

# OCULAR HEALTH AND PULMONARY ASSIST MACHINES

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Maintaining good ocular health and comfort is a challenge even under “ordinary” conditions. It is especially difficult when you use a pulmonary assist machine, such as C-PAP, BiPAP, etc., with a face mask, because such use can affect the stability of your tear film. A stable protective three-layer tear film is partially responsible for good vision and comfortable, healthy eyes.

We are most familiar with reflex tears, those watery tears you experience while watching a sad movie or cutting onions. If these reflex tears are present for no particular reason, the culprit is usually a dry eye condition. This exists when the other, more protective, and less familiar “tear” is absent, either due to reduced production or increased evaporation.

Numerous small glands in your eyelids produce the protective three-layer tear film that is

necessary for the health of the external surface of your eyes. If the tear film is absent, the external surface breaks down, which can be very painful and can increase the risk of severe infection, scarring, and loss of vision.

Using a pulmonary assist machine with a face mask can increase the rate of evaporation of your natural tear film, and will, at first, stimulate your reflex tears, causing your eyes to tear inappropriately. If other conditions are present that reduce the production of this valuable tear layer, an advanced dry eye condition can develop to the point that your eyes will not tear or water at all. The use of hormone replacement therapy that includes estrogen, allergy medications such as antihistamines and diuretics, and Rheumatoid arthritis and Parkinson’s disease are all associated with an advanced dry eye condition.

The treatment is similar in most cases. Over-the-counter artificial tear solutions of various compositions and thickness need to be used. The frequency of applying these solutions depends on the severity of the dry eye condition. Avoid those that “take the red out” and look for a bland lubricating product such as Refresh Tears/Gel or Thera Tears/Gel; Bion Tears or Tears Naturel Forte; Hypotears or Tears Naturel Free; Genteal Tears/Gel; and Refresh Endura. If artificial tears are needed more than five times a day, preservative-free solutions should be used.

In very severe conditions of dry eye, the tear drainage system can be modified, either temporarily or permanently, by using small plugs that fit inside the eyelids and/or the eyelids themselves can be sutured partially closed to further protect the surface of the eye from exposure and drying. ■

## Readers Write

My polio story has a very typical beginning, but a very different ending. As a child, I was diagnosed with polio and had two orthopedic surgeries on a “polio foot.”

I was active, even a bit athletic, in my 20s and 30s, but got lazy in my 40s. I noticed that my polio leg was slightly weaker, but I ignored the signs, planning to “get back into shape soon.”

At age 50, I finally decided to get into shape, trying to bike and jog short distances at first. It kept getting more difficult until I could not raise my right leg sideways at all! I had always assumed that polio had affected me only

below my knee. I turned to the Internet to learn about post-polio syndrome. I was careful to refrain from overuse, but noticed my arms becoming weaker, too.

Realizing that I might need to go on Social Security Disability eventually, I started doctoring to get a diagnosis of post-polio onto my medical records. Tests ruled out other problems until the MRI discovered lipomyelomeningocele, a congenital neural tube defect related to spina bifida, correctable with surgery! I turned to the Internet again and discovered that it causes orthopedic deformity just like mine – and just like polio. It took a few minutes to really sink in – I never had polio at all.

According to my neurosurgeon, overuse is not an issue; what I need to avoid until I have surgery is any jolting or bouncing moves, or stretching.

How could I have been so misdiagnosed? My mother was alone during a polio epidemic of the early ‘50s and she had no transportation to a hospital. I had become very sick with a fever, so she called the hospital and nurses told her to keep my legs in very hot water. At age five, the doctors, looking at my “polio foot,” pronounced that it had indeed been polio.

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