

Researcher finds revolutionary way to treat eye cancer

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Rare but devastating, eye cancer can strike anyone at any time and treating it often requires radiation that leaves half of all patients partially blind.

But a new technique developed by Scott Oliver, MD, assistant professor at the University of Colorado School of Medicine, may change all that.

Oliver has discovered that silicone oil applied inside the eye can block up to 55 percent of harmful radiation, enough to prevent blindness in most patients.

His findings, published in the July issue of the *Archives of Ophthalmology*, may revolutionize the way [eye cancer](#) is treated.

"If you get diagnosed with eye cancer you want to know, 'Is this going to kill me? Is this going to make me go blind?'" said Oliver, director of the Ophthalmic Oncology Center at the Rocky Mountain Lions Eye Institute on the University of Colorado's Anschutz Medical Campus. "I believe this treatment will allow you to keep your eye and keep your vision."

Oliver focused on choroidal melanoma of the eye or uveal cancer, the most common and dangerous form of a disease that strikes over 2,000 people each year. It can spread quickly to the liver and lungs which is often fatal. The cancer can occur in people of any age - fair skin and sun exposure are thought to be a leading cause.

Physicians often treat it with a technique called plaque brachytherapy. Surgeons attach a gold cap containing [radioactive seeds](#) to the white part of the eye. For one week the radiation slowly incinerates the tumor but it also causes long-term damage.

"Radiation injures blood vessels and nerves in the back of the eye," Oliver said. "Half of all patients are legally blind in three years in the treated eye."

In his quest to save their [eyesight](#), Oliver experimented with a series of substances that would block radiation from striking critical structures while allowing it to hit the tumor. He discovered that silicone oil, already used to treat [retinal detachment](#), could screen out a majority of harmful radiation.

"You don't have to block out all the radiation to protect the eye because the vital structures in the eye can tolerate low doses of radiation," he said.

Oliver experimented on cadaver eyes and tested the oil on animals in the laboratory and found no harmful side-effects.

"We are now at the point where we can embark on a clinical trial," he said. "This is a significant development in the way we treat this disease. In the past, we could save the eye with [radiation](#) but we saved vision only half the time. With this treatment, I believe we will do much better in the future."

Provided by University of Colorado Denver

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