

# Eye Health Support Protocol

## (Age-Related Macular Degeneration)

Clinical Protocol to Support Eye Health and Healthy Inflammatory Responses\*



### The Pathophysiology of Age-Related Macular Degeneration

Age-related macular degeneration (ARMD) is a disease that affects the macula – the part of the retina responsible for sharp, detailed vision.<sup>1</sup> ARMD is characterized by the “accumulation of extracellular deposits, namely drusen, along with progressive degeneration of photoreceptors and adjacent tissues.”<sup>2</sup> ARMD is multifactorial and involves the complex interplay of age, genetics, cardiovascular health, environmental risk factors, smoking status, and diet.<sup>2,3</sup> ARMD is the leading cause of blindness in adults over the age of 60 in developed countries.<sup>4</sup>

Early-stage ARMD is often asymptomatic.<sup>3</sup> Late-stage ARMD is largely irreversible and can be categorized into two types: neovascular (“wet”, exudative) or non-neovascular (“dry”, atrophic, non-exudative). Early symptoms can include distorted vision while reading, driving, or watching TV, difficulty recognizing faces, or the presence of a dark/grey spot (scotoma) in the central vision.<sup>3</sup> Late-stage ARMD can develop into a progressive loss of central vision, legal blindness, and severe and permanent visual impairment,

which can severely impact an individual’s quality of life and functional independence.<sup>3</sup> Wet ARMD can progress rapidly (in weeks or months) due to the pathological growth of blood vessels, whereas dry ARMD can progress more slowly (in years or decades).<sup>1,3</sup> Chronic inflammation, oxidative stress, dysregulated immune responses, and mitochondrial dysfunction have been shown to underscore the pathogenesis of ARMD due to the outer retina’s high metabolic activity and constant exposure to light.<sup>2,5-8</sup>

This clinical protocol is designed to support patients with age-related macular degeneration through evidence-based lifestyle, dietary, and nutrient interventions.\*

### Diagnostic Biomarkers and Clinical Indicators of Age-Related Macular Degeneration

- Clinical examination and assessment with an optometrist and ophthalmologist
- Imaging to evaluate progression and wet/dry status of ARMD in each eye<sup>4</sup>
  - Fundus fluorescein angiography (FFA)
  - Indocyanine green angiography (ICGA)
  - Autofluorescence
  - Optical coherence tomography (OCT)

### Therapeutic Diet and Nutritional Considerations

- Recommend a Mediterranean diet focusing on a high intake of vegetables, fruits, legumes, whole grains, olive oil, and nuts, a moderate consumption of fish, poultry, and dairy, and a limited consumption of red meat.<sup>9,10</sup>
- The adequate intake (A.I.) of specific nutrients has demonstrated antioxidant and anti-inflammatory properties and has been shown to be clinically beneficial to patients with ARMD, including:<sup>5,9,11</sup>
  - Omega-3 fatty acids, carotenoids (such as lutein, zeaxanthin, and astaxanthin), vitamin C, B vitamins, zinc, magnesium, and copper

### Lifestyle Interventions

- Advise immediate smoking cessation. Smoking is considered the number one modifiable risk factor for ARMD and may contribute to ARMD progression.<sup>3</sup>
- Encourage stress management techniques, such as meditation, yoga, or similar mindfulness practices, or seek professional mental help, if needed. ARMD is associated with depression.<sup>3,10</sup>
- Recommend daily movement and physical activity within limits. ARMD is associated with an increased risk of functional disability, falls, and injuries.<sup>3,10</sup>
- Strengthen cognitive health with social activity and non-visual, brain-stimulating exercises. ARMD increases the risk of cognitive impairment and is associated with neurodegenerative diseases.<sup>3</sup>

This information is provided as a medical and scientific educational resource for the use of physicians and other licensed health-care practitioners (“Practitioners”). This information is intended for Practitioners to use as a basis for determining whether to recommend these products to their patients. All recommendations regarding protocols, dosing, prescribing and/or usage instructions should be tailored to the individual needs of the patient considering their medical history and concomitant therapies. This information is not intended for use by consumers.



# Supplement Protocol

Primary Support:



## OcuForce™ Blue

<b>Dose</b>	2 capsules daily with meals
<b>Duration</b>	Ongoing as needed
<b>Formula Highlights</b>	OcuForce™ Blue provides a targeted blend of macular-supportive nutrients formulated to help promote the eyes' natural ability to filter blue light and reduce the effects associated with extended screen-time exposure.* OcuForce™ Blue is ideal for those in late adulthood or for anyone with prolonged exposure to blue light from screens who are seeking a preventative approach to help maintain healthy vision.*

## Astaxanthin

<b>Dose</b>	2 softgels per day
<b>Duration</b>	Ongoing as needed
<b>Formula Highlights</b>	Astaxanthin is a powerful carotenoid from the microalgae <i>Haematococcus pluvialis</i> , which is one of the richest sources of natural astaxanthin. Astaxanthin is a uniquely structured, long-chain molecule that enables it to provide superior membrane protection. Its impressive antioxidant properties help protect against the effects of oxidative stress, including supporting eye health.*

## B-Supreme

<b>Dose</b>	1 capsule with a meal
<b>Duration</b>	Ongoing as needed
<b>Formula Highlights</b>	B-Supreme is a powerful combination of B vitamins supplied mostly in their coenzymated forms, so that the body does not have to phosphorylate them to be used in biochemical reactions. It also includes 5-methyltetrahydrofolate (5-MTHF [as Quatrefolic®]), trimethylglycine, and choline to support normal methylation, nutrient bioavailability, and long-lasting stability.* Healthy B vitamin status may be clinically beneficial to those with ARMD.*

## OmegaVail™ Hi-Po

<b>Dose</b>	2 softgels twice daily with meals
<b>Duration</b>	Ongoing as needed
<b>Formula Highlights</b>	OmegaVail™ Hi-Po is our highest potency omega-3 product, providing 1,600 mg of eicosapentaenoic acid (EPA)/docosahexapentaenoic acid (DHA) per 2-softgel serving. Proper omega-3 fatty acid intake may help to support those with ARMD by promoting healthy inflammatory responses and overall eye health.*

## CoQinol™ 200

<b>Dose</b>	1 softgel daily with a meal
<b>Duration</b>	Ongoing as needed
<b>Formula Highlights</b>	CoQinol™ 200 provides 200 mg of ubiquinol (as DuoQuinol™) and 125 mg of geranylgeraniol (GG [as GG-Gold®]) per serving, along with quillaja extract, medium-chain triglycerides, and DeltaGold® tocotrienols for enhanced nutrient absorption. GG complements the actions of ubiquinol by supporting CoQ10 synthesis naturally in the body.*

For a list of references cited in this document, please visit:

<https://www.designsforhealth.com/api/library-assets/literature-reference---eye-health-armd-protocol-references>

GG-Gold™ and DuoQuinol™ are trademarks of American River Nutrition, LLC and protected by US Patents 6,350,453; 7,989,006; and other patents pending. Quatrefolic® is covered by US Patent No. 7,947,662 and is a registered trademark of Gnosis S.p.A.

Dosing recommendations are given for typical use based on an average 150 pound healthy adult. Health-care practitioners are encouraged to use clinical judgement with case-specific dosing based on intended goals, subject body weight, medical history, and concomitant medication and supplement usage. Any product containing botanical substances has the potential for causing individual sensitivities, appropriate monitoring, including liver function tests (LFT) is recommended.

For considerations regarding herb-drug and nutrient-drug interactions, please refer to reliable, evidence-based resources such as the Natural Medicine Database or Stargrove MB, Treasure J, McKee DLHer. *Herb, Nutrient, and Drug Interactions: Clinical Implications and Therapeutic Strategies*. St. Louis, MO: Mosby-Elsevier; 2008.

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\*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.