



Figure 1. Optical coherence tomography of retinal toxicity due to plaquenil. The left image is the right retina and the right image is the left retina. The arrows are showing thinning of the outer retina in the parafoveal region.

## Plaquenil use

Plaquenil (hydroxychloroquine, an analogue of chloroquine) is used for the treatment of systemic lupus erythematosus, rheumatoid arthritis, and other inflammatory and dermatologic conditions. Retinal toxicity from Plaquenil is a serious concern and sometimes there is a progression of visual loss over several years after the drug has been stopped.

Chloroquine and its analogue hydroxyl chloroquine are sometimes used as antimalarials and can cause problems with the eyes. The side effects range from temporary blurring of the vision and a slightly increased appreciation of glare (wear sunglasses in the sun) to more serious but rare changes in the back of the eye.

Eye problems due to Plaquenil were more common in the past when chloroquine was the most commonly used anti-malarial drug. Also, the dosages of these drugs were considerably higher. If you are in the high-risk group for eye related side effects, (age over 65, poor kidney function, high doses of hydroxychloroquine) you will be monitored by an eye doctor regularly while on hydroxychloroquine. If there is any suggestion of a potentially serious eye problem developing, the treatment will be stopped.

## Eye Examination

The baseline and subsequent eye examination includes a Dilated Eye Exam, Humphrey 10-2 visual field test (with some exceptions), and Optical Coherence Tomography (OCT) imaging. If a baseline examination is normal and dosages are at the relatively safe levels (6.5 mg/kg or 3mg/kg of chloroquine for less than 5 years, typically at a dosage of 200 or 400 mg/day), screening during the next 5 years can be at the frequency of regular ophthalmic examinations.

Six month to Annual screenings are recommended only for individuals who are at higher risk because of their higher dosage, duration of use (more than 5 years), or other complicating factors (kidney or liver disease, obesity). Recent studies suggest that it may be a total lifetime accumulative dosage that potentiates risk.