

Saving the sight of premature babies

November 1 2010, By Carolyn Pennington



Neonatal Intensive Care nurse Kathryn Ireland during a demonstration of a laser eye procedure. Photo by Janine Gelineau

(PhysOrg.com) -- The Health Center offers a laser procedure that helps prevent blindness in babies born prematurely.

With advances in neonatal care, smaller and more [premature infants](#) are being saved, but with that comes a greater risk for certain health problems, such as impaired vision and blindness.

The Health Center is one of just a few hospitals in the region offering a laser eye procedure that helps prevent blindness in [babies](#) born prematurely.

One of the most common causes of visual loss in childhood is retinopathy of prematurity (ROP), and it can lead to lifelong vision impairment and blindness. The disorder usually develops in both eyes, and the smaller a baby is at birth, the more likely the baby is to develop ROP.

“The average birth weight of our babies who go on to develop ROP requiring laser treatment is around 1 lb. 6 oz. and 24 weeks gestation,” says Terry Donovan, a clinical nurse specialist in the Health Center’s Neonatal Intensive Care Unit.

ROP occurs when abnormal blood vessels grow and spread throughout the retina, the tissue that lines the back of the eye.

“When a baby is born full-term, the retinal blood vessel growth is mostly complete,” says Donovan. “But if a baby is born prematurely, before these blood vessels have reached the edges of the retina, normal vessel growth may stop.”

New blood vessels that are abnormal and fibrous tissue (like scar tissue) can form in the retina. These abnormal blood vessels may be twisted and bending, or fragile and leaking, scarring the retina and pulling it out of position. This causes a retinal detachment. Retinal detachment is the main cause of visual impairment and [blindness](#) in ROP.

The babies who are most at risk routinely get eye exams to see how the blood vessels are developing in the retina. If Dr. Christopher Kelly, an ophthalmologist with Children’s Eye Care, suspects ROP and it requires treatment, he will call in a retinal specialist. Within 72 hours, the retinal specialist will perform laser eye surgery on the baby, with the assistance of a neonatologist and two nurses.

The laser therapy destroys the peripheral areas of the retina, slowing or

reversing the abnormal growth of blood vessels.

“While the laser treatment decreases the chances for vision loss, not all babies respond the same way and a percentage of babies will still have some limited vision,” says Donovan. “But before laser treatment for severe ROP was an option, it was almost assured the baby’s [retina](#) would detach and the baby’s chance of being blind would greatly increase.”

Since laser eye therapy for babies was introduced at the Health Center three years ago, 22 procedures have been performed. Ten Health Center nurses have been specially trained for the procedure, which includes laser safety training and knowing how to accurately position and monitor the baby during the procedure.

Provided by University of Connecticut

Citation: Saving the sight of premature babies (2010, November 1) retrieved 20 April 2024 from <https://medicalxpress.com/news/2010-11-sight-premature-babies.html>

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