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Eye mist joins growing list of dry eye products

Using sterile tissue-culture grade water, Nature's Tears replenishes moisture to the tear film through a fine mist.

by **Jennifer Byrne**
Staff Writer

The growing armamentarium of products for the relief of dry eye syndrome now includes a tissue-culture grade water eye mist. Nature's Tears EyeMist (Bio-Logic Technologies, Grants Pass, Ore.) is a sterile, hypotonic, low-osmolarity, biocompatible water that is applied as a mist.

"The delivery system is half of what makes the product effective," said **William D. Mathers, MD**, a consulting ophthalmologist for Bio-Logic. "The other half is the unique characteristics of the water. It is the combination of these two factors that make the product what it is."

Tissue-culture grade water

According to **Sharon Fay Kleyne**, founder, chairman and research director of Bio-Logic, the decision to use tissue-culture grade water was based on lengthy research and observation.

Mrs. Kleyne originally specialized in the moisture requirements of the skin, and, in 1978, discovered a natural spring in Oregon's Rogue River Valley that yielded an all-natural, tissue-culture grade water. According to Mrs. Kleyne, this water had the ability to generate tissue-cell growth and promote eye and skin health.

"I found that it could do amazing things for the skin," Mrs. Kleyne said.

"Then, I was asked by doctors to take what I had learned with the skin and study the tear film and maybe address the problem of dry eye."

Mrs. Kleyne said she noticed that traditional eye drops contain more fluid than the tear film can absorb. When applied, she said, they flood the tear film, washing it away and exposing the aqueous layer to increased evaporation. "The conventional method tends to flood the tear film and dry the tear film out," she said. "There is not

"It is a very gentle process, and it allows the patient to tolerate pure water with no discomfort."

— **William D. Mathers, MD**



enough moisture in the air to supplement and help that eye drop."

She then enlisted the expertise of Dr. Mathers to study the effects of the Bio-Logic water on the tear film. "We found that the tissue-culture grade water was able to penetrate the tear

film, wash away toxins, lubricate the eyelid and alleviate the problem," she said.

Dr. Mathers said he was initially somewhat surprised at the efficacy of the product. "When I first thought about it, I thought that just replacing the water might be too simple," he said. "But the more I thought about it, the more I thought it might be very beneficial. The composition of this water is unique."

Dr. Mathers explained that the water contains some dissolved ions and has a slightly acidic pH level. "Both of these factors are actually beneficial," he said. "A few ions actually further reduce the osmotic shock, and they also give it that slightly acidic pH, which is also good. You really don't want alkaline water."

Delivery system

Among the most notable features of Nature's Tears is its method of delivery – in the form of a mist rather than a drop.

"I knew right from the start that the application with the mist would allow for a titration that you couldn't achieve with a drop," Dr. Mathers said. "I like that concept; it is really very different."

Dr. Mathers said each application of the mist provides a controlled amount of the product, which increases its efficacy.

"The artificial tear products on the market right now all use a fairly voluminous drop," he said. "The mist allows you to put 1 microliter into the tear film so that you get no osmotic shock. It is a very gentle process, and it allows the patient to tolerate pure water with no discomfort."

In addition, Dr. Mathers said the mist application is quick and convenient. "You can do this while

you're driving; you don't have to tilt your head back. If you have arthritis in your neck or hands, it is all right," he said.

Nature's Tears comes in a self-contained, non-aerosol canister, which preserves its sterility, Dr. Mathers said. "It is a pure water under pressure, so it remains sterile permanently with no additives," he said. "It has a shelf life of 5 years or more."

Trial results/patient satisfaction

Dr. Mathers said, at this point, in-house clinical trials have shown positive results. "About 85% of people have said they like this better than their artificial tear products," he said. "Patients tend to enjoy the sensation of the mist."

In a 2002 study to be published soon, *Mist supplementation of the tear film for dry eye*, by Dr. Mathers, P.Y. Paden, MD, and J. Oxford, PhD, Nature's Tears was reported by patients to be more effective (72%) and more convenient (84%) for relief of dry eye as compared to conventional therapy.

Dr. Mathers emphasized, however, that the product's effects go beyond palliative treatment. "The lower the osmolarity and the more flushing



Tissue-culture grade eye mist: Nature's Tears EyeMist applies 1 microliter of pure water to the eye without flooding the natural tear film.

action you get in the tear film, the better the health of the eye's surface," Dr. Mathers said. "Getting objective data on the efficacy of artificial tears is

almost impossible, but we do have strong theoretical support that, if used frequently, this product can improve the health of the whole lacrimal system."

Because Nature's Tears is not considered a drug, it does not require Food and Drug Administration approval, Dr. Mathers said. The product is currently being rolled out nationwide. ■

For Your Information:

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■ **Nature's Tears EyeMist** is available from Bio-Logic Aqua Technologies, 5001 Lower River Rd., Grants Pass, OR 97526; (800) FOR-MIST; fax: (541) 474-2123; Web site: www.NaturesTears.com.