

# Macular Degeneration

The macula is a portion of the retina in the back of the eye. Degeneration of the macula is the leading cause of blindness in elderly Americans.<sup>1</sup>

**Lifestyle changes that may be helpful:** Smoking has been linked to macular degeneration. Quitting smoking may reduce the risk of developing macular degeneration.

**Nutritional supplements that may be helpful:** Sunlight triggers oxidative damage in the eye, which in turn can cause macular degeneration.<sup>2</sup> Animals given antioxidants—which protect against oxidative damage—have a lower risk of this vision problem.<sup>3</sup> People with high blood levels of antioxidants also have a lower risk.<sup>4</sup> Those with the highest levels of the antioxidants selenium, vitamin C, and vitamin E may have a 70% lower risk of developing macular degeneration.<sup>5</sup> People who eat fruits and vegetables high in beta-carotene, another antioxidant, are also at low risk.<sup>6</sup> Some doctors of natural medicine recommend antioxidant supplements to reduce the risk of macular degeneration; reasonable adult levels include 200 mcg of selenium, 1,000 mg vitamin C, 400 IU of vitamin E, and 25,000 IU of natural beta-carotene per day.

Lutein and zeaxanthin are antioxidants in the carotenoid family. These carotenoids, found in high concentrations in spinach and kale, concentrate in the part of the retina where

macular degeneration strikes. Once there, they protect the retina from damage caused by sunlight.<sup>7</sup> As expected, spinach and kale eaters have a lower risk of macular degeneration, although blood levels of lutein have not correlated with risk of macular degeneration in one trial.<sup>8 9</sup>

Harvard researchers report that people eating the most lutein and zeaxanthin—a total of 5.8 mg per day—have a 57% decreased risk of macular degeneration, compared with people eating the least.<sup>10</sup> Lutein and zeaxanthin can be taken as supplements; 6 mg or more per day of lutein may be a useful amount.

Two important enzymes needed for vision in the retina require zinc. Double blind research using 80 mg of zinc or placebo for two years found that zinc prevented vision loss by 42% in people with macular degeneration;<sup>11</sup> other double blind research did not confirm these results.<sup>12</sup>

**Are there any side effects or interactions?** Refer to the individual supplement for information about any side effects or interactions.

**Herbs that may be helpful:** Ginkgo biloba may help treat early-stage macular degeneration, according to double blind research.<sup>13</sup> Many doctors of natural medicine recommend 120–240 mg of standardized extract in capsules or tablets per day or a tincture of 0.5 ml three times daily for support of healthy vision.

Bilberry's active bioflavonoid compounds, anthocyanosides, act as an antioxidant in the retina of the eye. This makes it a potential preventive measure against macular degeneration.<sup>14</sup> Bilberry has also been shown to strengthen capillaries and reduce hemorrhaging in the retina.<sup>15</sup> A typical amount used in studies is 240–480 mg per day of bilberry extract in capsules or tablets standardized to 25% anthocyanosides.

**Are there any side effects or interactions?** Refer to the individual herb for information about any side effects or interactions.

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