

# Diagnosis and Treatment of Fungal Keratitis

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## DESCRIPTION

Fungal keratitis is a serious eye infection that affects the cornea, the transparent front part of the eye. It occurs when fungi invade the cornea, leading to inflammation, vision impairment, and potential vision loss if not promptly diagnosed and treated.

### Causes

Fungal keratitis is primarily caused by various species of fungi, including *Fusarium*, *Aspergillus*, *Candida*, and others. The infection typically occurs when the cornea is exposed to fungal spores present in the environment, such as soil, plants, organic matter, or contaminated contact lenses. Factors that increase the risk of developing fungal keratitis include trauma to the eye, improper contact lens hygiene, use of corticosteroid eye drops, compromised immune system, and living in tropical or agricultural regions. The symptoms of fungal keratitis can vary in severity, but commonly include:

- Eye redness and irritation.
- Eye pain, often described as severe or throbbing.
- Blurred or hazy vision.
- Sensitivity to light (photophobia).
- Excessive tearing or discharge.
- Corneal ulceration or white or yellowish spots on the cornea

### Diagnosis of Fungal Keratitis

Prompt and accurate diagnosis is crucial for effective treatment of fungal keratitis. An ophthalmologist will perform various tests and examinations, including:

**Patient history and symptoms:** The doctor will inquire about the patient's medical history, recent eye trauma or contact lens use, and the progression of symptoms.

**Slit-lamp examination:** Using a specialized microscope called a slit lamp, the doctor examines the cornea for signs of inflammation, ulceration, or other characteristic changes caused by the fungal infection.

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**Corneal scraping or culture:** A sample of the infected cornea may be taken through corneal scraping or culture. This sample is sent to a laboratory for identification of the specific fungal species responsible for the infection. This information is crucial for guiding appropriate treatment.

### Treatment

Fungal keratitis requires immediate medical intervention to prevent further damage to the cornea and potential vision loss. The treatment approach may involve:

**Antifungal medications:** Topical antifungal eye drops or ointments are the primary treatment for fungal keratitis. The specific antifungal agent prescribed depends on the identified fungal species. Commonly used antifungal medications include

natamycin, amphotericin B, voriconazole, and fluconazole. These medications are typically administered frequently throughout the day and may be continued for several weeks or months until the infection resolves.

**Corneal debridement:** In some cases, the ophthalmologist may perform corneal debridement, which involves gently removing the infected or necrotic tissue from the cornea. This procedure helps to eliminate the source of infection and facilitate the penetration of antifungal medications.

**Systemic antifungal therapy:** In severe or advanced cases of fungal keratitis, systemic antifungal medications may be prescribed alongside topical treatment. Oral antifungal drugs, such as fluconazole or itraconazole, are used to target the infection from within the body and help eliminate the fungal pathogens.