

Macular Degeneration

The macula is the center of the retina. It has the greatest concentration of photoreceptors and it is used for reading fine print, seeing details, and, perceiving color. The compact layers of cells are well arranged especially in the center of the macula, the fovea. In about 30% of individuals above 60 years of age, the macula deteriorates. It is postulated that the cumulative exposure to light, particularly ultraviolet and high energy blue of the spectrum, causes free radicals to form and damage a layer of the retina called the pigment epithelium or RPE. Damage to the RPE allows fluid to accumulate under the macula and blood vessels to invade that space from the deeper layer of the eye (the choroid). The fluid turns to more solid exudates and the blood vessels may bleed and cause scarring (➡). Central vision may initially become distorted or wavy, later blurring and eventually disappearing, replaced by a blind spot. Macular degeneration develops over several years, usually in both eyes but one eye typically precedes the other. Laser treatment, oral supplements with antioxidants (Vitamins E, A and C) and Zinc, and injection of agents that reduce formation of new vessels are used to retard progression or prevent worsening. Some medicines are given to reduce macular swelling or edema. There is no current treatment or surgical procedure that can reverse the degeneration.

