

## **Plaquenil Toxicity Screening**

Hydroxychloroquine Sulphate (Plaquenil) medication has been effectively used for many years for a variety of infectious and autoimmune conditions, including rheumatoid Arthritis (RA) and Systemic Lupus Erythematosus (SLE). On rare occasion, and usually after many years, Plaquenil can damage the central portion of the retina, the macula and affect the central, fine visual acuity used for reading. There are many other macula problems so patients using Plaquenil should have a baseline examination and testing to ascertain the health of the macula at initiation of therapy and allow periodic monitoring for early signs of macular toxicity, to lessen the risk of visual loss.

### **Symptoms**

Over time, Plaquenil can accumulate in the retina and cause permanent irreversible damage to the center of vision. The classic retinal changes appear as a “bull’s eye” area of discoloration of the central part of the retina. Symptoms of Plaquenil toxicity are similar to other macular problems and may include:

- Decreased fine vision or difficulty reading.
- Changes in Color vision
- Missing Spots or shadows near the center of the vision

### **Monitoring for Toxicity**

The American Academy of Ophthalmology has published guidelines for monitoring patients for Plaquenil toxicity. Some cases are difficult to detect, especially if other eye problems are present. Current testing for Plaquenil toxicity may include:

- Visual field testing to evaluate for missing spots near the center of the vision.
- Farnsworth-Munsell 100 hue color test
- Color photographs of the macula
- Fluorescein angiography (FA)
- Optical coherence tomography (OCT)

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- Fundus autofluorescence
- Multifocal electroretinograms (mf ERG).

Early detection of any maculopathy is critical to prevent central visual loss. The Retina Group of New York provides all of these testing modalities and is the only center on Long Island with mf ERG.

## **Treatment**

The treatment for early toxicity usually requires stopping Plaquenil. Patients taking Plaquenil should have an early baseline assessment of visual acuity, macular appearance and central field sensitivity. The macular appearance and function should be checked at intervals of 6 to 12 months. Factors such as renal or liver impairment must be considered in the dosing of this medication. Taking no more than 400 mg. daily total dose or under 5 mg./kg body weight is recommended.

## **Monitoring**

Patients can monitor themselves for possible toxicity at home in between visits. Paracentral scotoma (a small blind spot next to the center of vision) is often one of the first signs of Hydroxychloroquine toxicity. This can be picked up by the patient using an Amsler Grid (graph paper with a fixation spot in the center) at home, with reading glasses on. One eye is covered. The uncovered eye looks at the spot in the center of the graph paper and the patient takes note if any portions or parts of the graph lines appear missing. The other eye is then done in the same way. This should be performed once a week. With periodic monitoring, Plaquenil is a safe and effective medication for systemic problems and can usually be taken for decades with little risk to the vision.

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