

Generational Differences in the Incidence of AMD

It is possible your child or grandchild is less likely to develop AMD

There is evidence that overall eye health is improving, and the chances of developing AMD is less likely in successive generations.

Ten years ago, scientists who were studying a large cohort study of seniors living in Beaver Dam, Wisconsin, found that the ‘younger’ subjects had a lower incidence of AMD, even after correcting for age and sex.(1) At that time, the researchers suggested perhaps this was due to different levels of environmental exposures – at a minimum, the older study subjects had

lived through flu

pandemic of 1918, the Great Depression and two world wars.

The authors noted that those who were in the younger cohort seemed to show a

lower incidence of

AMD than older seniors and this finding could not be fully explained.

A decade later, the research has continued, and additional generations have been included. The study which started by taking a series of retinal



photographs every 5 years from subjects who were born beginning in 1903 to 1942, has continued to include their offspring, born between 1926 and 1984.

In the article published in *JAMA Ophthalmology* a few months ago, epidemiologist Dr. Karen Cruickshanks and her colleagues at the University of Wisconsin continued their review of the 5-year AMD risk in different-aged groups.⁽²⁾ Her findings reinforced observations made a decade ago. Apparently, the risk of AMD has continued to drop with each generation. While this study is focused on a group of mostly-white Americans living in a specific geographic location, the projected epidemic of blindness and severe low vision resulting from AMD may not occur.

Using the specific baseline age of 54 years old, the study looked for evidence of early AMD. In the Greatest Generation (those born 1901-24), the incidence was 8.8%; meaning at 54 years old, 9 out of 100 that group would show early signs of AMD. In the Silent Generation (birth years 1925-45), the incidence dropped to 3.0%. In the Baby Boom Generation (1946-64) the projected incidence was 1.0% and in Generation X (1965-84), the rate is 0.3%.

The authors did not estimate AMD rates at later ages, when prevalence rises, but they anticipate that fewer people overall may be affected by the disease in the future.

As previously, the authors are at a loss to identify specific reasons why AMD appears to be less frequent in those born in more recent years. They note that cardiovascular disease and dementia are also on the decline and suggest that better nutrition, antibiotics and vaccines, and cleaner air and

water are likely contributing factors. Improvements in environmental and public health could be the cause of fewer serious infections during childhood leading to fewer chronic diseases as adults and seniors.

Whatever the source(s), the dramatic 60% decrease of the incidence of AMD by generation is a reason for celebration. As the authors speculate there are likely modifiable factors that contribute to this decreased incidence and understanding those factors will provide opportunities for primary prevention of AMD.

References

1. Klein R, *et al*, **Age-Period-Cohort Effect on the Incidence of Age-Related Macular Degeneration: The Beaver Dam Study**, *Ophthalmology* 115:146-1467, 2008.
2. Cruickshanks K, *et al*, **Generational Differences in the 5-Year Incidence of Age-Related Macular Degeneration**, *JAMA Ophthalmol* 135:1417-1423, 2017.