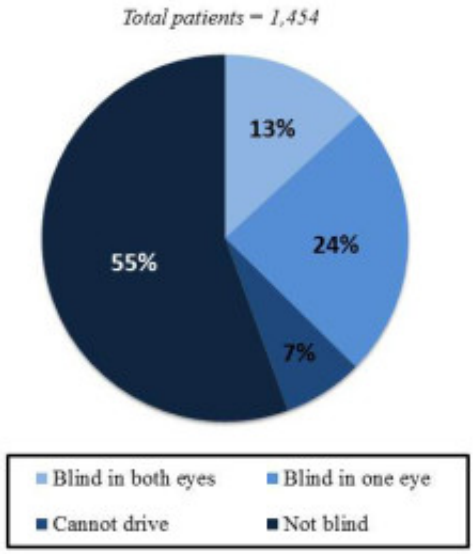
Glaucoma: are people still going blind?

We have seen large advances in preventing, slowing down and reversing vision loss for patients with many eye diseases. Despite these advances, many people with eye disease end up losing their vision. What is the difference between these two groups of people, those who keep their vision despite eye disease and those who become blind because of it? Are there certain factors—race, age, other diseases—that increase the risk for blindness?



Glaucoma's impact on vision in our patient population.
The majority of glaucoma patients in our study were not blind, but many have some vision loss.

In our study, we worked to answer this question for patients with glaucoma at Duke University Eye Center. Glaucoma is a group of chronic eye diseases where the optic nerve is damaged. The optic nerve is the cable that takes images from the eye to the brain. In patients with glaucoma, the optic nerve becomes damaged which can result in irreversible vision loss without treatment. This can be devastating for patients, especially if the disease progresses and patients cannot drive nor do daily activities on their own.

After reviewing nearly 1500 medical records of patients with glaucoma, there were two main findings. First, we found that black patients had a greater risk of blindness due to glaucoma than the white patients, even when taking age, gender, and previous treatment into consideration. This result is consistent with previous studies looking at race and health care outcomes, and points to a continued gap between black and white patients with glaucoma. Second, we found that patients being treated for high blood pressure had a greater risk of blindness than patients not being treated for high blood pressure. There are a number of reasons why this might be the case, such as

interactions between medications used for high blood pressure and medications used to control high eye pressure in glaucoma. When we looked just at the patients with the most common type of glaucoma, primary open angle glaucoma, we found the same result.

These results have important implications for how we care for glaucoma patients, as well as for shaping public policy decisions around delivering eye care. Understanding how race affects the risk of glaucoma blindness is very important in North Carolina, where 22% of the population is black. Eliminating this gap in glaucoma blindness between black and white patients will require more research into the underlying causes—beyond the associations we've found here—for why some people retain vision and others become blind.

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