

## **Keratitis: Corneal Inflammation**

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The cornea, that crystal clear watch glass-type structure on the front of the eye through which we all see as we look out of the world, defends itself from a hostile and outside world in unusual ways. Unlike the skin, which is bothered very little by a scar which results from the immune system creating inflammation to fight infection around a cut, the cornea is bothered enormously by an exuberant inflammatory response and scarring as a result of that. Indeed, scarring of the cornea is the number one cause of blindness worldwide. The primary cause of such scars is inflammation. Inflammation of the cornea is called keratitis.

Keratitis is a serious problem, with major potential for resulting in permanent loss of vision secondary to corneal scarring or loss of clarity of the cornea after the inflammation or keratitis has disappeared. Keratitis may occur as a result of a wide variety of stimuli, but by far the most common is infection. Interestingly, the most common microbe causing corneal infections is herpes simplex virus. This usually comes as a great surprise to most people, who associate herpes simplex virus either with a sexually transmitted problem or with the very common fever blisters and cold sores which people often experience. Indeed, herpes can infect the cornea, and it usually does so in exactly the same way that it infects an individual's lip or mouth when they are having an episode of fever blister or cold sore. Such an individual usually has not contracted the herpes recently, but rather is experiencing a recurrence or reactivation of herpes from its dormant, latent or hibernating state. The original infection or contact with the virus usually occurred many years ago, perhaps usually in childhood. For some unlucky individuals, when the virus "wakes up" from its state of hibernation in the trigeminal ganglion (perhaps because of fever or sunburn, trauma, or stress) rather than "marching" down the nerve twigs that supply the mouth and lips, instead it takes a "wrong turn" and marches down the nerve twigs which supply the eye, resulting in an episode of herpes infection of the cornea. Such infections have major blinding potential because of the aforementioned inflammation (keratitis) and resulting high probability of scarring of the cornea. The major initial symptom of herpes keratitis is light sensitivity, followed by pain, redness and tearing. Any of these signs and symptoms should stimulate a patient to seek an ophthalmologist's care immediately, since the earlier herpes infection of the cornea is diagnosed and treated, the less likely significant permanent damage to the cornea will occur.