

**Fetal-tissue transplant rescues woman's sight**  
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Louisvillian part of a clinical trial  
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Elizabeth Bryant of Louisville was legally blind and could see only outlines of nearby objects when Dr. Norman D. Radtke transplanted fetal tissue into her left eye as part of a clinical trial.

More than two years later, she said, she can see well enough to read large print and sew.

Bryant, 65, has retinitis pigmentosa, a group of inherited diseases in which there is progressive degeneration of the retina that can cause blindness. She said she participated in the research to help herself and other sufferers - including her daughter.

"Anything was worth a try. I was losing my eyesight," she said. "I felt like I had nothing to lose and a lot to gain."

This week, the British magazine New Scientist published an article on Bryant and the transplant, saying her improvement has been "a remarkable transformation."

Radtke, an eye surgeon and owner of Retina Vitreous Resource Center in Louisville, said Bryant's sight in the treated eye gradually improved from about 20/800 to about 20/200.

"This particular patient would be a really good success story, so we're encouraged to go further," said Radtke, who also co-authored a report on the case published in the August issue of the medical journal Archives of Ophthalmology.

But the use of fetal tissue is controversial. In Bryant's case, retinal tissue came from a fetus with a gestational age of 13 weeks, obtained by informed consent from donors who had already decided to terminate their pregnancy, according to the medical journal.

Radtke said the controversy surrounding the use of fetal tissue may prevent the surgical procedure from becoming a widespread cure for retinitis pigmentosa. But he said researchers are looking into the possibility of transplanting retinal sheets from genetically engineered pigs in the future.

The procedure as it stands now, however, is "extremely sad," according to Margie Montgomery, executive director of the Kentucky Right to Life Association.

"Restoring one's sight, we're totally in favor of. But the end doesn't justify the means," Montgomery said. "Killing a human being in order to further science is just wrong."

## **Sight went downhill**

Bryant said she suffered with poor eyesight for decades, wearing glasses as a child and being unable to see at night. Doctors diagnosed her with retinitis pigmentosa in her early 20s.

"From then on, it was downhill," she said. "The older I got, the worse it got."

The condition affected both her eyes, but her left eye was worse than her right. If people sat across the table from her, she said, she could see only the outlines of their bodies.

When she became Radtke's patient about six years ago, she said, she told him about retinal transplants she had heard were taking place outside the United States. She remembers telling him: "If they ever get started here, for God's sake, let me know because I want to be the first one."

It so happened that Radtke was involved with retinal transplant research, along with Robert Aramant and Magdalene Seiler, who formerly worked at the University of Louisville. Their work was designed to help patients with Bryant's condition as well as what is known as dry age-related macular degeneration.

Bryant's surgery, which took place at Norton Audubon Hospital, involved implanting the fetal tissue into her left eye using a custom-made instrument with a flat plastic nozzle tip, the journal article said. Radtke said there were 13 patients in the clinical trial, and three had subjective improvements - Bryant's the most dramatic. Patients were studied after approval from the hospital and U of L's human studies committee as well as the U.S. Food and Drug Administration, the journal said.

"We're doing it the right way," Aramant said in a phone interview. Dr. Marco Zarbin, of the Institute of Ophthalmology and Visual Science in New Jersey, agreed Radtke and his team are being "very methodical."

Aramant said he sees hope for the future.

"These diseases are terrible for patients. They have always been regarded as incurable," he said. "This is the first time there is evidence we can reverse this incurable disease."

Bryant said she's glad to be more independent, although her vision is not perfect. In addition to reading and sewing, she paints ceramics and works in her yard.

"If this (research) is a complete success," she said, "it will give people a chance to have their eyesight back."

## **Questions raised**

But the procedure raises several ethical issues, said Arthur Caplan, director of the Center for Bioethics at the University of Pennsylvania.

Some people are against using any type of tissue from an aborted fetus, Caplan said. Some argue that using such tissue lends some legitimacy to abortion, or may even create an incentive for people to end pregnancies. And for researchers, he said, there's the question: "Are you complicit in it? Is Dr. Radtke contaminated by the immorality of it, if you believe it is immoral?"

Caplan said he believes it's important to put up a "firewall" between donors and researchers to take away any possible incentive for abortion. He said that seems to have happened in this case, because the donors were not approached by researchers until they had already decided to terminate their pregnancy and were not compensated.

Bryant said she personally doesn't believe in abortion. But she said it's going to happen whether it's legal or not. She said she thought about the fact that the tissue that restored her sight came from an aborted fetus.

"I realize this is a baby," she said. "But part of that baby's eye is in my body, so there's a part of it that's still alive."

#### AGE-RELATED MACULAR DEGENERATION

**What:** A disease that blurs the sharp, central vision needed for such "straight-ahead" activities as reading, sewing and driving. It is the leading cause of loss of vision in Americans 60 and older.

**How:** It affects the macula, the part of the back of the eye that allows fine detail to be seen.

**Details:** The disease advances so slowly that many people notice little change in their vision. In others, however, the disease progresses more quickly and may lead to a loss of vision in both eyes.

**Information:** [www.nei.nih.gov](http://www.nei.nih.gov)

National Eye Institute

#### RETINITIS PIGMENTOSA

**What:** A group of inherited eye diseases that affect the retina. Symptoms are most often recognized in children, adolescents and young adults.

**How:** It causes degeneration of photoreceptor cells that capture and process light. As these cells degenerate and die, patients experience progressive vision loss.

**Details:** While the effects can take various forms, some victims describe their vision as "looking through a straw."

Information:  
[www.blindness.org](http://www.blindness.org)  
Foundation Fighting Blindness

INFORMATIONAL GRAPHIC; THE OPERATION (SEE LIBRARY MICROFILM OR  
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Photos by Pat McDonogh, The Courier-Journal

Elizabeth Bryant of Louisville can now see well enough to perform many tasks, including painting ceramics.

Dr. Norman D. Radtke transplanted fetal tissue into Bryant's left eye as part of a clinical trial.

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