

# Microbial keratitis (a corneal ulcer)



## **What is Microbial Keratitis - a 'corneal ulcer'?**

Microbial Keratitis (MK) is an infection of the window of the eye called the cornea. It can be caused by a number of micro-organisms such as bacteria, viruses, fungi or even parasites. By far the commonest cause in colder climates such as Europe are bacteria. Viral infections are commonly caused by the Herpes virus family e.g. Herpes Simplex Virus (which causes cold sores) or Varicella Zoster Virus (which causes chickenpox or shingles). Fungal infections are more commonly seen in tropical climates but can occur in certain at risk individuals. Acanthamoeba is a parasite which contact lens wearers are more vulnerable to.

## **Risk Factors**

Contact lens wear

- Injuries including foreign and vegetable matter
- Use of steroid drops
- Use of drugs to suppress the immune system e.g. for rheumatoid arthritis
- Abnormalities of eyelids e.g. lashes turning inwards
- Previous corneal transplant
- Co-existing infection of the cornea e.g. herpes virus

## **How will it affect me?**

An infection can come about quickly, in a matter of hours, or more slowly over days. This can result in pain, redness, sensitivity to light, watering and blurred vision. An infection may result in destruction of the cornea leading to perforation of the eye or scarring leading to long term

reduction in sight. It is a serious, potentially blinding condition. It is imperative that the diagnosis is made quickly and that you are seen as early as possible by an ophthalmologist (eye doctor). You will usually be referred by your GP, optician or the accident and emergency department. It is critical that you are treated as early as possible. Our natural immune response for fighting off infection can sometimes have an unfavourable effect. The inflammation can cause the cornea to become swollen and cloudy, or cause new blood vessels to grow into the cornea, making vision worse. If left untreated the cornea is vulnerable to becoming thin and perforating.

### **How is it diagnosed?**

Your eye doctor will usually take samples from the cornea (a scrape) or swab from the surface of the eye to send to a laboratory. This can help in confirming the diagnosis, identifying which microorganism has caused your infection and guiding the best treatment to use. Unfortunately the tests may not prove positive even if the picture is convincing for MK. It is helpful if you keep your contact lens solution and contact lenses and bring them with you. These can be sent to the laboratory and may help guide treatment. Suffice it to say the contact lenses will not be returned

### **How is it treated?**

The treatment of MK depends on its severity. Infections of the eye surface are treated with intensive antiseptic drops or eye ointment. You will need to take these initially up to every half an hour day and night as directed by your doctor. This is because conventional tablets or injections of antibiotics will usually not reach the eye infection sufficiently, although you may be prescribed tablets as well. The first few hours and days are crucial to prevent the infection getting worse. If you

are unable to instil drops/ointment yourself or with the help of a friend or family member you may need to be admitted to hospital for treatment. You will be monitored closely with a review organised within a few days. Usually the antibiotics will be tapered if you respond to treatment but it is sometimes necessary to increase or change them depending on information from the laboratory or your response. If the deeper layer of the cornea is affected, called the stroma, then antiseptic treatment may not be enough. Steroid eye drops may be needed to reduce inflammation.

Note: steroid eye drops must be used under the supervision of an eye doctor, because although they improve inflammation, they can make infection worse.

### **Complications of disease**

Ulceration of the eye can be slow to heal and in rare circumstances cause a severe inflammation of the cornea, called melting. This is a serious complication and is more common with certain types of infection. It may require surgery to try and seal the ulceration, for example with the help of a special glue. Longer term, scarring and blood vessel growth may limit vision sufficiently for surgery to be considered to replace the front layer occasionally all layers of the cornea, a corneal transplant.

### **Complications of treatment**

Some antiseptics can cause the surface of the eye to become sore and with prolonged treatment they may prevent healing. Steroid drops can make the eye

vulnerable to the infection being treated or other infections. Steroid drops can also cause the pressure in the eye to rise, which in turn can cause damage to

the optic nerve at the back of the eye, a process called glaucoma or clouding of the lens in the eye, called cataract.

### **Monitoring the condition**

You will usually be monitored closely as an outpatient. It is essential to attend the ophthalmology clinic to monitor the eye. Subtle changes may not

be obvious to see or feel, and can only be detected by slit lamp examination or by specialist scans of the surface of the eye such as corneal topography

and optical coherence tomography (OCT). Regular follow up appointments are offered so that deterioration does not go unnoticed and can be treated early on. It may also be necessary to organise additional visits to an optician to help

optimise your vision, and this may include the use of specialist contact lenses as infection resolves.

### **General Advice**

- Stop wearing contact lenses during your acute infection or if you keep getting infections as they increase your risk of recurrence.
- Wearing sunglasses can make your eyes feel more comfortable during an attack.
- Steroid eye drops should only be used under close supervision of an eye doctor, as they can cause viral

infections to get worse by decreasing your eye's ability to fight infection.

- See an eye doctor as soon possible if you notice symptoms, so that the correct treatment can be started straight away to limit irreversible damage to the cornea.

### **Patient Experience**

Being admitted to hospital can be a worrying and unsettling time. If you have any concerns or questions you should speak to a member of staff in the ward or department who will do their best to reassure you. If you are not happy with their response, you can ask to speak to someone in charge.

### **Patient Advice and Liaison Service (PALS)**

Our PALS staff will provide advice and can liaise with staff on your behalf if you feel you are unable to do so. They will also advise you what to do if your concerns have not been addressed. If you wish to discuss making a formal complaint PALS can provide information on how to do this. Telephone: 0300 123 1732. Monday to Thursday 8.30am to 4.30pm. Friday 8.30am to 4pm.

An answerphone operates outside office hours. Or email us at: [wah-tr.PET@nhs.net](mailto:wah-tr.PET@nhs.net)

### **Feedback**

Feedback helps us highlight good practice and where we need to improve. There are lots of ways you can give feedback including completing a Friends and Family Test card or undertaking a survey. For further information please speak to a member of staff, see our Patient Experience leaflet or visit [www.worcsacute.nhs.uk/contact-us](http://www.worcsacute.nhs.uk/contact-us)

**If you would like this leaflet in an alternative language or format, such as audio or braille, please ask a member of staff.**

### **Polish**

Jeżeli są Państwo zainteresowani otrzymaniem niniejszej ulotki w innej wersji językowej lub formacie, prosimy zwrócić się w tej sprawie do członka naszego personelu.

### **Bengali**

আপনি যদি এই লিফলেটটি অন্য ভাষায় বা ফর্ম্যাটে পেতে চান যেমন, অডিও বা ব্রেইল তাহলে অনুগ্রহ করে সদস্য বা কর্মীদেরকে তা জানান।

### **Urdu**

اگر اس کتابچہ کو آپ کسی متبادل زبان یا ہیئت جیسے آڈیو یا بریل میں چاہتے ہیں، تو برائے کرم اسٹاف رکن سے مانگیں۔

### **Romanian**

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### **Portuguese**

Caso deseje este folheto numa língua ou formato alternativos, tal como ficheiro áudio ou em Braille, por favor dirija-se a um dos nossos funcionários.

### **Chinese(Mandarin)**

如果您想要本手册的替代语言或格式的版本，如音频或盲文，请向工作人员咨询

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