



# ENTAMOEBÆ HISTOLYTICA



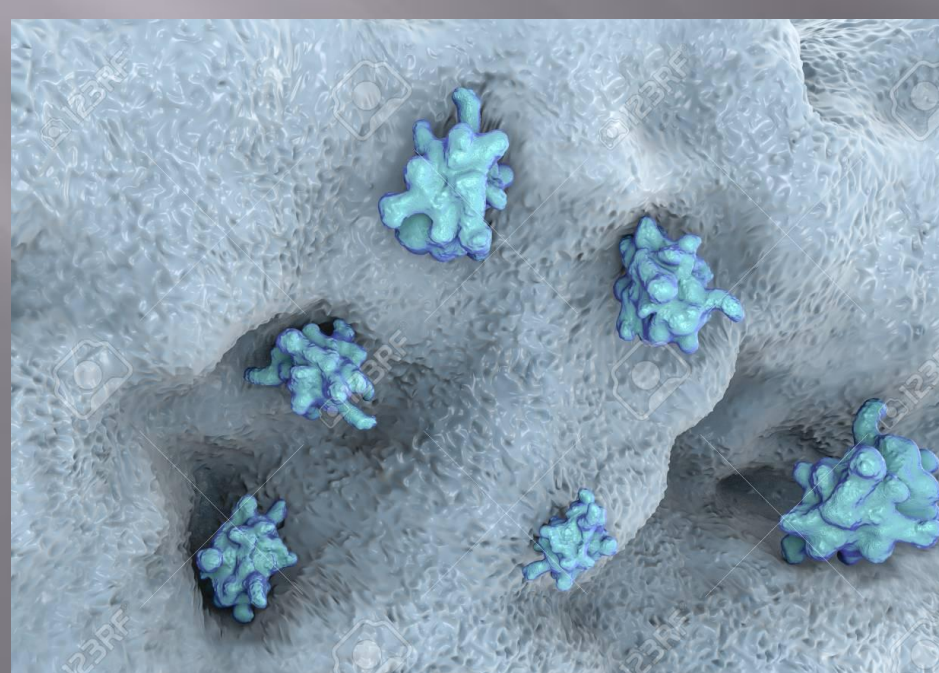
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192 -B

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# ENTAMOEBA HISTOLYTICA

*Entamoeba histolytica* is an anaerobic parasitic amoebozoan, part of the genus *Entamoeba*. Predominantly infecting humans and other primates causing amoebiasis, *E. histolytica* is estimated to infect about 35-50 million people worldwide.





# CLASSIFICATION

Kingdom Protista

Phylum Sarcomastigophora

Phylum Sarcomastigophora

Class Zoomastigophorea

Order Diplomonadida

Family Hexamitidae

Genus *Giardia*

Subphylum Sarcodina

Superclass Rhizopoda

Class Lobosea

Order Amoebida

Family Endamoebidae

Genus *Entamoeba*

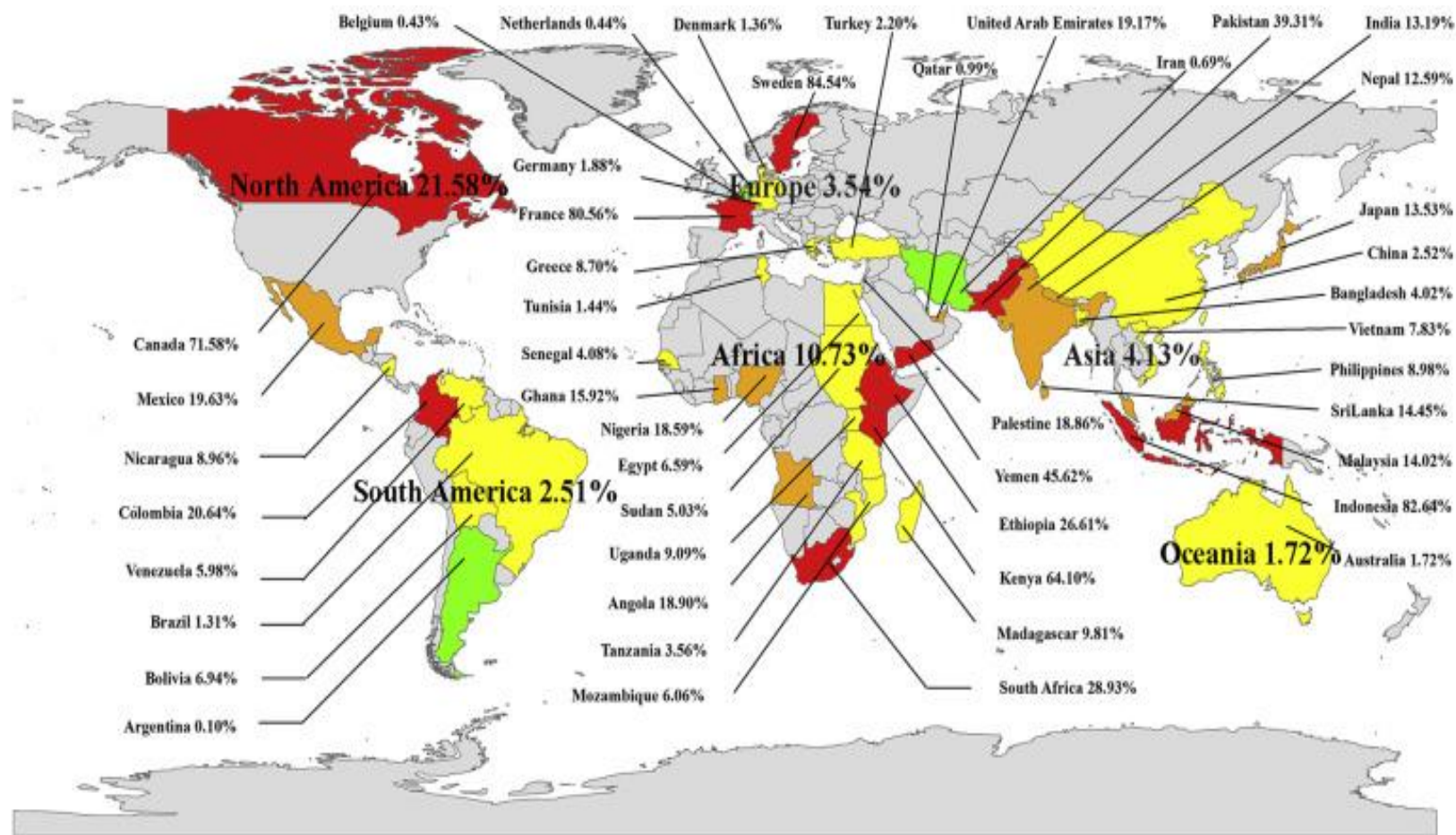
# DISEASE OF ENTAMOEBA

- Entamoeba histolytica is an amoeba that feeds on cells in the human colon. It is the cause of amoebic dysentery (bloody diarrhea) as well as colonic ulcerations. The **infection** is also referred to as amoebiasis.

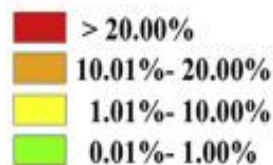
# GEOGRAPHICAL DISTRIBUTION

- COSMOPOLITIAN
- The prevalence of **Entamoeba infection** is as high as 50% in **areas** of Central and South America, Africa, and Asia.  
E **histolytica** seroprevalence studies in Mexico revealed that **more** than 8% of the population were positive





### Prevalence



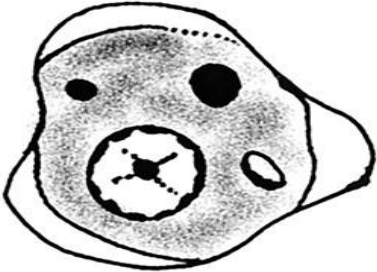

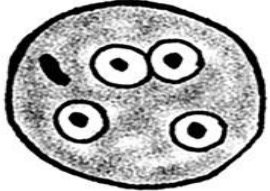
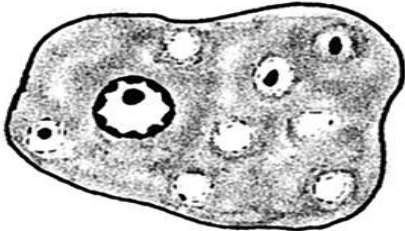
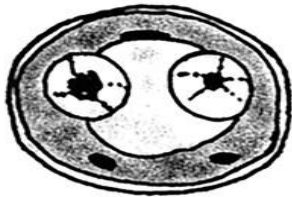
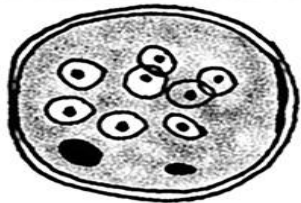
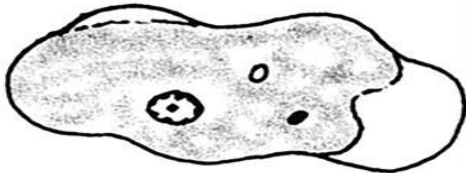
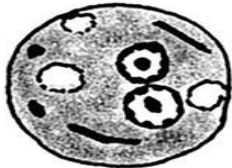
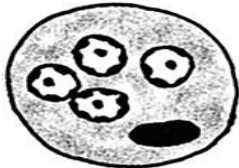
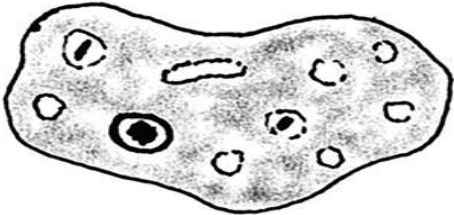
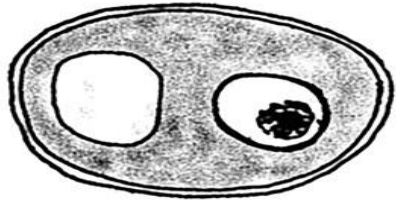
# MORPHOLOGY

## □ . **Trophic:**

- The trophic forms vary in size from 15-40 micro average being 25 micro. The cell body is divisible into two distinct portions—ectoplasm and endoplasm. The ectoplasm is clear and translucent while the endoplasm is granular

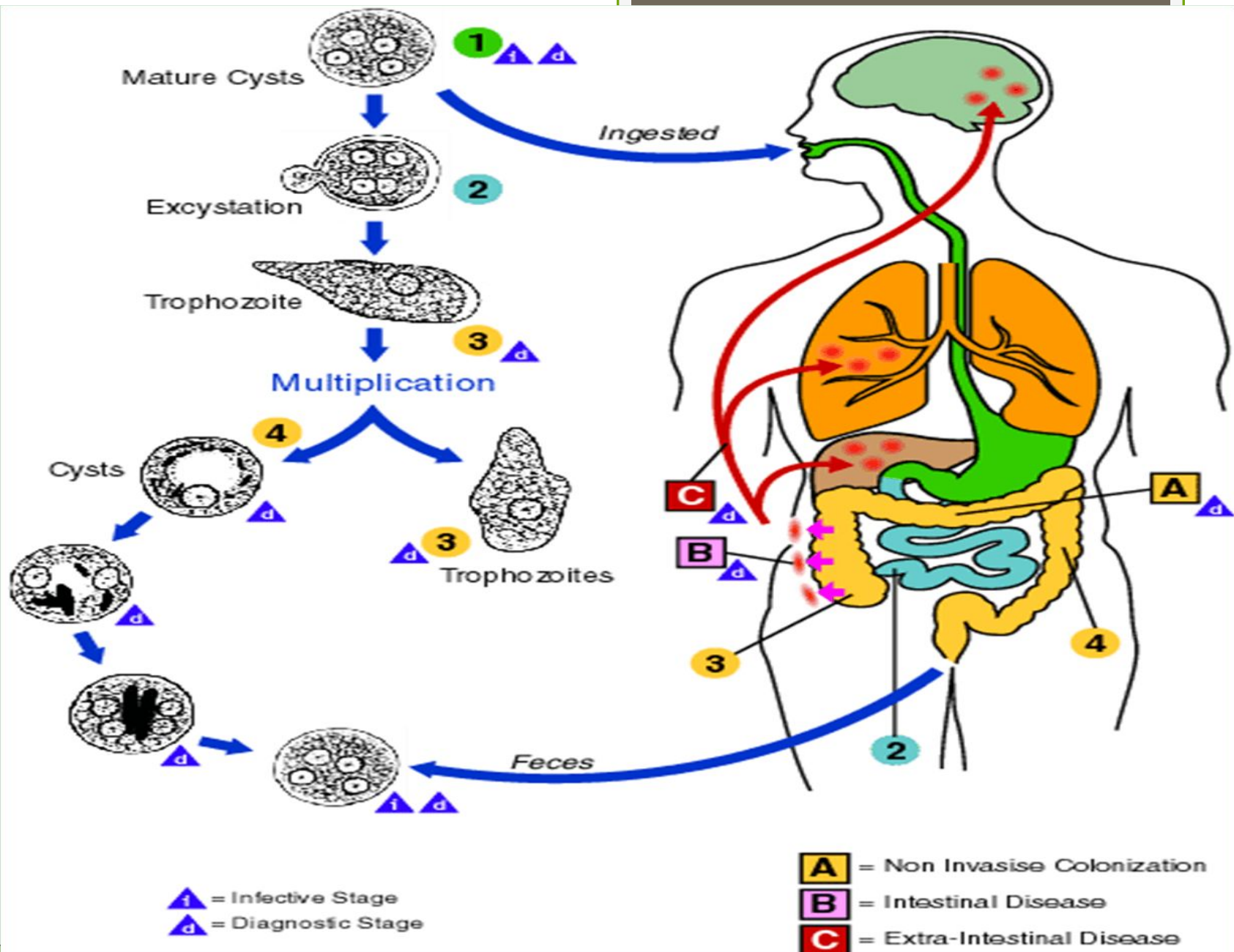
- Cysts vary in diameter from 10-20 micro. The cysts are spherical. The cyst wall is double and the cytoplasm usually bears four nuclei. The cytoplasm is clear and often contains black rod-like chromatoid bar or bodies.



Organism	Trophozoite	Precyst	Cyst
<i>E. histolytica</i> <i>E. dispar</i> <i>E. moshkovskii</i>			
<i>E. coli</i>			
<i>E. hartmanni</i>			
<i>I. bütschlii</i>			

# LIFECYCLE

- When the cyst of *E.histolytica* reaches caecum or lower part of ileum excystation occurs and an **amoeba with four nuclei emerges** and that divides by binary fission to form **eight trophozoites**.
- Trophozoites migrate to the large intestine and lodge into the submucosal tissue.
- Trophozoites grow and multiply by binary fission in the large intestine (*Trophozoite phase of the life cycle is responsible for producing characteristics lesion of amoebiasis*).
- Certain numbers of trophozoites are discharged into the lumen of the bowel and are transformed into cystic forms.
- The cysts thus formed are unable to develop in the same host and therefore necessitate a transference to another susceptible host. The **cysts are passed in the feces**.





# PATHOGENECITY

- **E. histolytica**, as its name suggests (histo-lytic = tissue destroying), is **pathogenic**; infection can be asymptomatic or can lead to amoebic dysentery or amoebic liver abscess. Symptoms can include fulminating dysentery, bloody diarrhea, weight loss, fatigue, abdominal pain, and amoeboma

# SYMPTOMS

- On average, about one in 10 people who are infected with E. **histolytica** becomes sick from the infection.

The **symptoms** often are quite mild and can include loose stools, stomach pain, and stomach cramping. Amebic dysentery is a severe form of amebiasis associated with stomach pain, bloody stools, and fever

# DIAGNOSIS

- A single stool examination has a low sensitivity of detecting the parasite (129). The best **diagnostic** method is detection of E. **histolytica** antigen or DNA in stool (78, 79). Clinical **diagnosis** of amebiasis is difficult because of the nonspecific nature of symptoms



# TREATMENT

- Current U.S. **treatment** guidelines recommend as first line either metronidazole 750 mg PO tid for 7-10 days (35-50 mg/kg/d in children) OR tinidazole 2 g once PO daily for 5 days (50 mg/kg/day in children 3 years of age or older). Luminal agents used are paromomycin, iodoquinol, and diloxanide furoate.

# PREVENTION AND CONTROL

- Improved sanitation will help to reduce the likelihood of transmission. Travelers to endemic areas can reduce the risk of infection by drinking bottled water, not using ice cubes in drinks, and washing fruits and vegetables with clean water (or by peeling them yourself).

# Prevention & Control

## Primary prevention

- Safe excreta disposal
- Safe water supply
- Hygiene
- Health education

## Secondary

- Early diagnosis
- Treatment



# Reference

- <https://youtu.be/wBPh9svIU9Q>
- <https://youtu.be/gfCunkjxkMo>
- [https://youtu.be/VRMv\\_lzhMZc](https://youtu.be/VRMv_lzhMZc)



**Thank You**  
== For Your Attention ==