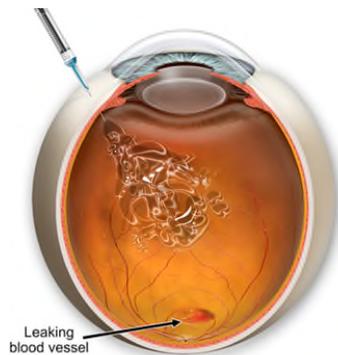


Macular Degeneration Treatments

Wet Macular Degeneration Treatments

There are several potential treatment options for exudative "wet" ARMD. The type of treatment recommended will be determined by your physician interpreting and discussing the results of the fluorescein angiogram with you. In particular, your physician will evaluate the size, location, and definition of the areas of leakage under the Macula.

- **Focal Laser Therapy**-Treatment with the green wavelength focal laser is the best treatment for leakage that is located outside the center of the macula, called the fovea. Unfortunately, the majority of leakages are located directly under the macula. These types of lesions respond the poorest to focal laser therapy rendering it to be of little use for the vast majority of patients with Wet Macular Degeneration.
- **Photodynamic Therapy** - Photodynamic Therapy (PDT) is FDA approved for use in leakages directly under the macula. Clinical trials have demonstrated that PDT can safely reduce the risk of severe vision loss in patients with leakage directly under the macula. It is important to note that very few treated patients experience improved vision following PDT and that there is a high incidence of regression so that repeated PDT treatments are usually necessary.
- **Vitamin Therapy** may also be recommended in conjunction with these direct treatments to decrease the risk of leakage in the other eye.
- **Submacular Surgical Resection**-Submacular Surgical Resection via Vitrectomy is technically feasible and is utilized in select cases of Wet Macular Degeneration not amenable to Laser Therapy. Submacular resection is a one-hour outpatient surgical procedure (Vitrectomy). Vitrectomy surgery can stabilize vision loss but rarely improves vision.
- **Anti-VEGF Injection Avastin, Macugen & Lucentis**



- Avastin, Macugen & Lucentis are all drugs known as "anti-VEGF" drugs. VEGF stands for Vascular Endothelial Growth Factor. VEGF is a chemical that is thought to stimulate the production of new fragile blood vessels, or "neovascularization. When neovascularization occurs under the retina,

specifically the macula, it is responsible for causing the severe hemorrhages associated with Wet Macular Degeneration and profound vision loss. Thus, the use of Avastin Injections for Macular Degeneration, Macugen Injections for Macular Degeneration or Lucentis Injections for Macular Degeneration is the therapy of choice when early detection is achieved.

In an editorial published in the July 2006 issue of **American Journal of Ophthalmology**, Philip J. Rosenfeld, M.D., Ph.D., of the University of Miami Bascom Palmer Eye Institute stated that the following position: "Currently, there appears to be a global consensus that the treatment strategy using intravitreal Avastin is logical, the potential risks to our patients are minimal, and the cost-effectiveness is so obvious that the treatment should not be withheld".

Macugen and Lucentis have specifically been FDA approved for this application whereas Avastin is being used as an "off label indication" by Ophthalmologists based on its significantly lower cost and relative effectiveness based on a study published in the *British Journal of Ophthalmology* in May 2007. Lucentis Injections were specifically approved by the Food and Drug Administration (www.fda.gov) for the treatment of Wet Macular Degeneration. A once-a-month injection of Lucentis has been found to maintain the vision of over 90% of people with this kind of ARMD. The "anti-VEGF" molecule was developed as a result of cancer research in the area of neovasculogenesis. It actively halts new blood vessel growth and is considered to be a breakthrough in the treatment of Wet Macular Degeneration.

Dry Macular Degeneration Treatments

- **High Dose Vitamin Therapy-** High Dose Vitamin Therapy has been proven to decrease the risk of Wet ARMD and vision loss in the fellow eye of high risk patients with wet ARMD and extensive dry ARMD. Vitamin therapy does not influence active Wet ARMD or the direct treatment strategies for Wet ARMD as outlined above. Results of the [AREDS Study](#) indicate that by using a specific formulation of vitamins and supplements in conjunction with other methods of treatment, it may be possible to decrease the risk of leakage in the other unaffected eye.

Who Can Benefit From Vitamin Therapy?

Patients who have exudative or "wet" ARMD in one eye, patients with extensive drusen or vision loss in one eye that is related to the "dry" ARMD are considered high risk. High dose vitamin therapy should be considered for these patients. Patients who have only a few small drusen, minimal intermediate drusen or pigment defects are considered to have a low risk of future "wet" ARMD and vitamin therapy will probably not be helpful.

What Vitamins Can Benefit High Risk Patients?

High doses of multivitamins C, E, beta carotene, and zinc significantly decrease the risk of "wet" ARMD and vision loss in high risk patients. Zinc alone also has some benefit, albeit diminished, in high risk patients.

Special Considerations

It is important to fully discuss the possible risks and benefits of high dose vitamin therapy with both your eye physician and your primary care physician prior to commencing any therapy, as there are potentially detrimental effects for certain individuals. Commencement of high dose vitamin therapy does not alter our treatment approaches for "wet" ARMD.