Glaucoma and Macular Degeneration

Macular degeneration and glaucoma are very different conditions that get more common with increasing age and are capable of causing blindness.

Macular Degeneration
The macula refers to the central area of the retina that is specialized for seeing fine details. It is 6mm in diameter and lines up with the direction of gaze i.e. it lies on the visual axis. The eye chart, with its letters of decreasing size, is the main way of testing how well the macula is working. With increasing age the macula can wear out, and become less efficient at clearing waste. The centre of the retina develops irregularities (pigment changes) or blemishes (drusen). This is early evidence of macular degeneration. These are visible to the doctor or optometrist, but usually don’t affect the vision. As macular degeneration worsens, the vision becomes affected. This is experienced as difficulty with reading and near work, distortion of straight lines, or both. The effect on central vision can be significant. Treatments, including the injection of medication into the eye, are available for some types of macular degeneration.

Glaucoma
Glaucoma affects the optic nerve, the nerve of sight. The optic nerve carries all the electrical impulses from the retina, including those from the macula, to the brain to create visual images. In glaucoma the optic nerve wastes away slowly. In all but the advanced stages the sufferer is not usually aware of this. This is because the vision lost first in glaucoma is side (peripheral) vision and not central vision as with macular degeneration. The central vision nerve fibers are usually the last to be damaged in glaucoma. Generally people are not aware of losing side vision unless it happens suddenly. Even though you think your experience of vision is one integrated whole in actual fact it is not. Those with glaucoma who have lost side vision are not necessarily aware of it because the mind’s eye paints the world in. Take the blind spot for instance. Everyone has a blind spot and if you actively search for it you can find it, but you are otherwise not aware of the blind spot because the brain fills in the gap. Visual field tests are undertaken to determine the extent to which the side vision has been degraded and reference the effectiveness of glaucoma treatments.