



Screening Infants for Hepatitis C



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Hepatitis C Virus

Hepatitis C is a viral infection that causes inflammation of the liver. It is often asymptomatic. Increased rates of intravenous drug use resulting in hepatitis C virus (HCV) infection among women of child-bearing age in Ohio and much of the United States have placed an increasing number of infants at risk for vertically acquired infection. Birth to an HCV-positive mother carries an approximate 5 percent risk of transmission to the infant. HCV-associated liver disease usually progresses more slowly in children than adults, but if left untreated, infected children remain at risk for eventual cirrhosis or liver cancer. All HCV-infected individuals should also be evaluated for HIV and hepatitis B infections.

Identifying Mothers with HCV

Mothers should be screened for HCV during pregnancy if they have a history of any of these risk factors:

- Injection drug use (past or present, even once)
- HIV infection
- Needle stick or mucosal exposure to HCV-positive blood
- Persistently abnormal alanine aminotransferase levels (ALT)
- Receipt of a blood transfusion, blood product or organ transplant before 1992
- Receipt of clotting factor concentrates produced before 1987
- Long-term hemodialysis
- Birth to an HCV-infected mother

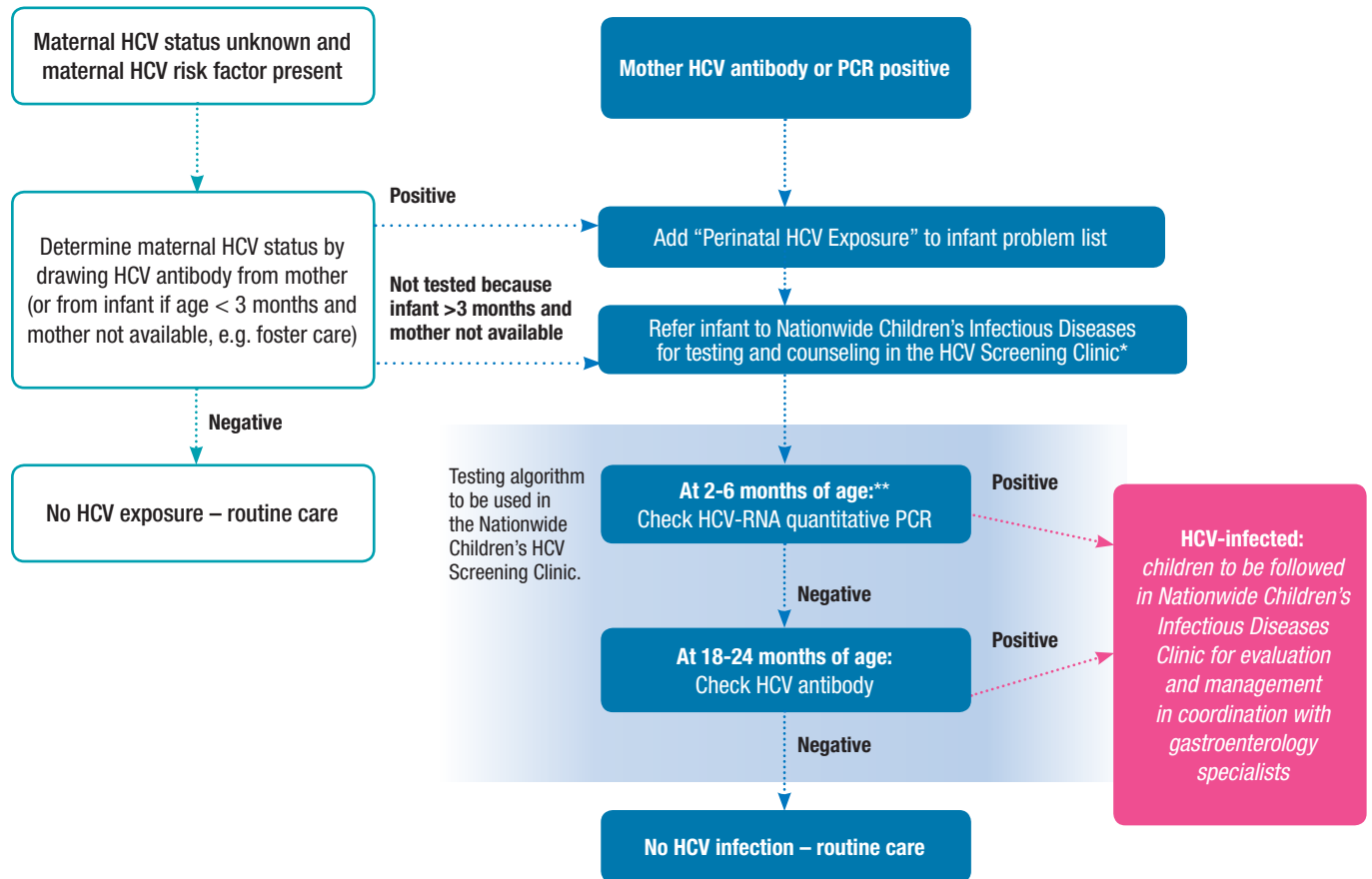
When an infant is born to a mother whose HCV status is unknown or undocumented and risk factors are present, the most direct approach to determine actual risk is to perform HCV-antibody testing on the mother. If maternal testing is not possible (e.g. foster care), young infants may be tested for HCV-antibody to determine maternal HCV status, preferably in the first three months of age before significant loss of transplacentally acquired maternal IgG antibodies. Pediatricians should also document maternal status of HIV, hepatitis B and syphilis.

When to Test Infants for HCV

National guidelines currently recommend screening vertically exposed infants by HCV-antibody at age 18 months or greater because earlier diagnosis is not medically necessary. However, the current approach has failed to identify most infected children due to lack of appropriate follow-up. It is estimated that only 5 to 15 percent of HCV-infected U.S. children have been identified.

A multi-faceted approach including earlier HCV testing by PCR has been shown to significantly improve screening rates and increase detection of infected children. The infographic on the next page outlines recommended testing and management of infants born to mothers who are HCV-infected or whose HCV status is unknown.

Management of Infants Born to Mothers with Documented or Suspected HCV Infection



* If referral for screening is not feasible, please test infant per algorithm and refer any infant who tests positive.

** HCV-RNA quantitative PCR preferred at 2-6 months of age but can be done at 7-17 months of age if infant presents after age 6 months.

References:

Mack CL, Gonzalez-Peralta RP, Gupta N, Leung D, Narkewicz MR, Rosenthal P, Schwarz KB, North American Society for Pediatric Gastroenterology, Hepatology, and Nutrition. NASPGHAN practice guidelines: Diagnosis and management of hepatitis C infection in infants, children, and adolescents. *Journal of Pediatric Gastroenterology and Nutrition*. 2012 Jun;54(6):838-55.

Abughali N, Maxwell JR, Kamath AS, Nwankwo U, Mhanna MJ. Interventions using electronic medical records improve follow up of infants born to hepatitis C virus infected mothers. *The Pediatric Infectious Disease Journal*. 2014 Apr;33(4):376-80.

Current Therapies for HCV-Infected Children

Children who test positive for HCV should be referred for disease management by pediatric gastroenterology, hepatology or infectious disease specialists. The current standard therapy for HCV-infected children is combination pegylated interferon-alpha and ribavirin for six to 12 months in children age 3-18 years of age, according to NASPGHAN practice guidelines. Highly effective direct-acting antiviral therapies have been approved in adults and have entered clinical trials in children, some here at Nationwide Children's Hospital. Such drugs may soon be available for pediatric HCV therapy.

Nationwide Children's HCV Screening Clinic

To address the problem of inadequate screening, the Infectious Diseases program at Nationwide Children's has started a dedicated HCV Screening Clinic for vertically exposed infants. The clinic will provide the following services:

- Testing by HCV-RNA PCR and HCV-antibody
- Counseling families on risk of transmission and prognosis of vertically infected children
- Referral of infected infants to appropriate clinics for follow-up testing and management of HCV infection
- Resources to link infected mothers to care

To refer a patient to the HCV Screening Clinic, please call **(614) 722-4452** or **(614) 722-4494**.

Referrals and Consultations

Online: NationwideChildrens.org/infectious-diseases

Phone: **(614) 722-4450** or **(877) 722-6220** | Fax: **(614) 722-4458**

Physician Direct Connect Line for 24-hour urgent physician consultations:

(614) 355-0221 or **(877) 355-0221**

