

ORIGINAL RESEARCH COMMUNICATION

# Carbohydrate nutrition, glycemic index, and the 10-y incidence of cataract<sup>1,2,3</sup>

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**Background:** Although dietary carbohydrates are thought to play a role in cataractogenesis, few epidemiologic studies have examined links between carbohydrate nutrition and cataract.

**Objectives:** We investigated the associations between dietary glycemic index (GI), glycemic load (GL), total carbohydrate intake, and 10-y incident nuclear, cortical, and posterior subcapsular cataract.

**Design:** Of 3654 baseline participants in an Australian population aged  $\geq 49$  y (1992–1994), 933 were seen after 5 and/or 10 y, had completed a detailed semiquantitative food-frequency questionnaire, had no previous cataract surgery or baseline cataract, and had photographs taken to assess incident cataract with the Wisconsin Cataract Grading System. Dietary information was collected with a validated food questionnaire. GI was calculated from a customized database of Australian foods. GI, GL, and all other nutrients were energy adjusted. Hazard ratios (HRs) and 95% CIs were calculated with the use of discrete logistic models.

**Results:** After age, sex, diabetes, and other factors were controlled for, each SD increase in GI significantly predicted incident cortical cataract (HR: 1.19; 95% CI: 1.01, 1.39). Participants within the highest compared with the lowest quartile of GI were more likely to develop incident cortical cataract (HR: 1.77; 95% CI: 1.13, 2.78; *P* for trend = 0.035). These findings were similar after excluding participants with diabetes, although they were slightly attenuated and marginally nonsignificant (HR: 1.16; 95% CI: 0.98, 1.37, per SD increase in GI). No association was found between GI and nuclear or posterior subcapsular cataract and between GL or carbohydrate quantity and any cataract subtype.

**Conclusion:** In an Australian cohort, poorer dietary carbohydrate quality, reflected by high GI, predicted incident cortical cataract.

**Key Words:** Cataract • cohort study • incidence • population • risk factors • Blue Mountains Eye Study • lens • nutrition • carbohydrate • glycemic index • glycemic load • glycation • humans • epidemiology • aging

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