

Infections of the eye and surrounding structure

- Indigenous eye flora and natural barriers to infection
- Diseases and syndromes
 - . Conjunctivitis
 - . Keratitis
 - . Endophthalmitis
 - . Orbital cellulitis
- Organisms that infect the eye and surrounding structures

Bacteria

- . *Staphylococcus aureus*
- . *Streptococcus agalactiae*
- . *Streptococcus pyogenes*
- . *Streptococcus pneumoniae*
- . *Haemophilus influenzae*
- . *Haemophilus aegyptius*
- . *Pseudomonas aeruginosa*
- . *Neisseria gonorrhoeae*
- . *Moraxella lacunata*
- . *Chlamydia trachomatis*
- . *Bacillus cereus*

Fungi

- . *Candida spp.*
- . *Aspergillus spp.*

Viruses

- . *Herpes simplex virus*
- . *Varicella-zoster virus*
- . *Adenoviruses*
- . *Cytomegalovirus*

Parasites

- . *Toxoplasma gondii*
- . *Acanthamoeba spp.*

Laboratory Examination of Eye Swabs

Day 1

Routine Investigation

Additional Investigation

1. Culture the specimen

Inoculate:

- **Blood agar** (incubate aerobically)
- **Chocolate agar** (incubate in CO₂)

Inoculate:

- **GC**, if gonococcal conjunctivitis is suspected

2. Examine specimen microscopically

Examine:

- **Gram smear**
Look for pus cells and bacteria

Examine:

- **Giemsa smear**, if *C. trachomatis* is suspected
- **Fluorescein-labelled monoclonal Abs** against *C. trachomatis*

Day 2 and Onwards

3. Examine culture

Examine the cultured plates for:

- Staphylococcus aureus*
- Beta-haemolytic streptococci*
- Streptococcus pneumoniae*
- Haemophilus influenzae*
- Haemophilus aegyptius*
- Pseudomonas aeruginosa*
- Neisseria gonorrhoeae*

Examine the GC culture for:

- Neisseria gonorrhoeae*

4. Confirm your finding, perform antibiotic sensitivities and report the results