CONDITION

Cytomegalovirus (CMV) infection

Cytomegalovirus is a common lifelong viral infection that is usually mild but can cause serious problems in babies and people with weakened immunity.

WHAT IT IS
Common lifelong infection caused by a herpesvirus

BODY SYSTEM
Whole body, especially eyes, brain, lungs, liver, and bowel

MAIN SYMPTOMS
Fever, fatigue, sore throat, swollen glands

WHAT CAUSES IT
Infection with human cytomegalovirus

HOW IT IS DIAGNOSED
PCR, antibody tests, or tissue testing

MAIN TREATMENT
Supportive care or specialist antiviral medicines

CAN IT BE CURED?
No - the virus remains dormant in the body

IS IT AN EMERGENCY?
Sometimes - sudden vision loss, breathing trouble, confusion, or seizures

LONG-TERM OUTLOOK
Usually mild; greater risks with weak immunity or congenital infection

Overview

Cytomegalovirus, usually called CMV, is a common herpesvirus. Many people catch it during childhood or early adulthood without knowing.

In people with healthy immune systems, CMV usually causes no symptoms or a mild illness similar to glandular fever. The immune system controls the infection, but the virus remains inactive, or "dormant," in the body for life. It can reactivate later, usually without causing noticeable illness.

CMV matters most during pregnancy and in people with weakened immune systems. It can pass to a baby before birth, causing congenital CMV. When immune defences are severely reduced, it can affect organs including the eyes, lungs, brain, liver, or bowel.

Symptoms

Most children and adults with CMV have no symptoms. When symptoms occur in an otherwise healthy person, they may include:

Tiredness may continue after other symptoms improve.

In people with weakened immunity, symptoms depend on the organ affected. They may include blurred vision, new floaters, shortness of breath, pain when swallowing, abdominal pain, diarrhoea, bowel bleeding, confusion, or weakness. These symptoms need prompt assessment.

Most babies with congenital CMV look well at birth, although some later develop hearing loss. Babies who are unwell at birth may have:

These signs can have other causes, so testing is needed.

- Fever
- Marked tiredness
- Sore throat
- Swollen glands
- Muscle aches
- Reduced appetite
- Poor growth or a small head size
- Yellow skin or eyes
- A purple or red spotted rash
- An enlarged liver or spleen
- Seizures
- Feeding difficulties
- Hearing or vision problems

Causes and risk factors

CMV spreads through infected body fluids, including saliva, urine, blood, semen, vaginal fluids, tears, and breast milk. It can also spread through transplanted organs or blood products, although safety measures reduce these risks.

Young children may release CMV in saliva and urine for months. Parents, childcare workers, and others in close contact with young children are therefore more likely to be exposed. CMV is not usually spread through brief everyday contact; transmission generally requires direct contact with infected fluids.

During pregnancy, CMV can cross the placenta. This can happen after a first infection, reactivation, or infection with a different strain. A first infection during pregnancy generally carries a greater transmission risk, but transmission does not necessarily mean the baby will have health problems.

Serious illness is more likely after an organ or stem-cell transplant, during certain cancer treatments, with advanced untreated HIV, or when taking medicines that suppress immunity.

Diagnosis

The right test depends on the circumstances.

Blood tests can detect antibodies made after exposure to CMV. IgG usually shows that infection occurred at some point. IgM can occur with recent infection, reactivation, or for other reasons, so it cannot reliably date an infection by itself.

An IgG avidity test may help specialists assess whether infection is recent, particularly during pregnancy, but must be interpreted with other results.

PCR testing detects CMV genetic material in blood, urine, saliva, spinal fluid, or tissue. In people with weakened immunity, blood PCR can measure viral levels and help monitor treatment. An eye examination, scan, endoscopy, or tissue sample may be needed to confirm organ disease.

Congenital CMV is confirmed by testing a newborn's saliva or urine within three weeks of birth. Later testing may not distinguish infection before birth from infection after birth. A positive saliva test is generally confirmed with urine because breast milk can contaminate saliva samples.

Assessment during pregnancy may include blood tests, detailed ultrasound scans, and sometimes amniotic fluid testing. No prenatal test can predict with certainty how CMV will affect a baby.

Treatment and management

Healthy children and adults with mild CMV usually do not need antiviral treatment. Rest, fluids,

and suitable non-prescription medicines may help with fever or discomfort.

Serious infections may be treated with antivirals such as ganciclovir or valganciclovir. Other medicines may be used if the virus is resistant or side effects make these unsuitable. Antivirals like acyclovir or oseltamivir suppress CMV but do not remove it from the body.

These medicines can affect blood-cell production, kidney function, and other organs. Treatment requires specialist supervision and regular blood tests. The medicine and treatment length depend on the affected organ, immune health, results, and response.

Some babies with signs of congenital CMV may benefit from treatment started early in life, but treatment is not appropriate for every baby who tests positive. A paediatric infection specialist assesses the benefits and risks.

After a transplant, clinicians may use preventive antivirals or regular blood testing followed by early treatment if viral levels rise.

Do not stop an antiviral or immune-suppressing medicine without guidance from the team managing it.

Medicines commonly used for this include letermovir . Which one suits you, if any, is a decision for you and your doctor.

Complications

Complications are uncommon in people with healthy immune systems. In people with severely weakened immunity, CMV can cause:

CMV retinitis can permanently damage sight without prompt treatment. Organ complications may return while immunity remains weak.

Congenital CMV can affect hearing, vision, movement, learning, growth, or brain development. Hearing loss may appear or worsen months or years after birth, even in children who seemed well as newborns. However, many babies with congenital CMV do not develop major health problems.

- Retinitis, affecting the back of the eye
- Pneumonitis, affecting lung tissue
- Inflammation or ulcers in the oesophagus, stomach, or bowel
- Hepatitis, or liver inflammation
- Encephalitis, or brain inflammation

Prevention

There is no licensed vaccine that completely prevents CMV.

If you are pregnant or planning pregnancy, careful hygiene can reduce contact with young children's saliva and urine:

These measures reduce risk but cannot guarantee prevention.

Transplant services use donor and recipient testing, blood monitoring, and antivirals to reduce complications.

CMV can pass through breast milk. For most full-term babies, breastfeeding benefits outweigh the risk. Feeding for very premature or medically fragile babies should be discussed with the neonatal team.

- Wash your hands after changing nappies, wiping noses, or helping with toileting
- Avoid sharing cups, cutlery, food, or toothbrushes with young children
- Clean toys and surfaces contaminated with saliva or urine
- Kiss young children on the forehead rather than the mouth
- Use condoms to reduce exposure through sexual fluids

Living with it and what to expect

For most healthy people, CMV passes unnoticed. If it causes a glandular-fever-like illness, fever and throat symptoms usually settle before tiredness. Repeated illness is unusual unless immune health changes.

A past positive antibody test does not usually require ongoing appointments or changes to everyday activities. Normal social contact is safe once you feel well.

People with weakened immunity may need blood tests, eye checks, or other monitoring. Treatment can last for weeks or longer, and CMV may return while immunity remains suppressed. Risk often falls as immune function recovers.

A baby with congenital CMV may need hearing and vision checks and reviews of growth and development. Follow-up remains important even when the baby appears healthy because hearing changes can emerge later. Some children need hearing devices, speech and language support, physiotherapy, or educational help.

When to get medical help

Arrange a routine appointment for persistent fever, swollen glands, or unusual tiredness that is not improving, particularly if your immune system is weakened.

Contact your pregnancy or maternity team if you are pregnant and have a possible CMV-like illness, concerning exposure, or abnormal blood or ultrasound results. This usually requires planned assessment rather than emergency care.

Seek prompt, same-day medical advice if you have weakened immunity and develop:

A newborn should be assessed promptly for poor feeding, unusual sleepiness, jaundice, a widespread spotted rash, breathing problems, or possible seizures.

Call emergency services for severe breathing difficulty, a seizure, sudden major vision loss, severe confusion, collapse, or difficulty waking. These symptoms need immediate care, whatever the cause.

- New blurred vision, floaters, blind spots, or eye pain
- Ongoing fever, diarrhoea, abdominal pain, or pain when swallowing
- Increasing shortness of breath
- New weakness, poor balance, or changes in thinking

Common questions

Is CMV a sexually transmitted infection?

Sexual contact is one route because CMV can spread through semen and vaginal fluids. It also spreads through saliva, urine, breast milk, blood, and transplanted organs, so it is not only a sexually transmitted infection.

Can I get CMV more than once?

Yes. Dormant CMV can reactivate, and you can acquire a different strain. In healthy people, this usually causes no noticeable illness.

What does a positive CMV IgG test mean?

It usually means you have had CMV at some point. It does not show when infection happened or prove that CMV is causing current symptoms.

Does a positive CMV IgM test mean a recent infection?

Not always. IgM can appear during a first infection or reactivation and may remain positive for months. Clinicians interpret it with IgG, avidity, PCR, symptoms, and previous results.

Will CMV harm my baby during pregnancy?

Most maternal infections do not cause severe problems for the baby. However, congenital CMV can affect hearing, vision, growth, or development. Specialist tests can assess infection but cannot predict every outcome.

Can CMV be cured?

No treatment removes CMV from the body. Antivirals can control active infection and reduce organ damage, but the virus remains dormant and may reactivate if immunity becomes weak.

Sources

- Centers for Disease Control and Prevention: About Cytomegalovirus , clinical overview of transmission, symptoms, congenital infection, and prevention
- Centers for Disease Control and Prevention: Laboratory Testing for CMV and Congenital CMV , guidance on antibody, PCR, saliva, and urine testing
- NHS: Cytomegalovirus , patient information on symptoms, pregnancy, testing, and treatment
- NIH ClinicalInfo: Cytomegalovirus Disease in Adults and Adolescents with HIV , evidence-based guidance on organ complications, diagnosis, treatment, and monitoring
- European Congenital Infection Initiative: Consensus recommendation for prenatal, neonatal and postnatal management of congenital cytomegalovirus infection , The Lancet Regional Health - Europe , 2024
- Kotton and colleagues: The Third International Consensus Guidelines on the Management of Cytomegalovirus in Solid-organ Transplantation , Transplantation , 2018