★ NGN NCLEX 2026 ★ INFECTIOUS DISEASE · STI

Chlamydia
the silent infection.

The most commonly reported bacterial sexually transmitted infection in the United States — and the most underdiagnosed. Caused by *Chlamydia trachomatis*, this gram-negative obligate intracellular bacterium often causes no symptoms in 70–95% of women and up to 50% of men, allowing silent progression to PID, infertility, and ectopic pregnancy.

BACTERIAL · REPORTABLE | FIRST-LINE: DOXYCYCLINE | ANNUAL SCREEN: WOMEN <25 | DIAGNOSTIC: NAAT

SECTION ONE

1 Definition & Overview

Chlamydia is a bacterial sexually transmitted infection (STI) caused by *Chlamydia trachomatis* — a gram-negative, obligate intracellular bacterium that infects columnar epithelial cells of the genitourinary tract, rectum, oropharynx, and conjunctiva.

It is the **#1 most reported bacterial STI** in the U.S., with the highest rates in **adolescents and young adults aged 15–24**. Up to **95% of women** and **50% of men** are asymptomatic — earning chlamydia its nickname: *"the silent disease."*

Untreated infection in women progresses to **pelvic inflammatory disease (PID)**, **infertility**, **ectopic pregnancy**, and **chronic pelvic pain**. Neonates exposed during vaginal birth develop **ophthalmia neonatorum** or **chlamydial pneumonia**.

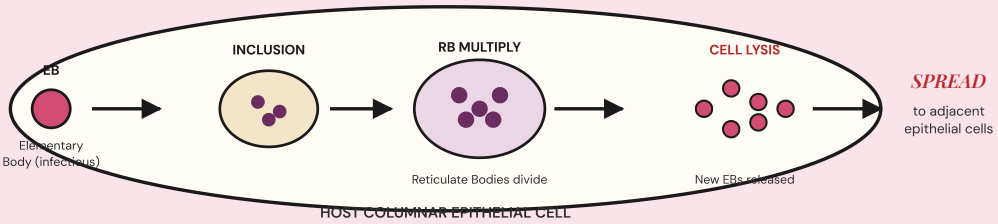
★ Fast Facts

PATHOGEN	C. trachomatis
TYPE	Gram-neg bacteria
ASYMPTOMATIC ♀	70–95%
ASYMPTOMATIC ♂	~50%
INCUBATION	7–21 days
TEST OF CHOICE	NAAT
REPORTABLE	YES (CDC)

SECTION TWO

2 Pathophysiology

Intracellular Life Cycle of Chlamydia trachomatis



1 Exposure

Sexual contact transmits *C. trachomatis* elementary bodies (EBs) to mucosal surfaces.

2 Cell Entry

EBs invade columnar epithelial cells of cervix, urethra, rectum, or conjunctiva.

3 Replication

EBs transform into reticulate bodies (RBs) and multiply inside an inclusion vacuole.

4 Inflammation

Cell lysis releases new EBs. Local inflammation damages tissue and scars tubes.

5 Ascension

Spread upward → PID, salpingitis, tubal scarring → infertility & ectopic pregnancy.

SECTION THREE

3 Signs & Symptoms

🤐 The "Silent" Presentation

- **70–95% of women** have NO symptoms
- **~50% of men** have NO symptoms
- Why screening matters: silent damage is happening
- Incubation: **7–21 days** post-exposure
- Patient may unknowingly transmit to partners
- Damage can occur with NO warning signs

🔥 When Symptoms Appear

♀ WOMEN

- Mucopurulent **vaginal discharge**
- **Dysuria** (painful urination)
- Postcoital or intermenstrual bleeding
- Lower abdominal / pelvic pain
- Dyspareunia (painful intercourse)

♂ MEN

- Clear/white **urethral discharge**
- Dysuria, urethritis
- Testicular pain / epididymitis

🚨 *RED FLAG Findings — Recognize Immediately*

Fever + lower abdominal pain + cervical motion tenderness = PID until proven otherwise. **RUQ pain + chlamydia** = Fitz-Hugh-Curtis syndrome (perihepatitis). **Neonate with conjunctivitis at 5–14 days old** = ophthalmia neonatorum. **Severe pelvic pain + missed period + positive pregnancy test** = rule out ectopic pregnancy.

SECTION FOUR

4 Priority Nursing Interventions

1

ASSESS

Obtain Sexual History & Risk Factors

Use a non-judgmental, confidential approach. Identify number of partners, condom use, last STI screening, and onset of symptoms. Critical for partner notification.

2

COLLECT

Specimen for NAAT

Nucleic Acid Amplification Test (NAAT) is the gold standard. First-catch urine (♂) or vaginal/endocervical swab (♀). Patient should NOT void 1 hr before urine collection.

3

ADMINISTER

Antibiotic Therapy

Doxycycline 100 mg PO BID × 7 days (first-line for non-pregnant). **Azithromycin 1 g PO × 1 dose** for pregnant patients. Verify allergies before administration.

4

EDUCATE

Abstain & Complete Therapy

NO sexual activity for **7 days** after single-dose tx OR until 7-day course completed. Use condoms thereafter. Complete the FULL antibiotic course even if symptoms resolve.

5

NOTIFY

Partner Notification & Treatment

Treat ALL sexual partners from the last **60 days** — or the most recent partner if last contact was >60 days ago. Expedited Partner Therapy (EPT) allowed in most states.

6

SCREEN

Test for Co-infections

Test for **gonorrhea, HIV, syphilis, hepatitis B/C, trichomoniasis**. Up to 40% of chlamydia patients have concurrent gonorrhea. Empiric dual treatment may be considered.

7

REPORT

Public Health Reporting

Chlamydia is a **nationally reportable disease**. Notify local health department per state law. Document accurately. Patient confidentiality maintained.

8

FOLLOW-UP

Retest & Test of Cure

Retest ALL patients at 3 months (high reinfection rate). **Test of cure at 3–4 weeks** required for pregnant patients only. Annual screening for women <25.

SECTION FIVE

5 Pharmacology — Antibiotic Therapy

DRUG / CLASS	DOSE & INDICATION	MECHANISM	KEY SIDE EFFECTS	NURSING CONSIDERATIONS
Doxycycline *Tetracycline antibiotic* FIRST-LINE	**100 mg PO BID × 7 days** Non-pregnant adults & adolescents	Inhibits bacterial protein synthesis by binding the 30S ribosomal subunit (bacteriostatic)	• Photosensitivity ☀ • GI upset / esophagitis • Tooth discoloration (children <8) • Hepatotoxicity	• Take with FULL glass of water • Sit upright 30 min after dose • Avoid dairy, antacids, iron (chelation) • Use sunscreen • **CONTRAINDICATED in pregnancy**
Azithromycin *Macrolide antibiotic* PREGNANCY-SAFE	**1 g PO × 1 dose** Pregnant patients Adherence-concern patients	Inhibits bacterial protein synthesis by binding the 50S ribosomal subunit (bacteriostatic)	• GI upset (N/V/D) • QT prolongation • Hepatotoxicity • Hearing loss (rare, high dose)	• Single dose = better adherence • Take 1 hr before OR 2 hr after meals (or with food for GI tolerance) • Check EKG if cardiac history • Required test of cure in pregnancy
Erythromycin / Amoxicillin *Macrolide / Penicillin* PREGNANCY ALT.	**Amox 500 mg PO TID × 7 d** OR **Erythromycin base 500 mg QID × 7 d**	Beta-lactam inhibits cell-wall synthesis (amox); macrolide inhibits 50S ribosome (erythromycin)	• Amox: rash, GI upset, allergy • Erythro: severe GI upset, QT prolongation	• Verify PCN allergy before amox • Erythromycin estolate ⊘ in pregnancy (hepatotoxicity) • Take with food to ↓ GI upset
Erythromycin Eye Ointment *Topical macrolide* NEONATAL RX	**0.5% ribbon** to both eyes within 1 hr of birth	Prophylactic — prevents ophthalmia neonatorum from maternal exposure	• Mild eye irritation • Blurred vision (transient)	• Apply lower conjunctival sac, inner → outer • Mandatory in all U.S. states • Does NOT prevent systemic chlamydial pneumonia

SECTION SIX

6 NCLEX Test Traps ⚠

Trap #1 — Drug Choice in Pregnancy

✗ **Wrong:** Prescribing doxycycline to a pregnant patient with chlamydia.

✓ **Right:** Azithromycin 1 g PO single dose (or amoxicillin) for pregnant patients. *Doxycycline causes fetal teeth/bone discoloration.*

Trap #2 — Abstinence Timing

✗ **Wrong:** "You can resume sex once your symptoms are gone."

✓ **Right:** Abstain for **7 days** after single-dose tx OR until 7-day course is complete AND partners treated.

Trap #3 — Test of Cure vs Retesting

✗ **Wrong:** Every patient needs a test of cure 3 weeks after treatment.

✓ **Right:** Test of cure (3–4 wk) is **only for pregnant patients**. ALL patients need retesting at **3 months** for reinfection.

Trap #4 — Doxycycline Administration

✗ **Wrong:** "Take your doxycycline with milk to help your stomach."

✓ **Right:** Take with a **full glass of water**; sit upright 30 min; AVOID dairy, antacids, and iron (chelate the drug).

Trap #5 — Partner Treatment Window

✗ **Wrong:** "Tell only your current partner."

✓ **Right:** Notify and treat ALL sexual partners from the **past 60 days**. Most states allow Expedited Partner Therapy (EPT).

Trap #6 — "Silent" Doesn't Mean "Safe"

✗ **Wrong:** "I feel fine, so I don't need treatment."

✓ **Right:** Asymptomatic infection still causes **PID, infertility, ectopic pregnancy**. Complete treatment regardless of symptoms.

SECTION SEVEN

7 Patient & Family Education

Medication Compliance

- ✓ Take FULL course of antibiotics even if you feel better
- ✓ Doxycycline: full glass of water, sit upright 30 min
- ✓ Avoid dairy/antacids/iron within 2 hr of doxycycline
- ✓ Use sunscreen (photosensitivity)
- ✓ Notify HCP if rash, severe diarrhea, or jaundice

Safer Sex Practices

- ✓ Abstain from sex for 7 days post-treatment
- ✓ Use condoms with every sexual encounter
- ✓ Limit number of partners
- ✓ Mutually monogamous relationships ↓ risk
- ✓ Annual screening for women under 25

Partner Notification

- ✓ Notify all partners from past 60 days
- ✓ Partners must be tested AND treated
- ✓ Expedited Partner Therapy (EPT) available
- ✓ Confidentiality is protected by law
- ✓ Untreated partners → reinfection cycle

Warning Signs to Report

- ✓ Fever > 38°C (100.4°F)
- ✓ Severe lower abdominal pain
- ✓ Heavy vaginal bleeding
- ✓ RUQ pain (Fitz-Hugh-Curtis)
- ✓ Symptoms worsen despite treatment

Pregnancy & Newborn

- ✓ Screen ALL pregnant women at first prenatal visit
- ✓ Rescreen in 3rd trimester if <25 or high risk
- ✓ Newborn risk: eye infection & pneumonia
- ✓ Mandatory erythromycin eye ointment at birth
- ✓ Test of cure required 3–4 wk after treatment

Follow-Up Plan

- ✓ Return for retest in 3 months (high reinfection)
- ✓ Test of cure 3–4 wk (pregnant only)
- ✓ Annual screening if sexually active & <25
- ✓ Get tested for HIV, syphilis, hepatitis B/C
- ✓ Discuss HPV vaccination if eligible

SECTION EIGHT

8 Memory Boosters & Mnemonics

SILENT

WHY CHLAMYDIA IS DANGEROUS

- **S** **Sneaky** — asymptomatic in most women
- **I** **Infertility** from tubal scarring
- **L** **Lower abdominal** pain if symptomatic
- **E** **Ectopic pregnancy** risk
- **N** **NAAT** is gold-standard test
- **T** **Treat partners** — past 60 days

DOXY

DOXYCYCLINE RULES

- **D** **Dairy avoidance** (chelation)
- **O** **Outdoor caution** — photosensitivity
- **X** **X-pregnant patients** (contraindicated)
- **Y** **Yelling esophagus** — water + upright 30 min

7 / 60 / 90

THE KEY TIME NUMBERS

- **7** **7 days** — abstain from sex after Rx
- **7** **7 days** — Doxycycline course length
- **60** **60 days** — partner notification window
- **90** **~90 days (3 mo)** — retest all patients

PID

PELVIC INFLAMMATORY DISEASE TRIAD

- **P** **Pelvic / lower abdominal pain**
- **I** **Inflammation** — fever, ↑ WBC, ↑ CRP
- **D** **Discharge** + cervical motion tenderness ("chandelier sign")

SECTION NINE

9 NCJMM Clinical Judgment Scenario

Clinical Vignette

A **19-year-old college sophomore** presents to the campus health clinic reporting "yellowish vaginal discharge" and burning with urination × 5 days. She has had **3 sexual partners** in the past year, reports **inconsistent condom use**, and has never been tested for STIs. Vital signs: **T 99.2°F, HR 88, BP 118/74**. Pelvic exam reveals mucopurulent cervical discharge with mild cervical motion tenderness. **Urine pregnancy test: negative.**

1

STEP 1: RECOGNIZE CUES

What relevant data is the client presenting?

Subjective: Vaginal discharge, dysuria, multiple recent partners, inconsistent condom use, never STI-tested. **Objective:** Mucopurulent cervical discharge, mild cervical motion tenderness, low-grade temp, age <25 (high-risk demographic). *Relevant cues align with possible chlamydia ± gonorrhea infection.*

2

STEP 2: ANALYZE CUES

What do the cues mean in context?

Mucopurulent discharge + dysuria + cervical motion tenderness in a young sexually active patient = highly suggestive of **chlamydia and/or gonorrhea cervicitis**. The cervical motion tenderness raises early concern for ascending infection (PID). Negative pregnancy test rules out ectopic. Age, partner number, and condom use establish her in the CDC's annual-screening-mandatory cohort.

3

STEP 3: PRIORITIZE HYPOTHESES

What is most likely going on?

1st priority — Chlamydia trachomatis cervicitis (most common STI in this age group; classic presentation). **2nd — Concurrent gonorrhea** (co-infection rate up to 40%). **3rd — Early PID** (cervical motion tenderness is the warning). Differentials to rule out: trichomoniasis, UTI, bacterial vaginosis.

4

STEP 4: GENERATE SOLUTIONS

What nursing interventions are indicated?

▶ Obtain NAAT specimen for chlamydia & gonorrhea (endocervical swab or first-catch urine). ▶ Test for HIV, syphilis, hepatitis B/C. ▶ Initiate **empiric dual treatment**: Ceftriaxone 500 mg IM × 1 + Doxycycline 100 mg PO BID × 7 days. ▶ Provide counseling on abstinence × 7 days, partner notification (past 60 days), condom use. ▶ Schedule retest in 3 months. Report to public health.

5

STEP 5: TAKE ACTION

Implement the priority interventions.

Nurse collects NAAT specimen, draws blood for HIV/syphilis/hepatitis serologies, administers ceftriaxone 500 mg IM, provides first dose of doxycycline + 6-day prescription, educates on full course completion +

photosensitivity + sit-upright rule, provides written partner notification information (or EPT scripts), schedules 3-month retest, and reports the case to local health department.

6

STEP 6: EVALUATE OUTCOMES

Did the interventions achieve the desired result?

Expected outcomes: Symptoms resolve within 7 days. Patient verbalizes understanding of medication regimen and safer sex practices. All identified partners receive treatment. 3-month retest is negative. Patient enrolls in annual screening. **Indicators requiring re-evaluation:** persistent symptoms, fever >38°C, severe pelvic pain (→ PID workup), reinfection at 3-month retest (→ re-educate & reassess partner adherence).

★ *Chlamydia · The Silent STI* ★

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