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TEAR ALONG PERFORATION



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If you wear soft contact lenses, you should know that using the contact lens solution system that provides the greatest comfort, safety, and effectiveness is one key to successful contact lens wear. Contact lens wearers must understand and properly use the solutions recommended by their eye care practitioners to avoid a variety of problems that can arise from improper use. When you have questions on what products to use or how to use them, you can ask your pharmacist for help.

Soft contact lenses (except for daily disposable lenses which are discarded after each use) require cleaning, rinsing, and disinfection each time they are removed from the eye and prior to reuse. There are two main types of lens care systems: multipurpose solutions (MPS) and hydrogen peroxide-based ( $H_2O_2$ ) systems. Each system has advantages and disadvantages. Issues that can influence your eye care practitioner's recommendation of lens care systems include the ease of use, length of disinfecting cycle, comfort, cost, and risk of adverse effects. The lens care system should be simple, effective, provide wearing comfort for life of the lens, and cause little risk of eye irritation. When lenses are fitted for the first time, eye care practitioners typically recommend a lens care system for the patient to try. If the wearer experiences problems with one system, an alternative system may be recommended. It is also common for contact lens wearers to change from one lens care product to another on their own. Being aware of some of the differences between products can be important to ensure your continued comfort and safety.

MPS solutions contain disinfecting ingredients to kill germs, surfactants to help clean debris from lenses, and wetting agents to provide lens comfort. Most MPS products require that lenses be cleaned prior to disinfection by rubbing the lens with your finger in the palm of your hand followed by rinsing, or simply by a 5 to 10 second rinsing step. After this cleaning step, most MPS products require 4 to 6 hour soaking period to disinfect the lenses, although one product, AQuify® Multi-Purpose Solution, allows for disinfection in just five minutes when preceded by rubbing and rinsing of the lenses. MPS products are never to be reused. The solution in the lens case must be discarded and new solution used each time lenses are disinfected. These MPS products are easy to use, but can be easily misused.

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## Contact Lens Care

The second main type of lens care solution is hydrogen peroxide-based solutions. The leading solution of this type is CLEAR CARE®, which contains 3% hydrogen peroxide and a small amount of surfactant to help clean the lens. This concentration of peroxide would irritate the eye if the solution is not neutralized prior to any contact with the eye. The CLEAR CARE® system includes a clear case with a platinum-coated neutralizing disc on the stem of the lens basket. CLEAR CARE® cannot be used with conventional lens cases used with the MPS products as the peroxide would not become neutral. When the platinum disc comes in contact with fresh CLEAR CARE® solution, the hydrogen peroxide reacts by bubbling as it is neutralized into a gentle saline solution over a 6-hour period. One can see the reaction at work through the case. The bubbling action helps to clean the lenses. CLEAR CARE® should be used to rinse lenses prior to soaking in the neutralizing case, but should never be used to rinse just before putting lenses on the eye. If un-neutralized CLEAR CARE® solution is accidentally used directly in the eye, the user will feel a strong stinging sensation and should rinse the eye out immediately with saline, if available, or with clean tap water.

There is some concern about effects on the eye if using certain MPS solutions in combination with the newest type contact lenses called silicone

hydrogel lenses. Reports of eye inflammation or irritation with certain combinations are currently being investigated to determine the frequency and significance of these interactions. Similar effects do not appear to be a concern with H<sub>2</sub>O<sub>2</sub> systems. Two brand name MPS solutions were recalled during the past 5 years due to association with corneal infections. These infections were caused by ineffectiveness of the disinfecting agent, when the products were misused. After studying these outbreaks, researchers have recommended these important steps to safe lens wear: cleaning and rinsing the lenses prior to storage, use of fresh solution (no “topping off”), use of appropriate solutions, keeping the lens case clean, and regular replacement of the lens case.

Contact lens wearers can be inclined to misuse any of these products in order to save time or money. As it was known that many wearers skipped the step of rubbing the lenses to clean them, solution manufacturers have developed and promoted use of “no rub” systems that replace the rub step with a 5 to 10 second rinse. Unfortunately most contact lens users are unlikely to perform a 10-second rinse before disinfection, but omitting this step, as well as the rub step, can leave too many germs on the lens to be killed by the disinfectant ingredient. This can put these lens wearers at risk for eye infection.

Another common mistake in lens care is using too little

disinfecting solution or “topping off” old solution in the lens storage case. This practice has been identified as a risk factor for developing serious eye infections. With either MPS or H<sub>2</sub>O<sub>2</sub> systems, the contact lens case typically should be emptied and left open to dry each time lenses are removed. (One exception is the ProGuard™ lens case that is supplied with AQUify® MPS. This case contains silver ions that



Examples of Multipurpose Disinfectant Solutions and Hydrogen Peroxide Systems

help reduce lens case contamination when used with AQUify MPS. It should not be used by persons with allergies to silver or other metals. In order to be effective this case must be rinsed out and closed tightly between use.) All lens cases should be replaced regularly to avoid build up of a bacterial coating, which can make the disinfectant less effective. Many lens care systems include a new case with each bottle of disinfection solution. It is a good practice to replace the case each time a new bottle of solution is opened.

Make sure you read and follow the directions that come with any contact lens product, especially when you are trying something new. Not all products work the same, and you can avoid some problems by simply using them as directed. Your pharmacist can recommend a contact lens cleaning, rinsing, and disinfecting system that suits your needs. ▀