CONDITION

Gonococcal arthritis

Gonococcal arthritis is joint inflammation caused by a gonorrhea infection that has spread through the bloodstream.

WHAT IT IS
Gonorrhea infection spreading to one or more joints

BODY SYSTEM
Joints, skin, and reproductive system

MAIN SYMPTOMS
Joint pain, swelling, fever, skin spots

WHAT CAUSES IT
Gonorrhea bacteria spreading through the blood

HOW IT IS DIAGNOSED
Gonorrhea testing and joint fluid analysis

MAIN TREATMENT
Antibiotics and sometimes joint drainage

CAN IT BE CURED?
Yes - antibiotics usually clear the infection

IS IT AN EMERGENCY?
Sometimes - a hot swollen joint needs urgent assessment

LONG-TERM OUTLOOK
Usually full recovery with prompt treatment

Overview

Gonococcal arthritis is inflammation and infection in a joint caused by Neisseria gonorrhoeae . This bacterium also causes gonorrhea, a sexually transmitted infection.

The condition develops when the bacteria move from the original site of infection into the bloodstream and reach a joint. This spread is called disseminated gonococcal infection, or DGI. The bacteria may also affect tendons and skin.

Gonococcal arthritis can appear in two main ways. Some people develop pain in several joints, inflammation around tendons, and a small skin rash. Others develop a more typical septic joint: one joint becomes very painful, swollen, and difficult to move because it contains infected fluid.

Many people have no genital, urinary, rectal, or throat symptoms when the joint problems begin. For this reason, the link to gonorrhea may not be obvious.

Early treatment matters because an infected joint can be damaged if infection and pressure inside it continue. Antibiotics like amoxicillin or doxycycline can usually cure the infection, especially when treatment begins promptly.

Symptoms

Symptoms can develop quickly. They may affect one joint or move between several joints.

Possible symptoms include:

Inflammation around a tendon is called tenosynovitis. It can make movement painful even when the nearby joint is not very swollen.

The skin spots often appear on the arms, legs, hands, or feet. They may be painless and can disappear quickly, so some people do not notice them.

The knee is commonly affected when infection settles in one joint, but ankles, wrists, elbows, and smaller joints can also be involved.

Symptoms at the original infection site may include pain when urinating, genital discharge, bleeding between periods, pelvic discomfort, rectal pain or discharge, or a sore throat. However, these symptoms may be mild or absent.

- Sudden pain, swelling, warmth, or redness in a joint
- Severe pain when moving or putting weight on the joint
- Fever, chills, or feeling generally unwell
- Pain that moves between the wrists, fingers, knees, ankles, or other joints
- Tenderness along a tendon, often at the wrist, hand, ankle, or foot
- A small number of red spots, blisters, or pus-filled bumps on the skin

Causes and risk factors

Gonococcal arthritis is caused by gonorrhea bacteria entering the bloodstream and reaching a joint. Gonorrhea can be passed through vaginal, anal, or oral sex. It can infect the cervix, urethra, rectum, or throat.

Most gonorrhea infections do not spread through the body. The reasons that some do are not always clear.

Factors linked with a higher chance of disseminated infection include:

Complement proteins help the immune system destroy certain bacteria. An inherited complement deficiency is uncommon, but it may be considered when disseminated infection happens repeatedly.

Gonococcal arthritis is not caused by exercise, overusing a joint, or ordinary age-related wear. It is not spread through casual contact, toilet seats, swimming pools, or sharing food.

- Gonorrhea that has not been diagnosed or treated
- Menstruation or pregnancy
- A previous episode of disseminated gonococcal infection
- A deficiency in part of the immune system called complement
- Sexual exposure to someone with untreated gonorrhea

Diagnosis

A hot, swollen joint has several possible causes, including other bacterial infections, gout, an injury, or an inflammatory condition. Medical assessment and testing are needed to tell them apart.

A clinician will ask when the symptoms began, which joints are affected, and whether there have been skin, urinary, genital, throat, or rectal symptoms. They may ask about sexual exposure to guide testing. This information is treated as part of confidential medical care.

When a joint contains fluid, a sample is usually removed with a needle. This is called joint aspiration. The fluid can be tested for bacteria, white blood cells, and crystals. Finding gonorrhea bacteria in joint fluid confirms the cause, but the test can be negative even when gonorrhea is responsible.

Testing may also include:

Nucleic acid amplification tests, often called NAATs, detect genetic material from gonorrhea bacteria. Cultures grow the bacteria in a laboratory and can help identify antibiotic resistance.

An X-ray, ultrasound, or other scan may show joint fluid or rule out another problem. Imaging alone cannot confirm gonococcal arthritis.

- A urine sample or swab from the vagina, cervix, or urethra
- Throat or rectal swabs, based on sites of sexual exposure
- Blood cultures to look for bacteria in the bloodstream

- Cultures from joint fluid, blood, or skin lesions
- Tests for chlamydia, HIV, and syphilis

Treatment and management

Gonococcal arthritis needs antibiotic treatment. A cephalosporin antibiotic, usually given by injection or into a vein at first, is commonly used. The exact antibiotic, route, and treatment length are chosen according to the form of infection, test results, allergies, pregnancy status, and local resistance information.

Treatment may begin before every result is available. Waiting could allow joint damage or further spread.

Hospital care is often appropriate when the diagnosis is uncertain, a joint contains pus, complications are possible, or treatment and follow-up cannot be arranged safely outside hospital. Once symptoms improve, treatment may sometimes continue outside hospital or change to an oral antibiotic if testing shows that this is suitable.

An infected joint may need to be drained. Fluid can be removed repeatedly with a needle, through a small tube, or during an operation. Drainage reduces pressure, removes infected material, and helps protect the joint.

Pain relief and short-term rest can make the early stage more manageable. Once treatment is working, gentle movement or physiotherapy may help prevent stiffness. Activity should increase gradually according to pain and joint function.

Recent sexual partners need testing and treatment because they may have gonorrhea without symptoms. Reinfection can occur if a partner remains untreated. Sexual contact should be avoided until the recommended waiting period after treatment has passed and partners have been treated.

Follow-up usually includes checking that symptoms are improving and reviewing culture results. Repeat gonorrhea testing is commonly arranged after treatment because reinfection is possible.

Complications

Without prompt treatment, infection can damage cartilage, the smooth tissue covering the ends of bones. This may lead to lasting pain, stiffness, reduced movement, or early arthritis in the affected joint.

Other possible complications include:

Complications are less likely when the infection is recognised, treated with an effective antibiotic, and drained when necessary.

Having had gonococcal arthritis does not create reliable immunity. A person can get gonorrhea and gonococcal arthritis again.

- Infection spreading to additional joints
- A collection of pus in or around a joint
- Tendon damage or reduced hand, wrist, ankle, or foot movement
- Sepsis, a serious body-wide response to infection
- Rare infection of the heart lining or heart valves
- Rare infection around the brain and spinal cord

Prevention

Gonococcal arthritis can often be prevented by avoiding gonorrhea or treating it before it spreads. No method removes all risk except not having sexual contact.

Condoms and internal condoms reduce the chance of passing gonorrhea when used correctly for vaginal or anal sex. Barriers used during oral sex can also reduce exposure.

Testing is important because gonorrhea often causes no symptoms. How often testing is appropriate is based on sexual practices, partners, pregnancy, previous infections, and local recommendations.

If gonorrhea is diagnosed:

There is no routinely available vaccine that prevents gonorrhea. Inherited complement deficiency cannot be prevented, but identifying it may help guide future care after repeated disseminated infections.

- Complete the recommended treatment
- Avoid sex for the advised period after treatment
- Make sure recent partners are assessed and treated
- Attend repeat testing when it is offered
- Seek care if joint pain, fever, or a rash develops

Living with it and what to expect

Joint pain and fever often start improving after effective antibiotics begin, but swelling and stiffness can take longer to settle. Recovery time is influenced by how long the joint was infected, whether drainage was needed, and whether cartilage or tendons were damaged.

Many people recover full or near-full joint function. Some have stiffness, weakness, or pain for weeks to months and benefit from physiotherapy. A smaller number develop lasting joint damage, especially when diagnosis or treatment was delayed.

Gonococcal arthritis is an acute infection, not usually a lifelong inflammatory arthritis. Once the bacteria are cleared, they do not normally remain dormant in the joint. Continuing or returning symptoms need reassessment rather than being assumed to be part of recovery.

Routine follow-up may cover joint movement, laboratory results, sexual health testing, partner treatment, and repeat testing for gonorrhea. New sexual exposure can lead to reinfection even after successful treatment.

The condition does not prevent most people from returning to work, exercise, sex, or usual activities after recovery. Return to weight-bearing exercise should be gradual if a knee, ankle, or other load-bearing joint was affected.

When to get medical help

Get urgent medical assessment the same day for a new joint that is hot, swollen, very painful, or difficult to move. This is especially important if you also have fever, a new skin rash, recent sexual exposure, or a known gonorrhea infection.

Go to an emergency department or call emergency services if joint symptoms occur with:

These can be signs of sepsis or another serious complication.

Routine follow-up is appropriate if treatment has started and symptoms are steadily improving. Contact the treating service promptly if pain, fever, or swelling worsens, if a new joint becomes painful, or if medication cannot be taken as planned.

- Confusion, fainting, or unusual drowsiness
- Severe weakness or rapidly worsening illness
- Trouble breathing
- Cold, pale, blotchy, or blue skin
- A very fast heartbeat with dizziness

- Severe headache with a stiff neck or light sensitivity

Common questions

Is gonococcal arthritis the same as gonorrhea?

It is a complication of gonorrhea. Gonorrhea usually stays in the genital tract, rectum, or throat. Gonococcal arthritis happens when the bacteria spread through the bloodstream and affect a joint.

Can I have gonococcal arthritis without genital symptoms?

Yes. Many people with disseminated gonorrhea have little or no discharge, urinary pain, or pelvic symptoms. Testing may still find infection in the throat, rectum, cervix, or urethra.

Is gonococcal arthritis contagious?

The arthritis itself does not spread through touching or sharing household items. The underlying gonorrhea infection can pass through sexual contact. Recent partners may need testing and treatment even if they feel well.

Does gonococcal arthritis go away completely?

Antibiotics can usually clear the infection. Joint symptoms often resolve, but recovery may take weeks or months. Lasting stiffness or damage is possible when infection has been present for longer.

Can gonococcal arthritis come back?

The same infection should not return after it has been fully treated, but a new gonorrhea infection can occur. Repeated disseminated infections may lead to testing for an immune system problem such as complement deficiency.

Will I need surgery?

Not everyone does. Some infected joints can be drained with a needle. Surgery may be needed when pus cannot be removed adequately, the infection does not improve, or the joint is difficult to drain another way.

Sources

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