

TRACHOMA



MODERATOR- DR K.D. SARMA

PRESENTER- DR BARUN GARG

INTRODUCTION

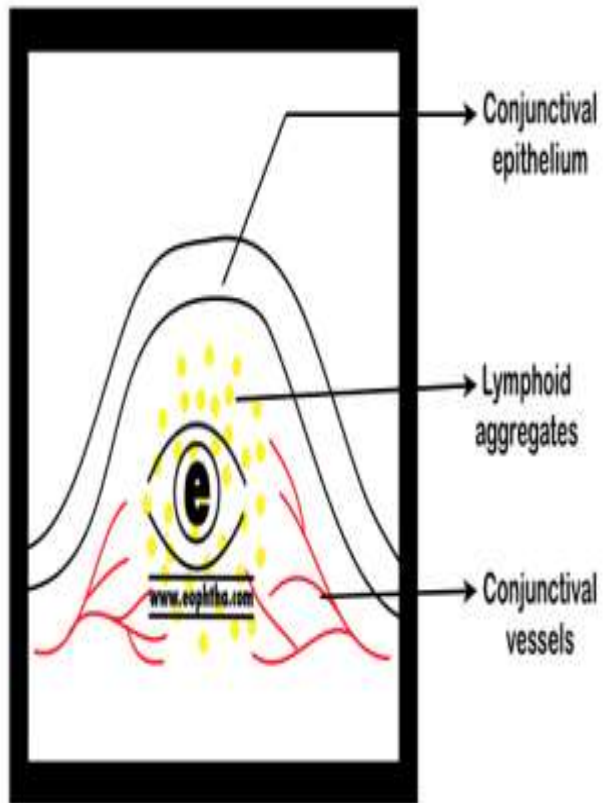
- Leading cause of infective blindness globally
- >150 million people have been affected
- Associated with poor hygiene and inadequate sanitation
- Recent estimates show 59 countries are endemic and India has high burden
- Egyptian ophthalmia , north western belt of india

DEFINITION

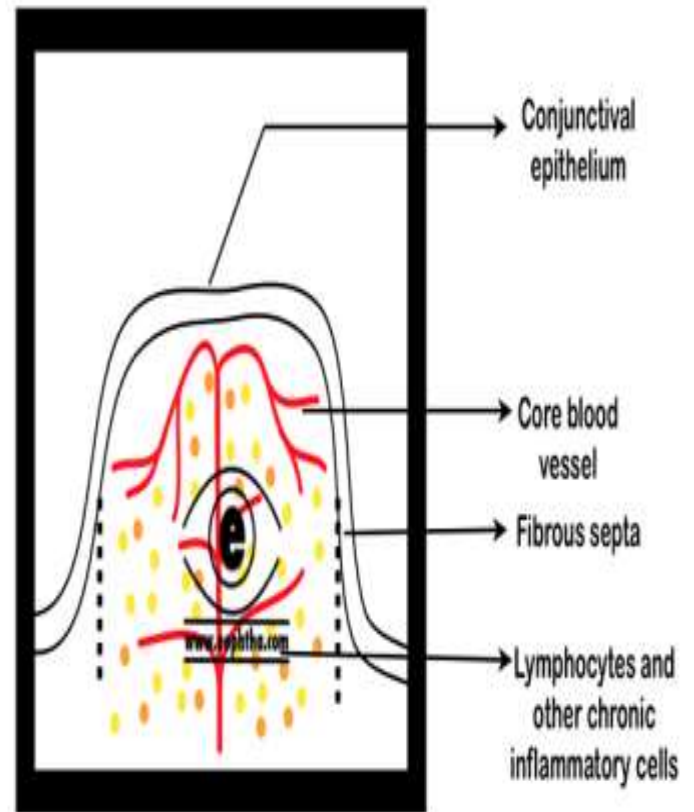
- Chronic granulomatous **kerato-conjunctivitis**
- Caused by Chlamydia trachomatis (A,B,Ba,C)
- Mainly affects children at early age who develop blindness later
- Cause of 3.6% of global blindness(WHO)
- Highly contagious
- Spread by transfer of conjunctival secretions through fingers, towels, flies etc

PATHOLOGY

- **C. Trachomatis**- prokaryotic, obligatory intracellular parasite
- **Halberstaedter-Prowazek** inclusion bodies– in epithelial cells of conjunctiva(not pathognomic)
- Primary infection- epithelia of conjunctiva & cornea
- Diffuse inflammation- congestion, papillary enlargement, follicles
- Recurrent infection- type IV hypersensitivity to Ag

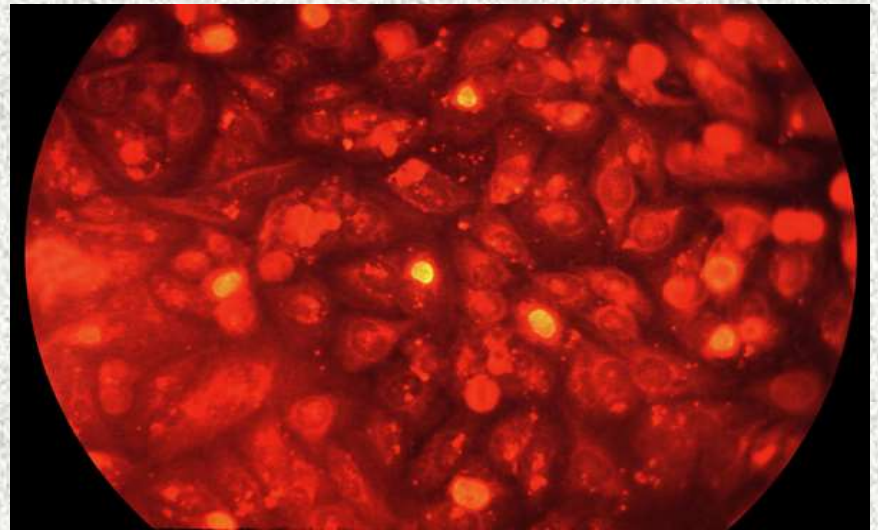
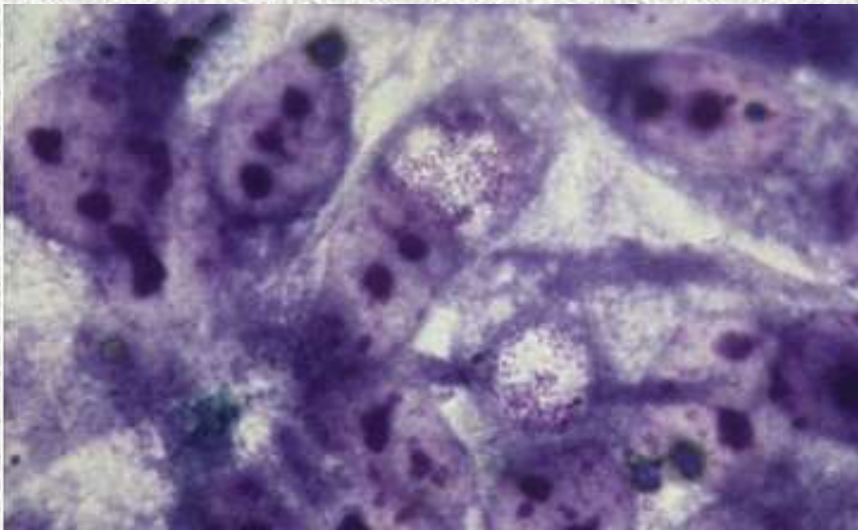


Conjunctival Follicle

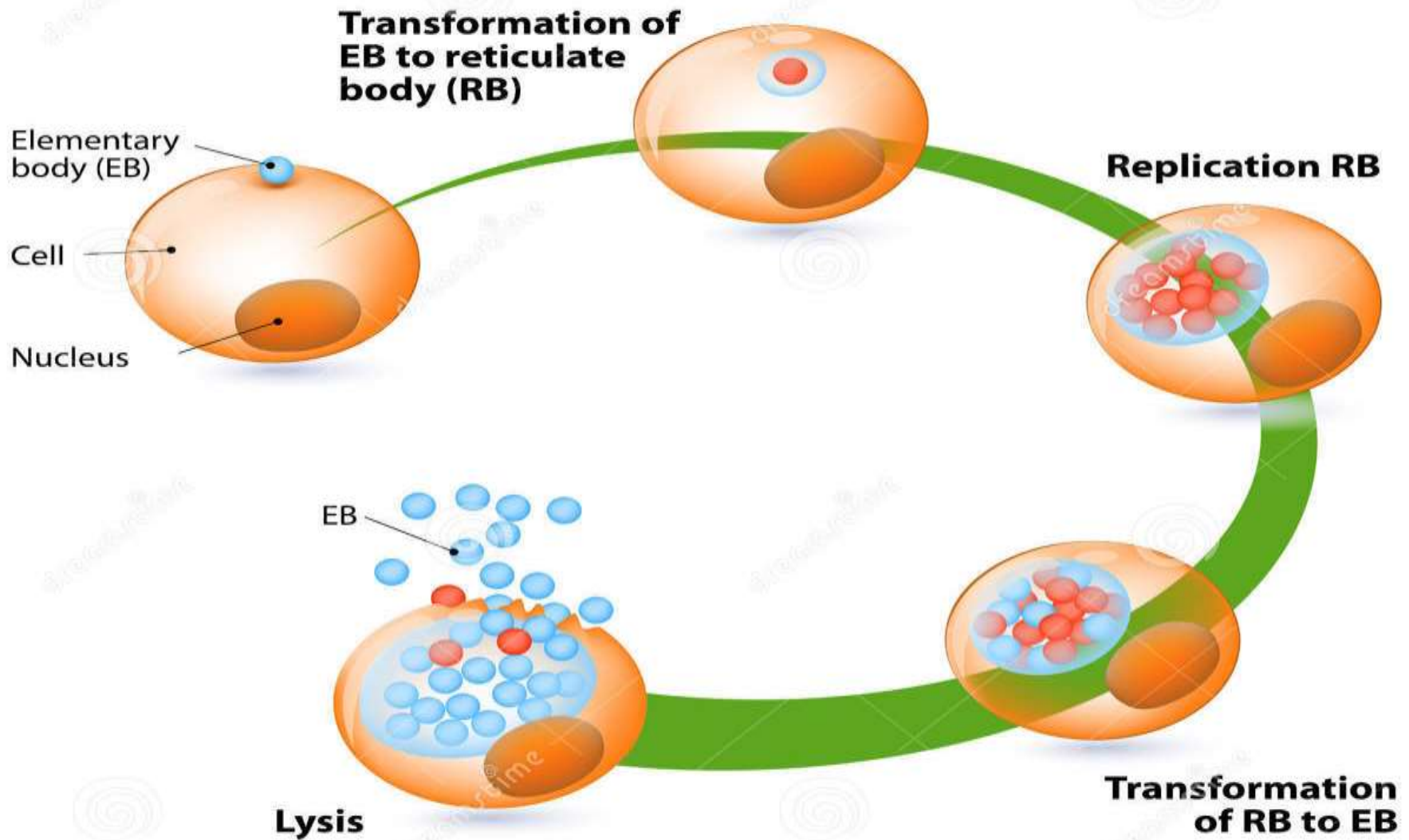


Conjunctival Papilla

- Lymphocytic infiltration of adenoid layer
- **LEBER** cells – necrosed and multinucleated giant cells
- **Cicatricial bands**- in late stages, characteristic
- **Arlt** line- white conjunctival scar at junction of lower third and upper two-third of superior tarsus, characteristic



LIFE CYCLE OF THE CHLAMYDIA



RISK FACTORS

➤ 6 D's

- Dry
- Dusty
- Dirty
- Dung
- Discharge
- Density (crowding)

TRANSMISSION OF TRACHOMA

➤ 5 F's

- Fingers
- Flies
- Face
- Faeces
- Fomites

PREDISPOSING FACTORS

- Age- more in infancy/ childhood
- Sex- commoner in females
- Dry and dusty environment
- Low socio economic status, unhygienic conditions, lack of sanitation

SPREAD OF INFECTIONS

- DIRECT- contact with airborne or waterborne infections
- VECTOR- flies (*Musca domestica*)
- MATERIAL- most important



CLINICAL FEATURES

- Incubation period- 5 to 21 days
- Onset – subacute , but on massive outbreaks can be acute
- **Symptoms** – watering, fb sensation, redness, mucopurulent discharge, photophobia, blurring, mild pain

➤ Signs –

- Upper tarsal conjunctiva – mc affected , appears red velvety, congested
- Trachomatous follicle- essential lesion, upto 5mm size
 - characteristic distribution- upper fornix(mc), upper margin of tarsus, palprebral conjunctiva
- Scarring of conjunctiva
- Arlt's line
- Limbal follicles
- Herbert pits- oval/pitted scars in limbus



trachomatous
follicles



Herbert's Pit



➤ Cornea-

- Early- superficial keratitis on SLE(fluorescence staining), in upper part due to erosion
- Later- trachomatous pannus, starts in upper half then spreads centrally to involve whole cornea
- Vascularisation- in between BM and epithelium
- Pannus- a) progressive- vessels parallel, directed vt downwards, infiltration ahead of vessels
b) regressive- vessels ahead of infiltration
- Ulcers- mc at advancing edge of pannus
- Corneal opacity

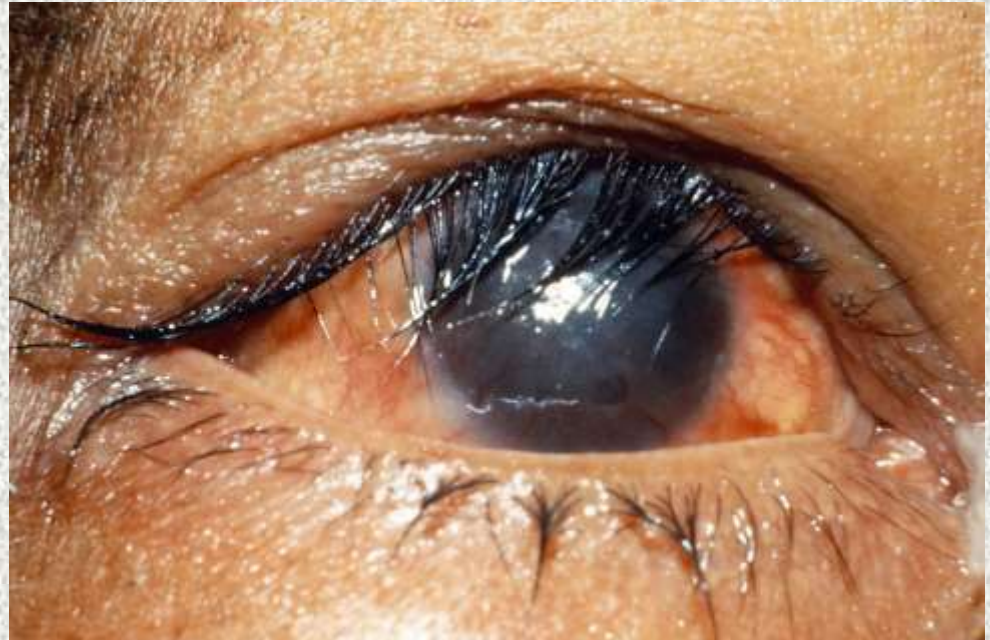


www.chlamydiae.com



➤ Lids-

- Edema
- Trichiasis
- Distichiasis
- Entropion
- Scarring
- Trachomatous ptosis
- **TWO STAGES-** a) active
b) cicatrical



WHO CLASSIFICATION(FISTO)

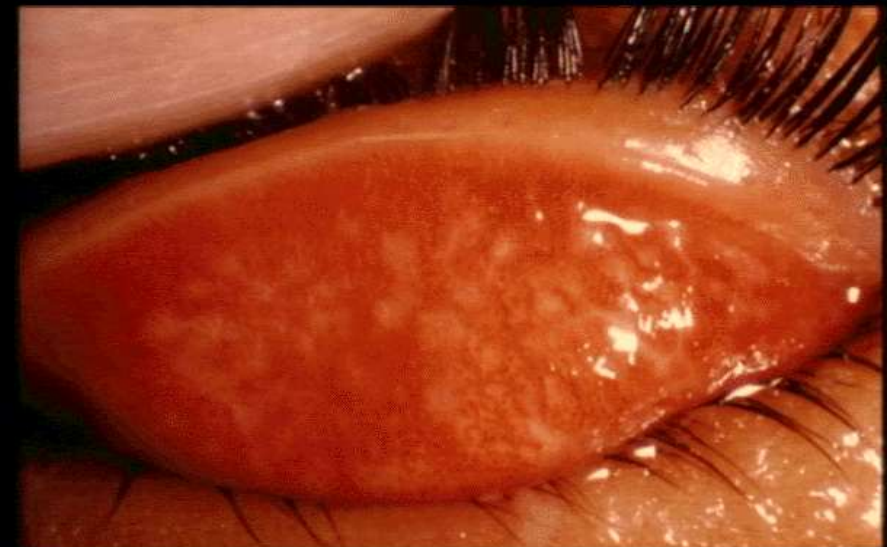
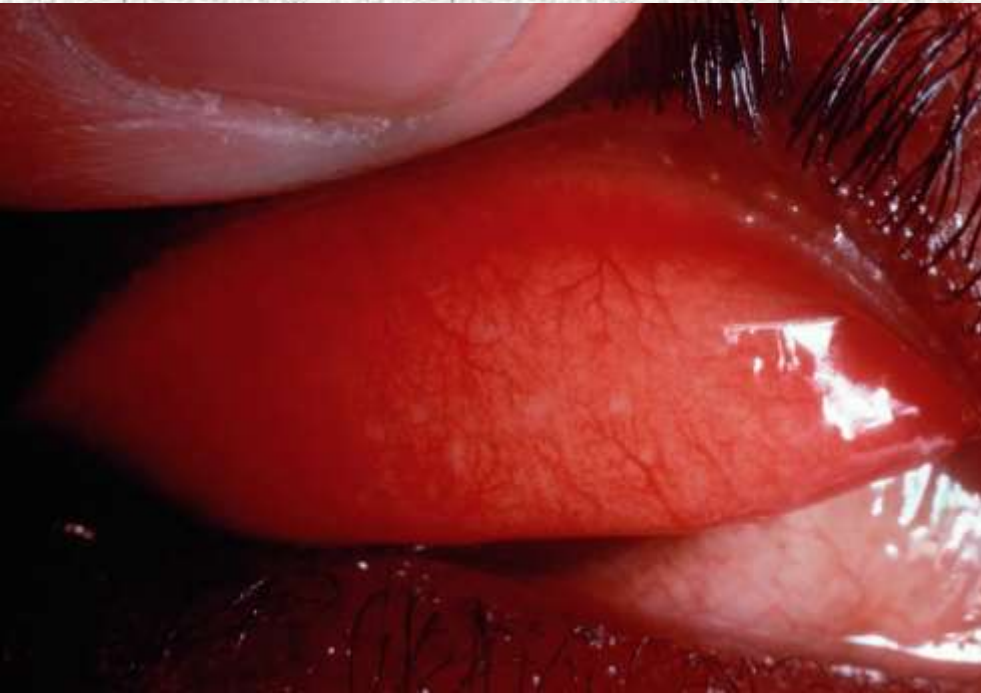
- developed for use by trained personnel other than ophthalmologists to assess the prevalence and severity of trachoma in population-based surveys in endemic areas.

➤ **TRACHOMATOUS FOLLICULAR(TF)**

- Active disease
- 5 or more follicles of $\geq 0.5\text{mm}$ on upper tarsus
- Deep conjunctival vessels seen
- If treated properly- no scarring

➤ TRACHOMA INTENSE

- Severe disease, needs urgents rx
- diffuse involvement of the tarsal conjunctiva, obscuring 50% or more of the normal deep tarsal vessels; papillae are present



➤ TRACHOMATOUS SCARRING-

- Inactive infection
- conjunctival *scarring*
- visible fibrous white bands on tarsal conjunctiva



➤ **TRACHOMATOUS TRICHIASIS**

- at least one lash touching the globe
- Needs corrective surgery



➤ **CORNEAL OPACITY**

- sufficient to blur details of at least part of the pupillary margin

Mc CALLANS CLASSIFICATION

- **STAGE 1-** incipient trachoma/ stage of infiltration
 - Hyperemia of palpebral conjunctiva & immature follicles
- **STAGE 2-** stage of florid infiltration
 - mature follicles, papillae, progressive pannus
- **STAGE 3-** cicatarizing trachoma/ stage of scarring
- **STAGE 4-** healed trachoma/ stage of sequale

DIAGNOSIS

- Requires **at least 2** of the following clinical features:
 - follicles on the upper tarsal conjunctiva
 - limbal follicles and their sequelae (Herbert pits)
 - typical tarsal conjunctival scarring
 - vascular pannus most marked on the superior limbus

SEQUELAE

- **Lids**- trichiasis, entropion, trichiasis, ptosis, madarosis
- **Conjunctiva**- concretions, pseudocyst, xerosis, symblepharon
- **Cornea** – opacity, ectasia, xerosis, total corneal pannus(blinding sequale)
- Punctal stenosis, fibrosis of canaliculi

LAB INVESTIGATIONS

- Conjunctival inclusion bodies- giemsa/ iodine/ immunofluorescence staining
- Conjunctival cytology- giemsa stain- pmn with leber cells
- ELISA- chlamydial Ags
- PCR
- Microimmunofluorescence (microIF)- for Abs
- Direct monoclonal ab microscopy- rapid and inexpensive
- McCoy cell cultures

DIFFERENTIAL DIAGNOSIS

- Allergic/ vernal conjunctivitis
- Bacterial conjunctivitis
- Follicular conjunctivitis



MANAGEMENT

A) Treatment – of active disease and sequelae

B) Prevention

➤ Rx of active disease

Antibiotics- main stay

- oral- Azithromycin 1gm stat (20mg/kg) – DOC
Tetracycline or erythromycin 250mg
QID for 4 weeks
Doxycycline 100mg BD for 4 weeks

- Topical – best for individual cases, cheaper, no systemic side effects
 - Regimes – 1% tetracyclines/ erythromycin eye ointment QID for 6 weeks
 - 20% sulfacetamide eye drops thrice daily with 1% tetracycline oint at bedtime for 6 weeks
- Other topical antibiotics for secondary bacterial infections
- Lubricants
- Analgesics

➤ Prevention

SAFE STRATEGY was devised

- **Surgery-** correction of entropion
trichiasis rx- epilation, cryolysis, electrolysis
- **Antibiotics**
- **Facial cleanliness**
- **Environmental improvements**



Surgery

for inturned
eyelids



Antibiotics

Pfizer-donated
Zithromax® to treat
and prevent active
infection



Facial cleanliness

to prevent disease
transmission



Environmental change

to increase access
to water and
sanitation

DIRTY FACES AND FLIES CAUSE TRACHOMA



FIGHT TRACHOMA BY WASHING YOUR FACE

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PROPHYLAXIS

- Good personal hygiene and environmental sanitation
- Health education
- Use of common towels, handkerchiefs are discouraged
- Clean water supply for washing
- Flies control- insecticides, good sewerage, garbage disposal, window screen protectors
- Prevention of recurrent infections
- Early detection and rx



- Blanket antibiotic therapy/intermittent therapy(WHO)
- In endemic areas to control intensity and severity
- Regimen- 1% tetracycline oint BD 7 days/month X 6 months

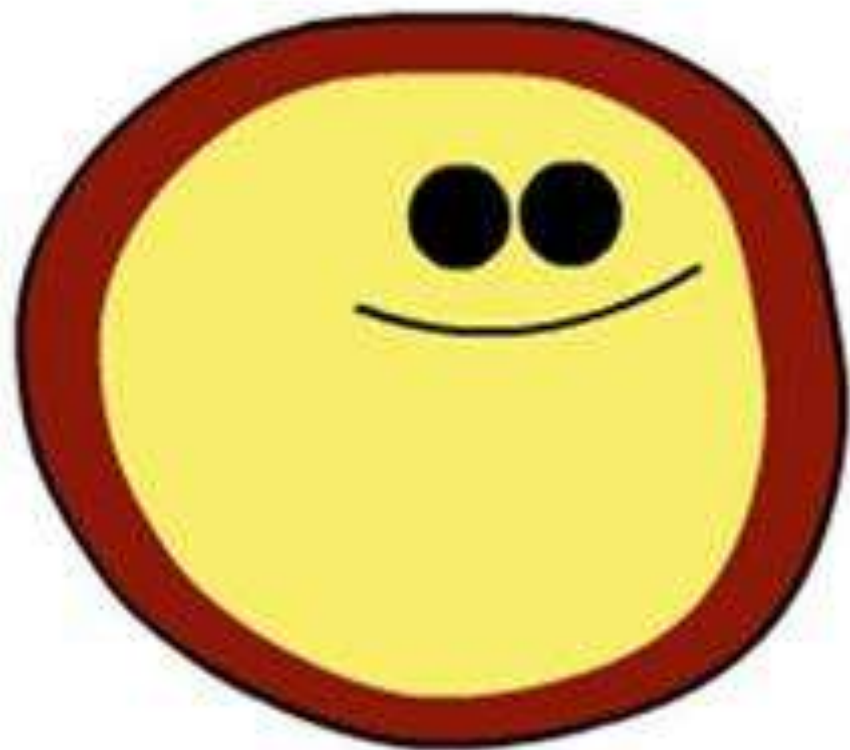


➤ **National trachoma control program-**

- Launched in 1963
- Under NPCB
- Centrally sponsored
- SAFE strategy
- Training at root level
- Health education

GET 2020

- Global Elimination of Trachoma by 2020
- Launched by WHO
- Objective- to eliminate trachoma as blinding disease
- ICTC- international coalition of trachoma control
- WHO defines blinding trachoma elimination as:
 - TF prevalence $<5\%$ in 1-9 year old children
 - TT prevalence <1 per 1000 in total population



Chlamydia trachomatis





The end ⁱⁿ ~~of~~ sight.