



## See the Connection

### Many Parts, One Body

Your eyes are located in your head. Your heart is located in your chest. Although found in separate areas of the body, these very important organs are connected. Surprisingly, the diseases that are associated with them are connected as well. So, what do heart disease and macular degeneration have in common? Read on to find out.

Your eyes are not linked to your body with Popsicle sticks. Rather, they are part of an intricate framework that affects and is affected by your overall health and wellness. And, research is discovering that your eyes may have a surprisingly close tie to your heart.

Interestingly enough, the American Optometric Association has reported studies that indicate several known risk factors that age-related macular degeneration (AMD or ARMD) and cardiovascular disease (CVD) have in common.

### Macu- What??

Age-related macular degeneration results from changes to the macula, which is a portion of the retina located inside the back of the eye. The macula has an important job – that is, it's responsible for clear, sharp, central vision.

As people age, it is not uncommon for this clearness of vision to dissipate. Common symptoms of AMD include the following:

- The ability to clearly see objects diminishes - usually occurring gradually
- A noticeable empty area appearing in the center of your vision
- Distorted central vision
- A gradual decrease in color vision

### How CVD and AMD Correspond

The parallels found between AMD and CVD (as reported in the Review of Optometry, May 2004) include diet, obesity and physical inactivity, C-reactive protein (CRP), aspirin, cholesterol, and serum iron (iron in the blood).

First, a diet low in fruits and vegetables has been found to increase the risk of both CVD and AMD. On the other end of the spectrum, a diet high in total fat intake (including saturated, monosaturated, polyunsaturated, and trans-unsaturated fats) increases the risk of progression of AMD to advanced AMD. To reduce your risk of AMD and CVD, omega-3 fatty acids found in foods like fish and nuts have been found to help. Ironically, about 95 percent of Americans do not have enough omega-3 fatty acids.

According to the Centers for Disease and Prevention (CDC), poor diet and physical inactivity leads to 300,000 deaths each year. This is the second only to tobacco use. It is estimated that approximately 59 million adults are obese, and the CDC reports that the percentage of young people who are overweight has more than double in the last 20 years. In addition to affecting your risk for CVD, a study found that a higher body mass index (BMI) increases the rate of progression to advanced forms of AMD.

Another parallel between CVD and AMD involves C-reactive protein (CRP). A higher-than-normal level of CRP may indicate inflammation or an infection somewhere in your body. A high level is also associated with an increased risk of cardiovascular disease. In addition, some data has indicated that CRP is significantly associated with the presence of intermediate and advanced AMD. Exercise, diet, aspirin, certain vitamins (such as D and E) and omega-3 fatty acids all lower CRP levels.

Although more testing is needed, one study has found that taking a low-dose aspirin (325 mg every other day) regularly may reduce the risk of total AMD. Another controversial subject is the relationship between serum cholesterol (cholesterol in the blood) and AMD. The Cardiovascular Health Study found lower serum cholesterol to be protective against AMD; however, additional studies are needed to further understand this.

As always, consult your physician before starting any new treatment- including diet, exercise, medication, etc. Also, do not alter any current treatment plans without talking to your doctor first.

### All Things Related

It should be more apparent that all things are related when it comes to our bodies. Our organs work together to achieve a careful balance that ensures things are working properly. When something happens to one part of the body, there is often a domino effect. So, remember, just when you start to think there's no connection between your eyes and your heart, take a closer look.

© 2008. Janet Corbit-Drakulich is a Doctor of Optometry with her Master's of Education Visual Function in Learning. She works at The See Center inside Eagle Medical Center at 2874 North Carson Street, Suite 210, and can be reached by calling 775-887-8866.