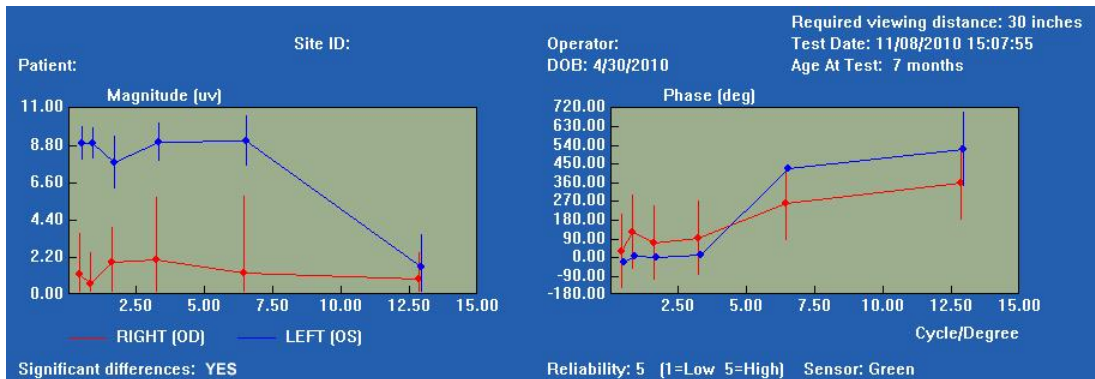


# VEP Pediatric Case Study

## Retinoblastoma Caught Early

**Presentation:** A seven month old female patient was given the Enfant® Pediatric VEP Vision Test during a routine well-baby visit. There was no family history of vision problems. The patient appeared in good health and was attentive at the time of the exam. The VEP Vision Test indicated a statistically significant difference in visual function between the right and left eyes, and the child was referred to a pediatric ophthalmologist.



**Assessment:** On exam, the pediatric ophthalmologist's finding was Neoplasm Malignant Retina OD – presumed retinoblastoma of the right eye. The pediatric ophthalmologist referred the patient to an ocular oncologist at Sloan Kettering and she was seen within two days.

During the visit to the ocular oncologist, the patient was able to fixate and follow with both the left and right eye; she had normal lids and fissures of both eyes, and normal anterior segments of both eyes. The patient was examined under anesthesia and funduscopic exam of the right eye revealed several white/cream tumors on the macula ranging in size from .3mm X .7mm to 3.6mm X 8mm. Funduscopic exam of the left eye also revealed a white/cream solitary tumor of 3mm X 4mm.

**Diagnosis and Treatment:** The patient was diagnosed with bilateral retinoblastoma. The oncologist explained to the parents that retinoblastoma is a serious cancer and without treatment, is almost universally fatal. He also discussed genetic counseling and the utility of genetic testing, and the need for family members to be examined.

The decision was made to treat the three smaller tumors locally that day. The smallest tumor in the right eye was treated with a transpupillary thermotherapy (TTT) laser using an indirect ophthalmoscope with a 20 diopter lens with settings 300 mw for 24 seconds. He then treated the other two smaller tumors in the right eye with a freeze-thaw cycle time of three. The patient was then scheduled for an MRI and an IV started. The next day the larger tumors were addressed intra-arterially. Photographs and ultrasound were taken to document the progression of the disease.

The patient was scheduled to return to the ocular oncologist in four weeks to assess for new tumor growth or regrowth, and the need for future treatment.

**Conclusion:** Due to the patient's age and unremarkable family history, she most likely would not have been seen by an ophthalmologist until she was older, and by that time, her cancer may have proven fatal. Early detection of this condition is critical, and as a result of the failed Enfant® VEP vision test, she was referred to the ophthalmologist in time for diagnosis and treatment. This allowed for better treatment options and a much better prognosis.

**1 Year After Diagnosis:** According to her oncologist, the patient continues to do well "post three treatments of intra-arterial chemotherapy to both eyes and laser and cryotherapy to the right eye. The retina is completely in place. All the tumors are regressed and the fovea is anatomically normal. This is a spectacular response and the kissing tumors are pulled away and this child may well end up with excellent vision in both eyes. This is a success."