

## Gonorrhea: Diseases Caused by *Neisseria gonorrhoeae* Bacterium

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### DESCRIPTION

Gonorrhoea is an infection carried on by a bacterium that is spread through sexual activity. Both men and women can acquire this. Most frequently, gonorrhoea affects the throat, urethra, or rectum. Gonorrhea can also infect the cervix in females. The *Neisseria gonorrhoeae* bacteria are the source of the Sexually Transmitted Disease (STD) known as gonorrhoea. The urethra in men and women as well as the cervix, uterus, and fallopian tubes in women are all affected by *N. gonorrhoeae* infection. The mucous membranes of the mouth, throat, eyes, and rectum are also susceptible to infection by *N. gonorrhoeae*.

When *N. gonorrhoeae* infects human cells, it acquires CMP-Neu5Ac and sialylates the terminal N-acetylglucosamine on its Lipo Oligo Saccharide (LOS). The ciliated epithelial cells peel off as a result of the gonococcal LOS (endotoxin), which displays direct cytotoxicity. The cytotoxicity of gonococcal infections is believed to be mediated by Tumour Necrosis Factor (TNF) and other cytokines [1]. These bacteria can invade different mucosal parts of the body, including as the anal, ocular, and nasopharyngeal mucosa, but they most usually do so in the vaginal mucosa. Most frequently, gonorrhea is spread through vaginal, oral, or anal intercourse. Men who have gonorrhea may experience the following signs and symptoms: Urination that hurts, a pus discharge coming from the penis's tip. One testicle may be painful or swollen whereas women can feel Increased vaginal discharge, Painful urination, pelvic or abdominal pain, bleeding from the cervix after intimacy, such as between periods. The bacterium can enter your body through the penis, anus, vagina, or mouth, frequently during unprotected intercourse, and cause an infection [2]. Sharing intercourse items that have not yet been cleaned or coated with a fresh contraceptive can also result in the spread of gonorrhea. A pregnant lady who has gonorrhea during childbirth have risk of spreading this to her unborn child. The cervix is where infections most frequently occur in females. Because stratified squamous epithelium is largely resistant to invasion, *N. gonorrhoeae* primarily affects columnar epithelium. A mucus discharge made up of serum, and desquamated epithelium is produced of localized

inflammation brought on by gonococcal invasion of the mucosa. Different cellular receptors and signaling pathways are used by *N. gonorrhoeae* to infect both men and women. The cervix is the passageway between the uterus and the vagina (womb).The urethra, the tube that aids in the evacuation of pee from the body, is where the infection typically begins in males. Usually, gonorrhea can be identified by a urine test. Medical doctor might be performing a pelvic check and collect a samples of cervical fluid for testing.

### CONCLUSION

This is to determine whether the infection is really there, they can also perform a throat or anal culture. Antibiotics are required to treat gonorrhea. One specimen type that can be used for nucleic acid assays to identify *N. gonorrhoeae* infections in both males and females is urine. If there is need to take the medication orally or intravenously, doctor will prescribe about it. IM First, ceftriaxone and oral azithromycin are suggested[3]. Even if symptoms subside and the person probably begins to feel better, but taking medication regularly is as directed is important. The development of broad-spectrum antibiotic resistance, which recently granted the bacteria "superbug" designation, has added to the ongoing rise in gonorrhea incidence rates. Despite being a rare cause of conjunctivitis, *Neisseria gonorrhoeae* should be taken into consideration because infection can result in blindness and corneal ulcers. It is crucial to provide patients the right advice about avoiding sexual activity or using barrier protection until a solution has been found and potential partners have been screened[4]. Patients should be instructed to avoid intercourse treatment.

### REFERENCES

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