

## **Corneal Ulcers (also known as Microbial Keratitis)**

A corneal ulcer is an open sore on the cornea, the clear dome overlying the iris (the colored part of your eye). A corneal ulcer is a sight threatening, urgent medical condition and should be treated by an ophthalmologist.

### **What causes corneal ulcers?**

There are many causes of corneal ulcers, including infection, injury, dry eyes, and improper contact lens use:

#### **Infections of the cornea**

The majority of corneal ulcers are caused by infections.

- Bacterial infections are the most common cause of corneal ulcers and are common in people who wear their contact lenses improperly.
- Viral infections are also potential causes of corneal ulcers. Such viruses include the herpes simplex virus (the virus that causes cold sores) or the varicella virus (the virus that causes chickenpox and shingles).
- Fungal infections can cause corneal ulcers and may develop with improper care of contact lenses or the overuse of eyedrops that contain steroids.

#### **Corneal Injuries**

Tiny tears or abrasions in the corneal surface may become infected and lead to corneal ulcers. These tears can come from direct trauma by scratches from metallic or glass particles striking the cornea; or scratches from eyelashes that turn inward and rub on the cornea. Such injuries damage the corneal surface and make it easier for bacteria to invade and cause a corneal ulcer. Other injuries could be from chemical burns or damaging fluids that splash in the eye.

#### **Severe Dry Eyes**

Severe dry eye can leave your eye without the germ-fighting protection of tears and may make the eye vulnerable to infection.

#### **Extended Wear Contact Lens Use**

People who wear contact lenses are at an increased risk of corneal ulcers. The risk of corneal ulcers increases tenfold when using extended-wear (sleeping overnight in your lenses) soft contact lenses. Contact lenses reduce the corneal defense mechanisms by:

- Most frequently, wearing contacts for extended periods of time can also reduce oxygen to the cornea, making it more susceptible to infections.
- Irregularities on the edge of a contact lens can scrape the cornea's surface and make it more vulnerable to bacterial infections.
- Tiny particles of dirt or makeup trapped underneath the contact lens can scratch the cornea.

- An improperly cleaned lens can trap bacteria against the cornea. If your lenses are left in your eyes for extended periods of time, these bacteria can multiply and cause damage to the cornea.

## **What are the symptoms of a corneal ulcer?**

- Red eye
- Pain in the eye that can become severe
- Light sensitivity (photophobia)
- A white or gray round spot on the cornea that is visible with the naked eye if the ulcer is large
- Feeling that something is in your eye
- Excess tearing and watery eyes
- Mucus type discharge draining from your eye
- Blurred vision

**You should see your ophthalmologist immediately if you are experiencing any of these symptoms, especially pain associated with decreased vision.**

## **What is the treatment for a corneal ulcer?**

Depending on the cause of the corneal ulcer the appropriate medicine, usually eyedrops, will be prescribed. They might be prescribed as frequently as every 15-30 minutes for the first few hours or day. The medicine will then be continued, but tapered in frequency based on the healing process. It is very important to use the drops exactly as your doctor instructs you and to make your follow up appointment to monitor for improvement.

Follow-up care will be continued, usually daily, until the ulcer shows signs of improvement.

Oral pain medications may be prescribed to control the pain. Pain can also be controlled with over the counter medications such as Naproxen Sodium (Alleve), Acetaminophen (Tylenol), or Ibuprofen.

In extremely rare cases, if the ulcer cannot be controlled with medications or if it threatens to perforate the cornea, an emergency surgical procedure may be necessary.

## **How can corneal ulcers be prevented?**

Seek immediate attention from your eye doctor for any eye pain that doesn't go away quickly. Wear eye protection when exposed to small particles that can enter your eye. Make sure to use your contact lenses properly.

If you have dry eyes or if your eyelids do not close completely, make sure to follow your eye doctors instructions for keeping your eyes adequately lubricated.

**Contact Lens Wearers**

If you wear contact lenses, be extremely careful about the way you clean and wear your lenses.

- Always wash your hands before handling your contacts. Never use saliva to lubricate your lenses because your mouth contains bacteria that can harm your cornea.
- Remove your contacts every evening and carefully clean them. Never use tap water to clean the lenses.
- Store the lenses in fresh disinfecting solution\_overnight. DO NOT store the lenses in saline.
- Remove your lenses when your eyes are irritated and leave them out until your eyes feel better or seek medical care.
- Regularly clean and replace your contact lens case.
- Replace disposable lenses timely as prescribed.

### **Summary**

A corneal ulcer is an ocular emergency and should be diagnosed and treated by an ophthalmologist. Without treatment, you risk permanent damage and vision loss. With proper treatment and careful monitoring, corneal ulcers should improve within one to three weeks.