CONDITION

Methicillin-resistant staphylococcus aureus

MRSA is a type of staph bacterium that resists several commonly used antibiotics.

WHAT IT IS
Carriage or infection with antibiotic-resistant staph bacteria

BODY SYSTEM
Skin and soft tissues, sometimes blood, lungs, bones, or joints

MAIN SYMPTOMS
Painful swelling, warmth, pus, fever

WHAT CAUSES IT
Contact with resistant bacteria

HOW IT IS DIAGNOSED
Laboratory culture and antibiotic susceptibility testing

MAIN TREATMENT
Drainage, wound care, and targeted antibiotics

CAN IT BE CURED?
Sometimes - infection clears, but carriage can return

IS IT AN EMERGENCY?
Sometimes - breathing trouble, confusion, or rapidly worsening illness

LONG-TERM OUTLOOK
Most infections clear, though repeat infections can occur

Overview

Methicillin-resistant Staphylococcus aureus , usually called MRSA, is a type of bacterium that resists several commonly used antibiotics like amoxicillin or doxycycline .
"Methicillin-resistant" does not mean that every antibiotic is ineffective. It means treatment must be chosen carefully.

Many people carry Staphylococcus aureus , or "staph," on their skin or inside their nose without becoming ill. MRSA can also be carried without symptoms. This is called colonisation .

An infection happens when the bacteria enter damaged skin or another part of the body and cause illness. MRSA most often causes skin infections, such as boils or abscesses. Less often, it can cause infections in the blood, lungs, bones, joints, surgical wounds, or medical devices.

MRSA matters because some routine antibiotics will not treat it. Testing helps identify which

antibiotics are likely to work. Most skin infections can be treated successfully, especially when they are assessed early.

MRSA may be acquired in the community or in a healthcare setting. Either type can affect people outside the place where it was acquired.

Symptoms

MRSA colonisation causes no symptoms. A screening swab may be the only way it is found.

A skin infection may begin as a sore area that looks like a spot, boil, insect bite, or infected cut. Possible symptoms include:

Redness may be less obvious on brown or black skin. Warmth, swelling, pain, or a change from your usual skin colour may be more noticeable.

Symptoms outside the skin depend on where the infection is. A lung infection may cause cough, chest pain, fever, or breathlessness. Infection in a bone or joint may cause deep pain, swelling, and reduced movement. A bloodstream infection may cause fever, chills, confusion, weakness, or rapid breathing.

These symptoms are not specific to MRSA. Other bacteria and non-infectious conditions can look similar.

- Redness or a change in skin colour
- Warmth, swelling, and tenderness
- A lump containing pus, called an abscess
- Fluid draining from a wound
- Fever or feeling generally unwell

Causes and risk factors

MRSA develops when staph bacteria gain resistance to certain antibiotics. The resistant bacteria can then spread between people or cause an infection in someone who already carries them.

Transmission usually happens through direct skin contact, contaminated hands, shared personal items, or contact with a wound or contaminated surface. The bacteria are more likely to enter through cuts, grazes, eczema, surgical wounds, or medical tubes.

Factors linked with community spread include:

Healthcare-related risk is higher with recent hospital care, surgery, dialysis, long-term care, or the use of catheters and other medical devices. Previous antibiotic use and a weakened immune system may also increase risk.

Having a risk factor does not mean that you will develop MRSA. People without obvious risk factors can also carry or acquire it.

- Close skin-to-skin contact
- Crowded living conditions
- Contact sports
- Sharing towels, razors, clothing, or sports equipment
- Open or poorly covered wounds
- Injecting drugs

Diagnosis

MRSA cannot be confirmed by appearance alone. A sample is sent to a laboratory to identify the bacteria.

For a skin or wound infection, the sample may be pus, drainage, or a swab from the affected area. Blood, urine, sputum, joint fluid, or another sample may be tested when a deeper infection is suspected.

The laboratory usually performs antibiotic susceptibility testing . This shows which antibiotics can stop the bacteria from growing and helps guide treatment.

Screening for colonisation usually involves swabs from the nose and sometimes the throat, groin, armpits, wounds, or device sites. Screening is used in particular healthcare situations rather than for everyone.

Blood tests and scans may be needed if there are signs that infection has spread. These tests assess the site and severity of infection; they do not replace the bacterial culture.

Treatment and management

Treatment depends on whether MRSA is simply being carried or is causing an infection, as well as the infection's location and severity.

A small abscess may need to be opened and drained by a healthcare professional. Drainage is often the most important treatment because antibiotics may not work well inside a sealed

pocket of pus. Do not squeeze or cut an abscess yourself.

Antibiotics may be used when there is spreading skin infection, fever, a deep infection, certain health risks, or another clinical reason. The choice is based on the infection, test results, allergies, other medicines, and local resistance patterns. Serious infections may require antibiotics through a vein and hospital monitoring.

If antibiotics are prescribed, take them exactly as directed. Do not use leftover antibiotics or share them. Contact the prescribing service if side effects make it difficult to continue.

Colonisation without symptoms often needs no treatment. In selected situations, decolonisation may be offered to reduce bacteria on the skin and in the nose. This can involve an antiseptic body wash and a nasal treatment. It may be considered before some procedures, during an outbreak, or for repeated infections. Decolonisation does not always work permanently, so it should follow a specific healthcare plan.

Keep infected areas clean and covered with a dry dressing. Wash your hands after touching the wound or changing a dressing. Follow any instructions about bathing, laundry, activity, and returning for wound checks.

Complications

Most MRSA skin infections remain local and respond to treatment. Complications are more likely when infection is deep, treatment is delayed, or a person has major underlying health problems.

Possible complications include:

Sepsis is the body's dangerous reaction to an infection. It requires urgent hospital treatment. These severe complications are not the usual outcome of a minor skin infection, but knowing the warning signs is important.

- Cellulitis, an infection spreading through deeper skin layers
- Repeated boils or abscesses
- Bloodstream infection and sepsis
- Pneumonia
- Infection of a bone, joint, heart valve, surgical site, or medical device

Prevention

MRSA cannot always be prevented. People can carry it without knowing, and ordinary contact may sometimes spread it. Practical hygiene can lower the chance of transmission and infection.

Wash your hands with soap and water, especially after handling a wound or dressing. Alcohol hand rub is useful when hands are not visibly dirty. Keep cuts and grazes clean and covered until healed.

Do not share towels, razors, clothing, cosmetics, or equipment that touches bare skin. Wash clothing, towels, and bedding used by someone with a draining wound, following the item's care instructions. Clean frequently touched bathroom and household surfaces with an appropriate household cleaner.

In gyms and contact sports, cover wounds securely, avoid shared personal items, and clean shared equipment as required. Avoid pools, hot tubs, and contact activities if a wound cannot be fully covered or is leaking through its dressing.

Tell healthcare staff about previous MRSA before surgery, hospital admission, or treatment involving a medical device. Healthcare facilities may use screening, hand hygiene, protective clothing, cleaning, and separate rooms to limit spread.

Antibiotics should be used only when prescribed for a likely bacterial infection. Unnecessary use encourages antibiotic resistance and does not prevent MRSA.

Living with it and what to expect

A treated skin infection may improve over days, although larger wounds can take longer to heal. Deep infections may require weeks of treatment and follow-up. Recovery time is influenced by the infection site, its severity, and your general health.

MRSA colonisation may clear, persist, or return after treatment. A positive screening result does not mean you are continually ill or will develop an infection. It also does not mean your home must be sterilised.

Most people can continue ordinary contact with family and friends. Good hand hygiene and covered wounds are more useful than avoiding normal social contact. Workplaces, schools, care facilities, and sports organisations may have specific rules when a wound is draining or cannot be covered.

Repeat infections can happen. Follow-up may include checking wound healing, reviewing culture results, or considering whether household transmission, a skin condition, or another health issue is contributing. Some people are offered a planned decolonisation course.

Keep a record of previous MRSA and mention it during future healthcare visits. This information can help with screening, infection-control measures, and antibiotic selection if another infection occurs.

When to get medical help

Arrange a medical assessment if you have a painful, warm, swollen, or pus-filled skin area, particularly if it is enlarging or not improving. Seek advice promptly if you have a wound after surgery or around a catheter, implant, or other medical device.

Same-day assessment is appropriate if:

Use emergency services if you have signs of severe illness, such as difficulty breathing, new confusion, fainting, blue or grey lips, very rapid breathing, or difficulty staying awake. Rapid deterioration with an infection may be a sign of sepsis.

Routine follow-up is still important when you otherwise feel well. Attend planned wound checks, dressing appointments, or reviews of laboratory results.

- Redness or swelling is spreading quickly
- You have fever or chills with a skin infection
- Pain is severe or worsening
- Red streaks extend from the affected area
- The infection is near an eye
- You have a weakened immune system or serious long-term illness
- Symptoms are getting worse despite treatment

Common questions

Is MRSA contagious?

MRSA can pass between people, especially through direct contact with infected skin, wound drainage, or contaminated hands and personal items. A person who carries MRSA without symptoms can also spread it.

It does not usually spread simply by being in the same room. Covering wounds, washing hands, and not sharing personal items reduce the risk.

What is the difference between MRSA and ordinary staph?

Both are forms of Staphylococcus aureus . MRSA is resistant to several antibiotics that may treat other staph infections. The symptoms can look the same, so a laboratory test is needed to tell them apart.

Can MRSA go away completely?

An MRSA infection can often be cleared with drainage, wound care, and an effective antibiotic when needed. Colonisation is less predictable. The bacteria may disappear, remain without symptoms, or return later.

A later positive swab does not necessarily mean that earlier treatment failed. MRSA can be acquired again.

Can I be around my family if I have MRSA?

Usually, yes. Normal contact is generally reasonable if wounds are clean, dry, and securely covered. Everyone should wash their hands regularly and avoid sharing towels, razors, or items that touch the wound.

Extra advice may be needed if someone in the home has open wounds, invasive medical devices, or a severely weakened immune system.

Why does MRSA keep coming back?

Repeated infection may happen because the bacteria remain on the skin or in the nose, spread between close contacts, or enter through damaged skin. Eczema, chronic wounds, shared equipment, and incomplete wound healing may contribute.

A healthcare review can confirm whether each episode is MRSA and whether decolonisation or other measures are appropriate.

Does a positive MRSA swab mean I need antibiotics?

Not usually. A positive screening swab often means colonisation rather than infection. Antibiotic tablets or injections are generally reserved for active infection.

Some people are offered skin and nasal decolonisation for a specific reason, such as an upcoming procedure, repeated infections, or infection-control needs.

Sources

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