



## **Photodynamic Laser Treatment (PDT) and Visudyne™**

Lasers have been used to treat the “wet” form of macular degeneration for more than two decades. Traditionally, a highly focused beam of laser light is aimed at the source of the leakage, which photocoagulates or seals the leaking vessels. While this is effective, any retina in contact with the leak is also destroyed. While further loss of vision can be arrested, a permanent gray spot of varying size may block a portion of field of vision.

The macula serves the center of our visual field, and is used for reading and detail work. If a leak is present beneath the macula, it creates a difficult choice: do we allow the leak to grow and potentially destroy a large area of the central vision, or do we seal the leak with laser and accept that a portion of the detail vision will be lost?

Fortunately, a new laser technique has evolved which can seal leaks at the center of the macula without damaging the central vision. Photodynamic laser treatment (PDT) involves administering an IV medication before the laser treatment is done, which super-sensitizes the leaking vessels to the laser beam. This allows the use of a very low energy laser, sometimes referred to a “cold” laser, which seals the leak but leaves the overlying retinal cells intact.

The FDA recently approved the first photodynamic IV drug, Visudyne. This treatment appears to be very safe. There is one very important restriction: following the treatment, the patient cannot be exposed to bright sunlight for 3 days. After this interval, the patient can return to normal activity.

It is important to understand that photodynamic laser with Visudyne does not help everyone with macular degeneration. Only patients with active leakage under the retina—the “wet” form—are candidates for this treatment. The leaks must be very active and well defined (also known as “classic” leaks) and cannot exceed a certain size. In general, leaks that have been present for a long time generally do not benefit from PDT.

PDT with Visudyne most often helps to stabilize vision or slow the progression of vision loss. Only a portion of patients will show any improvement in vision. There is a strong possibility that the leaks may reopen, in which case more than one course of PDT laser treatment may be needed. In fact, most patients require on average three treatments spaced out over a period of one year.

Despite these limitations, PDT is an exciting new approach that offers hope in the battle against visual loss in macular degeneration. Research continues in further refinements of this technique, and other photodynamic IV medications are currently under study.