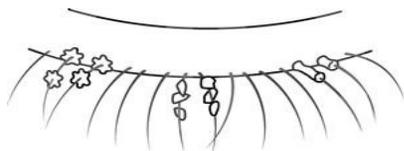


## What is Demodex?

**Demodex** is an 8-legged ectoparasite, meaning it lives on the surface of a host. It can live in hair follicles and sebaceous (oil) glands.

**Blepharitis** is a condition of eyelid inflammation that causes inflammation, as well as disruption in tear production.



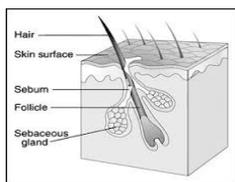
*Pictured: One of the primary observations made by an eye-care professional is collarettes around the eyelashes, prompting further investigation of demodex.*

Demodex infestation of the eyelids causes blepharitis. They have a life span of 2-3 weeks and lay about 15-20 eggs each in the eyelash hair follicle near the sebaceous glands. They consume epithelial cell cytoplasm by piercing through the cell membrane.

## Types of Demodex:

**Demodex folliculorum**– These Demodex cluster near the root of the lashes.

- 1) Causes follicular hyperplasia and subsequent keratinization near the base of the eyelash.
- 2) When the keratinization mixes with the oils of the eyelid, it causes a cylindrical dandruff associated with Demodex blepharitis.
- 3) About 0.4 mm in length.
- 4) Live in clusters.



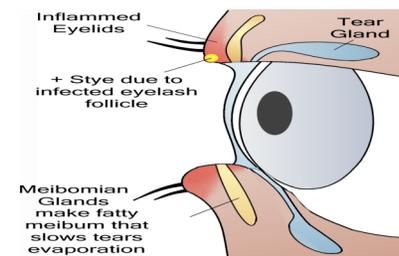
*Pictured: Skin, hair follicle, sebum, follicle and sebaceous gland*

**Demodex Brevis**– Present individually in sebaceous and Meibomian glands.

- 1) About 0.2 mm in length
- 2) Meibomian glands are a type of sebaceous gland that release meibum, an oily substance that prevents evaporation of the eyes tear film

Can manifest as eyelid inflammation, chalazions, and chronic conjunctivitis

## Symptoms and Diagnosis:



- 1) Eyelashes will have clear, tubular cuffs, called collarettes, that are attached to the eyelid margin and encircle the eyelash base that look like cylindrical dandruff.
- 2) Eyelid and eyebrow itching
- 3) Eyelash loss
- 4) Burning in the eyes
- 5) Foreign body sensation that seems to originate beneath the lashes.
- 6) Brittle and easily epilated eyelashes

When cylindrical dandruff is seen by the doctor using a slit-lamp, it is usually indicative of Demodex. In order to diagnose Demodex, an eyelash is removed and observed under a microscope.

### **Treatment:**

A full debridement of lashes and eyebrows is done using a cotton tip applicator soaked in 20-50% tea tree oil solution. This irritates the mites and stimulates them to leave the eyelash follicle.

This process is repeated after 10 minutes.

The eyelids are treated with antibiotics and steroids. These prevent mites from moving and possibly suffocate them.

The steroid treatment specifically helps calm the inflammation that results from the irritation of the procedure. It also suppresses possible inflammatory cascade associated with the decaying mites.

### **Important Instructions:**

- ⇒ Return for a two week repeat treatment
- ⇒ Use eyelid scrubs every night to clean the eyelashes
- ⇒ Remove all sheets and pillowcases and wash, drying on a high setting.
- ⇒ Discard pillows
- ⇒ Discard makeup and do not wear makeup for one week
- ⇒ Use tea tree soap to wash your face and a tea tree shampoo for your hair
- ⇒ Make an appointment for your spouse or partner to be evaluated



## Mid-Atlantic Cornea Consultants

**Sudeep Pramanik, MD, MBA, FACS**  
**Angelique Pillar, MD**  
**Sarah Bell, OD**  
**Deena Ghazzi, OD**

[www.midatlanticcornea.com](http://www.midatlanticcornea.com)

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**Demodex**

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