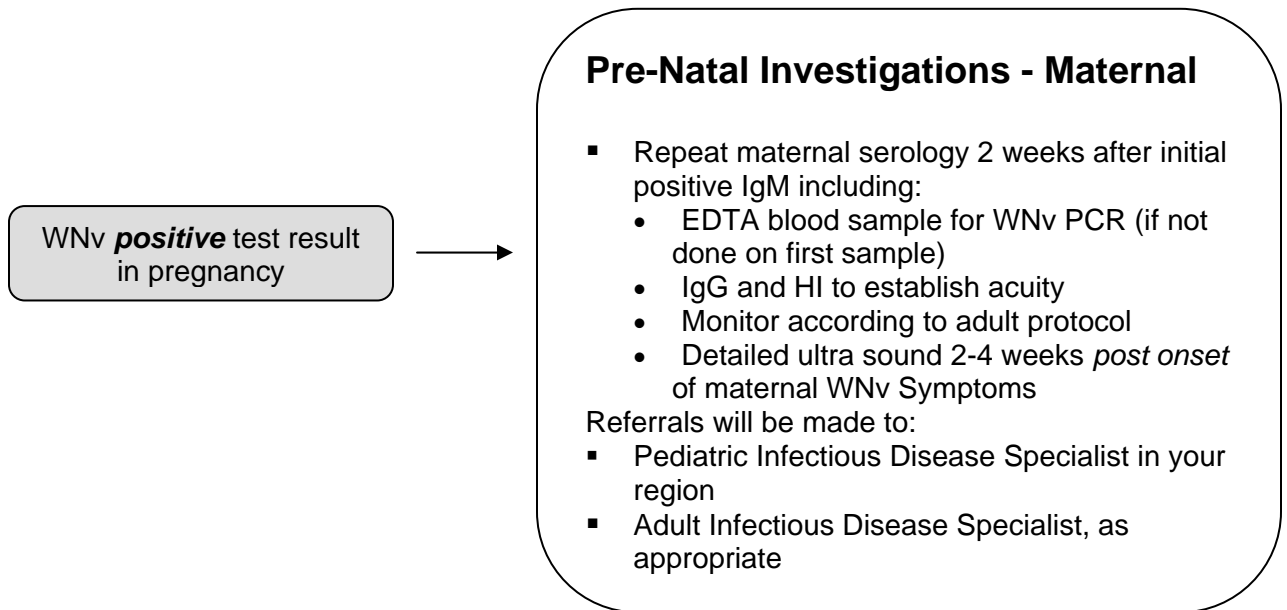


Source: Adapted from MMWR. June 2004

**Pre - Natal Assessment and Investigations  
for West Nile Virus (WNV)**



Note: If miscarriage or induced abortion, test all products of conception for WNV infection  
(For documenting WNV Infection on pregnancy outcome)

## Post - Natal Assessment and Investigations for WNV – INFANT

### Infants born to mothers infected with WNV during pregnancy:

Clinical Exam	Investigations	Pathology
<p><b>Thorough physical exam of newborn, including:</b></p> <ul style="list-style-type: none"> <li>▪ Careful measurement of the infant's head circumference, length, weight</li> <li>▪ Assessment of gestational age</li> <li>▪ Neurological exam for abnormalities</li> <li>▪ Examination for dysmorphic features</li> <li>▪ Abdominal exam for splenomegaly and hepatomegaly</li> <li>▪ Examination for rash or other skin lesions</li> </ul> <p>N.B.</p> <ol style="list-style-type: none"> <li>1. Photograph dysmorphic features and skin abnormalities.</li> <li>2. If an abnormality is noted, consultation with an appropriate specialist is recommended.</li> </ol>	<p><u>Serology:</u></p> <p>Within 2 days of birth and at age 8 weeks:</p> <ul style="list-style-type: none"> <li>▪ IgM and IgG antibody to WNV</li> </ul> <p><u>Newborn hearing screen:</u></p> <p>Before discharge or within 1 month after birth:</p> <ul style="list-style-type: none"> <li>▪ By evoked otoacoustic emissions testing or auditory brainstem response testing</li> <li>▪ Referral to audiologist if infant failed the initial screening test</li> </ul>	<ul style="list-style-type: none"> <li>▪ Initial examination of placenta by a pathologist is recommended.</li> </ul> <p>If congenital WNV infection is identified or strongly suspected, retain:</p> <ul style="list-style-type: none"> <li>▪ Placenta (freeze a section, preserve remainder in formalin)</li> <li>▪ Sample of umbilical cord tissue (freeze)</li> <li>▪ Sample of neonatal blood (centrifuge sample of blood, refrigerate/freeze serum)</li> </ul> <p><b>Caution:</b> Wharton's Jelly can cause a very high incidence of false positive WNV serology from cord blood.</p>

### Infants with Clinical or Laboratory Evidence of Possible Congenital WNV Infection

Clinical Exam	Investigations	Pathology
<ul style="list-style-type: none"> <li>▪ Evaluation by a dysmorphologist or clinical geneticist.</li> <li>▪ Further evaluation to determine alternative causes of congenital abnormalities including: <ul style="list-style-type: none"> <li>• Genetic</li> <li>• Infectious</li> <li>• Other teratogenic causes</li> </ul> </li> <li>▪ Careful evaluation of head circumference, physical characteristics, and developmental milestones for first year of life</li> <li>▪ Ophthalmologic evaluation including examination of the retina.</li> </ul>	<p><u>Blood/Serology:</u></p> <ul style="list-style-type: none"> <li>▪ CBC, platelets, liver function tests (including ALT and AST)</li> <li>▪ PCR for WNV on EDTA blood</li> <li>▪ Repeat IgM and IgG to WNV at age 6 months</li> </ul> <p><u>CT scan:</u></p> <ul style="list-style-type: none"> <li>▪ If abnormal, a pediatric neurologist should be consulted</li> </ul> <p><u>CSF:</u></p> <ul style="list-style-type: none"> <li>▪ Consider, and if done, should include testing for IgM to WNV</li> </ul> <p><u>Hearing Test:</u> Repeat at 6 months</p>	<p>Placenta and Umbilical Cord tissue:</p> <ul style="list-style-type: none"> <li>▪ Histopathologic examination</li> <li>▪ Testing of frozen tissue for WNV nucleic acid</li> </ul> <p>Neonatal blood</p> <ul style="list-style-type: none"> <li>▪ IgM and IgG antibody to WNV.</li> <li>▪ WNV PCR (investigational)</li> </ul> <p><b>Caution:</b> Wharton's Jelly can cause a very high incidence of false positive WNV serology from cord blood.</p>

Source: Adapted from MMWR, Interim guidelines for the evaluation of infants born to mothers infected with West Nile Virus during pregnancy. 53, 154-157