

## Acanthamoeba Keratitis

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Acanthamoeba species which are members of the Cosmopolitan protozoa known as Free-Living Amoebae (FLA), are causative agents of infections in humans including Acanthamoeba keratitis (AK).

Acanthamoeba keratitis (AK) is a severe infection of the cornea that could end in complete blindness if not diagnosed and treated early. Moreover, the most affected group of individuals are contact lens wearers (CLW). Nevertheless, AK has also been reported in non-contact lens wearers after corneal trauma. Among the symptoms experienced by AK affected people the most common ones are: photophobia, ring-like stromal infiltrate, epithelial defect and lid oedema. Furthermore, current available treatments and contact lens maintenance solutions are not fully effective against these pathogens. Furthermore, these amoebae are able to form a highly resistant cyst stage which allows them to survive harsh conditions and also current therapeutic agents.

Most of the described cases worldwide are related to CLW as mentioned above and could also be prevented by strict hygiene. Infections commonly occur after exposure of the lenses and/or their cases to amoeba-contaminated water. Furthermore, soft contact lens wearers are at high risk since amoeba adhere to the material of these lenses rapidly and avidly. Another group risk are casual CLW who only use them during sports practicing and/or for cosmetic purposes and do not follow correct cleaning of the lenses and their cases. From the prevention point of view, lenses should be cleaned and stored using maintenance solution and cases should be cleaned manually and properly dried.

In order to avoid Ak infections, awareness of the disease and also early diagnosis are the pathway for better outcomes worldwide. Nevertheless, the biology of this member of FLA still needs further studies. Moreover, fully effective anti-amoebic (including cyst) agents are needed.

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