



International
Transplant Nurses
Society

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CMV & ME

**Information for
Transplant Patients**

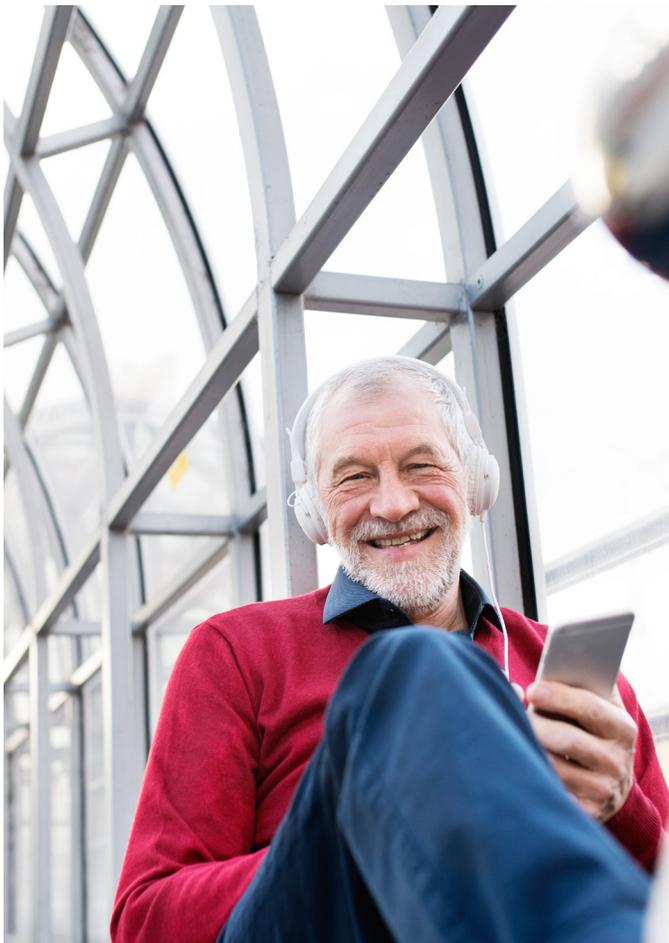


About CMV

What is cytomegalovirus (CMV)?

CMV is a common virus infecting people of all ages. It belongs to the family of herpes viruses. CMV does not usually cause serious problems in healthy people, but it is the most common serious infection affecting transplant patients.

CMV can be described as either an infection or a disease. CMV infection means that there is CMV reproducing, or making copies of the virus. The patient has no symptoms at this time. CMV disease means that the virus has caused damage to an organ and is causing symptoms to occur.



As a transplant recipient, am I at risk for CMV? How can I get CMV?

It is estimated that 50-80 percent of the population in the United States has been infected with CMV at some point in their lifetime. Once CMV infects a person, it stays dormant in his or her body for life. During this dormant phase, most people do not have signs or symptoms. However, the virus can reactivate when the person's immune system is weakened.

Transplant patients may already have been exposed to CMV before their transplant and the virus is dormant. It is also possible for a transplant patient to receive a donor organ that has been infected with the virus. Other ways a transplant patient may become infected with CMV is either as a result of contact with the virus within the community or after receiving blood that is CMV-positive.

All organ transplant patients are at risk for developing CMV. However, patients at higher risk for developing CMV are those who have had lung or small bowel transplants.

Will I be tested for CMV before my transplant? Will my donor also be tested for CMV before the transplant occurs?

Transplant patients are screened for CMV both before and after the transplant occurs. As part of the evaluation, all patients have blood samples drawn to determine if they have been exposed to the virus. Donors are also tested before transplantation.

If I test positive for CMV, will I have to wait longer for my transplant?

CMV status will not usually delay your transplant. However, there may be more of a risk of infection and disease for organ transplant recipients if they are CMV negative. This is because they run the highest risk of receiving a primary infection from receiving a CMV-positive organ.

It is preferable that a CMV-negative patient receive a CMV-negative organ, but this is not always possible. When CMV-negative patients receive a CMV-positive organ, most transplant centers will note the patient as high-risk for CMV infection and disease. With improved antiviral medications and protocols, it is possible to reduce the risk for these patients if they are treated with antiviral therapy for longer periods of time. When an organ becomes available, the best possible decision will be made for each potential recipient based on many factors, with CMV status as only one of those factors.

How long after an organ transplant can I get a CMV infection?

A CMV infection may occur during the first month after a transplant, but it is also possible for infection or a reactivation of the patient's pre-existing CMV infection to develop after this time period. This is one reason why it is so important to stay in close communication with your transplant team and follow treatment plans exactly as directed.

How do I know if I have a CMV infection? Can my healthcare provider test me for CMV?

Healthy adults with a CMV infection may experience mild illness. Symptoms of CMV may include, but are not limited to the following:

- Fatigue
- Joint stiffness
- Loss of appetite
- Fever
- Swollen glands

Patients with weakened immune systems – including transplant patients – may develop more serious complications from CMV infection, including, but not limited to these:

- Pneumonia
- Gastrointestinal disease
- Hepatitis

Your healthcare provider will obtain a blood test to determine if you have an active CMV infection. A tissue biopsy can also confirm the diagnosis.

Can CMV affect my transplanted organ? Can it affect my overall health?

CMV may cause serious disease in multiple organs and lead to infection if left untreated. It may also cause injury to the transplanted organ, and in some cases, organ rejection.

Is CMV preventable? How is CMV treated?

Once CMV is in the body, it stays there for life. CMV can be treated with the use of antiviral medications. These medications can be given either as a precaution to high-risk patients (before possible infection) or when a CMV-related infection is confirmed. It is very important for transplant patients to stay in close communication with their transplant team and follow treatment plans exactly as directed.

What should I do if I think I have a CMV infection?

If you think you may have a CMV infection, you should see your healthcare provider. They will examine you and develop a plan of care.

Can CMV infection occur more than once?

Yes, CMV infection may occur more than once. Because CMV stays in a person's body for life, it is possible for someone to have an infection more than once.



Tips for Families & Caregivers

One of the most valuable things you can do as a family member or caregiver is to offer support. You can help by ensuring your loved one does these things:

- Sees his or her provider or transplant team regularly.
- Takes all medicine as directed by provider or nurse.
- Seeks prompt medical attention for any signs or symptoms of CMV infection.
- Stays informed about his or her health.
- Asks provider or transplant team any questions about his or her health or the health of the transplanted organ.

In some cases, living donors who have donated an organ to a loved one may feel guilty about the possibility of passing on CMV. Prior to the transplant, the provider and transplant team will screen live donors and determine the risk of transplanting a donated organ that is CMV-positive. With the help of a provider or transplant team, this situation will be closely monitored.

Healthcare Provider Visit CMV Question Checklist

BEFORE AND AFTER TRANSPLANT

Working closely with your provider and transplant team is an important step in the transplant process. The questions below are meant to serve as a guide to help you discuss your individual plan with your transplant team.

BEFORE YOUR TRANSPLANT

- What medical tests will I need before the transplant?
- Will I be tested for CMV? What other kinds of tests might I have?
- What will happen if I test positive for CMV? What will happen if my donor tests positive for CMV?
- If I test positive for CMV, will I need to take medication before my transplant?

AFTER YOUR TRANSPLANT

- What steps will I need to take to help prevent my transplanted organ from the development of a CMV infection?
- Will I be tested for CMV after my transplant? What kinds of tests will I have?
- What will happen if I test positive for CMV after my transplant?
- What medication will I need to take so I can minimize my risk for developing a CMV-related infection? How often do I need to take my medication? How long will I take this medication?
- What might happen if I do not take my medication as directed?
- How will I know if I have a CMV-related infection?
- What should I do if I think I have a CMV-related infection?
- What else can I do to help protect myself against CMV?

ITNS is the first professional nursing organization to focus on the professional growth and development of the transplant clinician. ITNS offers nurses a forum for learning about the latest advances in transplantation and transplant patient care. To access more transplant education materials for patients and healthcare workers, please visit the International Transplant Nurses website at itns.org.

HELPFUL RESOURCES

- www.itns.org/index.php
- www.cdc.gov/cmrv/index.html
- www.nlm.nih.gov/medlineplus/ency/article/000663.htm

For a list of additional references please contact ITNS at info@itns.org

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