Dear Community Pediatric Clinician,

Since the spring of 2018, the Colorado Chapter of the American Academy of Pediatrics (AAP-CO) has been leading a **Work Group on Congenital CMV (congenital cytomegalovirus infection, or cCMV).** Many cases of cCMV are missed. Missed cCMV diagnoses leave affected children with sub-optimal medical management and health outcomes. Therefore, a major focus of the Work Group has been improving the diagnosis of cCMV.

During the past year, the Work Group has been introducing the concept of **targeted screening for cCMV** in all newborns with risk factors, including all those who have not passed the newborn hearing screen prior to discharge from the hospital. As of fall 2020, more than 20 Colorado hospitals are developing policies and procedures to enhance targeted screening for cCMV. **The ultimate success of this initiative will depend on you, the community pediatric clinician providing primary care to newborns in Colorado.**

Why do we care about cCMV? This infection affects 0.5-0.7% of all newborns, or about 1 in 200 children, and is the most common congenital viral infection worldwide. About 20% of all congenital hearing loss is attributable to cCMV, and 20-25% of children born with cCMV will have hearing loss or developmental problems. About 10% of those with cCMV will be severely affected.

Reasons why the diagnosis of cCMV is frequently missed include a lack of awareness of risk factors and missed opportunities for timely testing. The sequelae of prenatal and postnatal infection differ significantly. Postnatal CMV infection rarely causes problems except in those who are immunocompromised, and postnatal CMV infection can occur as early as 3 weeks of life. As a result, testing for congenital CMV infection must be done by day of life 21.

Screening every newborn for risk factors in the first 3 weeks of life will lead to timely testing and diagnosis of cCMV. Universal screening for cCMV, such as with a dried blood spot, might be ideal, but is not technologically feasible or cost-effective at this point in time. Even though some infected children will be missed, targeted screening of infants with risk factors, including all those with suspected congenital hearing loss, has been shown to improve the rate of detection of cCMV.

Testing for CMV is usually done by PCR (DNA testing) using either saliva or urine. Of note, a saliva PCR may reflect CMV in breast milk, so the saliva should be collected at least 2 hours after ingestion of breast milk. When saliva PCR is positive, urine PCR should be performed as a confirmatory test.

**As a community pediatric clinician, you may recognize newborns with risk factors for cCMV. In addition, you may soon see more newborns in your practice who have been tested for CMV in the hospital.** Children with one or more of the following risk factors should be tested for cCMV by day of life 21:

1. Mother diagnosed with CMV infection during pregnancy
2. Small for gestational age: birth weight <10th percentile
3. Low birth weight or prematurity: birth weight <2000 grams
4. Microcephaly: head circumference <10th percentile
5. Congenital hearing loss or deafness: newborn hearing screen not passed prior to discharge, or not passed on outpatient screening at <21 days of life
6. Unexplained fetal hydrops or ascites
7. Abdominal calcifications or thickened bowel on prenatal ultrasound
8. Hepatomegaly or splenomegaly
9. Elevated liver function tests (AST or ALT >100 U/L or direct bilirubin >1.0 mg/dL)
10. Abnormal brain imaging
11. Persistent unexplained thrombocytopenia (platelet count <100,000/$mm^3$)
12. Petechial or "blueberry muffin" rash

**You may be the provider responsible for discussing the result of CMV testing with the newborn's family.** If the result is positive, you should:

1. Discuss the case with a pediatric infectious disease specialist
2. Order a CBC with differential and liver function tests
3. Order brain imaging, either by head ultrasound or brain MRI
4. Refer to a pediatric ophthalmologist to look for signs of CMV retinitis
5. Refer to Child Find or Early Intervention to monitor for developmental delays
6. Refer to pediatric audiology and pediatric ENT, since hearing loss due to cCMV may develop or progress during the first 5 years of life

In 2020 the AAP-CO Work Group on cCMV created the **Colorado cCMV Family Network**. Please consider providing information about this support opportunity to any family caring for a child with cCMV. Here is a handout you can print and disseminate to families, and here it is in Spanish). Additional information about cCMV can be found at the AAP-CO website.

We welcome your feedback on this initiative to improve the identification and management of children with congenital CMV infection. Please direct your questions and comments to the Executive Director of AAP-CO, Ellen Brilliant, at ellen@aapcolorado.org.

For the AAP-CO Work Group on cCMV:

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