



Research to Prevent Blindness

NEWS

FALL 2012

GUIDE TO EYE HEALTH

Get in the habit of getting tested for eye conditions. Regular visits to an eye care specialist, with a frequency dictated by a patient's known risk factors, remains fundamental to early detection. RPB supports the development of additional ways of monitoring eye conditions to improve early detection.

Online Test for Amblyopia

A 15-minute, online test allows parents to screen their children for amblyopia. The test, found at lazyeyetest.org, does not, however, replace a visit to an eye care specialist, which remains the best way to determine if a person has amblyopia.

Macular Degeneration Calculator

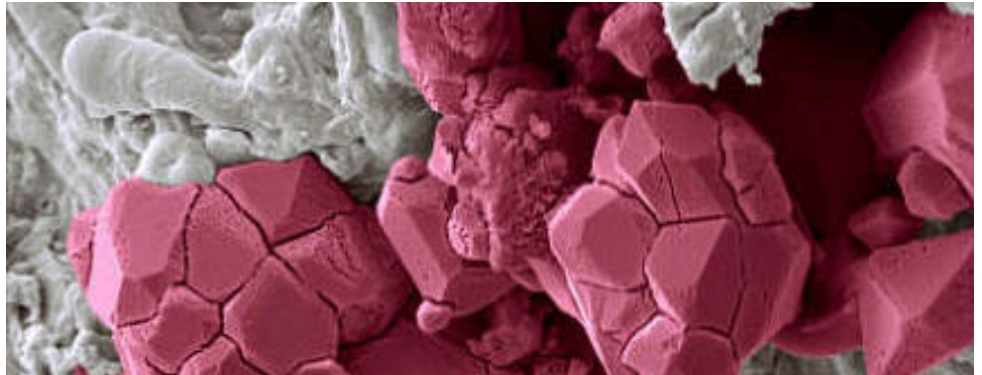
An online tool that predicts the risk of developing macular degeneration and helps eye doctors determine a treatment approach with patients, the calculator is available free at caseyamdcalc.ohsu.edu.

Online Test for Glaucoma and AMD

Test your eyes, online, for free, for visual field loss (associated with glaucoma) and retinal degeneration (macular degeneration) at KeepYourSight.org. Results from these sensitive tests are analyzed, remotely, by ophthalmologists. Complete privacy is assured and, if disease symptoms are detected, a suggestion is made to visit your ophthalmologist (who is provided with the imagery and interpretation).

Find more online tests at www.rpbusa.org

Can statins reduce risk for glaucoma?



Scimat/Science Source

The study also found that the more months a patient had taken statins (shown here in a naturally occurring, crystal form in red rice yeast) over the previous two years, the greater the reduction in the risk of developing open angle glaucoma or requiring medical treatment for glaucoma.

A recent, RPB-supported study indicates that people who take statins to reduce their risk of cardiovascular disease are also less likely to be diagnosed with the most common form of glaucoma. In addition, in people with risk factors for glaucoma, the likelihood of developing the condition was also decreased, along with the risk of requiring medical treatment short of surgery. Another finding from the study suggested that statins may be beneficial in the early stages of glaucoma.

But, before people start asking their doctors for statins to prevent or treat glaucoma, the researchers are cautioning that the study involved people who already were being treated for elevated cholesterol. It did not examine people with normal cholesterol levels, and no direct cause-and-effect connection between taking statins and avoiding glaucoma has so far been established.

It is estimated that three million people in the United States have glaucoma, about half of whom are unaware they have the sight stealing, progressive condition.

Less invasive eye care

RPB-supported researchers have developed microneedles—less than a millimeter long—to deliver drugs across the white part of the eye where they can then flow along the eye's inner surface to targeted tissues. The microneedles are much less invasive than traditional hypodermic needles and deliver drugs more effectively than eye drops.



Gary Meek



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EYE RESEARCH BRIEFS

More advances in telemedicine

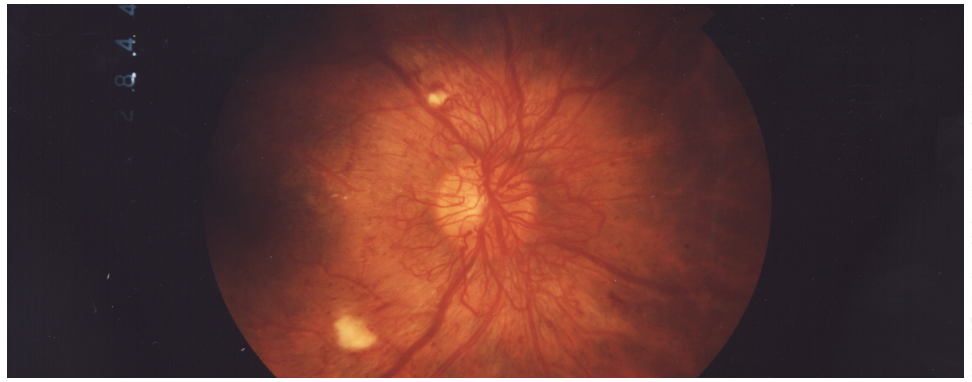
RPB-supported scientists are developing methods that will allow computers to quantify microscopic features seen in images obtained during standard eye exams for DR and age related macular degeneration (AMD). Computer-assisted assessment will be a key component of telemedicine, designed to help track disease progression in large populations of DR and AMD patients who live in remote areas.

An RPB Medical Student Fellow reports implementing, for the first time, a telemedicine-based screening, treatment and education program for DR in a low resource setting (in Bangladesh). Approximately 3,000 patients were screened and 150 received laser treatment. Another RPB Medical Student Fellow is studying the use of an attachment that will turn a cell phone into a retinal camera to aid in off-site diagnosis of retinal diseases in locations lacking proper healthcare facilities and trained medical personnel.

Test identifies eye cancer tumors likely to spread

RPB researchers have developed a genetic test that can accurately predict whether the most common form of eye cancer will spread to other parts of the body, particularly the liver. Nearly half of patients with ocular melanoma have the type that will spread, and of those patients it is fatal nearly 70-80 percent of the time. Currently, there is no cure and no way to slow the disease. Many doctors will not request the test, claiming it provides nothing to change the outcome. The researchers, however, emphasize that the value of the test lies in allowing patients to plan their lives.

Detecting diabetic retinopathy from afar



National Eye Institute, National Institutes of Health

In advanced diabetic retinopathy, abnormal new blood vessels and scar tissue form on the surface of the retina. Up to 45 percent of diabetics eventually develop DR, but vision can be preserved in 90 percent of patients if treated early.

Advances in video and high resolution imaging technology are allowing doctors to visit with, and even diagnose, patients across great distances. Telemedicine also makes it possible for doctors to “see” more patients more efficiently, and at reduced cost. It is one way to address the expanding medical needs of an aging baby boom generation. With the U.S. diabetic population projected to surge from 25 million today to nearly 125 million in the next 30 years, DR—already the leading cause of new blindness in working age Americans (20-74)—will have to be detected more effectively if millions of Americans are to retain their sight.

Currently, according to the authors of a new RPB study, there are obstacles to receiving screenings from an ophthalmologist, including: cost, lack of access due to geographic isolation, lack of patient education, and cultural barriers among minorities. In fact, fewer than half of patients undergo screening. In low-income populations, only 10 percent of patients are getting screened.

In an effort to overcome some of these obstacles, the researchers investigated the impact on screening rates if, rather than referring patients to an ophthalmologist, retinal photographs were taken in a primary care clinic and the images were electronically sent to a retinal specialist for evaluation and interpretation. Results were dramatic. In the study of 1,002 patients, rates of screening rose from the previous level of 32% to 71% after just 12 months. DR was detected in 133 patients who probably would not have received care otherwise, and these patients were referred to an ophthalmologist.

Before DR telemedicine screenings can be rolled out on a national basis, the researchers caution that the processes for capturing images, digital transmission and qualified readings need to be standardized.

A GIFT TO RPB CAN SAVE SIGHT

RPB is the only public foundation supporting research aimed at treating, preventing or curing all diseases that damage and destroy vision. Your support is critical to the success of our efforts. Contributions totaling up to one million dollars within a calendar year are matched. ALL GIFTS AND BEQUESTS ARE TAX DEDUCTIBLE. Research to Prevent Blindness, Inc. (RPB) is recognized by the U.S. Internal Revenue Service as a publicly supported tax exempt organization under section 501(c)(3) of the Internal Revenue Code. Consult with a financial advisor and talk to your attorney regarding the final form of any lifetime or testamentary transfer.



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