

Optometrists' Recommendations on Contact Lens Solution

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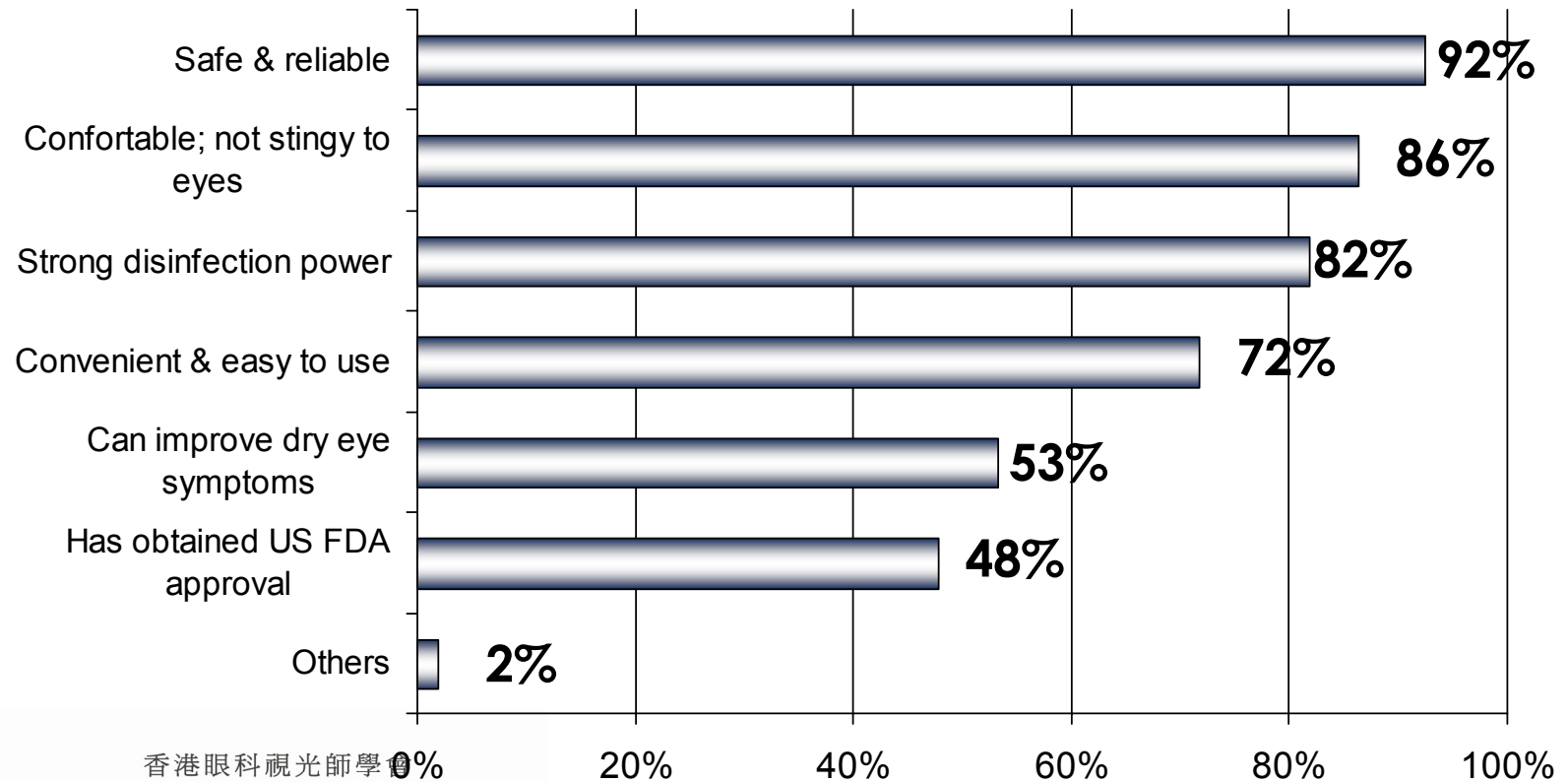


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Contact lens solution users yearned for safety & reliability

Q: What are your requirements of contact lens solution?



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Multiple samples : 503 (Multiple answers)

Contact lenses wearers neglected dry eye problem

- Close to 70% of contact lenses wearer respondents said they had experienced dry eye symptoms (such as sore & stingy)) when wearing contact lenses.
- More than 50% respondents had experienced a severe situation that their eyes were so dry that the contact lenses dropped out or moved (it showed that contact lenses wearers commonly have dry eye problem.)
- Contact lenses wearers expected high disinfection power from their contact lens solution, yet overlooked their dry eye problem and did not know that there might be an incompatible problem with contact lens solutions and silicon hydrogel contact lenses.
- In fact, incompatibility of contact lenses and solution may result in corneal staining and even worse, keratitis, which may claim sufferer's eyesight eventually.



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Wearing Contact lenses may cause dry eye



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Contact lenses: a key reason for causing dry eye

- Contact lenses form a barrier impeding oxygen from passing through the cornea. Natural tear is essential to keeping the lenses wet so as to allow oxygen to pass through.
- The new generation silicone hydrogel is made of a material with a higher permeability of oxygen, yet still requires tears for wetting the lenses. Severe dry eye symptoms may result during extended period of wearing.
- Air-conditioned environment would further aggravate dry eye symptoms, which include feeling dry, sore and gritty.
- Contact lenses wearer may commonly feel eye dry or sore, even worse, some of them may become light-phobic, experience temporary blurry or deterioration of eyesight, and suffer from reflective unhealthy tear secretion. At worst, the corneal cell may be damaged and stained (corneal staining) which may cost the eyesight eventually.

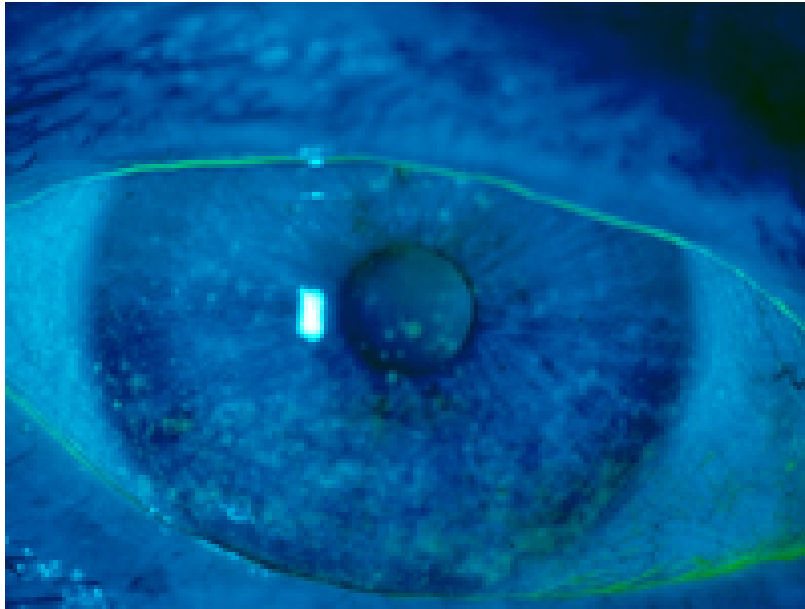


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Severe complication of dry eye



Damaged corneal cell

Damaged conjunctiva

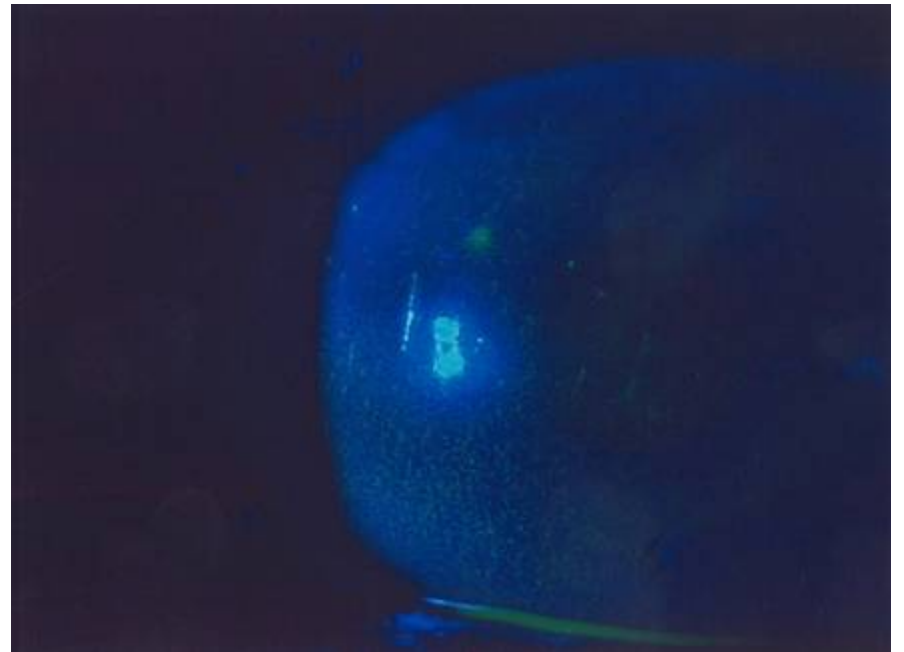
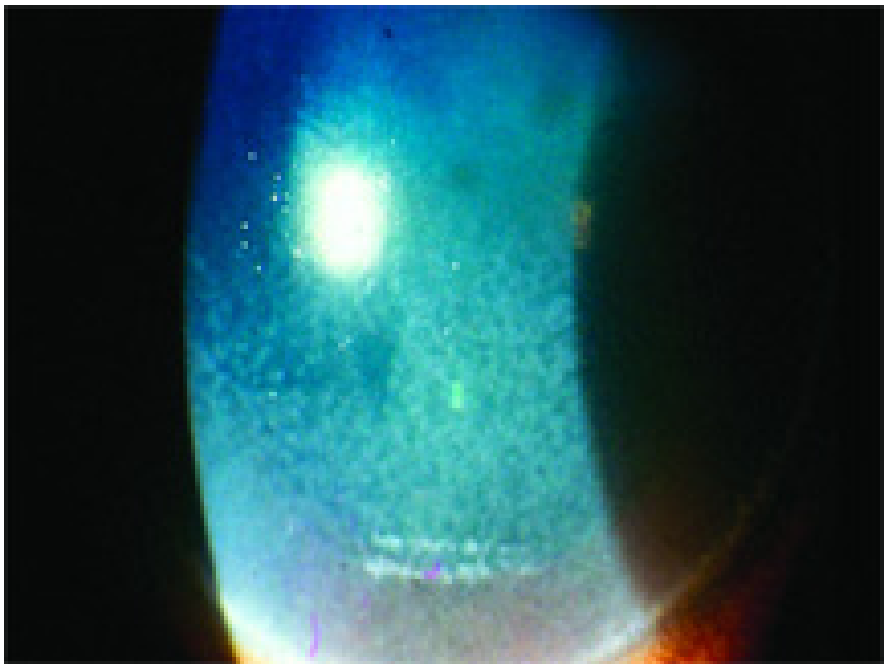


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Severe complication of dry eye: Filamentary Keratitis

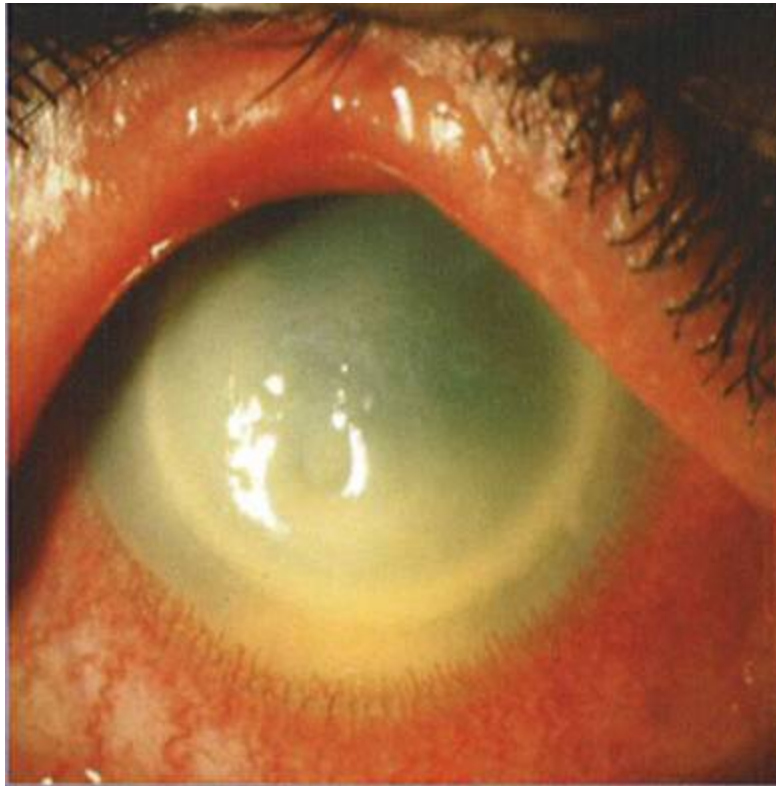


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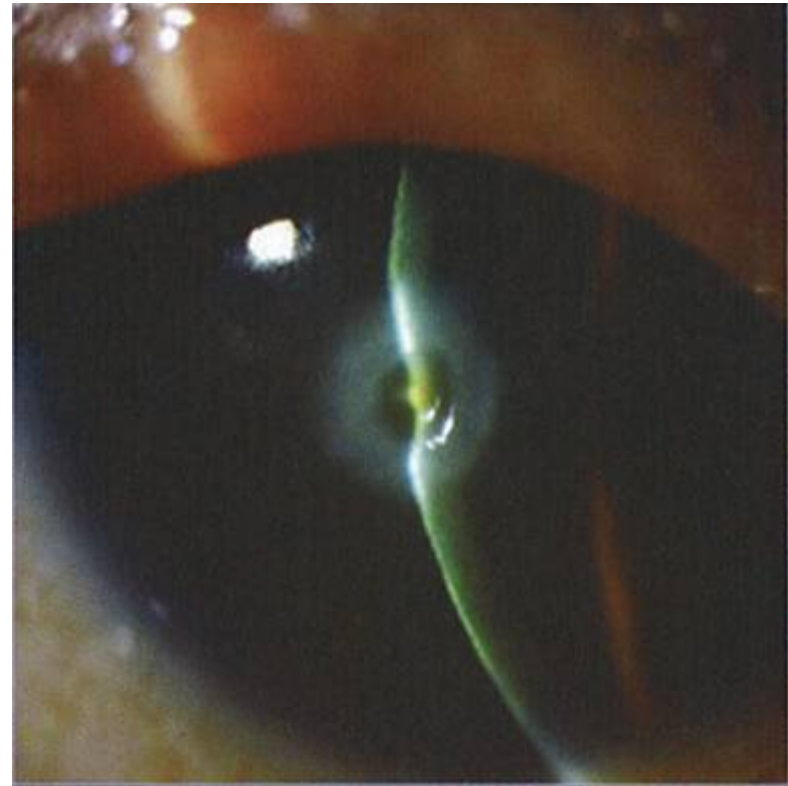
Severe complication of dry eye



Keratitis

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Corneal melting



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Using incompatible contact lens solution may worsen dry eye problem



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Using incompatible contact lens solution may worsen dry eye problem

- Demand of silicone hydrogel contact lenses with high oxygen permeability is on the rise. It is made of a material with a higher permeability of oxygen that provides comfy wear.
- However, a study reviewed that using contact lens solution with preservative **Biguanide**, to cleanse some silicone hydrogel contact lenses may result in compatibility and may even worsen the corneal staining.
- Corneal staining not only damage the surface of the cornea, but also the bottom layer as well, and may lead to keratitis which may claim sufferer's eyesight.

* Study revealed that only a particular contact lens solution with preservative **Biguanide** used in a particular silicone hydrogel contact lenses will not cause the above problems.



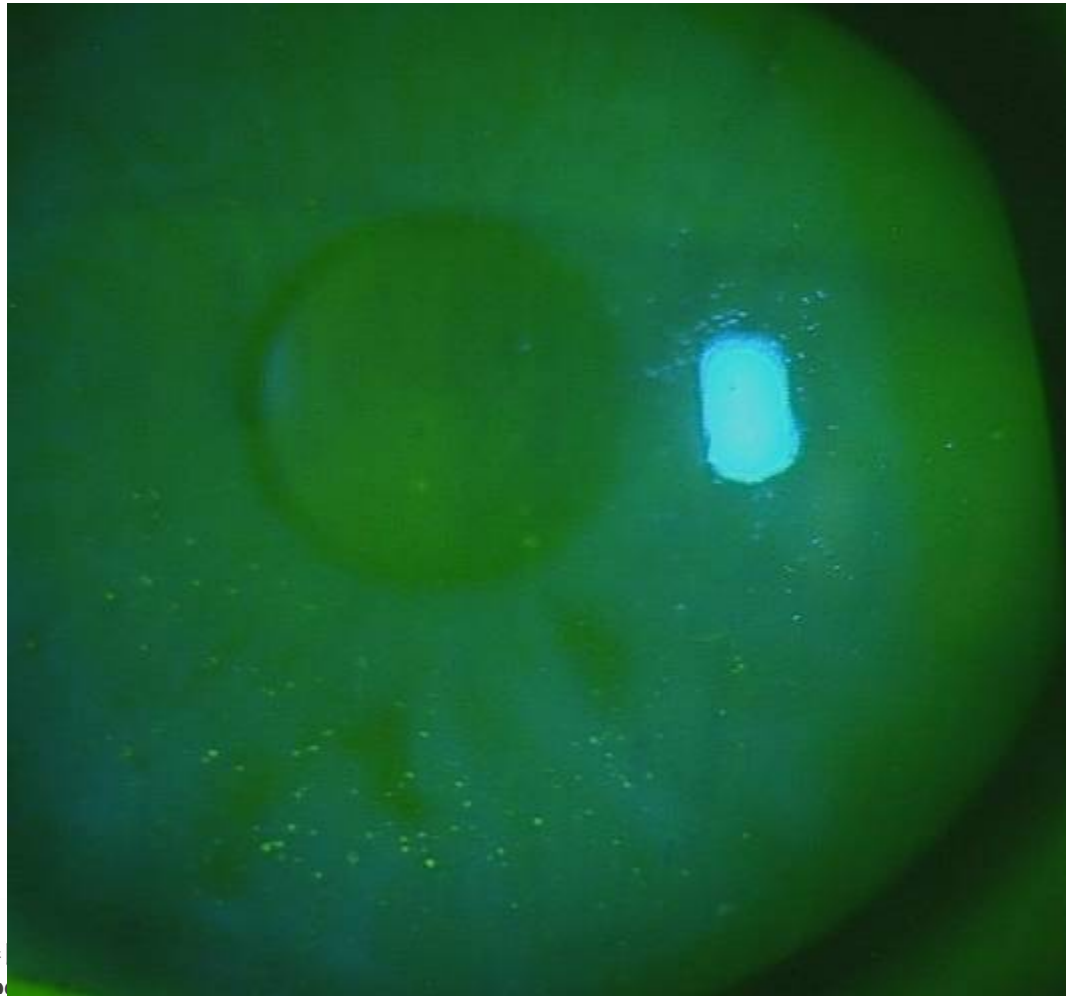
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Corneal Staining – Mild (<10%)

4%

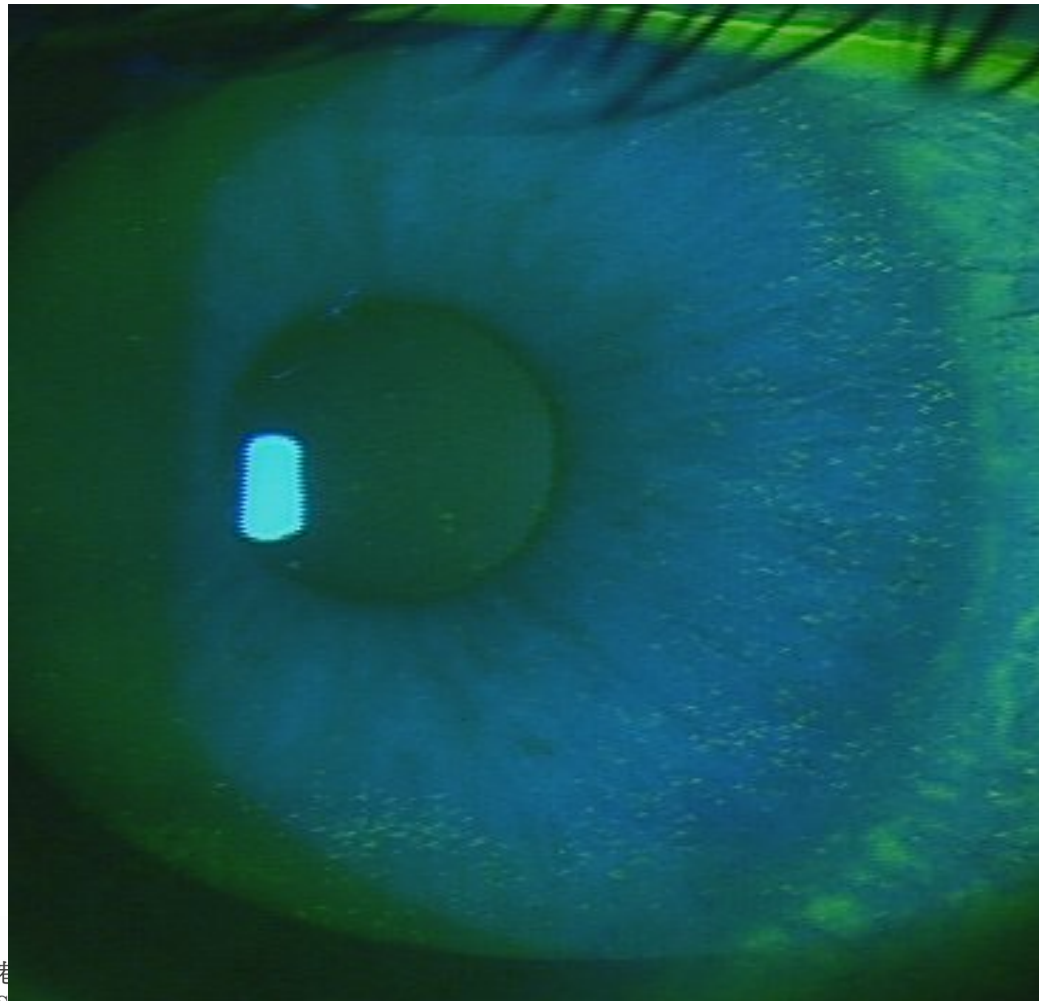


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Corneal Staining – Medium (10 - 20%)

18%



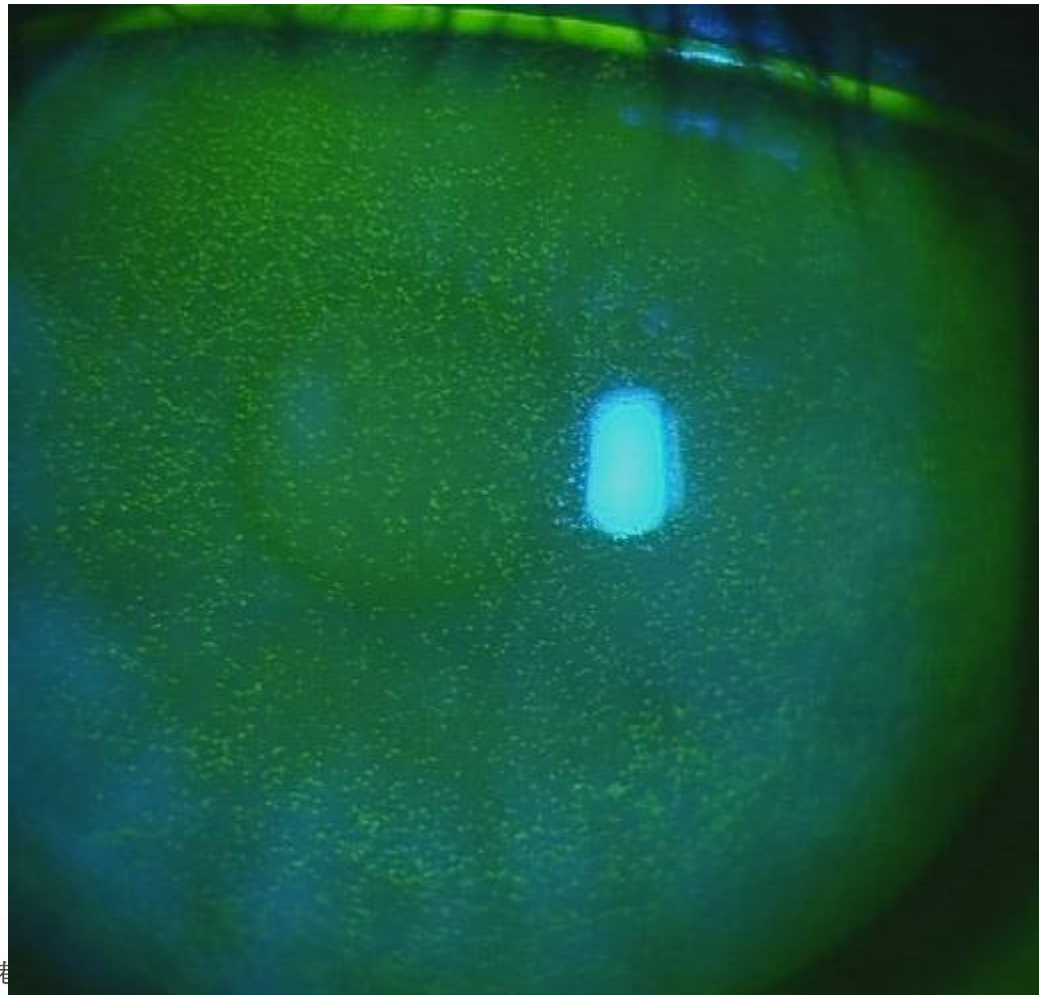
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Corneal Staining – Severe (>20%)

76%



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Preservatives in multifunctional contact lens solution

- Multifunctional contact lens solutions contain preservative for disinfection purpose. Their disinfection efficacy varies from type to type.
- 2 types of commonly use preservatives: **Polyquad** and **Biguanide**
- Using contact lens solution with **Biguanide** may lead to the following problems:
 - cause wearing discomfort if use to clean silicone hydrogel contact lenses
 - cause corneal staining
 - exacerbate dry eye symptoms

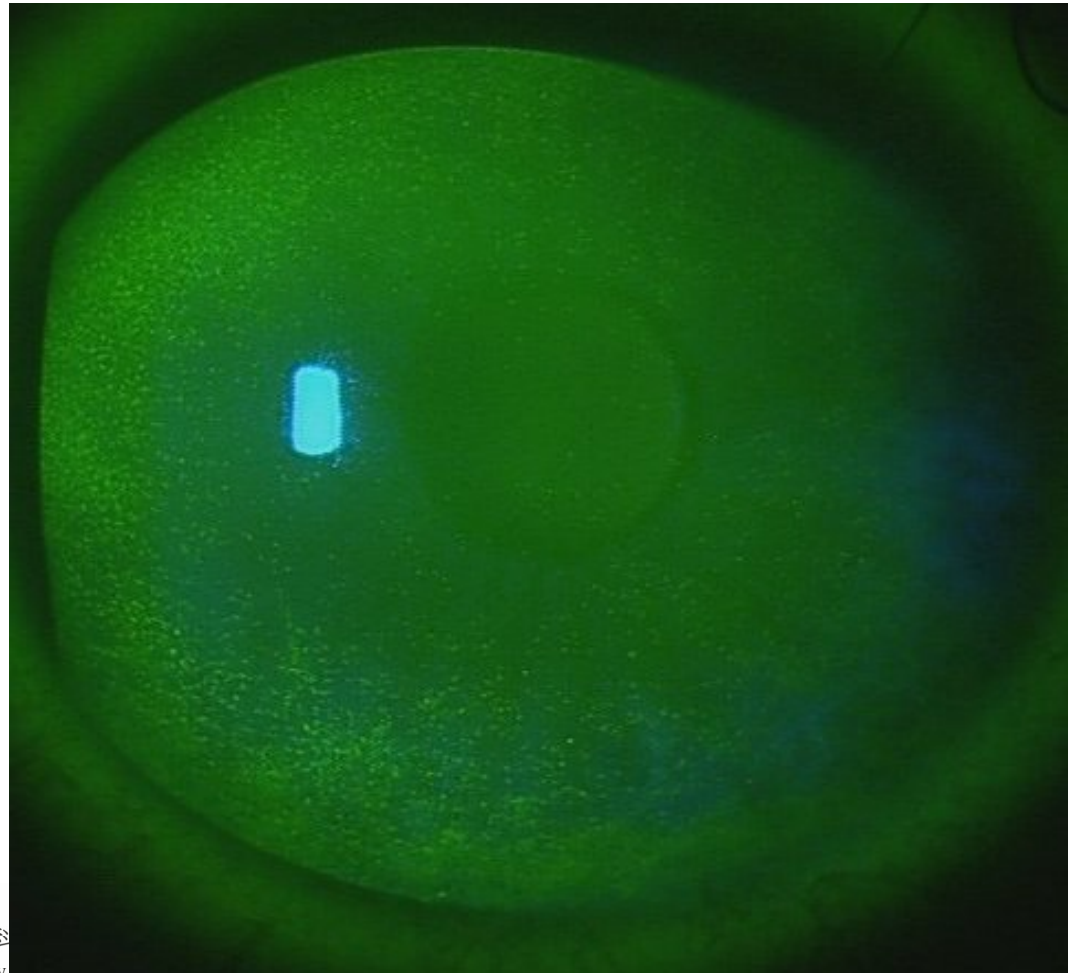


* Study revealed that only a particular contact lens solution with preservative **Biguanide** used in a particular silicone hydrogel contact lenses will not cause the above problems.

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Example 1: Wear of silicone hydrogel contact lenses + use of contact lens solution with Biguanide may lead to keratitis



Corneal Staining

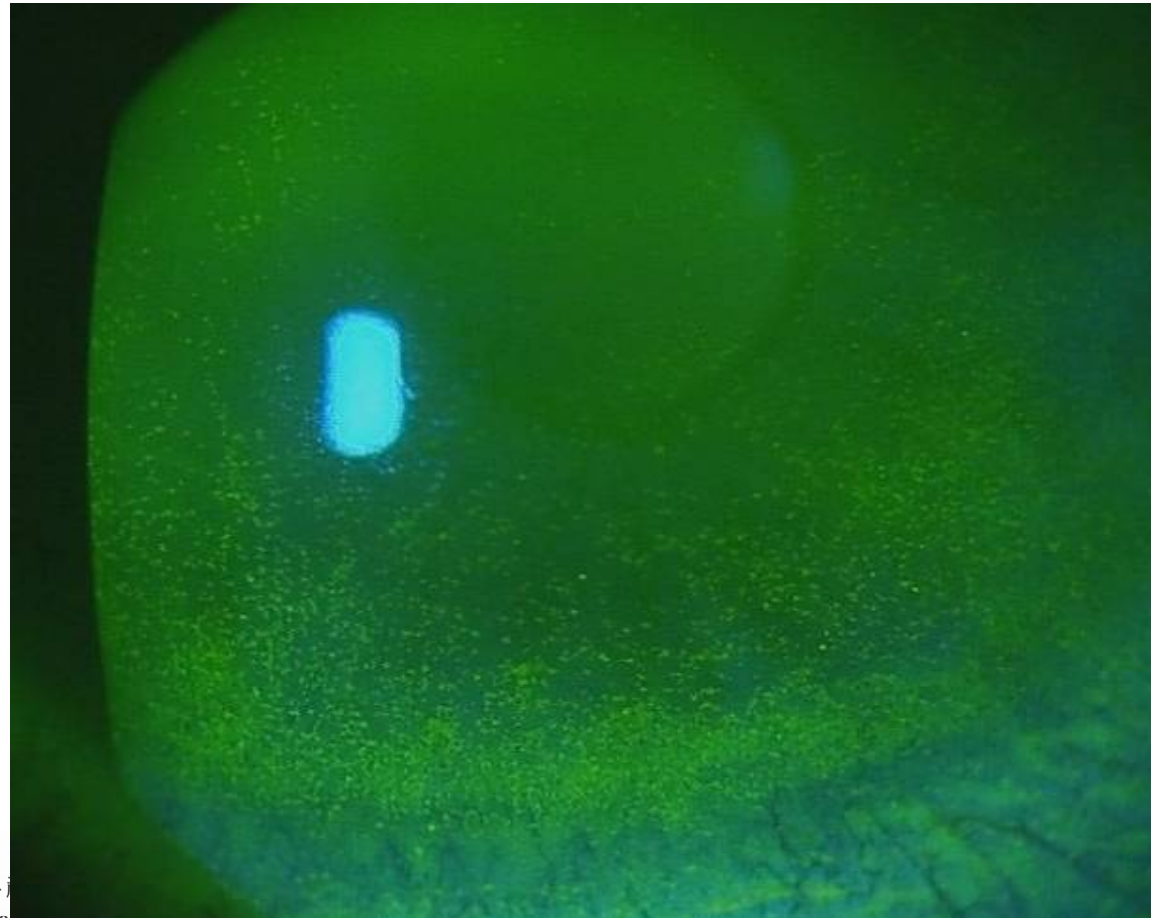


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Example 2: Wear of silicone hydrogel contact lenses + use of contact lens solution with Biguanide may lead to keratitis



Corneal Staining

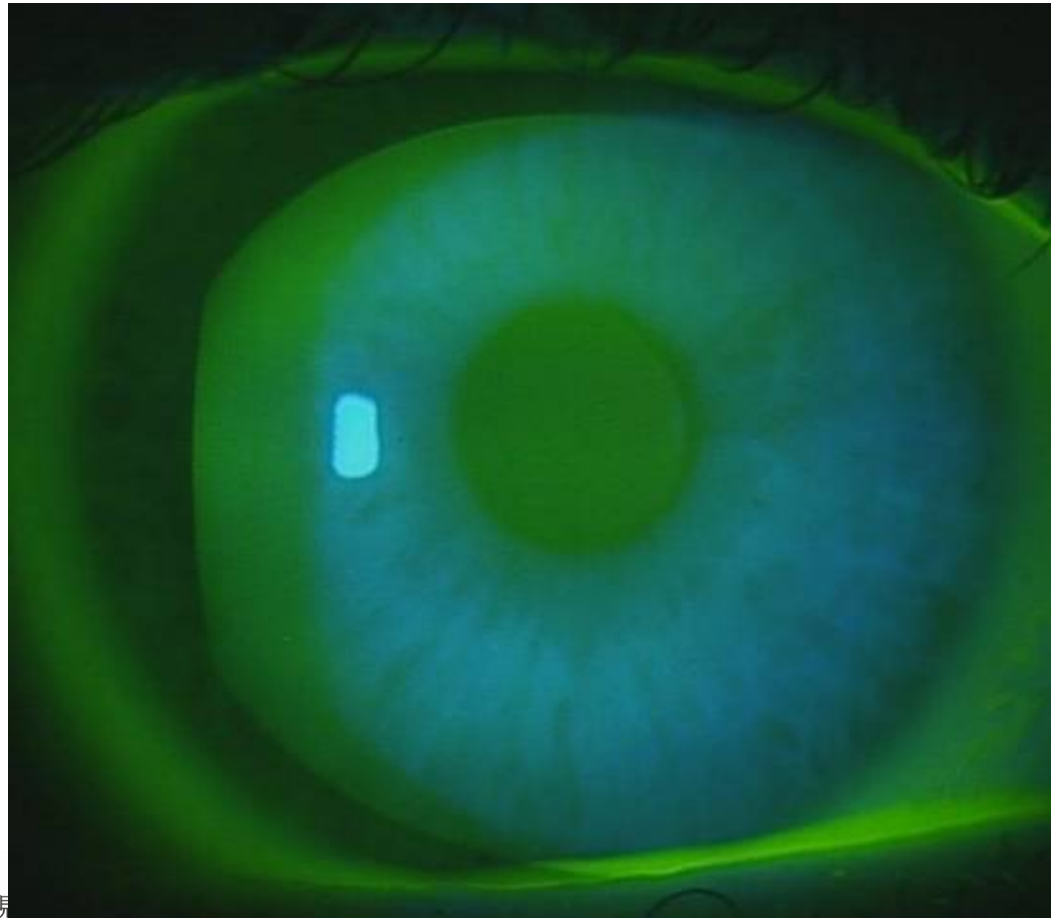


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Wear of silicone hydrogel contact lenses + use of contact lens solution with Polyquad will not cause corneal staining



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How contact lens solution provides long term wetting ability?

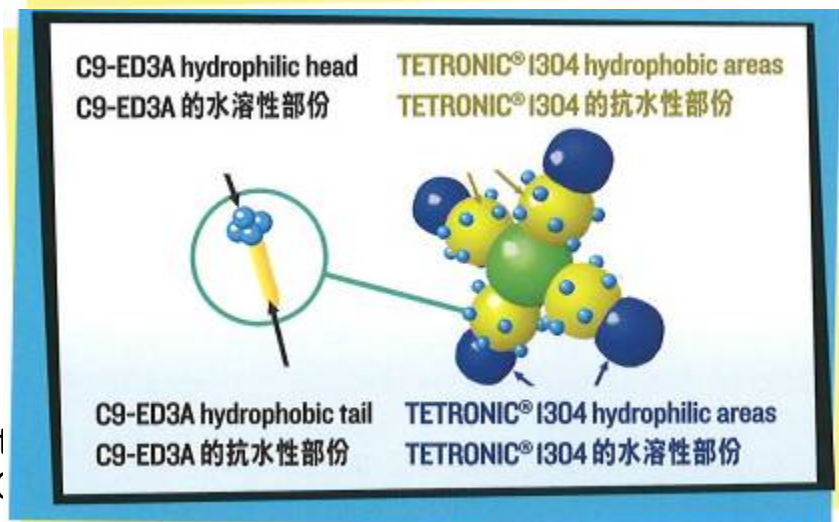
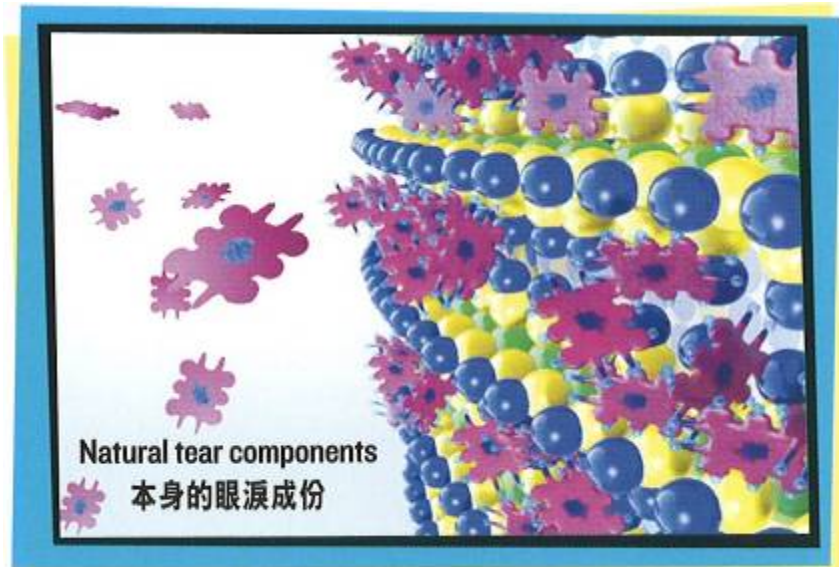


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Innovative ingredient TearGlyde[®] helps improve dry eye symptoms

- The innovative ingredient TearGlyde[®] works synergistically with wearers' natural tears components to retain moisture on the lens surface, it can lower the evaporation rate at the same time.
- TearGlyde[®] works with wearers' natural tears to allow a thin layer of moisture to be maintained on the lens surface throughout the day.

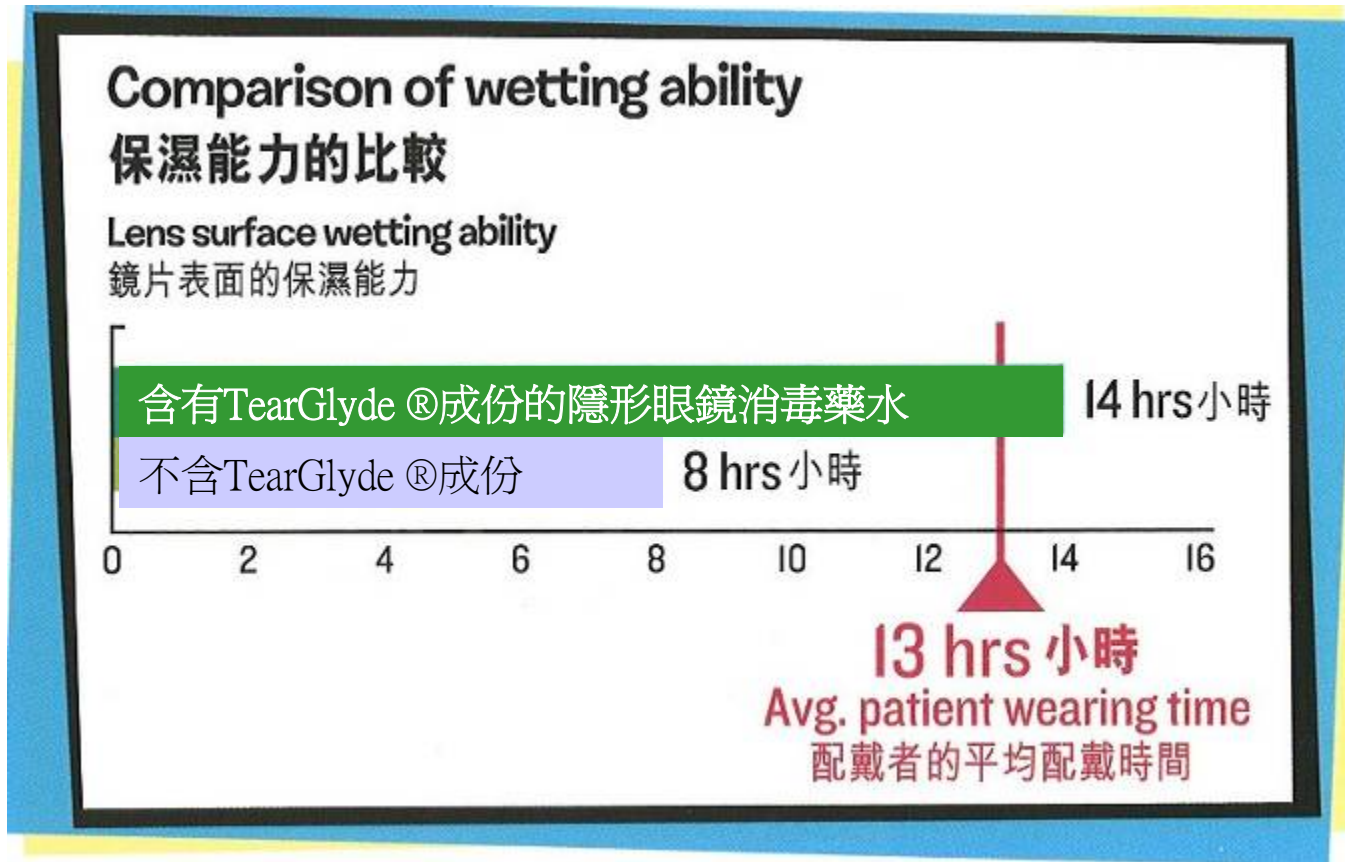


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Comparison of wetting ability

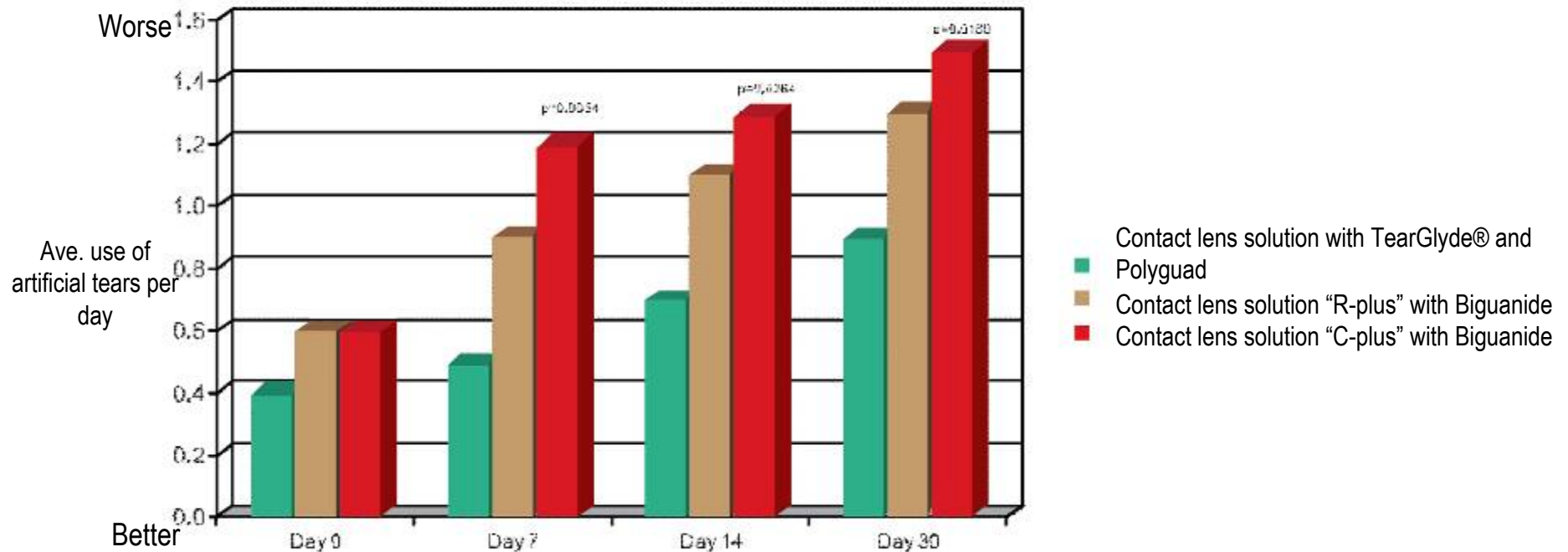


Study reviewed that by using contact lens solution with TearGlyde® , the wetting ability of the lens surface can last for up to 14 hours.

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After switching to multifunctional contact lens solution with TearGlyde®, use significantly fewer rewetting drops



Study proved that silicon hydrogel wearers need significantly fewer rewetting drops (artificial tears) throughout the day when switched to the contact lens solution with TearGlyde®.

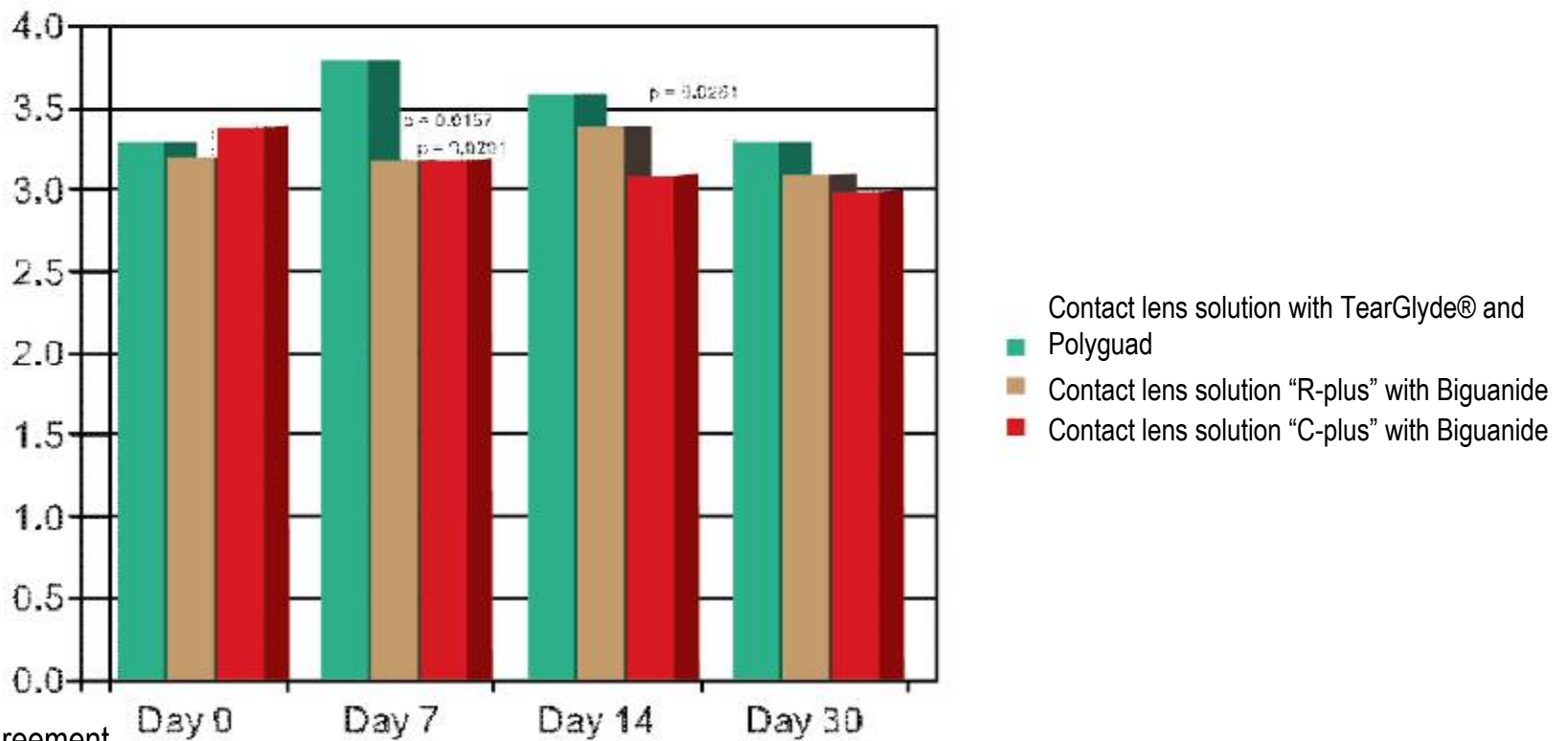


Source: *Clinical Evaluation of Silicon Hydrogel Lens Wear With a New Multipurpose Disinfection Care Product*
 The Hong Kong Society of Professional Optometrists
Eye & Contact Lens 33(5): 236 – 243, 2007

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End of the lens wearing day comfort can be achieved after switching to multifunctional contact lens solution with TearGlyde®

More agreement

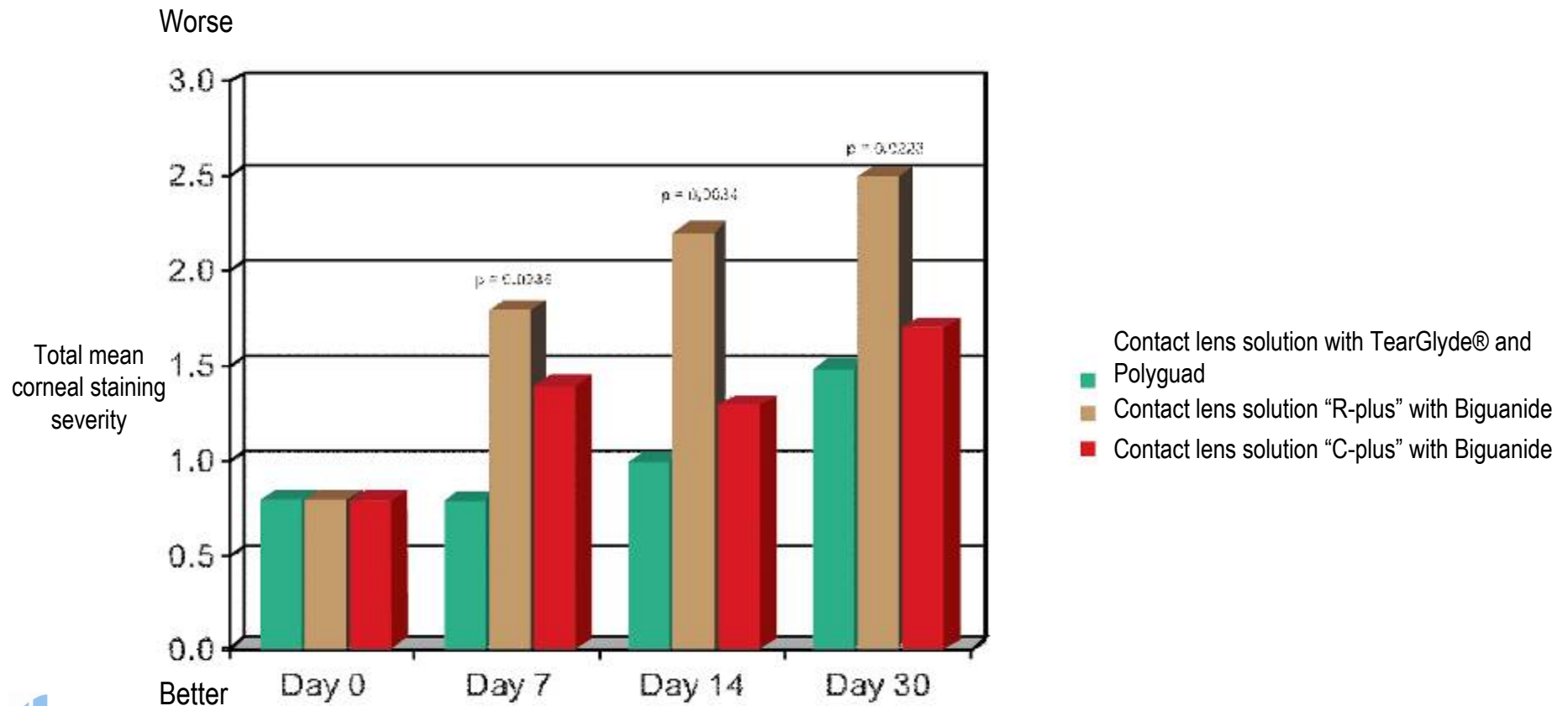


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Source: Clinical Evaluation of Silicon Hydrogel Lens Wear With a New Multipurpose Disinfection Care Product
Eye & Contact Lens 33(5): 236 – 243, 2007

Significantly less corneal staining after switching to multifunctional contact lens solution with TearGlyde®



Source: Clinical Evaluation of Silicon Hydrogel Lens Wear With a New Multipurpose Disinfection Care Product
Eye & Contact Lens 33(5): 236 – 243, 2007

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Innovative ingredient TearGlyde® helps improve dry eye symptoms

- Multifunctional contact lens solution with TearGlyde® contains double disinfection ingredients (Polyguard® & Aldox®) and it is Biguanide-free. It provides biocompatibility and reconditioning across all soft lens types that helps improve dry eye symptoms.
- The product was developed and produced in the U.S. and approved by the Food & Drug Administration (FDA).



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Recommendations on choosing multifunctional contact lens solution to improve dry eye problem



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Pay attention to both safety and wetting ability of contact lens solution

- Should pay attention to both safety and wetting ability when choosing a multifunctional contact lens solution.
- Should consult optometrists on the material of contact lenses and seek their professional advice
- Should opt for products that are approved by the Food & Drug Administration (FDA).
- Should choose a contact lens solution that promises long-lasting wetting ability and compatibility with contact lens materials.
- Should go for regular check up conducted by optometrists



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