

# The Lens Opacities Case-Control Study (LOCS) - 1991



## Objective

To evaluate risk factors for age-related nuclear, cortical, posterior subcapsular, and mixed cataracts.

## Methods

**Design:** Case-control study

**Sample Size:** 1380

**Treatment Groups:**

- 72 posterior subcapsular only
- 137 nuclear only
- 290 cortical only
- 446 mixed cataract
- 435 controls

**Outcome Measures:**

- Height, weight, hand-grip strength, blood pressure, iris color
- Nutritional history, general medical history, complete ophthalmologic exam

## Results

Point 1: Cataracts are related to low socioeconomic and nutritional status.

- Low education increased risk (OR = 1.46) and regular use of multivitamin supplements decreased risk (OR = 0.63) for all types of cataracts.

Point 2: Diabetes is a risk factor for all types of cataracts except for nuclear.

- Diabetes increased risk of posterior subcapsular, cortical, and mixed cataracts (OR = 1.56).
- Also, oral steroid use increased posterior subcapsular risk (OR = 5.83).

Point 3: Female sex and nonwhite race increased risk of cortical cataracts.

- At-risk groups for cortical cataracts: Females (OR = 1.51) and nonwhites (OR = 2.03).
- Risk factors for nuclear cataracts : nonprofessional occupation (OR = 1.96), smoking (OR = 1.68), BMI (OR = 0.76), and occupational exposure to sunlight (OR = 0.61).
- Risk factors for mixed cataracts: Gout medications (OR = 2.48), family history (OR = 1.52), and use of eyeglasses for 20 years (i.e., myopia) (OR = 1.44).

**TLDR: There is a multifactorial etiology in formation of cataracts, with personal, nutritional, medical, & other exposures accelerating lens opacification, perhaps all ultimately due to oxidative damage.**