



# UTHSC Startup OculoTherapy Develops Novel Therapies for Eye- Related Diseases



An innovative once-daily topical medicine promises to overcome the challenges associated with current glaucoma treatments by improving drug delivery. Developed by [Monica](#)

[M. Jablonski, Ph.D.](#), Professor in the Department of Ophthalmology in the College of Medicine at the University of Tennessee Health Science Center, this formulation inspired the launch of OculoTherapy, LLC. With support from UTRF, Dr. Jablonski aims to use her startup as a platform to further develop the formulation for commercialization.

Glaucoma is characterized by a buildup of pressure in the eye, which damages the optic nerve. It affects more than 3,000,000 people in the United States and is a leading cause of blindness in people over



multiple doses per day to keep their IOP low. In addition, the “yo-yo effect” of lowering and raising IOP can lead to additional stress and damage to the optic nerve.

To circumvent the issues associated with standard eye drop medications, Dr. Jablonski developed an extended release, once-daily topical microemulsion-based formulation that more effectively delivers a drug (in this case, pregabalin) deep into the eye. A bioadhesive component keeps the formulation in contact with the cornea for a longer duration, allowing the drug to gradually release and maintain a sustained lower IOP. Tests show this formulation reduces IOP by 40% and keeps it low for at least 24 hours. This meets the target of patients only needing a dose every 24 hours to keep IOP at a low, healthy level.



**Dr. Monica Jablonski**

Dr. Jablonski’s goal is to develop the formulation to a level where it can be licensed and brought to market. This motivation led her to found OculoTherapy, LLC in January 2014. Founding a startup provides Dr. Jablonski with opportunities she doesn’t have access to working in a research laboratory. This includes the ability to write



Innovation Lab Space, which gives her access to laboratory space and business development mentoring provided by Memphis Bioworks.

UTRF has been a huge source of support. Earlier this year, Dr. Jablonski received funding through the UTRF Maturation Fund to support further research and development of the formulation. She is also working closely with Dr. Lakita Cavin, UTRF Senior Staff Attorney, to navigate the patent process (the patent on the formulation is pending) and identify companies that may be interested in licensing the formulation.

*“Dr. Jablonski has developed a novel therapeutic that not only reduces IOP in glaucoma patients but makes it easier for them to stick with their treatment regimen,” says Dr. Cavin. “I look forward to seeing this formulation advance from lab to market where it can make a real difference for people who suffer from glaucoma.”*

Although her current focus is on glaucoma, Dr. Jablonski anticipates the formulation can be coupled with other drugs to treat a range of eye-related diseases, including age-related macular degeneration.



---

*treatment of eye-related diseases.”*

Currently, Dr. Jablonski is conducting a series of stability studies to determine shelf life and biodistribution studies to see where the formulation goes once a drop is placed in the eye. She also recently submitted an R24 grant through the National Institutes of Health that, if funded, would facilitate preparing the formulation for clinical trials. (This technology has also attracted the interest of more than one pharmaceutical company, with which UTRF and OculoTherapy, LLC have had several discussions about a potential commercial partnership. A potential partnership could bring additional funding and expertise to accelerate the path to market.)

**FILED UNDER: FEATURE STORY - UTRF NEWSLETTER, STARTUPS, UTHSC**

[ABOUT](#)

[TECHNOLOGIES](#)

[FOR INNOVATORS](#)

[INDUSTRY](#)

[MEDIA](#)

[CONTACT](#)



UT Tower 961A  
Knoxville, TN 37902  
Phone: 865-974-1882

910 Madison Avenue,  
Suite 827  
Memphis, TN 38163  
Phone: 901-448-7827



Copyright © 2023

## University of Tennessee Campuses & Institutes

[UT KNOXVILLE](#)

[UT CHATTANOOGA](#)

[UT SOUTHERN](#)

[UT MARTIN](#)

[UT HEALTH SCIENCE CENTER](#)

[UT INSTITUTE OF AGRICULTURE](#)

[UT INSTITUTE FOR PUBLIC SERVICE](#)

[UT ALUMNI ASSOCIATION](#)

[UT FOUNDATION](#)

[UT RESEARCH PARK](#)