

## CMV CORE FACTS

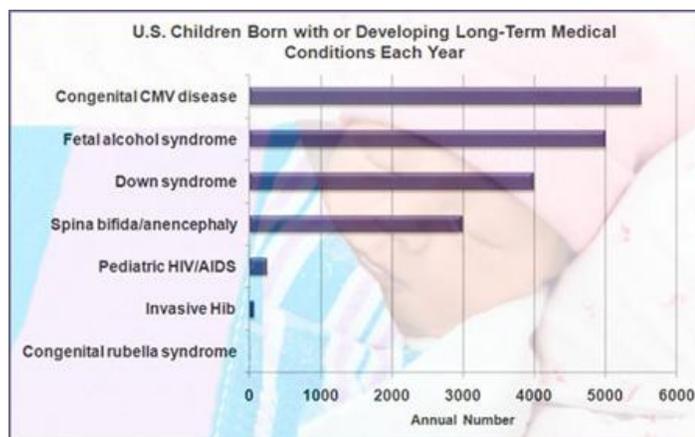
### What is CMV?

- Cytomegalovirus (sy toe MEG a low vy rus), or CMV, is a common virus that infects people of all ages. Most people become infected with CMV during their lifetimes.
- Most CMV infections are “silent,” meaning most people who are infected with CMV have no signs or symptoms and suffer no harmful effects.
- When CMV infection occurs during a woman’s pregnancy, the baby can become infected before birth. CMV infection before birth is known as “**congenital CMV.**” In this form, the virus can be transmitted to the unborn infant and potentially damage the brain, eyes, and inner ear. CMV is the most common congenital infection in the United States.
- About 1 in 150 children are born with congenital CMV infection. This means that in the United States, about 30,000 children are born with congenital CMV each year. In Utah, that is roughly 1 child per day.
- About 1 of every 5 children born with congenital CMV will develop permanent problems, such as hearing loss or developmental disabilities, due to the infection. In the United States, more than 5,000 children each year have permanent problems caused by congenital CMV.
- Infants and children who are infected with CMV **after** birth rarely have symptoms or problems.

### Why should I be concerned about CMV?

- Congenital CMV infection causes more long-term health problems and childhood deaths than Down Syndrome, fetal alcohol syndrome, and neural tube defects. The graph below estimates the number of children in the United States who develop lasting problems from each of these conditions.

(Source: <http://www.cdc.gov/cmV/trends-stats.html>)



- CMV is the leading **preventable** viral cause of developmental disabilities.
- Permanent health problems or disabilities due to congenital CMV infection can include:
  - Hearing loss
  - Vision loss
  - Developmental disability
  - Small head size
  - Lack of coordination
  - Seizures
- Children with congenital CMV infection are more likely to have permanent disabilities if they had signs or symptoms of CMV infection at birth.
- Some children with congenital CMV infection who appear healthy at birth will have a normal newborn hearing screening, but can still develop hearing loss later. It is particularly important that these babies be monitored closely. See **“Congenital CMV and Hearing Loss”**.

## Am I at risk for CMV?

- The risk of getting CMV through casual contact is very small.
- The virus is generally passed from infected people to others through direct contact with body fluids, such as urine or saliva.
- CMV is not easily spread; fewer than 1 in 5 parents of children who have CMV become infected over the course of a year.
- Healthy adults face little risk of getting seriously sick from CMV infection.
- Persons who work closely with children in settings such as child care facilities may be at greater risk of CMV infection than persons who do not work in such settings. There are certain steps everyone can take to reduce their risk of exposure to CMV and other infection. Refer to **“What can I do to reduce my likelihood of getting CMV?”**.
- Women who are pregnant or plan to become pregnant and who have close contact with young children should discuss their risk for CMV infection with their medical provider.
- Although CMV is spread through contact with infected body fluids, including urine and saliva, the risk of CMV infection among healthcare workers appears to be no greater than that among the general public. This may be due to standard precautions taken by healthcare providers such as frequent hand-washing or wearing gloves to avoid contact with body fluids.

## How do I know if someone has CMV?

- Most healthy children and adults infected with CMV have no symptoms and may not even know that they have been infected.
- People may develop a mild illness when they get infected and may have the following symptoms: fever, sore throat, fatigue, and swollen glands. Since these are also symptoms of other common illnesses, most people don't realize that they have been infected with CMV.

- Most CMV infections are not diagnosed because CMV usually causes few, if any, symptoms. A blood, saliva, or urine test can tell whether a person has ever been infected with CMV.
- CMV infection at birth (congenital CMV infection) can be diagnosed in an infant if the virus is detected in his or her urine, saliva, or blood within 2-3 weeks after birth.
- Infants, children, and adults are not routinely tested for CMV infection.

## Is there a treatment for CMV?

- Healthy people who are infected with CMV but who have no symptoms do not require medical treatment.
- There is no drug licensed to treat congenital CMV infection. There are limited data on the use of antiviral medications in infants with symptomatic congenital CMV infection. Studies are ongoing to determine what types of therapy are of greatest benefit to CMV-infected infants. Infants with suspected congenital CMV infections should be evaluated by physicians who specialize in these infections.
- Pediatricians and other specialists play an important role in making sure that children with congenital CMV infection are assessed and treated as needed.
- Some children with congenital CMV infection who appear healthy at birth can still develop hearing loss over time. It is particularly important that such babies be monitored closely. If you know your baby was born with CMV infection, it is important to have his or her hearing tested regularly by an audiologist with pediatric expertise.
- If an infected baby with congenital CMV appears healthy at birth (considered an asymptomatic infection), it is unlikely that there will be vision problems. However, after a diagnosis of congenital CMV has been made, a thorough ophthalmologic (eye) examination is recommended.

## Is there a vaccine for CMV?

- There is no vaccine available to prevent CMV. However, a few CMV vaccines are being tested in humans. The Institute of Medicine has ranked the development of a CMV vaccine as a high priority; however, it may be a number of years before the Food and Drug Administration (FDA) approves a CMV vaccine.

## What happens if a pregnant woman contracts CMV?

- In the United States, approximately 30-50% of women have never been infected with CMV by the age of 40, and can contract CMV while pregnant.
- About 1-4 of every 100 women who have never been infected with CMV have a primary (first) CMV infection during pregnancy.
- About 40 of every 100 women who become infected with CMV for the first time during a pregnancy will pass the infection to their fetus.
- For pregnant women, one of the most common ways they are exposed to CMV is by contact with saliva or urine of children who recently had the virus.

- People who are infected with CMV can pass the virus for months after they first become infected. Studies in child care settings suggest that as many as 75% of toddler-aged children have CMV in their urine or saliva.
- When infected with CMV, most women have no symptoms, but some may have symptoms resembling mononucleosis or influenza. Women who develop a mononucleosis- or flu-like illness during pregnancy should consult their medical provider about possible CMV infection.
- If you find out that you became infected with CMV for the first time during your pregnancy, make sure your infant is tested for CMV as soon as he or she is born.
- If you have concerns about CMV infection and are pregnant or planning a pregnancy, talk with your healthcare provider.

## Congenital CMV and Hearing Loss

- When CMV infection occurs during a woman's pregnancy, the virus can be transmitted to the unborn infant and potentially damage the inner ear.
- Approximately 10% of the infants who have no visible symptoms of CMV (considered "asymptomatic" infection) at birth will end up having permanent hearing loss (PHL).
- There are three times as many children that are asymptomatic than symptomatic with CMV infection. In a large number of asymptomatic children with congenital CMV, hearing loss is the only sequelae (known abnormality).
- CMV is the most common cause of nonhereditary sensorineural hearing loss (SNHL) and is thought to account for 20% of all childhood hearing loss in Utah.
- SNHL from congenital CMV has variable presentations; about 50% will show unilateral impairment, about 50% will be bilateral. Some loss may affect all frequencies, others in just the high frequencies; variation in degree and configuration is common.
- Research has shown that more than 50% of children with congenital CMV pass their newborn hearing screening and go on to develop permanent hearing loss through their 6<sup>th</sup> year of life, as either late-onset or progressive hearing loss.
- Utah House Bill 81 mandates that newborns who fail their second newborn hearing screening should be referred to their pediatrician or primary care provider for congenital CMV testing; this testing should be done by three weeks of age to optimally diagnose this condition. Because of this, it is very important for a family to have chosen a primary care provider for their baby before his/her birth.
- A general recommendation for babies diagnosed with congenital CMV is to have a hearing assessment every three months in the first three years of life, and then every six months through age six years; however, each child should be considered on an individual basis as timing of assessments may need to be more frequent or altered based on antiviral therapy, rehabilitation needs, pediatric audiologist guidance, or parent concerns.

- As is the case with any child not passing their outpatient or 2<sup>nd</sup> hearing screening, a diagnostic audiologic evaluation should be completed as soon as possible as recommended by the Utah Recommended Infant Audiological Assessment Protocol.
- Children with confirmed hearing losses should follow standard follow-up procedures, including referral to otolaryngology (ENT), ophthalmology, and genetics or other specialists as appropriate, and be referred to the Utah School for the Deaf and Blind (USDB) Parent-Infant-Program (PIP) for early intervention services at 801-629-4741.

## What can I do to reduce my likelihood of getting CMV?

- If you're pregnant or planning a pregnancy, the best way to protect your baby from congenital CMV is to protect yourself.
  - Wash your hands often with soap and water for 15-20 seconds, especially after
    - changing diapers
    - feeding a young child
    - wiping a young child's nose or drool
    - handling children's toys
  - Don't share food, drinks, eating utensils, or a toothbrush with a child.
  - Do not put a child's pacifier in your mouth.
  - Use soap and water or a disinfectant to clean toys, countertops, and other surfaces that may have a child's saliva or urine on them.
  - Avoid contact with a child's saliva when kissing or snuggling.

## Where can I get more information on CMV?

- **If you have concerns about CMV infection or are pregnant or planning a pregnancy, talk with your healthcare provider.**
- [www.health.utah.gov/cshcn/CHSS/CMV.html](http://www.health.utah.gov/cshcn/CHSS/CMV.html)
- [www.MotherToBabyUT.org](http://www.MotherToBabyUT.org) or (800) 822-2229
- [www.cdc.gov/cmV](http://www.cdc.gov/cmV)
- [www.stopcmv.org](http://www.stopcmv.org)
- Utah Early Hearing Detection and Intervention at (801) 584-8215