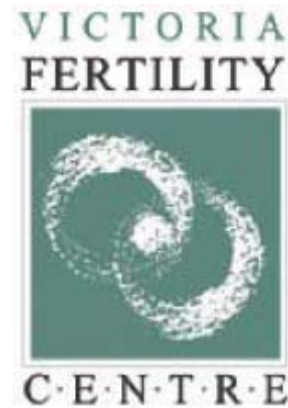


## **CMV AND DONOR INSEMINATION**

CMV is a virus that most adults have been exposed to and have immunity to. In healthy adults and children it produces mild cold or flu like symptoms for 1-2 weeks. Uncommonly it can cause a mild hepatitis (inflammation of the liver). If a woman who has never had CMV becomes infected with the virus during pregnancy, the child is at risk for developing severe medical problems, such as mental retardation, deafness and seizures. You can be tested to determine if you have been exposed to CMV. If you are CMV negative (meaning that you do not have antibodies against CMV), you should consider restricting your selections to CMV negative donors, to prevent the small chance of developing CMV during pregnancy and passing it to the developing child. Information on the CMV status of all donors is available on their summary profile.



## **DETAILED QUESTIONS AND ANSWERS REGARDING CMV**

### **WHAT IS CMV?**

Cytomegalovirus, commonly called CMV, is a member of the herpes virus family that includes chicken pox, cold sores, and infectious mononucleosis (mono). The virus is carried by people and is not associated with food, water or animals. Most individuals are exposed to CMV in childhood and have a mild infection similar to a typical cold, while the immune system develops antibodies to fight the infection. The virus remains alive, but becomes dormant, or hides, inside certain cells for the rest of the person's lifetime. Approximately 50-85% of adults will test CMV positive, confirming exposure. In developing countries, or areas of poor sanitation, this number is almost 100%. However, in a small number of individuals, the virus may reactivate and be transmitted in bodily fluids, such as semen. This is very common in people with immune suppression or individuals that have only recently been exposed to CMV.

### **WHAT IS THE DIFFERENCE BETWEEN CMV IgG AND IgM TESTS?**

The CMV IgG test indicates previous exposure to CMV. The CMV IgM test indicates a recent or current infection, in which case all vials are discarded.

## **HOW IS CMV SPREAD?**

CMV is spread person-to-person by direct exposure to urine, saliva, mucus, cervical secretions, semen, blood, or breast milk. There is no vaccine for CMV. Daycare centers are one of the more common exposure settings, where children can transmit the virus through contact with each other's bodily fluids (infected children carry the virus in their respiratory and urinary tracts for long periods of time). Adults can also be infected through unprotected sexual contact. The production of virus may take place intermittently, without any detectable signs, and without causing symptoms. An infected mother can transmit CMV to her fetus either through the placenta or through exposure to her infected cervical secretions during birth.

## **WHAT ARE THE SYMPTOMS OF CMV INFECTION?**

The symptoms are usually mild, non-specific, hard to detect, and resolve in 1-2 weeks. An adult may not even realize that they have an infection. Some people develop a 'flu-like' illness with swollen lymph nodes or they may complain of feeling tired. As mentioned above, it can also sometimes cause a hepatitis, which may result in nausea, jaundice and fatigue. Children may have a runny nose. In people with impaired immune systems may develop a serious illness. Pregnant women who are infected for the first time during pregnancy usually recover completely with few or no symptoms. The unborn baby is at risk for congenital infection.

## **WHAT ARE THE SYMPTOMS OF A CONGENITAL INFECTION?**

If a pregnant woman has never been exposed to CMV and has her first infection during pregnancy, there is a chance that the fetus could become infected before the mother's body can eliminate the virus. Transmission to the fetus only occurs in a third of women who have a primary infection during pregnancy. Congenital CMV is the most common congenital infection in the US. Twenty percent of babies born with an infection develop medical complications over the first few years of life. Those symptoms can include low birth weight, deafness, blindness, mental retardation, small head, seizures, jaundice, brittle teeth and damage to the liver and spleen. While a child may develop some of the above symptoms, no baby develops all the symptoms and some infants have no symptoms at all.

## **HOW DO SPERM BANKS SCREEN DONORS?**

Testing for antibody to CMV is performed on all donors. If the antibody test is negative or not detectable, the donor is presumed not to have been previously infected. Most Sperm banks will then perform a new test every three months to monitor for new infections. If the donor tests positive for antibodies, additional testing is performed to determine if the positive antibody test represents a recent or old infection. If a recent infection cannot be ruled out, all suspect semen vials are discarded.

### **IS IT SAFE TO USE A DONOR WHO IS POSITIVE FOR CMV?**

You may wish to consult with your own medical practitioner as to whether he or she feels it is acceptable to use a donor who is positive for CMV IgG antibodies. In most cases a donor who is positive for CMV IgG is non infectious. Furthermore, most Sperm banks have a six-month quarantine policy ensuring that should a donor test positive for a current or recent infection, all potentially infectious samples are not released.

### **WHAT DONORS MAY I USE IF I AM CMV NEGATIVE?**

We would recommend that you use a CMV negative donor. However, you may use a CMV positive donor, if you wish. While the risk is not zero, the chance of transmitting congenital CMV to a developing fetus from semen used at the time of conception is extremely low. Based upon my experience and the published literature, we do not believe that 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.