



## **CLINICAL STATEMENT**

### Zika Virus Infection and Potential Ophthalmic Manifestations

#### **Introduction**

Zika virus is a mosquito-borne flavivirus transmitted mainly by infected *Aedes aegypti* mosquitoes. These can also transmit dengue and chikungunya virus and are found throughout most of North, South, and Central Americas, including some parts of the US. A pregnant mother can also transmit Zika virus to her fetus during pregnancy. Sexual transmission of Zika virus has also been reported.

An estimated 80% of persons infected with Zika virus do not exhibit symptoms. Symptomatic patients generally have a mild course of disease marked by the following: onset of fever, maculopapular rash, arthralgia, and/or conjunctivitis. These symptoms can last up to one week. Severe disease and fatalities due to Zika virus are rare. Guillain-Barré syndrome has been reported in patients with suspected Zika virus infection. Currently, transmission of Zika virus by mosquitoes has not been reported in the continental US, but has been reported in the US Virgin Islands and Puerto Rico and other countries in the Americas, according to the Centers for Disease Control and Prevention (CDC).<sup>1</sup> As of May 11, 2016, there were 503 reported travel-associated Zika virus disease cases in the continental US. There is no specific antiviral treatment at this time.

The most serious complications have been confirmed in infants who have microcephaly and Zika virus infection. The CDC cautions that it is not known exactly how many of the increased number of cases in Brazil of infants born with microencephaly are associated with Zika virus infection.<sup>2</sup> Other factors contributing to the rise of microencephaly also need to be investigated.

#### **Potential Eye-Related Manifestations**

The mild course of disease can include nonpurulent conjunctivitis. In Brazil, investigators have reported macular and optic nerve abnormalities in a study of 29 infants with microencephaly due to a possible Zika congenital infection,<sup>3</sup> and in an earlier study of 3 infants.<sup>4</sup> The findings included gross macular pigment mottling, macular chorioretinal atrophy, optic nerve hypoplasia, increased cup-to-disc ratio, iris coloboma, and lens subluxation. Another study described additional ocular findings of vascular changes, hemorrhagic retinopathy and torpedo maculopathy.<sup>5</sup> It is not known if these ocular findings are a direct result of the Zika virus infection or are a consequence of microcephaly.

#### **Role of Ophthalmologists**

The CDC encourages all healthcare providers to report suspected cases of Zika virus infection to their state health department to help reduce the risk of local transmission. CDC recommends that as part of an examination of all patients with possible congenital Zika virus infection, an eye examination be performed, including a retina evaluation, either in the hospital or within one month after birth.<sup>6</sup>

#### **Counseling of Patients**

The CDC recommends that any pregnant patients during any trimester should postpone travel to an area with ongoing Zika virus transmission.<sup>7</sup> Testing can also be offered to any asymptomatic pregnant patients who have travelled to areas with ongoing Zika virus transmission, pregnant patients who exhibit two or more symptoms consistent with Zika virus disease, and pregnant patients who reside in areas with ongoing Zika virus transmission. Zika virus testing is being performed by the CDC Laboratory and a few state health departments.

## References

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## Approvals

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