



## **“OPEN YOUR EYES” TO A NEW WAY FOR TREATING CONDITIONS ASSOCIATED WITH BLEPHARITIS**

*Ophthalmologist Dr. Kathryn Najafi-Tagol is using NovaBay Pharmaceuticals' new Advanced i-Lid Cleanser™ to bring relief to hundreds of patients with uncomfortable conditions of the eyelids and eye lashes associated with blepharitis.*



Yet now, his eyes are dramatically better. The soreness, redness and swelling are all gone.

The secret? A year ago, Dr. Najafi-Tagol suggested to McCoy that he start using a new product from NovaBay, a biopharmaceutical company in Emeryville, Calif. Twice a day, he uses NovaBay's Advanced i-Lid Cleanser on his eyelids and skin around his eyes. The product contains pure hypochlorous acid 0.01% with no bleach impurities. It takes only a few seconds to apply and after only two weeks of use, Mr. McCoy reports that this i-Lid Cleanser completely eliminated the inflammation and redness of the eyelids. "His eyelids look great," says Dr. Najafi-Tagol. "For the entire past year, we haven't had to use antibiotics or steroids."

McCoy, still an avid bike rider at age 75, is happy. "It really works," he says.

And Preston McCoy is just one of hundreds of patients who are getting relief from i-Lid Cleanser. Dr. Najafi-Tagol sees many cases similar to Mr. McCoy's in her own practice in Marin County, which serves an elderly population that's particularly susceptible to the problem. Now, she routinely prescribes i-Lid Cleanser. "In my practice, it's made a huge difference," she says.

So far, the Advanced i-Lid Eye Cleanser is a bit of a well kept secret, used only by a few pioneering doctors like Dr. Najafi-Tagol. But that's about to change. Dr. Najafi-Tagol is planning to send out a letter to all of the nation's optometrists and ophthalmologists describing the benefits. And NovaBay will take the message to the upcoming meetings of the American Society of Cataract and Refractive Surgeons in Boston in late April and the American Optometric Association in June. "It's an important new tool in our toolbox for helping patients," says Dr. Najafi-Tagol.

It is also a key element in NovaBay's strategy of going "Beyond Antibiotics". The story starts back in the 1990s when Dr. Kathryn Najafi-Tagol's older brother, Dr. Ron Najafi, learned about an intriguing natural weapon against pathogens. When dangerous microbes first invade the body, immune system cells produce a potent anti-microbial chemical, pure hypochlorous acid, as a first defense against the microbes. After extensive research, Dr. Ron Najafi discovered that English chemist Henry Dakin and French surgeon Alexis Carrel had devised a version of pure hypochlorous acid known as Dakin's solution, which was used successfully to treat acute wounds of soldiers during World War I.

But like natural pure hypochlorous acid, the Dakin's solution is unstable. It is also contaminated with significant bleach impurities, which can be detrimental to soft tissue. So Dr. Ron Najafi, a chemist and entrepreneur, created a stable, pure formulation of hypochlorous acid with no bleach impurities and found that pure hypochlorous acid is 100 times more potent than equivalent Dakin's solution, as demonstrated in laboratory studies.

That's when his sister Dr. Kathryn Najafi-Tagol got interested. She had come to the U.S. from Iran with her parents in 1983 at age 15, and quickly learned English. She quickly found that her San Francisco high school "wasn't challenging enough," so she started taking college classes instead. She earned a degree in chemistry, decided to become a doctor after volunteering at a hospital, and became enthralled with ophthalmology and eye surgery during medical school at UCLA. "Helping patients by restoring their eyesight was extremely rewarding," she explains. Doing her medical residency in Brooklyn, she was called to the emergency room to evaluate a patient with a severe eyelid infection. The patient was eventually treated success-

For years, Preston McCoy had chronic eyelid inflammation highlighted by crusty lids and lashes and red, irritated eyes. "My eyes would get sore and swollen and red," he says. On a bike trip in Mexico, his eyelids swelled so much it was hard to see. "It was just really annoying," says McCoy, a retired systems analyst in Marin County, California.

McCoy is one of hundreds of thousands of Americans who suffer from this type of uncomfortable eye condition, which can be caused by bacteria or irritation from pollens. When his family doctor couldn't provide relief, McCoy went in to see an ophthalmologist, Kathryn Najafi-Tagol, M.D. She treated it with antibiotics and steroids. That brought temporary improvement, but didn't keep the condition from coming back year after year. Plus, Dr. Najafi-Tagol and McCoy worried about the effects of the drugs. The steroids could worsen his glaucoma by increasing the pressure in his eye, while the antibiotics could spur the bacteria to develop resistance. "It helped, but you just can't take antibiotics all the time," says McCoy.



fully with antibiotics, but Dr. Najafi-Tagol wondered if there might be a better approach. She remembered the potent antimicrobial version of pure hypochlorous acid that her brother had created. Could it work to treat eye conditions?

The first step in answering that question was proving that pure hypochlorous acid is safe to use on a sensitive organ like the eye. So in 1998, Dr. Najafi-Tagol got approval from her hospital to do a study in rabbits. She put pure hypochlorous acid, ordinary saline solution and antiseptics like Betadine in rabbit eyes, and monitored them closely for swelling, redness and other problems. The Betadine was very toxic. But the hypochlorous acid was just as benign as the saline solution. "The safety data were excellent," she says. She passed the data on to her brother Ron.

Dr. Najafi-Tagol's study was one of many hints that hypochlorous acid was a particularly promising treatment. So promising, in fact, that Ron Najafi started NovaBay in 2000 to commercialize it. He named the product, NeutroPhase™, and received FDA clearance to use it as an advanced wound cleanser.

Meanwhile, Dr. Kathryn Najafi-Tagol did a clinical fellowship at the prestigious Doheny Eye Institute at the University of Southern California, then started her own practice, the Eye Institute of Marin in Marin County in 2004. All the while, she was following the progress of NovaBay and NeutroPhase.

In early 2013, NovaBay's iLid Cleanser became available—and Dr. Najafi-Tagol immediately put it to use. Her first patient to get it was Preston McCoy. "I knew it was very safe, but I really didn't know if it would be effective," Dr. Najafi-Tagol recalls. McCoy took a bottle home and used it twice a day. A couple of weeks later, he called her up and asked for more. Months later, she realized he hadn't been in the office, so she asked to see him. The difference was remarkable. "He was doing great, and his eyelids looked fine," she says. And there was no more need for antibiotics or steroids.

As McCoy says: "It's a good product."



Dr. Najafi-Tagol now routinely recommends the use of NovaBay's i-Lid cleanser for better hygiene before cataract surgery. She also prescribes it to the hundreds of patients who come in with the symptoms of swollen eyelids, crusty gunk on the eyelashes and irritated red eyes. "It's been a great addition to my practice," she says.

Dr. Najafi-Tagol's pioneering work has shown that pure hypochlorous acid, with no bleach impurities, has medical and commercial potential as a lid and lash cleanser. The product is being formally introduced in April 2014 at the American Society of Cataract and Refractive Surgery. It costs about \$30 per bottle. A bottle lasts patients for about two weeks when used twice a day. "This not only will bring relief to thousands of patients who suffer from eye irritation, it also promises to be a significant market opportunity for NovaBay," says Kathryn's brother, NovaBay's CEO Dr. Ron Najafi.

Thanks to Dr. Kathryn Najafi-Tagol and NovaBay, thousands of patients with eye conditions – like Preston McCoy – may finally get some relief.

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