimens for Chlamydial Infection Among Adolescents and Adults

Doxycycline 100 mg orally 2 times/day for 7 days

Alternative Regimens

Azithromycin 1 g orally in a single dose
OR
Levofloxacin 500 mg orally once daily for 7 days

*Doxycycline delayed release 200 mg daily is available and can be used

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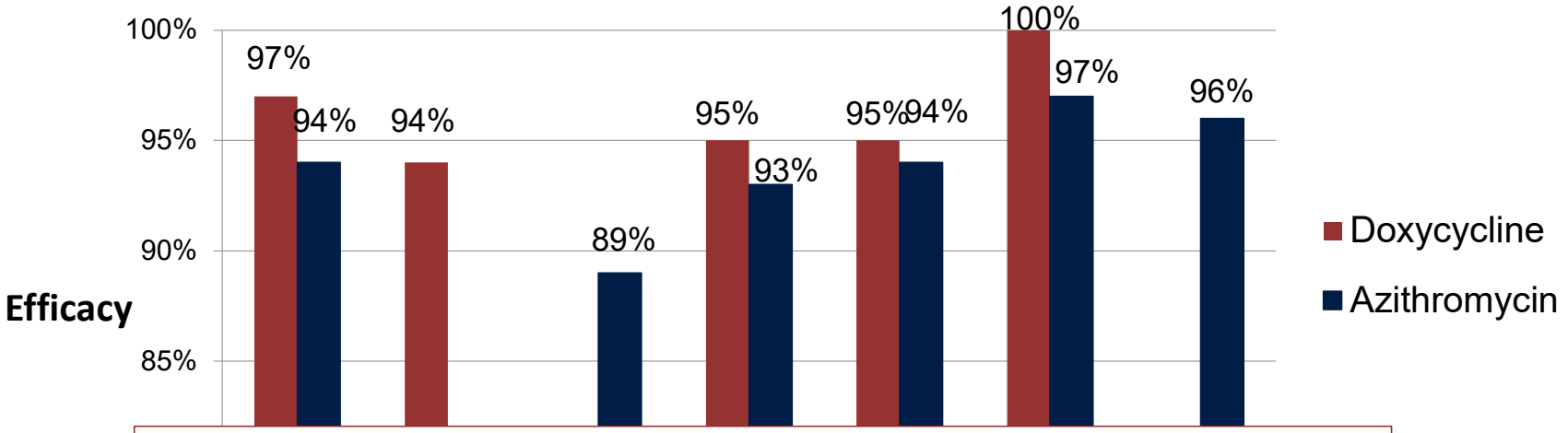
Doxycycline vs Azithromycin for Urogenital CT



Situations where azithromycin may still be used:

- Pregnancy
- Concerns about ability to adhere to 7-day regimen
- Allergy, intolerance

Slide credit: Dr. Will Geisler

Evidence base for shift to doxycycline for rectal chlamydia

DB RCT: MSM with rectal chlamydia

Randomized to doxy 100 BID x 7 Days or azithromycin 1 gm x 1

Primary outcome: Cure at 4 weeks

N=135 (Ct positive at enrollment, 4-week f/u)

Cure: 100% vs 74%, 26% difference (p<0.001)

Doxycycline is superior to azithromycin

Dombrowski J, *2021, CID* https://doi.org/10.1093/cid

Chlamydia Treatment: Pregnancy

Recommended regimen (pregnant*):

- Azithromycin 1 g orally in a single dose

Alternative regimens (pregnant*):

- Amoxicillin 500 mg orally three times a day for 7 days

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

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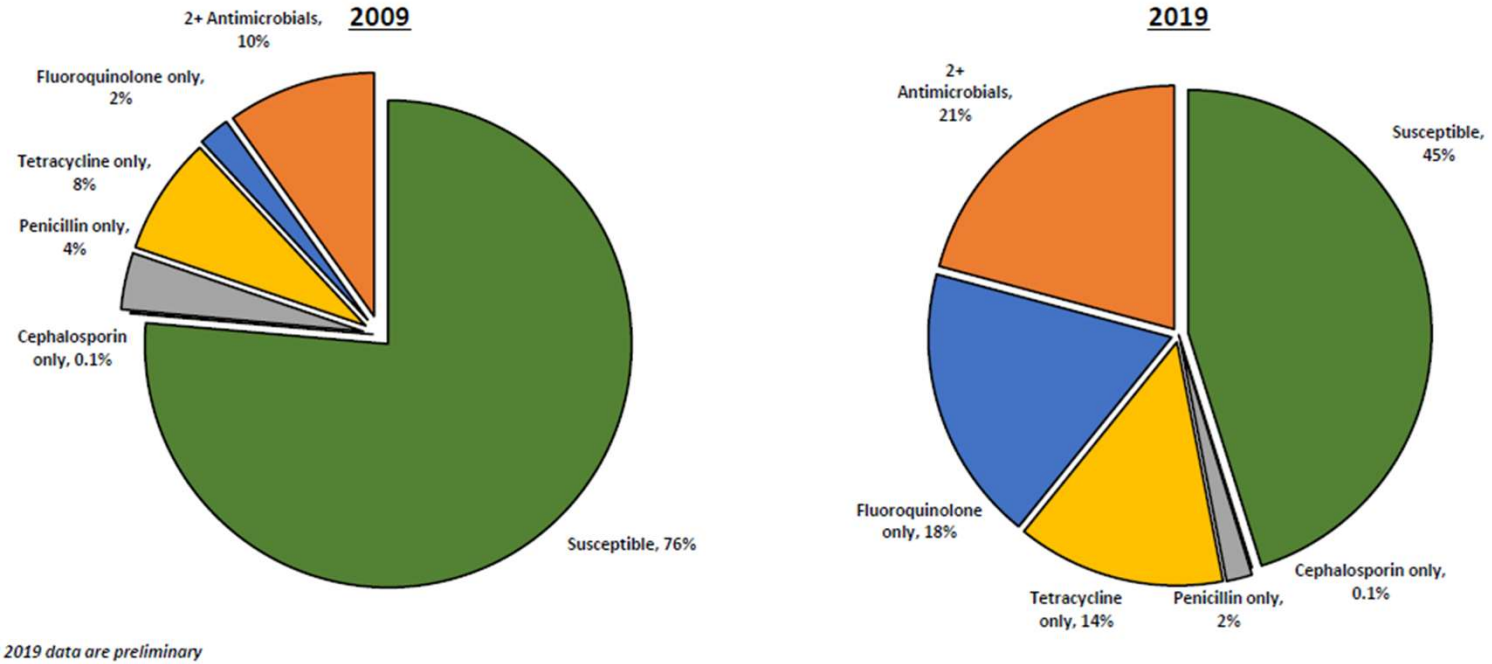
Gonorrhea

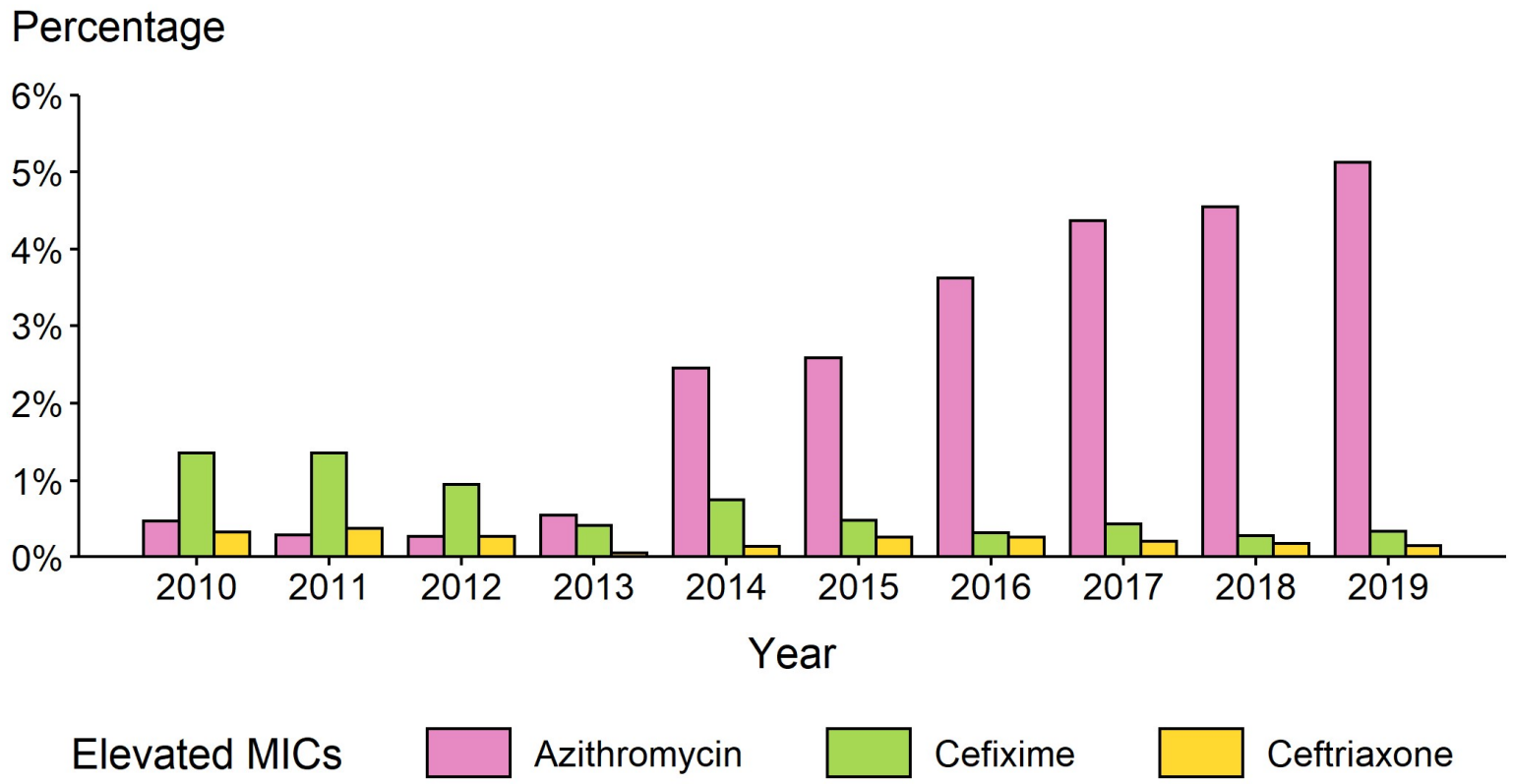
More than half of GC isolates are resistant to at least one antibiotic

Prevalence of Resistant or Decreased Susceptibility of *N. gonorrhoeae* Isolates to Antimicrobials, GISP, 2009 and 2019*



* *2019 data are preliminary*

Rise in GC Isolates with Decreased Susceptibility to Azithromycin (~5%) Gonococcal Isolate Surveillance Project, 2010–2019



New Gonorrhea Treatment Guidelines

for uncomplicated infections

Ceftriaxone 500 mg IM x 1
for persons weighing <150kg*

*For persons weighing ≥ 150 kg, 1 g of IM ceftriaxone should be administered

However, if chlamydia has not been excluded, treat for chlamydia with:

Doxycycline 100 mg PO BID x 7 days

For pregnancy, allergy, or concern for non-adherence, 1 g PO azithromycin x 1 can be used

- No longer recommending dual therapy with azithromycin
- Test-of-Cure at 7-14 days post treatment for **pharyngeal** gonorrhea

Update to CDC's Treatment Guidelines for Gonococcal infection, 2020; MMWR

New Alternative Gonorrhea Treatment

for uncomplicated infections of the cervix, urethra, and rectum **if ceftriaxone is not available**:

Cefixime **800** mg PO x 1

However, if chlamydia has not been excluded, treat for chlamydia with:

Doxycycline 100 mg PO BID x 7 days

For pregnancy, allergy, or concern for non-adherence, 1 g PO azithromycin x 1 can be used

Cephalosporin allergy: Gentamicin 240 mg IM + azithromycin 2 g PO

No reliable alternative treatments are available for **pharyngeal** gonorrhea

Update to CDC's Treatment Guidelines for Gonococcal infection, 2020; MMWR

Expedited Partner Therapy for GC/CT

- No states in US prohibit EPT (either allowable or potentially allowable by law/statute in all 50 states)
- Previously only recommended for hetero men/women, now "shared decision making" for EPT for MSM
- Providing patients with packaged oral medications is preferred approach
  - Partners (especially adolescents) may not fill prescriptions

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M. genitalium: diagnostics and more resistance

- **More than 1 in 4 men with urethritis have *Mycoplasma genitalium***
- **Population based screening for *M. genitalium* is NOT recommended**
- **Diagnostic testing: NAAT (FDA approved in 2019) for** urine, urethral, penile meatal, endocervical, vaginal specimens
- **When to test: persistent urethritis that fails initial treatment, also consider for persistent PID or cervicitis**

Bachmann CID 2020

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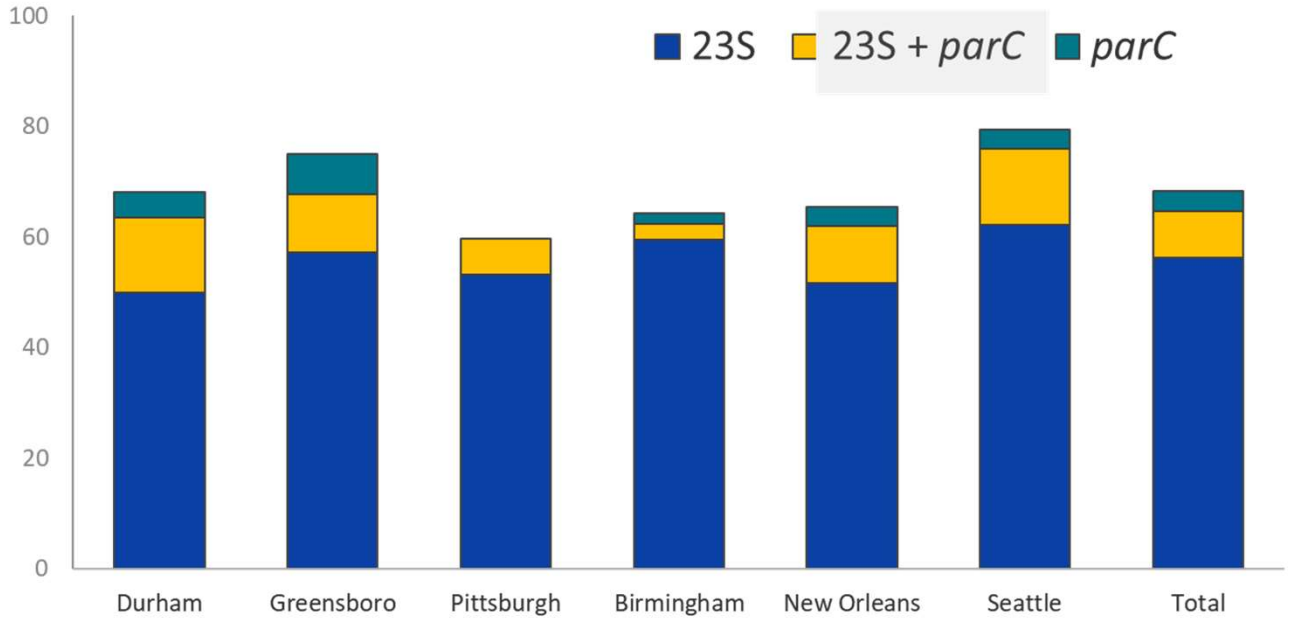
Prevalence of *M. genitalium* resistance



23S: macrolide resistance
ParC: FQ resistance

Bachmann LH, Kirkcaldy RD, et al. CID 2020

Slide credit: L Bachmann

M. genitalium treatment

Recommended Regimens if *M. genitalium* Resistance Testing is Available

If ***macrolide sensitive:*** **Doxycycline** 100 mg orally 2 times/day for 7 days, followed by **azithromycin** 1 g orally initial dose, followed by 500 mg orally once daily for 3 additional days (2.5 g total)

If macrolide resistant: Doxycycline 100 mg orally 2 times/day for 7 days followed by **moxifloxacin** 400 mg orally once daily for 7 days

Recommended Regimens if *M. genitalium* Resistance Testing is Not Available

If *M. genitalium* is detected by an FDA-cleared NAAT: Doxycycline 100 mg orally 2 times/day for 7 days, followed by **moxifloxacin** 400 mg orally once daily for 7 days

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Syndromes: PID and xx-itis

Metronidazole is now recommended for outpatient PID

Regimens:

- Ceftriaxone 500 mg IM (or other parenteral 3rd generation cephalosporin) x 1 ***or***
- Cefoxitin 2 g IM ***with*** probenecid 1 g orally once
  PLUS
- Doxycycline 100 mg orally twice daily for 14 days
  WITH ~~OR WITHOUT~~
- Metronidazole 500 mg orally twice daily for 14 days

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PID Outpatient Treatment: Evidence for metronidazole

- **Randomized Controlled Trial (N=233 cis women)**
- **Ceftriaxone 250 mg IM plus Doxycycline 100 mg PO BID x 14 days plus**
  - Metronidazole 500 mg BID x 14 day **OR**
  - Placebo BID X 14 day
- **Primary outcome: Clinical improvement 3 days**
  - Similar between the arms
- **Additional outcomes:**
  - Anerobic organisms in endometrium at 30 days (Metronidazole: 8% vs 21%, $p<0.05$)
  - CMT reduction/Pelvic tenderness (Metronidazole: 9% vs 20%, $p<0.05$)

Wiesenfeld et al. CID 2021

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Urethritis, Cervicitis

Ideal treatment based on knowing pathogen

If treating empirically:

- Treat for CT (doxycycline preferred, AZM alternative)
- Add treatment for GC if at risk or high prevalence setting (ceftriaxone 500 mg IM preferred, cefixime 800 mg alternative)

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Proctitis, Epididymitis

- Proctitis
  - Ceftriaxone 500 mg IM + doxycycline 100 mg BID x 7 days*

    *extend doxy to 3 weeks if bloody discharge, perianal or mucosal ulcers, or tenesmus and + rectal CT
- Epididymitis
  - If CT/GC suspected:
    - Ceftriaxone 500 mg IM + doxycycline 100 mg BID x 7 days
  - If enterics only suspected (e.g., CT/GC ruled out):
    - Levofloxacin 500 mg daily x 10 days
  - If CT/GC or enterics suspected: Treat with ceftriaxone PLUS levofloxacin

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STUDY RESULTS

- **Primary outcome: Clinical improvement at 3 days similar between two arms**

- **Metronidazole**
  - Reduced anaerobes in endometrium (8% vs 21%, $p<0.05$)
  - Reduced M. genitalium (cervical) (4% vs 14%, $p<0.05$)
  - Reduced CMT/pelvic tenderness (9% vs 20%, $p<0.05$)

- **Conclusion: Metronidazole should be routinely added for PID RX**

Wisenfeld et al. CID 2021

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Genital Ulcer Disease

Genital Herpes Epidemiology

- HSV-2 remains prevalent infection
  - Among U.S. 18-49 year olds in 2018
    - 18.6 million prevalent infections
      - 2/3 of prevalent infections were in 35-49 year olds
      - Women account for 65% of prevalent infections
    - 572,000 new infections/year
    - Equal numbers in men and women

Estimates do not include genital HSV-1 infection
Would add millions of additional prevalent infections

Spicknall et al STD 2021;48 (4): 260-65

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6. Genital Herpes: Diagnostic updates

- In presence of lesion:
  - Type-specific HSV PCR preferred diagnostic test
  - HSV culture (acyclovir resistant HSV)

- In absence of lesion:
  - HSV IgG Type-specific serologic testing:
    - Screening among asymptomatic not recommended (USPSTF)
    - Recurrent or atypical genital symptoms with negative PCR/culture result
    - Clinical diagnosis of genital herpes without laboratory confirmation
    - Partner with genital herpes
    - Persons at higher risk (those presenting for STI evaluation):
      - Consider screening for symptoms of genital herpes, serologic screening if symptoms

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Diagnosis of genital herpes: Pitfalls

- FDA-approved serologic assays to differentiate between HSV-1 and HSV-2 (glycoprotein G)
  - Most are enzyme immunoassay (EIA) or chemiluminescense immunoassay (CLIA)

  - Retrospective study among 864 patients with HSV EIA followed by UW WB
  - Issues: HSV-1: **70.2% sensitive**, 91.6% specific
    HSV-2: 91.9% sensitive, **57.4% specific**
    Dependent upon index value and HSV-1 serostatus
    False positives more likely at low index values and in HSV-1 seropositive persons

EIA Index value	Specificity
1.1-2.9	39.8%
≥3.0	78.6%

Study issues:
Validation using real world setting.
Selection bias, patients self-referred
Consistent with several previously published studies

Agyemang et al, STD 2017

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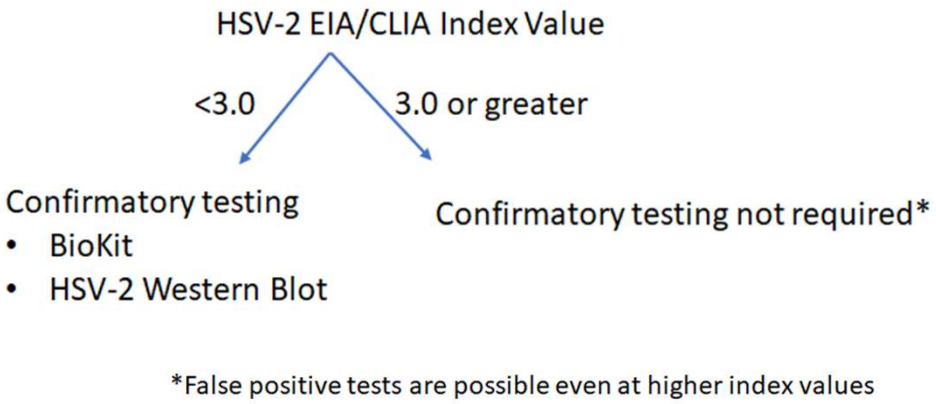
Genital Herpes: Serologic testing

- Serologic two-step testing for HSV-2 should be performed
  - Poor specificity of EIA at low index values (<3.0)
  - Serologic testing 12 wks after suspected recent acquisition
  - IgM not recommended



If confirmatory tests are unavailable, patients should be counseled about the limitations of available testing before obtaining serologic tests, and health care providers should be aware that false-positive results occur.

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Genital HSV: Other changes

- New sections:
  - HSV1, HSV2 counseling; HSV hepatitis

- Treatment:
  - No new therapies available
  - No new vaccines or prevention strategies
  - Among PLWH, suppressive acyclovir after ART to reduce risk of HSV2 reactivation (CD4 <200)

Adult Syphilis

- Presentation:
  - Atypical presentation (painful, multiple lesions)
  - Enhanced clinical description (ocular, otic manifestations)

- Serologic testing with either traditional or reverse sequence algorithm
  - Traditional: Nontreponemal testing (VDRL or RPR) + treponemal test (EIA/CIA, TP-PA)
  - Reverse algorithm: Treponemal + nontreponemal

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Adult Syphilis

- No new data on treatment
  - PCN G remains recommended treatment
  - Ongoing RCT early syphilis (1 vs 3 benzathine PCN)
  - Alternative regimens- doxycycline 100 mg BID x 7 days ceftriaxone 1 g IV x 10 days (primary or secondary); insufficient data on amoxicillin + probenecid

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Monitoring for treatment failure

- Inadequate serologic response after treatment
  - Lack of fourfold decline (may not occur at low pretreatment titers ≤1:4)
    - 12 months after primary, secondary, early latent; 24 months after LL or unknown duration
    - Associated with stage, initial RPR, patient age

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Evaluation for Neuro and Ocular syphilis

- CSF evaluation needed for patients with clinical signs of neurosyphilis
  - CSF interpretation: CSF-VDRL positive is diagnostic
    - CSF-VDRL negative: lymphocyte count, protein
      - Consider TP-PA or FTA-ABS
- Ocular exam needed for patients with positive serology and ocular symptoms
  - If cranial nerve dysfunction present perform CSF
  - Isolated ocular abnormalities, no CSF evaluation necessary
  - Auditory abnormalities: otologic exam, no CSF evaluation necessary
- Neurosyphilis
  - No need for repeat CSF exam at 6 months with adequate RPR response (HIV- and HIV+/ART)

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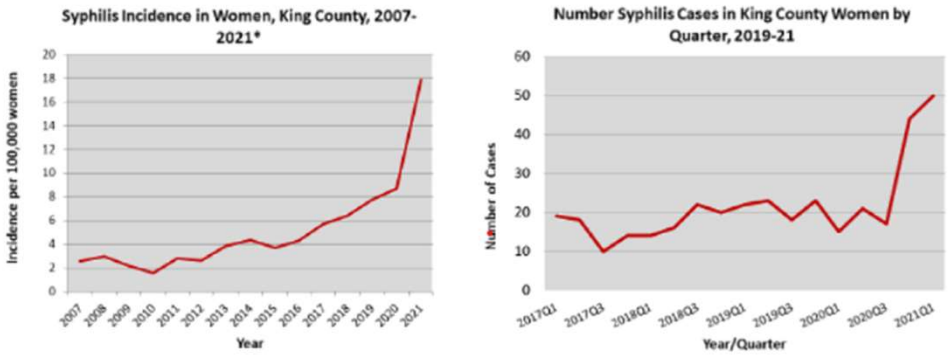
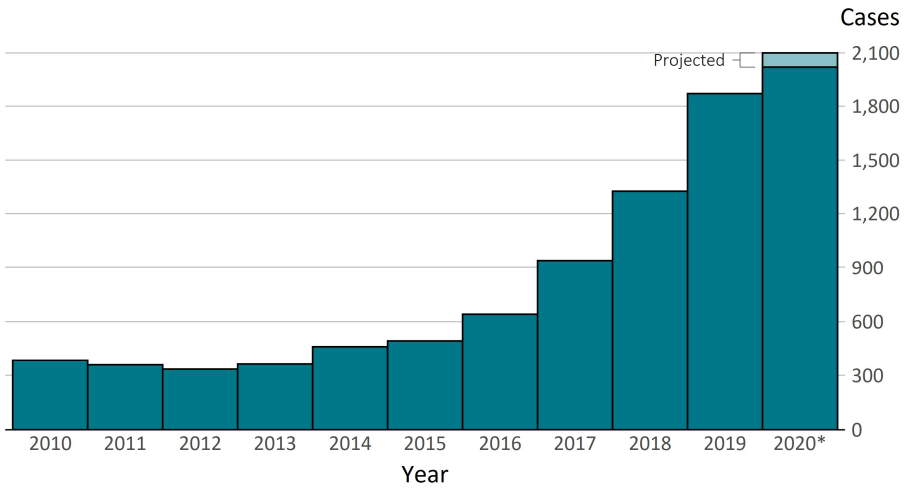
Resurgence of Congenital Syphilis



*2021 estimate extrapolated based on cases reported in first quarter of the year

5 cases of CS in King County since 2020

U.S. 2020 Congenital syphilis data



* Reported and projected 2020 congenital syphilis data are preliminary as of July 29, 2021.

https://www.cdc.gov/std/statistics/2020/Congenital-Syphilis-preliminaryData.htm

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Syphilis in Pregnancy: Screening

- Serologic screening recommended at first prenatal visit
  - ALSO, 24-28 wks, delivery (depending upon community prevalence, presence of risk factors)

- Risk factors for congenital syphilis in pregnancy
  - Multiple partners,
  - sex with drug use, or transactional sex;
  - late to prenatal care (>second trimester) or no prenatal care;
  - methamphetamine/heroin use;
  - corrections;
  - unstable housing/homelessness

- Risk of reinfection based on ongoing risk behaviors or partner treatment

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Syphilis in Pregnancy: Diagnosis

- Management with nontreponemal or treponemal screening tests
- Reinfection or treatment failure – 4x increase in titer post-treatment > 2 weeks
- Monitoring
  - Repeat RPR 8 wks after treatment unless signs of primary or secondary syphilis
  - Syphilis diagnosed and treated at 24 weeks gestation-repeat serology at delivery
  - Most patients will not achieve 4-fold decrease in titers before delivery

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Penicillin Allergy: another opportunity for stewardship

- Prevalence of penicillin allergy is due to imprecise use of “allergy”
  - (IgE-mediated hypersensitivity vs. drug intolerances, idiosyncratic reactions)
- Use history to validate penicillin or another ß-lactam antibiotic allergy
    - If low risk, consider treat with appropriate antibiotic
  - If high-risk (IgE-mediated), consider skin test, if negative, oral amoxicillin challenge
- Updates on penicillin skin testing procedures
- Modified desensitization protocols (clinical syndrome, drug, route of administration)

BOX 2. Low risk history in patients who report Penicillin allergy

Gastrointestinal Symptoms

Headache

Pruritis without rash

Localized rash

Delayed onset rash (>24 hours)

Symptoms unknown

Family history of penicillin or other drug allergy

Patient denies allergy, but it is on the medical record

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Vaginal Discharge

Bacterial Vaginosis

- BV increases risk of other STIs (MG, HSV2, and HPV)
- Certain BV associated bacteria may increase HIV susceptibility

- Several BV NAATs available for diagnosis: For symptomatic patients only:
  - FDA cleared
  - BD Max Vaginal Panel (90.5% sensitivity and 85.8% specificity for BV) +trich, candida
  - Aptima BV (95-97% sensitivity, 85.8-89.6% specificity)
  - Older methods: amsel, nugent, affirm VP III are still useful and less expensive
- Asymptomatic pregnant patients should not be screened

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Bacterial Vaginosis: Treatment

- No change in recommended regimens
- New alternative regimens

(nonpregnant persons, single dose)

  - Secnidazole 2 g oral x 1;
  - Metronidazole 1.3% vaginal gel;
  - Clindesse 2% vaginal cream

Recommended Regimens for Bacterial Vaginosis

Metronidazole 500 mg orally 2 times/day for 7 days

OR

Metronidazole gel 0.75% one full applicator (5 g) intravaginally, once a day for 5 days

OR

Clindamycin cream 2% one full applicator (5 g) intravaginally at bedtime for 7 days

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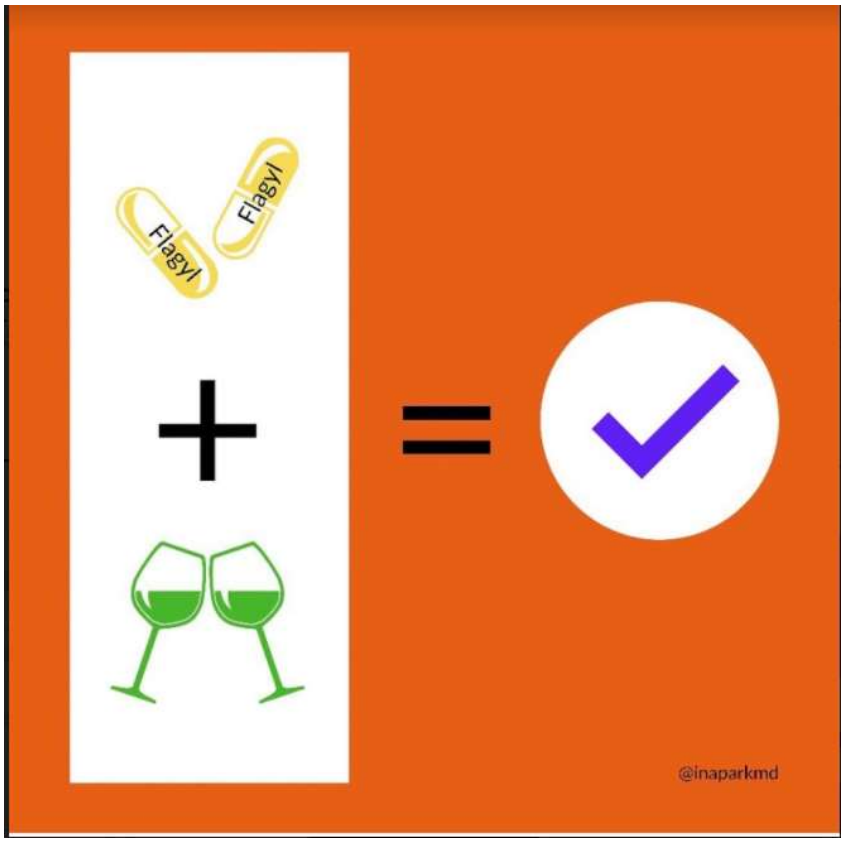
Metronidazole and Alcohol



- Metronidazole does not actually inhibit acetaldehyde dehydrogenase (as occurs with disulfiram)
- Evidence review: no in vitro or clinical studies, no animal models, and no adverse event reporting
- Refraining from ETOH is unnecessary during treatment

2021 CDC STI Treatment Guidelines

Fjeld H, Raknes G. Tidsskr Nor Laegeforen. 2014;134(17):1661–3

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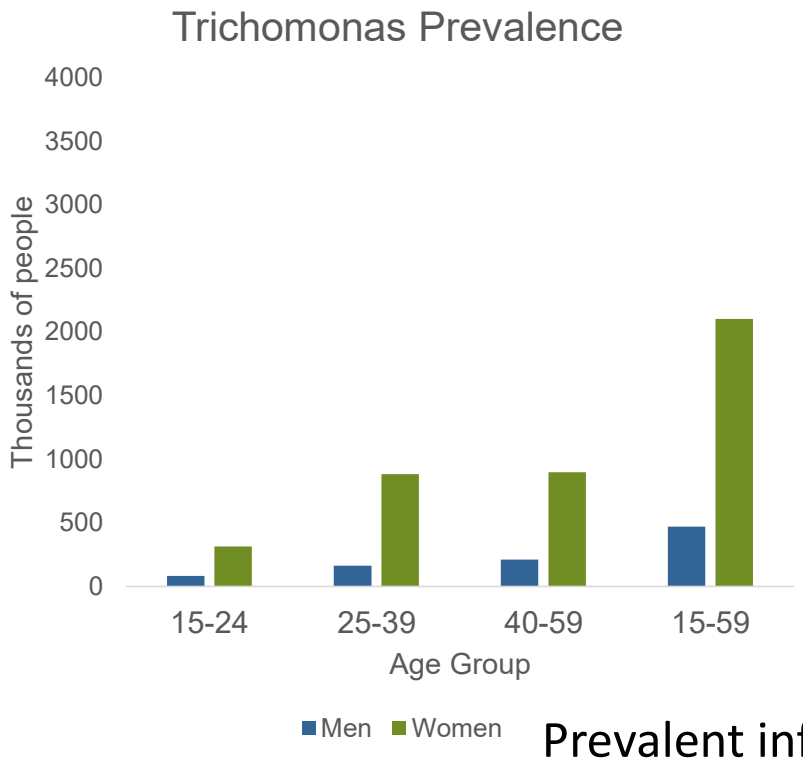
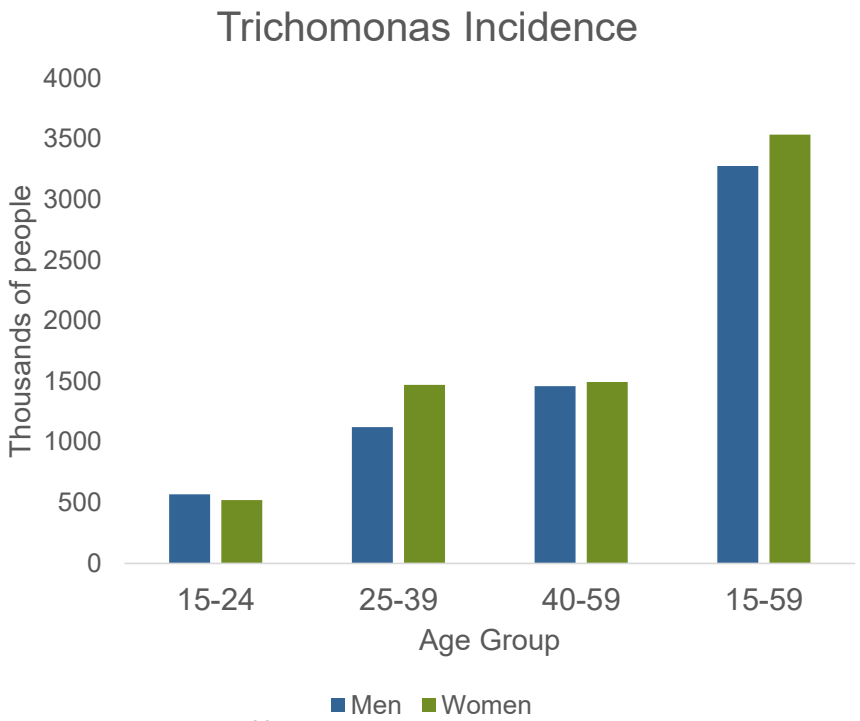
2018 Trichomonas Epidemiology





Prevalent infections: 2.6 million

Incident infections: 6.9 million

Lewis et al, STD 2021;48(4): 232-237

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T. vaginalis screening/diagnostic testing

Screening for *T. vaginalis* is recommended for

- Cis-women with HIV (entry to care, then annually)
- Cis-women in correctional settings
- Consider for other high prevalence settings
- Screening for men is not recommended
  - Rare in MSM
- Extragenital *T. vaginalis* is rare
  - Rectal and oral testing is not recommended

Diagnostic testing: Patients with vaginal discharge

Multiple FDA-cleared NAAT and rapid tests

- urine, urethral, endocervical (including liquid cytology), vaginal
- Not all tests are approved for men

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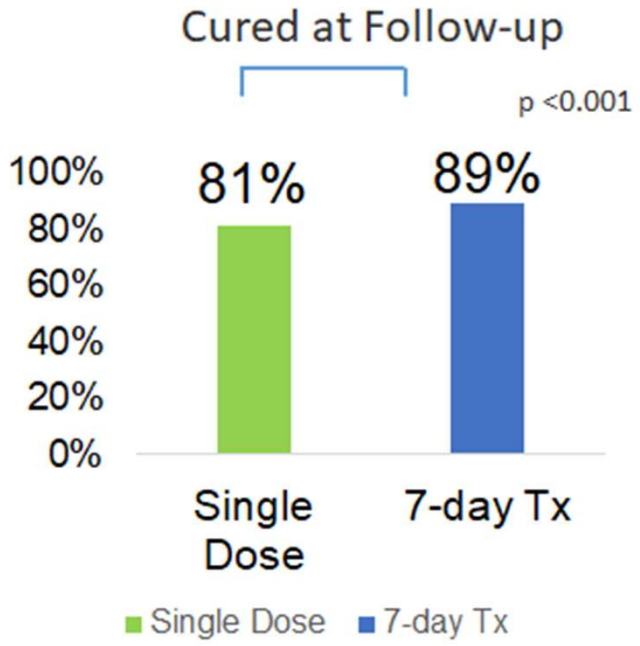
Treatment: Single dose metronidazole is not as effective as 7 days

- **Single dose previously recommended for trich in HIV-negative women**
- **7-day therapy (500 mg BID) recommended for patients with HIV (CDC TX GL 2015)**

- **RCT: N=623 women randomized 1:1 to single dose MTZ vs 7 day**

- **Culture TOC, 6-12 days post treatment**



Kissinger, 2018 Lancet Infect Dis

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Trichomoniasis Treatment

Change in 2021 STI Treatment Guidelines

Recommended regimen: **Vaginal trichomonas (HIV+/HIV-)**

Metronidazole 500 mg orally BID x 7d

Metronidazole 2 g orally single dose for men w/ trichomonas or male partners)*

Alternative regimen:

Tinidazole 2 gm orally in a single dose

ACOG 2020 Treatment Guidelines

Metronidazole 500 mg orally BID x 7 d

Retest for reinfection in 3 months

*EPT may have a role in partner management for trichomoniasis

CDC 2021 STD Treatment Guidelines,
ACOG Practice Bulletin 215. OB/GYN Vol 135. Jan 2020

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Vulvovaginal Candidiasis

- PCR testing for yeast : most are not FDA-cleared
- Culture remains standard diagnostic test (+/-susceptibility testing)
- *C. albicans* azole resistance more common in vaginal isolates

- Avoid fluconazole use in pregnancy
  - Increase risk of congenital anomalies
  - Spontaneous abortion
  - Topical azoles are recommended

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Early detection for anal cancer

- **Warts:** Persons with external anal or perianal warts might also have intra-anal warts. Thus, persons with external anal warts might benefit from an inspection of the anal canal by digital examination, standard anoscopy, or high-resolution anoscopy.

- **Anal Cancer Early Detection:**

Men Who Have Sex with Men (MSM)	• Digital anorectal rectal exam[2] • Data is insufficient to recommend routine anal cancer screening with anal cytology[2, 18]

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Hepatitis C

- “Not efficiently transmitted through sex.”
  - Between heterosexual couples and MSM, research shows mixed results thus far.
  - Studies have reported either no or minimally increased rates of HCV infection among partners of persons with HCV infection compared with partners of those without HCV.
  - Yet, data exists that indicate that sexual transmission of HCV can occur, especially among persons with HIV infection.

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National Network of STD Clinical Prevention Training Centers

NNPTC.org

REGIONAL STD TRAINING CENTERS

OUR 8 REGIONAL CENTERS ASSIST CLINICIANS IN THEIR TRAINING AREAS ACROSS THE UNITED STATES

SOUTHEAST STD/HIV PREVENTION TRAINING CENTER

Denver PREVENTION TRAINING CENTER

STD/HIV PREVENTION TRAINING CENTER

Sylvie Ratelle STD/HIV Prevention Training Center

California PTC

STD/HIV Prevention Training Center JOHNS HOPKINS MEDICINE

St. Louis STI/HIV Prevention Training Center

STD Prevention Training Center

National STD Curriculum

www.std.uw.edu

The *National STD Curriculum* is reviewing and updating content to align with CDC's 2021 STI Treatment Guidelines. Updated content will then launch as 2nd Edition. The free site addresses the diagnosis, treatment, and prevention of STDs and STIs.

- Seven self-study Lessons
- Question Bank topics with board-review style questions
- Podcast series on innovative and significant topics
- A learning group tool for healthcare entities to enroll members, assign units, and track progress
- FREE CME credits, CNE, and CE contact hours, and pharmacology CE for advanced practice nurses

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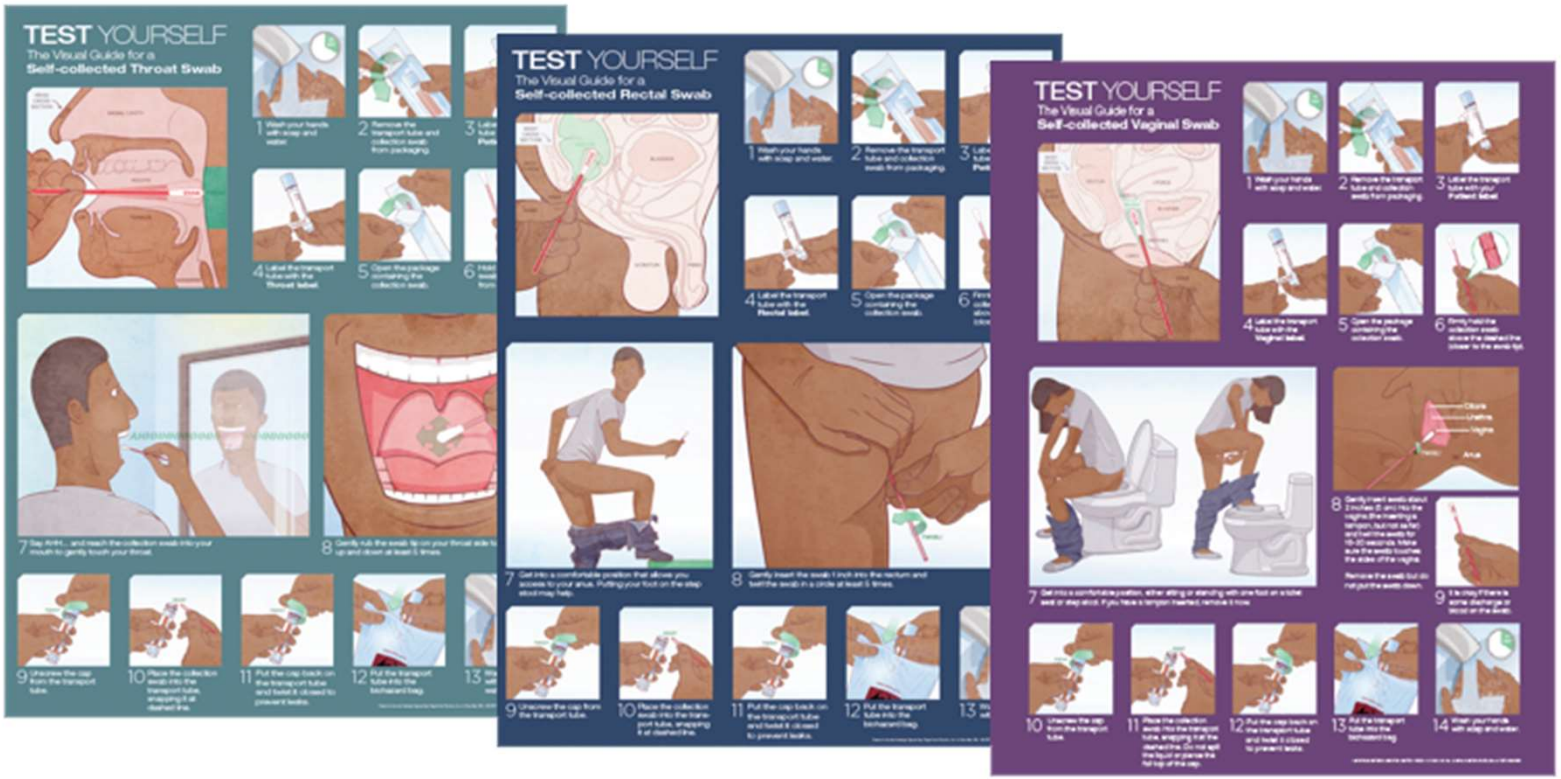
National Network of STD Clinical Prevention Training Centers

STDCCN.org

Extragenital Self-Testing Resources



Available in English and Spanish
Email aradford@uw.edu for free posters for your clinic

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Evals please

Christine Johnston

Sept 21, 2021

ACC: STI Update

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AETC AIDS Education & Training Center Program
Mountain West