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## NIH NEWS RELEASE

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# Immediate Treatment Helps Delay Progression of Glaucoma

Researchers have found that immediately treating people who have early stage glaucoma can delay progression of the disease. This finding supports the medical community's emerging consensus that treatment to lower pressure inside the eye can slow glaucoma damage and subsequent vision loss. These results are reported in the October 2002 issue of *Archives of Ophthalmology*.

Scientists found that immediate treatment of newly-discovered primary open-angle glaucoma, the most common form of glaucoma and one of the nation's leading causes of vision loss, led to a slower rate of disease progression. The findings from this study reinforce accumulating medical evidence that lowering eye pressure in glaucoma's early stages slows progression of the disease.

"These results strongly support the body of evidence suggesting that immediate treatment of early stage, open-angle glaucoma will slow the disease progression," said Paul Sieving, M.D., Ph.D., director of the National Eye Institute (NEI), one of the Federal government's National Institutes of Health and co-sponsor of the study. "Unfortunately, glaucoma has no early warning signs, and many affected patients are unaware they have the disease until it has advanced. Once people have lost vision from glaucoma, it cannot be regained. However, early detection and timely treatment would help to save the vision of thousands of people each year."

Dr. Sieving also notes that the study results provide important new medical knowledge on the course of the disease, both among treated and untreated patients. "Because most people are treated for glaucoma as soon as they are diagnosed, little is known about the natural history of the disease," he said. "Future reports from the study will add further important information on glaucoma progression and its risk factors."

The study -- called the Early Manifest Glaucoma Trial -- followed 255 patients, aged 50-80 years, with early stage glaucoma in at least one eye. Most patients were identified in a population screening. The average age of the patients at the beginning of the study was 68 years. One group

(129 patients) was treated immediately with medicines and laser to lower eye pressure, and the other group (126 patients) -- the control group -- was left untreated. Both groups were followed carefully and monitored every three months for early signs of advancing disease, using indicators that are extremely sensitive for detecting glaucoma progression. Any patient in the control group whose glaucoma progressed was immediately offered treatment.

After six years of followup, scientists found that progression was less frequent in the treated group (45 percent) than in the control group (62 percent), and occurred significantly later in treated patients. Treatment effects were also evident in patients with different characteristics, such as age, initial eye pressure levels, and degree of glaucoma damage. In the treated group, eye pressure was lowered by an average of 25 percent.

The study was a collaborative effort involving the University of Lund, Sweden, with centers in Malmö, Helsingborg, and Lund, Sweden, as well as Stony Brook University, Stony Brook, New York.

These results should be put into perspective, according to Anders Heijl, M.D., Ph.D., chairman of the Department of Ophthalmology at Sweden's Malmö University Hospital and first author of the report. "Although the study closely checked for possible glaucoma progression, many of the patients remained stable over time, even those in the control group," Dr. Heijl said. "On the other hand, despite the clear effect of treatment, glaucoma progressed in as many as 30 percent of treated patients after four years."

Dr. Heijl said that the time it took for glaucoma to progress varied greatly among patients and was sometimes rather short, even in treated patients. "This shows that in many patients with rapidly progressing glaucoma, the treatment used in this study was insufficient to halt progression of the disease," Dr. Heijl said.

Dr. Heijl emphasized that treatment for early, newly diagnosed glaucoma should be individualized and carefully balanced. Before deciding on the best treatment option, eye care professionals should consider several unique patient factors, such as age, eye pressure levels, and disease severity. "The study findings support the medical community's growing contention that glaucoma treatment should be tailored to the individual needs of the patient," Dr. Heijl said. "One option could include no initial treatment, but subsequent treatment if the disease progresses. Many glaucoma medicines have side effects, so the decision not to treat the disease in its early stage -- but closely monitor patients -- can postpone or obviate the need for medications."

Although the study results confirm the belief that reducing eye pressure is beneficial, "they do not prove that elevated eye pressure in itself is the primary cause of glaucoma," said M. Cristina Leske, M.D., chair of the Department of Preventive Medicine at Stony Brook University and a study co-author. "However, because reducing eye pressure slows the progression of glaucoma, eye pressure levels are important in the course of the disease."

Dr. Leske said that the study treatment had few side effects. The most important was an increase in nuclear opacities, a type of cataract, but the number of related cataract surgeries in the treated group was small.

Open-angle glaucoma affects about 2.2 million Americans age 40 and over; another two million may have the disease and don't know it. Glaucoma occurs when the optic nerve is damaged. In most cases, increased pressure in the eye is a risk factor for this damage. The damage to the optic nerve causes loss of peripheral (side) vision, although people are often unaware that they have glaucoma. As the disease worsens, the field of vision gradually narrows and blindness can result. However, if detected early through a comprehensive eye exam, glaucoma can usually be controlled and serious vision loss prevented.

The Early Manifest Glaucoma Trial was co-sponsored by the Swedish Research Council. A list of

[EMGT study centers and principal investigators](#) is attached.

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*The National Eye Institute is part of the National Institutes of Health (NIH) and is the Federal government's lead agency for vision research that leads to sight-saving treatments and plays a key role in reducing visual impairment and blindness. The NIH is an agency of the U.S. Department of Health and Human Services.*

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