
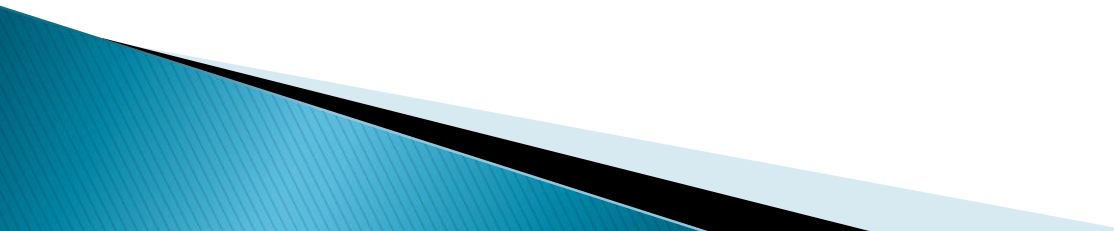


Chlamydia

- ▶ *Chlamydia* are obligate intracellular bacteria and energy parasites (they steal host ATP)
 - ▶ They have all the elements of bacteria except a rigid cell wall.
 - ▶ *Chlamydia* is especially fond of columnar epithelial cells that line mucous membranes.
 - ▶ *Chlamydia* causes conjunctivitis, cervicitis, and pneumonia.
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Chlamydia life cycle

- ▶ *The Chlamydia* life cycle is complex as the bacteria exist in 2 forms:
 - ▶ **1) Elementary body (EB):**
 - ▶ This is a metabolically inert, dense, round, small, infectious particle.
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- ▶ **2) Initial body (also called reticulate body):**
- ▶ Once inside a host cell the elementary body inhibits phagosome – lysosome fusion, and grows in size. Its RNA content increases, and binary fission occurs, forming the initial body (IB).



CHLAMYDIA TRACHOMATIS

1 – Trachoma, a type of chronic conjunctivitis that is currently the leading cause of **preventable blindness in the world.**

- ▶ Children act as the main reservoir
- ▶ Transmission occurs by hand-to-hand transfer of infected eye secretions and by sharing contaminated clothing or towels.
- ▶ **Blindness** develops slowly over 10–15 years

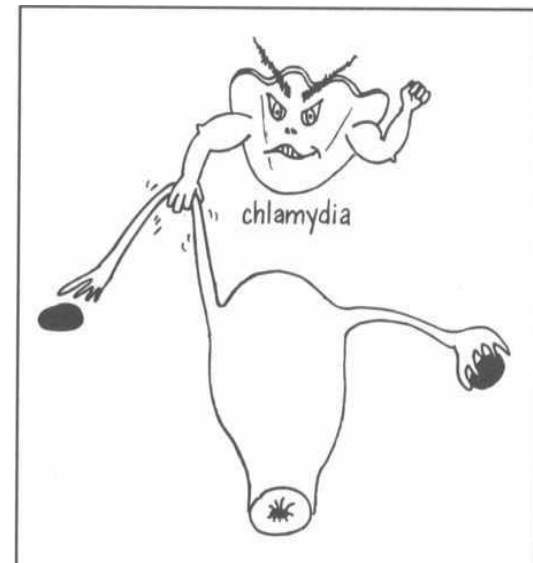
2– Infant Pneumonia

- ▶ A baby's passage through an infected birth canal may also lead to a chlamydial pneumonia.

3– Urethritis

Urethritis, an infection of the urethra, is usually contracted sexually.

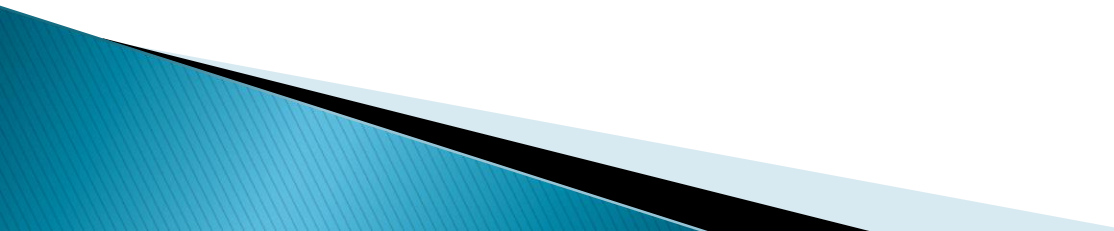
- ▶ 4– Cervicitis and Pelvic Inflammatory Disease (PID)
- ▶ PID often results in fallopian tube scarring, which can cause infertility, tubal (ectopic) pregnancy, and chronic pelvic pain.
- ▶ The silent sinister CLAM (*Chlamydia trachomatis*) causes asymptomatic PID that can lead to infertility.



5- Chlamydia pneumoniae

- ▶ Is a recently identified species of *Chlamydia*, which is transmitted from person to person by the respiratory route and causes an atypical pneumonia in young adults worldwide (along with *Mycoplasma pneumoniae*).

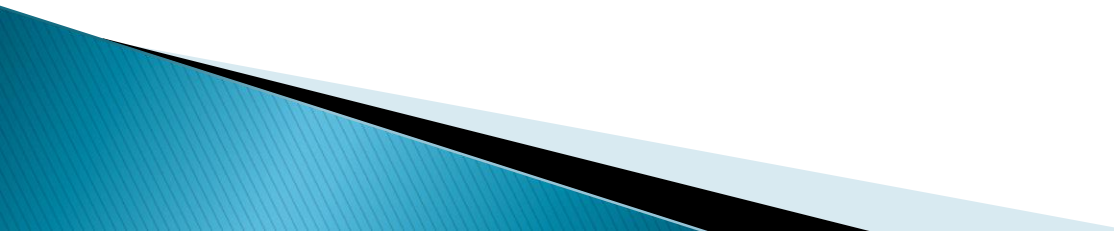
RICKETTSIA

- ▶ The human pathogens in the family Rickettsiaceae are small bacteria.
 - ▶ It is coccoid-shaped bacterium.
 - ▶ It is similar to *Chlamydia* in that they both are the size of large viruses.
 - ▶ Both are obligate intracellular energy parasites (they steal ATP).
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- *Rickettsia* differs from *Chlamydia* in a number of ways:
 - a) *Rickettsia* requires an **arthropod** vector.
 - b) *Rickettsia* replicates freely in the cytoplasm, in contrast to *Chlamydia*, which replicates in endosomes.
 - c) *Rickettsia* has a tropism for endothelial cells that line blood vessels (*Chlamydia* likes columnar epithelium).
 - d) They cause different diseases!!! Most *Rickettsia* cause rashes, high fevers, and bad headaches.

Rickettial infection

Rocky Mountain spotted fever (RMSF).

- ▶ Rocky Mountain spotted fever is a potentially lethal, but usually curable
 - ▶ **Tickborne disease.**
 - ▶ The disease is caused by **Rickettsia rickettsii**
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Louseborne (epidemic) typhus

- ▶ Caused by *Rickettsia prowazekii*.
- ▶ Transmitted from person to person by an infected human body louse that excretes organisms in its feces.