



Donations (from p. 1)

that Raab began to see Wilmer's facilities from a child's perspective. "I went into the pediatric unit and wasn't sure I would be really comfortable in the waiting room if I was a 2- or a 3-year-old. So our foundation gave some money to brighten things up."

The donations also provided funds for items to help children pass the time, say Wilmer staff that was instrumental in choosing the furnishings, toys and other amenities. And, of course, the paintings created by Halperin, a retired oncologist, will give the young patients just a bit more

to spur their imaginations. "I derive great pleasure from sharing my work. I do mostly abstract figurative painting. Many have told me that my paintings have a childlike

quality. So it may have been an easy step to the whimsical spontaneity of creating paintings that I hope children will enjoy," he says. "I wanted them to have room for imagination and the opportunity to mind play with what is going on. I also wanted some action. I wanted some goofiness. I wanted color. So each of them has color. One with animals, one fish and two with diverse 'people.'"

The donations will all go a long way to ease kids' stress as they wait for treatment.

"Children in an eye care setting have stress," explains Michael Repka, M.D., M.B.A., Vice Chair for the Clinical Practice and the David L. Guyton, M.D., and Feduniak Family Professor of Ophthalmology.

"Having these activities in our waiting area makes their care easier because they are less anxious about their visit."

Eric Singman, M.D., Division Chief of the General Eye Service Clinic, echoes Repka's gratitude for the ongoing support. "Parents of patients have requested a safe, fun area where their children could play," he says. "These gifts mean so much to our team and to our patients." ■



Kids Eye View

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Positive Treatment for Children with Amblyopia

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Parents that request vision screening for children, whether they suspect vision impairment or not, will put their children in better positions to correct amblyopia, commonly called lazy eye.

Although reports generally note amblyopia impacts three out of 100 children, researchers in Scandinavia have shown that universal childhood vision screening projects can significantly reduce those rates due to the success of durable therapies that include patching, eye drops and, in some cases, surgery. Michael Repka, M.D., M.B.A., who has studied amblyopia and its treatment for more than three decades, underscores that parents should not assume children's eyes are healthy until they have been screened.

"If there is a suspicion of an eye problem, they have to be screened," he says. "If there isn't a suspicion, the child needs to

have passed the screening examination" to confirm the eyes are healthy.

Only then will parents know if their children have amblyopia or other vision concerns and move toward its cause and treatment.



Michael Repka, M.D., M.B.A.

treated with patching and eye drops. Discovering amblyopia early in life is ideal and leads to better treatment outcomes.

Good vision plays an important role in development by providing constant feedback

...the once-common belief that children had to be diagnosed and treated by age 7 has been shattered.

Many mistakenly associate amblyopia with misalignment (crossed eyes). In fact amblyopia without misalignment—including cases in which children have unequal refractive errors (such as one near sighted eye and one far sighted eye) is common and not evident to the parents. Amblyopia from both misalignment and refractive error is readily

of visual cues to the brain. When vision is compromised by amblyopia or strabismus (misalignment), so is brain development. The longer these conditions persist, the more difficult it is to recover visual loss.

That doesn't mean that older children's vision problems are untreatable. Indeed, the once-common belief that children had to be diagnosed and treated by age 7 has been shattered, Repka says.

He and his colleagues are conducting a National Eye Institute-sponsored study comparing atropine with patching treatments in 8 to 17-year-olds with amblyopia.

"Parents should realize their children are neither too young or too old, until they have tried at least one treatment," Repka says. "In the past, many ophthalmologists

(Continued on p. 2)

Generous Donations Brighten Young Patients' Visits

Young patients will have a few more reasons to smile when they visit some of Wilmer's pediatric waiting rooms.

Generous donations from the Norman Raab Foundation and artist Joseph Halperin, M.D., have transformed some of the clinical areas into kid friendly oases. Brightly painted rooms, pint-sized chairs and tables, play areas and six, large kid-friendly paintings have been added to waiting areas including those at the Specialty Access Center of Wilmer's General Eye Service Clinic and at Green Spring Station.

Stephen Raab, a long-time member of Wilmer's Board of Governors and chair of the foundation that bears his father's name, said the donations his group made reflect his commitment to Wilmer.

"My involvement with Wilmer goes back to 1975," Raab recalls, "so I've been walking around these halls for a long time." But it wasn't until the birth of his grandson

(Continued on p. 4)



Joseph Halperin, M.D.

Inside: 2 Barney the Dinosaur May Aid Children's Eye Health Diagnoses

3 Fun and Games May Lead to Increased Vision Screening

3 Screening Guidelines Could Unlock Vision Concerns

Barney the Dinosaur May Aid Children's Eye Health Diagnoses

Barney the Dinosaur might soon play a role in better vision for young children.

Music from the television show that features the oversized purple dinosaur that has entertained children for more than 15 years is being adopted by Wilmer's David Guyton, M.D., Boris Gramatikov, Ph.D.,



Drs. Boris Gramatikov, Kristina Irsch and David Guyton

and Kristina Irsch, Ph.D. for use in a new device they call a Pediatric Vision Screener (PVS).

It is anticipated that pediatricians' offices and vision screening programs will eagerly embrace their invention to entice children from ages 1 to 5 to look at a pulsating light, synchronized with some of the music Barney made famous.

In as little as five seconds, the PVS can identify misaligned eyes and other risk factors for amblyopia (lazy eye). "We have worked for years to perfect an instrument that can help pediatricians detect eye problems in pre-verbal children. This will be an automatic screening

device, a 'point and shoot' device that determines whether both eyes are lined up properly and focused properly," says Guyton, who is internationally renowned for his contributions, inventions, and teaching in eye muscle surgery for misaligned eyes (strabismus) and in ophthalmic optics. "Those

two findings are critical. Since about 98 percent of eye disease in kids affects either the focus or alignment of the eyes, an instrument that automatically assesses both of these will be a very nice screening device for eye disease in young children."

The commercial version will be small and portable, something earlier prototypes of the instrument have not been.

Even though treatments are available for older kids with amblyopia and misalignment,

catching such vision impairments early in life—ideally by ages 2 or 3—is the best time to diagnose and effectively treat such conditions. The only task children will need to do for this device, one of

"...early detection is the key to proper treatment. The pediatricians will finally have the tool to make this possible and practical."

several that Guyton and his colleagues are investigating, is to focus on the pulsating light for a few seconds.

"It will give you the alignment and focus information right away as long as you can get the child to focus on an atten-

Supporters of the Pediatric Vision Screener project have included:

- Research to Prevent Blindness
- NIH Grant RO1 EY-12883
- The Helena Rubenstein Foundation
- The Alcon Research Institute
- The Thomas Wilson Sanitarium for the Children of Baltimore City
- Massachusetts Lions Eye Research
- Knights Templar Eye Foundation
- Roy and Niuta Titus Foundation
- Whitaker Foundation
- Hartwell Foundation
- Walman Optical Company
- Michael Formica and Suzanne Slesin
- Herbert Liebich
- Helen and David Leighton
- Victoria and Richard Baks
- Robert and Diane Levy

tion-attracting object," says Guyton, who notes work on the device has been ongoing since 1991, when he first conceived of the optical design by drawing on an airplane napkin. "Children like it because it seems as if the music is coming from the light. They only have to pay attention for about five seconds or so and the instrument measures alignment and focus every second."

Of course, diagnosis is only one step to improved health. If a concern is discovered, it's imperative that a vision professional conduct an eye exam to diagnose and treat the cause.

"Our screening device tells which eye is defocused and which eye is misaligned," says Guyton. "It will not diagnose the exact cause – but early detection is the key to proper treatment. The pediatricians will finally have the tool to make this possible and practical." ■

study," says Repka who adds investigators will examine many outcomes including the development of glaucoma in such patients. "From this project we hope to learn something to take us to the next level in terms of management and study ideas."

Individual donors and organizations including Research to Prevent Blindness, the Alcon Research Institute and the National Institutes of Health have donated funds for this and other research. ■

Positive Treatment for Children with Amblyopia (from p. 1)

wouldn't treat those children much past age 7. Now about 60 percent of the time we can improve the vision of many amblyopia patients to 20/25 or better, and many older patients to nearly that level."

Although patching is still an important treatment for many amblyopia patients—to force the lazy eye to strengthen through use—eye drops that block vision are a less irritating alternative that boosts compliance. In a significant number of

cases, patients are treated with two eye drops a week instead of two to six hours a day of patching.

And Repka and his colleagues continue to investigate treatments for amblyopia and other ocular concerns. Currently they are involved with investigators at about 40 other sites in compiling a registry of children ages birth to 13 years of age that have undergone cataract surgery.

"This is a hypothesis-generating

Fun and Games May Lead to Increased Vision Screening

Almost half of U.S. parents with children age 12 and under have not taken their children for eye exams, according to a recent survey commissioned by Vision Service Plan, part of VSP Global, the largest not-for-profit vision benefits and services company in the United States with 59 million members. One of the more disturbing aspects of the survey results is that of the children who received a complete, professional eye exam, 40 percent needed glasses, an additional three percent had treatable eye disease and four percent had allergies, a scratched cornea, or amblyopia (lazy eye).

Hee-Jung Park, M.D., MPH, who practices at Wilmer and two satellite locations—the Bayview Medical Center and White Marsh—is working to create software that could allow easy, in-home pediatric vision screening and even stem debilitating conditions throughout the world.

"Imagine India where billions of people have diseases. Imagine how much we can help people if they have ready access to screening," says Park, who volunteers for such organizations as Mother Theresa's Missionaries of Charity in Ethiopia and Tibetan monasteries in Himalayan villages in India.

To help bring such a goal to reality, Park and her colleagues are currently working to develop a visual acuity test that can be done in a child's home. That test, which involves such games as letter matching, measures visual acuity and the results can then be quickly sent to professionals for review and diagnosis.

"We are testing patients now," says Park of the clinical study. "We want to make sure that the test is completely consistent. Although the test could uncover ocular conditions and diseases that need professional intervention, Park stressed that such indicators would require that children be seen by professionals to confirm the results of the on-line diagnostic tool. Of course, treatment would also be needed.

Although some similar tests are currently available, most don't have automatic algorithms and can't be performed at home by parents and other non-vision experts.

So far the new test promises to be a hit with the parents of children who have tested the software.

"Children find the test fun and parents like it," says Park. "If parents see the test can lead to vision improvements, they are more compliant." ■



Hee-Jung Park, M.D., MPH

Screening Guidelines for Pre-School Children Could Unlock Vision Concerns

Investigators who conducted the Baltimore Pediatric Eye Disease Study—that studied children ages six months to 6 years from 2002 to 2009—found that guidelines should be formulated that describe the methods to screen, diagnose and treat.

A small proportion of pre-school children in the Baltimore study population, as well as a concurrent study population in Los Angeles, were identified who would likely benefit from refractive correction such as by wearing eyeglasses. Few of the children with such needs were taken for such prescriptions, according to study results.

"We would like to conduct further studies in terms of follow up implications that would be important from a public health standpoint," says David Friedman, M.D., Ph.D., who is the Alfred Sommer Professor at Wilmer Eye Institute and an investigator in the Baltimore Pediatric Eye Disease Study. "The question of risk factors for different conditions is still very important."

Further studies conducted by Friedman, Michael Repka, M.D., M.B.A., and other investigators have determined that children in specific racial, ethnic and age groups have higher risks for such conditions of myopia and hyperopia.

Findings from such studies—such as the discovery that mothers that stopped smoking during pregnancy may have reduced their children's risk of hyperopia—further triggered the investigators' interest in follow-up studies.

One study under development by Friedman and Repka will help practitioners determine if eye conditions might be factors in poor reading skills. If such a study were successful it might lead to better reading performance for some poor readers, which could greatly increase their overall academic success. ■



David Friedman, M.D., Ph.D.