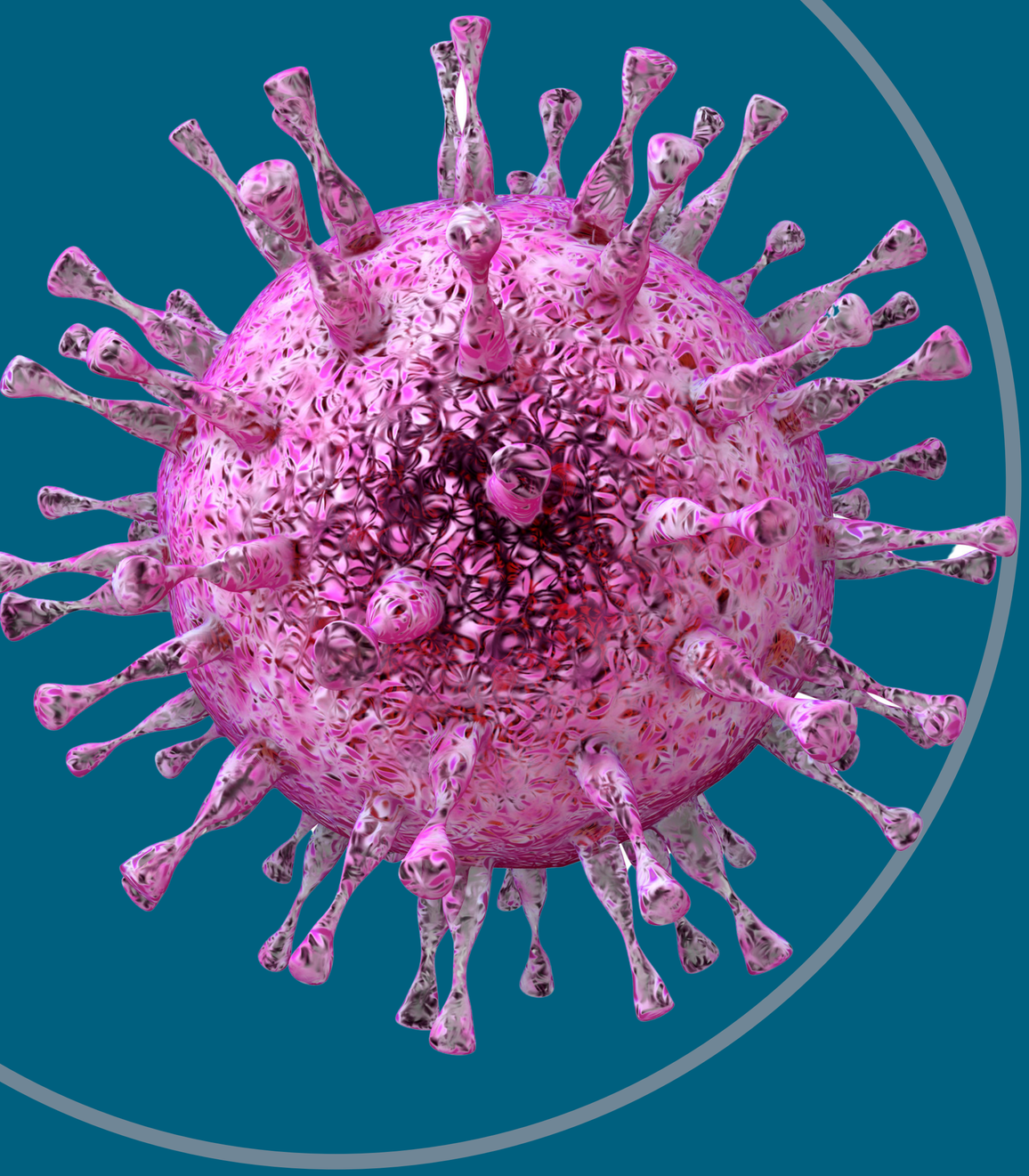
Laboratory Diagnosis of Congenital CMV Infection in Newborns

Laboratory Testing

CMV

The standard laboratory test for diagnosing congenital CMV infection is polymerase chain reaction (PCR) on saliva, with urine usually collected and tested for confirmation. The reason for the confirmatory test on urine is that most CMV seropositive mothers shed CMV in their breast milk. This can cause a false-positive CMV result on saliva collected shortly after the baby has breast fed.

Specific steps for appropriate collection of saliva samples from a baby are as follows:



STEP 1

Collect a saliva specimen more than one hour after breastfeeding and within three weeks of birth, because detection of CMV after three weeks could be the result of post-partum infection.

STEP 2

Insert a sterile cotton or polyester swab into the baby's mouth between the gum and cheek and swirl for several seconds.

STEP 3

Remove the swab and place into a buffer formulated for PCR diagnostic testing (several are available). If CMV is present, it will leach from swab to the liquid.

The liquid is processed according to manufacturer's instructions, and PCR testing is performed according to the protocol in the laboratory. Specific procedures and interpretation of tests vary according to the laboratory.

Currently, testing of newborns for CMV is not routinely performed, though some states perform targeted CMV testing of newborns who fail the hearing screening. CDC is currently studying whether dried blood spots (DBS), which are already collected on almost all newborns, can identify the majority of children who are most likely to suffer long-term health problems from congenital CMV.

Content source: National Center for Immunization and Respiratory Diseases, Division of Viral Diseases

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