

Ministry of Higher education and scientific research

University of Tikrit

College of science

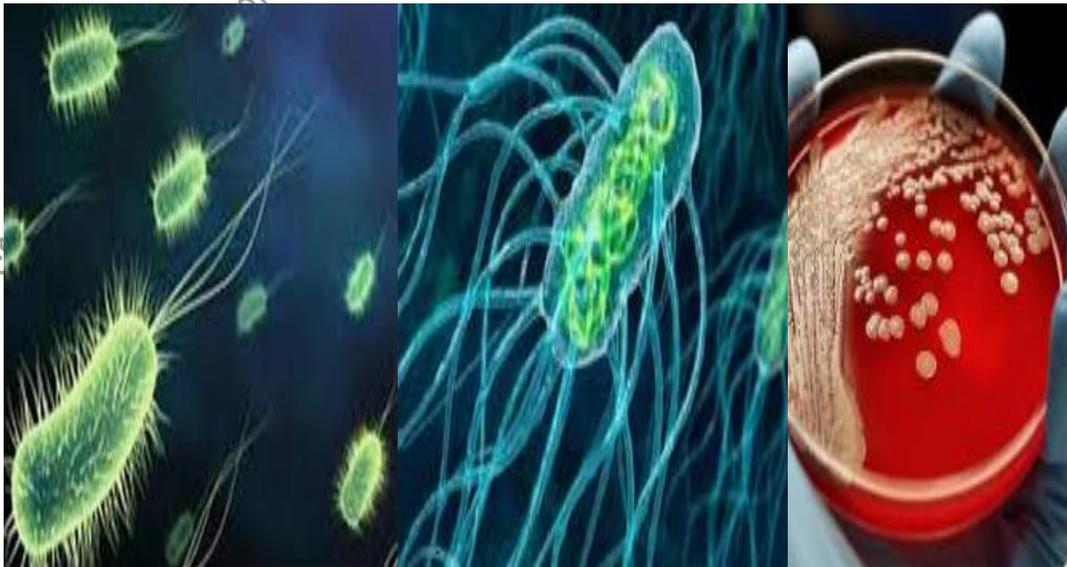
Department of Biology

Lectures of Pathogenic Bacteria

For Diploma students – Pathological analyses - 2024-2025

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Mycoplasma

is a bacteria (or germ) that can infect different parts of your body. Which body part is affected-- your lungs, skin, or urinary tract, depends on which type of mycoplasma bacteria is causing your infection.

Mycoplasma is a genus of bacteria that, like the other members of the class Mollicutes, lack a cell wall, and its peptidoglycan, around their cell membrane. The absence of peptidoglycan makes them naturally resistant to antibiotics such as the beta-lactam antibiotics that target cell wall synthesis.

Lower classifications:

Scientific name: Mycoplasma

Class: Mollicutes

Domain: Bacteria

Family: Mycoplasmataceae

Genus: Mycoplasma; J.Nowak 1929

Order: Mycoplasmatales

All mycoplasma infections have one thing in common though. Unlike other bacteria, mycoplasma do not have cell walls. They are also very small compared to other bacteria. That's important because many [antibiotics](#) kill bacteria by weakening those walls. Since mycoplasma bacteria don't have them, some [antibiotics](#), like [penicillin](#), won't work against them.

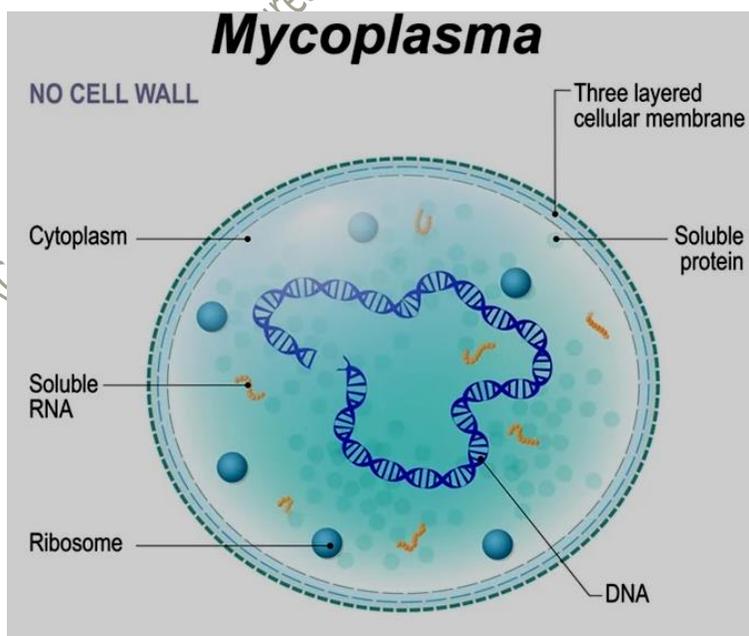




Figure of Mycoplasma colonies (fried eggs like)

There are about 200 types of mycoplasma bacteria, but most of them are harmless. The ones you may have to worry about are:

- *Mycoplasma pneumoniae*
- [*Mycoplasma genitalium*](#)
- *Mycoplasma hominis*
- *Ureaplasma urealyticum*
- *Ureaplasma parvum*

Mycoplasma pneumoniae

This type causes [lung](#) infections. About a third of people who get infected come down with a mild form of pneumonia called "[walking pneumonia](#)." It is referred to as an atypical pneumonia because most people, especially children, will get "tracheobronchitis," a fancy name for a chest cold.

You can catch one of these infections when someone who is sick [coughs](#) or sneezes and sends droplets with the bacteria into the air.

If you're infected with *Mycoplasma pneumoniae*, you may get symptoms like:

- [Sore throat](#)
- [Cough](#)

- Fever
- [Fatigue](#)
- [Headache](#)

To treat your infection, your doctor may suggest one of these types of antibiotics:

- Macrolides such as [azithromycin](#) ([Zithromax](#)) or [erythromycin](#) ([Erythrocin](#))
- Tetracyclines like [doxycycline](#)

Mycoplasma genitalium

You get this if you have sex with someone who's infected. Some people don't have any symptoms.

If you're a woman, you may notice that you:

- Have pain during [sex](#)
- Bleed from the [vagina](#) after sex
- Get a discharge from the [vagina](#)

If you're a man, the infection can cause:

- [Urethritis](#) -- a swelling of the urethra, the tube that urine goes through as it leaves the body
- Stinging or burning when you pee
- Discharge from the [penis](#)

To find out if you're infected, your doctor may do a test called NAAT (nucleic acid amplification test) to look for the bacteria's genes. They will ask for a first morning urine (or semen from men) sample or take a swab from the vagina, [cervix](#), or urethra.

For treatment, you may need to take one or more of these types of antibiotics:

- Macrolides such as [azithromycin](#) (single dose [Zithromax](#))
- Tetracyclines like [doxycycline](#)

A second line of treatment might be with fluoroquinolones like [moxifloxacin](#) ([Avelox](#)).

Your partner may need to get treated, too.

There's a little bit of trial and error when you take these meds, because sometimes the bacteria don't respond to them. If the first drug doesn't work, your doctor can prescribe a different one.

You can help prevent *Mycoplasma genitalium* if you use a [condom](#) during sex.

Mycoplasma hominis

These bacteria live in the urinary tract and genitals of about half of all women and fewer men. But if you're in general good health, you don't have to worry. They rarely cause an infection. Women with a weakened immune system -- your body's defense against germs -- are most at risk.

You can sometimes pick up this infection during sex. The bacteria can also pass from a mother to their baby during [childbirth](#).

If you're a woman, these bacteria may be linked to [pelvic inflammatory disease](#), an infection of your reproductive organs. They can also lead to problems if you're pregnant, such as:

- [Ectopic pregnancy](#) (the embryo grows outside the uterus)
- Early delivery
- Miscarriage

Mycoplasma hominis can also cause a fever and infection in your newborn baby.

To find out if you have an infection caused by this type of bacteria, your doctor will test a sample of fluid from your vagina or urethra. If you do, you'll get treated with antibiotics such as one in the [tetracycline](#) family, like doxycycline.

To help prevent this infection, always use a [condom](#) during sex. And limit how many partners you have.

Ureaplasma urealyticum and Ureaplasma parvum

Most healthy women have these bacteria in their cervix or vagina, and a smaller number of men also have them in their urethra. Normally, they don't cause any problems.

Ureaplasma can spread during sex. If you're pregnant and you're infected, you can pass the bacteria to your baby in the womb or during childbirth.

Some symptoms women can get are:

- It hurts when you pee
- Belly pain
- Pain, odor, or discharge from the vagina
- Swelling at the opening of the urethra
- Discharge from the urethra

Men who are infected can get [inflammation](#) of the urethra, called urethritis.

During pregnancy, the bacteria can lead to infections in both the mother and the baby. Problems in [newborn](#) babies can include:

- Low birth weight
- Pneumonia

- Bacteria in the **blood**, called septicemia

To diagnose a ureaplasma infection, your doctor can take a sample of fluid from:

- **Blood**
- **Amniotic fluid**
- Placental tissue
- Cervix
- Urethra

Your doctor will prescribe an antibiotic to treat the infection. Choices may include:

- Macrolides such as azithromycin
- Tetracyclines like doxycycline

A second line of treatment would be with fluoroquinolones like moxifloxacin

If you were infected while pregnant, your **newborn** baby may also need to get antibiotics.