

CMV Testing

What is CMV?

Cytomegalovirus, or CMV as it is more commonly known, is a member of the herpes virus family which includes cold sores, chicken pox and infectious mononucleosis. In healthy adults, infection with one of these viruses is characterized by an acute phase followed by an immune response. These viruses are not completely eliminated from the body but are confined in low numbers within certain cells for the lifetime of the individual. This person is healthy, has no evidence of disease and will not ordinarily transmit the virus to another person. If there is a suppression of the immune system, the virus may reactivate, shed viral particles and cause disease.

1. Who is at risk of contracting a CMV infection?

Nearly all adults will be exposed to CMV in their lifetime. In the USA, some 50-85% of adults will test positive for prior infection. In developing countries, it is almost 100%.

2. How is CMV spread?

CMV is spread from person-to-person by exposure to saliva, urine, semen and other body fluids. The vast majority of cases are due to exposure to a person with an acute infection who is shedding large numbers of viral particles. One of the more common settings in which this occurs is daycare centers for children. There is no vaccine for CMV. Prevention consists primarily of avoiding exposure to infected body fluids and practicing good personal hygiene.

3. What is the incubation period of CMV infection?

The incubation period is estimated to be between 3-12 weeks.

4. What are the symptoms of CMV infection?

While most healthy children and adults do not develop symptoms, some may have a "flu-like" illness, have swollen lymph nodes or may complain of feeling tired.

5. How long do the symptoms last?

This varies widely, but most people recover in 2-3 weeks.

6. What are the complications of a CMV infection?

In healthy adults and children, the recovery is usually complete with no complications. Organ transplant recipients and people with AIDS who have compromised immune systems, may develop serious illness such as pneumonia. Pregnant women who are infected for the first time during pregnancy usually recover completely with few or no symptoms. Most babies will not be harmed by the virus, but the small percentage that do may develop neurological abnormalities. Congenital CMV infection is a leading cause of hearing loss.

7. How does International Cryogenics screen its donors for risk of CMV transmission?

CMV Total Antibody testing is performed on all donors prior to qualification and at approximate 90-day intervals thereafter. Negative results are consistent with no previous infection. If the Total Antibody test is positive, reflex testing (CMV IgG Antibody, CMV IgM Antibody) is performed to determine if the result represents a recent or old infection. If there is evidence that a donor has a current infection, the donor is not eligible to participate in the program. If, through periodic testing, it is

determined that a donor has become infected, he will be disqualified and any retained vials since his last negative result will be discarded.

8. What is the difference between CMV IgG and IgM tests?

A positive CMV IgM result is consistent with a current or recent CMV infection. A positive CMV IgG result in combination with a negative CMV IgM result indicates historic exposure to the CMV virus. These results are consistent with a normal immune response.

9. How reliable are the CMV antibody tests?

They are considered to be very reliable, but like all laboratory tests, it cannot be expected that they are 100% accurate. It has been estimated that 5-20% of people who test negative for CMV antibody will test as 'false-negative' because the antibody level is too low to detect. Because all vials remain in quarantine for at least 6 months, and the donor is tested multiple times prior to release of those vials, we are able to track any change in CMV test results that may occur.

10. If I am CMV antibody negative, what is my risk of acquiring a CMV infection from one of your sperm donors who is antibody positive for CMV?

While we would never say the risk is zero, we believe that the risk is extremely low. Semen processing methods that remove white blood cells are thought to reduce that risk. In our opinion, any risk can be reduced by the use of IUI vials which are prepared by a density gradient method which removes nearly all white blood cells and seminal plasma. Based upon our experience and published literature, we do not believe that semen from a healthy donor who is antibody positive due to an old CMV infection poses any meaningful risk of transmitting CMV. This is, however, a medical issue that you should discuss with your physician