

TOPIC: GONORRHEA

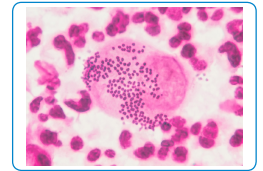


Gonorrhea

Bacterial

GRAM ____

SHAPE: Spherical pairs (diplococci)



(Caldwell)

CAUSE

Neisseria gonorrhoeae (*N. gonorrhoeae*).

- ◆ Diplococci; may be both ____cellular and ____cellular.
- ◆ Named after the Greek: “gon” = “semen”, “rhea” = “_____”.
 - ▶ Greek physician Galen thought discharge caused by gonorrhea was semen.

SPREAD

Sexually transmitted; gonococci adhere to epithelial cells via _____.

Can infect any simple columnar mucous membranes:

e.g., urethra, cervix, rectum, _____, eyes.

SYMPTOMS

- ◆ **In males:** painful discharge of pus from urethra, acute inflammation, dysuria.
- ◆ **In females:** often asymptomatic (50-80% of cases).
 - ▶ Possible symptoms: _____, increased vaginal discharge, spotting, itching.
 - ▶ _____ cases may lead to pelvic inflammatory disease (PID).
- ◆ Can be transmitted to babies' eyes during _____, causing blindness.

DIAGNOSIS

Based on symptoms alone, gonorrhea is indistinguishable from _____.

- ◆ **In males:** identification of gram-negative diplococci in pus-filled discharge.
- ◆ **In females/asymptomatic cases:** swab with culture.
- ◆ Nucleic acid amplification test of _____ (males), urethral or vaginal swabs.

TREATMENT

Combination of ceftriaxone & azithromycin.

Widespread _____ to many different antibiotics.

IMMUNITY

N/A. Condoms can significantly reduce spread.

References:

Caldwell. (n.d.). [Photomicrograph of a Gram-stained specimen that demonstrates the presence of Gram-negative diplococci]. Centers for Disease Control and Prevention. <https://phil.cdc.gov/Details.aspx?pid=21366>

PRACTICE

A pregnant female is diagnosed with gonorrhea. Why may this be concerning?

- a) Gonorrhea can cross the placenta and lead to congenital defects in the fetus.
- b) Gonorrhea may be passed to the baby during birth, leading to a gonorrheal infection of the eyes.
- c) Antibiotics cannot be taken during pregnancy, meaning the infection will become established in the uterine tubes before it can be treated.
- d) Pregnancy weakens the immune system, so the gonorrhea infection could be extremely dangerous.

PRACTICE

Which statement accurately reflects the pathogenesis of *N. gonorrhoeae*?

- a) *N. gonorrhoeae* cells use fimbriae to adhere to epithelial cells of the urogenital tract.
- b) *N. gonorrhoeae* cells use flagella to swim up the urethra in males or through the cervix in females.
- c) *N. gonorrhoeae* cells' corkscrew shape allows them to “burrow” into tissues.
- d) *N. gonorrhoeae* cells have spike proteins that mimic host cells, allowing them to evade detection.