



Child care

CMV (Cytomegalovirus) in child care

About CMV, the effects, preventing CMV

Immunisation in child care

Importance of immunisation, risks and effects, managing the risks, occupational immunisation programs

CMV (Cytomegalovirus) in child care

What is CMV?

About the virus, the risks in the child care industry, primary infection, reactivation of infection, how it is spread

The effects of CMV

Symptoms of CMV, the risks of CMV during pregnancy

Preventing CMV in child care

Effective control measures for preventing CMV

What is Cytomegalovirus (CMV)?

CMV is a common viral infection that affects many people, and currently there is no vaccine that can protect against it. Because infection usually does not cause illness in healthy people many people may be unaware they have been infected with the virus. However, CMV can have serious health effects for pregnant women and their unborn children.

CMV infection

The first time that a person is infected with CMV is called a primary infection. After primary infection, the virus continues to live in the body in an inactive or dormant state. CMV can become active again periodically, and this is called a reactivation of infection. Reactivation of infection can occur, for example, when a person has another infection or illness, or during pregnancy. A previously infected person can also be infected with a different strain of CMV, and this is called a re-infection.

How CMV is spread

CMV is spread occupationally from person to person by contact with body fluids, including urine and saliva. A person can pass the virus to another person even though they do not have symptoms. Good hygiene and other control measures can be very effective in preventing the spread of CMV.

CMV can also be transmitted from a mother to her unborn child during pregnancy. This is called congenital infection.

The risk of CMV infection in the child care industry

People who have occupational contact with young children are particularly at risk of CMV infection. Studies show that workers in child day-care centres are at highest risk, especially when caring for children younger than two years of age. This is because child care workers have frequent contact with children's urine and saliva from activities such as changing nappies, assisting with toilet care and feeding infants.

Health care workers caring for infants and children, and patients who have an impaired immune system may also be at increased risk.

The effects of CMV

In a landmark decision in NSW, a childcare worker and her severely disabled son were awarded \$4.65 million. A Court of Appeal ruled that the child's disabilities resulted from the woman being infected with cytomegalovirus (CMV) at work (Hughes v SDN Children's Services 2002).

CMV infection does not usually cause illness in healthy people, and people may be unaware that they have been infected. Occasionally it causes a glandular fever-like illness with fever, sore throat and swollen glands. CMV infection can however cause serious illness in people who have an impaired immune system, and there can be adverse health effects for unborn children if they are infected during their mother's pregnancy.

CMV and pregnancy

An infected mother can transmit CMV to her unborn baby. The most severe form of the disease generally occurs in infants born to mothers who have a primary infection during pregnancy. The risk to an infant from reactivation of infection or re-infection during pregnancy is generally lower.

A small number of babies who have been infected with CMV during pregnancy have symptoms at birth. Health effects can include damage to the brain, liver, eyesight and hearing. Many of these infants will have life-long disabilities of varying degrees. The majority of infants who have been infected with CMV during pregnancy do not have symptoms at birth. However, some of these children may develop disabilities later in childhood, such as hearing loss, learning difficulties and developmental delay.

Women working in the child care industry who are pregnant or expect to become pregnant should discuss the risks of CMV with their doctor, and inform their employer so that their individual risk can be assessed and managed.

The doctor may suggest a blood test to determine if the woman has had a CMV infection in the past. This will assist in determining if a woman is at risk of a primary infection during her pregnancy. There is no vaccine to prevent CMV infection during pregnancy, however good hygiene practices, including hand washing, can reduce the risk.

Preventing CMV in child care

There is currently no vaccine to prevent against infection with CMV. Good personal hygiene, including hand washing, is the most important way to prevent CMV infection, as CMV is readily killed with soap and detergent.

CMV infections are common among children in childcare settings but most children will not have symptoms and their infection will be unknown. Children known to have CMV do not require exclusion from childcare because the virus may persist in their urine and saliva for months to years.

The occupational risks of CMV infection in child care facilities should be managed with a risk management approach, as outlined in the *Risk Management Code of Practice 2000*.

The following control measures can be effective in preventing CMV infection:

- Workplace design that encourages good hygiene practices, for example by installing hand-washing amenities close to nappy changing areas.
- Wash hands frequently, especially after contact with urine and saliva and after removing disposable gloves.
- Use alcohol-based hand rub for situations where hand-washing facilities are not readily available, such as when taking children on excursions.
- Cover cuts with water-resistant dressings.
- Use disposable gloves (eg latex or vinyl) for activities that involve contact with urine and saliva and instruct workers in their use.
- Provide information to workers about CMV risks during pregnancy and work practices to reduce the risk of infection. Keep training records.
- Relocate workers who are pregnant, or who expect to become pregnant, to care for children aged over two years of age, as contact with urine and saliva is generally lower in this age group.
- Purchase equipment and toys that are readily cleaned.
- Instruct workers not to kiss children on the mouth and face.
- Implement cleaning programs for surfaces and items that are soiled with urine and saliva, including nappy change mats, potties and toys.
- Implement procedures for hygienic nappy changing and the storage and disposal of soiled nappies. Take steps to prevent urine from spraying into the face of workers if infants pass urine during nappy changing (especially infant boys).
- Implement laundry procedures for linen that is soiled with urine and saliva. Make sure that soiled personal clothing and linen are placed in a sealed bag and sent home with the child for washing.
- Implement procedures for cleaning up accidental spills of urine, such as occur during toilet training.
- Discuss CMV risks with a doctor if pregnant or considering becoming pregnant.
- Inform the employer if pregnant or expect to become pregnant.

Immunisation in the child care industry

Immunisation in child care settings

Typical diseases, why immunisation is the best defence for people working in child care

Managing the risks through immunisation

Preventing infection, immunisation programs, which diseases can be vaccinated against

Managing vaccine refusal

Preventative measures, outbreak management, post-exposure protocols

Immunisation in child care settings

People working in child care can be exposed to infectious diseases through contact with infected children and others. Infection can occur from contact with blood and body fluids, or simply from close proximity to infected people for example from coughing and sneezing.

Some diseases can be prevented by immunisation, with vaccines available for diseases including:

- hepatitis A
- measles
- mumps
- rubella (German measles)
- varicella (chickenpox)
- pertussis (whooping cough).

All of these diseases can cause serious illness in adults. Some of these diseases, such as rubella and chickenpox, can occasionally cause serious damage to an unborn baby if a woman is infected during her pregnancy. Also, diseases such as whooping cough can cause serious illness in infants if the disease spreads from infected childcare workers to the infants in their care.

People who have not previously been infected with or immunised against these diseases are at risk of infection. For people working in child care settings vaccination is the most effective way to manage the risk of infection as these diseases are generally very infectious and can spread before an infected person shows signs of illness.

For information on immunisation of children in child care please refer to your doctor, or the current edition of the *Australian Immunisation Handbook*.

Other diseases in childcare settings, like cytomegalovirus (CMV), cannot be prevented by immunisation and other approaches are required to manage the risks.

Managing the risks through immunisation

The best protection for workers against diseases that are preventable by vaccination is an occupational immunisation program. The National Health and Medical Research Council (NH&MRC) recommends that childcare workers should be vaccinated against:

- hepatitis A
- measles-mumps-rubella (MMR) (childcare workers born during or since 1966 who have only received one dose of the MMR vaccine should have a second dose)
- varicella (for childcare workers who have not previously been infected with chickenpox)
- pertussis (whooping cough) (an adult booster dose is recommended, especially for those workers caring for the youngest children who are not fully vaccinated)

(Refer to the current edition of the *Australian Immunisation Handbook*.)

Although the risk is low, employers of child day care centres who care for children with intellectual disabilities should seek advice about hepatitis B vaccination if the children are not immunised.

Students who undertake vocational placements at childcare facilities are also at risk of exposure to diseases that are preventable by vaccination. Tertiary education institutions that offer childcare courses should implement a student immunisation program and make sure that students have received the relevant vaccinations (as listed above). Employers of childcare facilities who accept childcare students on placements should make sure that childcare students are fully immunised.

An occupational immunisation program should:

- include an immunisation policy which states:
 - the workplace's vaccination requirements
 - the employer's and workers' responsibilities for vaccination
 - how vaccine refusal, medical contraindication to vaccination (medical condition which makes vaccination inadvisable) and vaccine failure (for example rubella) will be managed
 - how the risks to contract and labour hire workers, students, volunteers and others will be managed
- require all at-risk workers to complete an immunisation record on commencing employment. This provides a record of each worker's immunity to the relevant vaccine-preventable disease(s) from past infection or vaccination
- identify non-immune and incompletely immunised workers from the immunisation record and request that they be vaccinated in accordance with the immunisation policy
- provide workers with information about the relevant vaccine-preventable disease(s) and the availability of vaccination
- ensure that workers have been vaccinated as requested and update each worker's immunisation record following vaccination. Workers may be required to provide evidence that vaccination has been completed (for example a doctor's letter)
- manage vaccine refusal, medical contraindication to vaccination and vaccine failure in accordance with immunisation policy.

Managing vaccination refusal

Where workers refuse vaccination or are unable to be vaccinated for medical reasons or do not respond to vaccination the employer should undertake a risk assessment to determine the most appropriate way to protect these workers against infection. The risk assessment should give consideration to the way in which the particular infectious disease is spread.

Appropriate ways to protect non-immune workers might include a combination of preventative measures, outbreak management measures and post-exposure protocols.

Preventative measures

To prevent exposure employers could:

- implement work restrictions for example restrict a worker who has no immunity to a vaccine-preventable disease from performing at-risk activities, working in at-risk environments or having contact with people infected with the disease.
- implement safe work practices (including hygiene practices) and provide additional training
- provide personal protective equipment (PPE).

Outbreak management

In the event of an outbreak of a vaccine-preventable disease at a workplace, it may be necessary to exclude a non-immune worker or implement work restrictions to protect the worker and prevent further spread of disease. Advice should be sought from an appropriate source such as Queensland Health

Post-exposure protocols

A doctor may provide chemoprophylaxis (a medication given following an exposure to prevent or reduce the severity of a disease) to people without immunity following exposure to some vaccine-preventable diseases for example hepatitis A.

Employers should:

- identify whether this type of treatment is available for vaccine-preventable diseases that are a risk at the workplace
- develop procedures, including prompt medical referral, to be followed in the event of an exposure.

Confirming immunity

If a worker is at significant risk of acquiring a vaccine-preventable disease and is unsure of their immunity, employers should request the worker to provide medical confirmation of immunity where this is appropriate, for example chickenpox.

Who pays for vaccination?

Vaccination costs should be negotiated between the employer, workers and their representatives.

Vaccine uptake by workers is generally higher where the employer provides vaccination at no cost or at subsidised cost.

Studies show that preventing illness through a comprehensive immunisation program is more cost-effective than the costs associated with managing occupational exposures, outbreaks of disease and subsequent disruption of productivity and services.

© The State of Queensland (Department of Industrial Relations) 2005.
The State of Queensland makes no statements, representations, or warranties about the accuracy or completeness of, and you should not rely on, any information contained in this document.