A 49 year old female was referred to our office by a local ophthalmologist. Patient had suffered a head injury when she was 10 years old and ever since then she has had a visual defect. Patient complained that for the past 6 months her eyes had been getting worse. She complained of occasional blurry vision and complained that her eyes were not working together. Patient was examined by the ophthalmologist and determined to have amblyopia involving the right eye and optic atrophy in the left eye. Patient was then recommended to follow up with us at which time we advised to start vision therapy which continued for 40 sessions. To objectively measure the progress, we did an initial test on the Diopsys Nova Testing System which measured the time it takes for the neural signals to travel from the eye to the brain (latency) and the other is the strength of the signal (amplitude). In her initial VEP in early January, it showed reduced amplitude in the right eye agreeing with the diagnosis of amblyopia. Her latency was delayed in the left eye showing evidence of delayed neuronal signal from the eye to the cortex in agreement with the diagnosis of optic atrophy.

The patient then started visual therapy treatment consisting of 40 sessions. Another VEP was done in September and a final one in January 2012 to objectively observe her improvements. The three VEPs were able to give us an objective measurement of the progress of the eyes for this patient. Through this, we were able to observe whether the patient was improving or not.

This patient was followed and observed for approximately one year. During this time, the patient went through vision therapy. Initial VEP showed latency time to be 157.9 ms in the right eye and 193.1 ms in the left eye. Her final VEP showed that latency time was reduced to 101.4 ms in the right eye and 119 in the left eye. This shows that both eyes had significant improvement in the time the signal took to travel from the eye to the brain. This proves that it is possible to strengthen the remaining fibers that are left after damage to the optic fibers.

In terms of the strength of the eye, the results show that both eyes improved although the left eye improved much more than the right eye. On the initial visit, it was shown that the right eye had amblyopia. The strength of that eye increased slightly however during therapy the patient showed significant improvement of her amblyopia as well. This result however was not picked up on the VEP as we had expected. Despite that, the VEP shows that both eyes had improved and it is possible that vision therapy helped the amblyopia and also strengthened the left eye which had been affected with optic atrophy.

Older Children Can Benefit From Treatment For Childhood’s Most Common Eye Disorder NEI 2005.

For further question regarding this case you can contact Dr Mohamed Moussa @ moussayedoctor@gmail.com

**Conclusion**

Through this case report, we have observed that it is possible to objectively measure the improvement of an individual with optic nerve pathology. This was shown with decreasing latency time measured before and after therapy. We expect to duplicate this model on other patients doing vision therapy to objectively measure their improvement and to further develop treatment for pathology involving the optic nerve.