



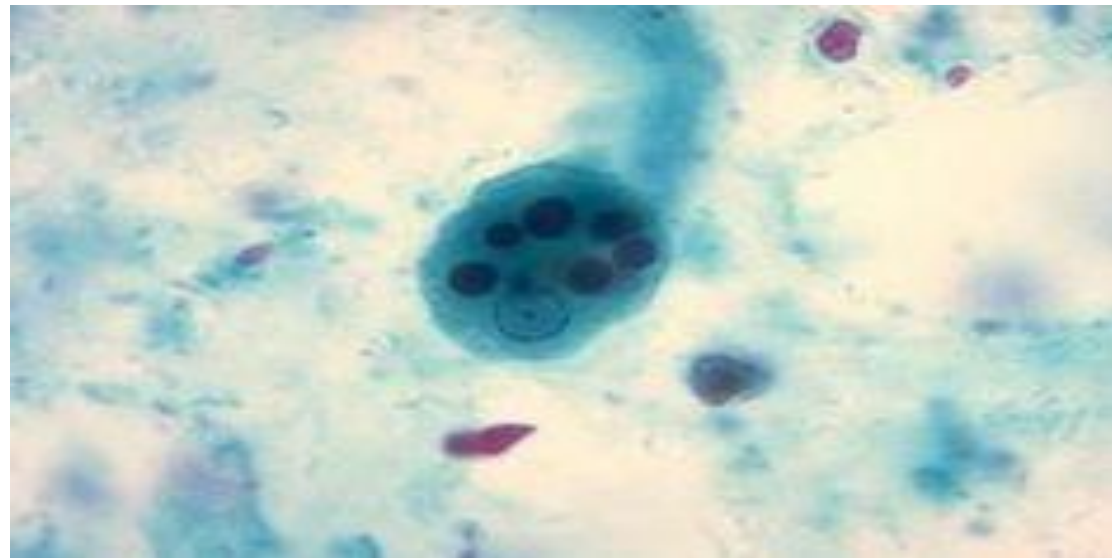
MEDICAL ACADEMY NAMED AFTER S.I.
GEORGIEVSKY CFU

Biological bases of parasitism class Sarcodina

Presentation by
prajapat kalpesh
192B

**Scientific Advisor –
Svetlana ma'am**

Entamoeba Histalytica



Classification of *Entamoeba histolytica*

Phylum :- Protozoa

Class :- Lobosea

Order :- Amoebiae

Family :- Sarcodina

Genus :- *Entamoeba histolytica*

Geographic Distribution

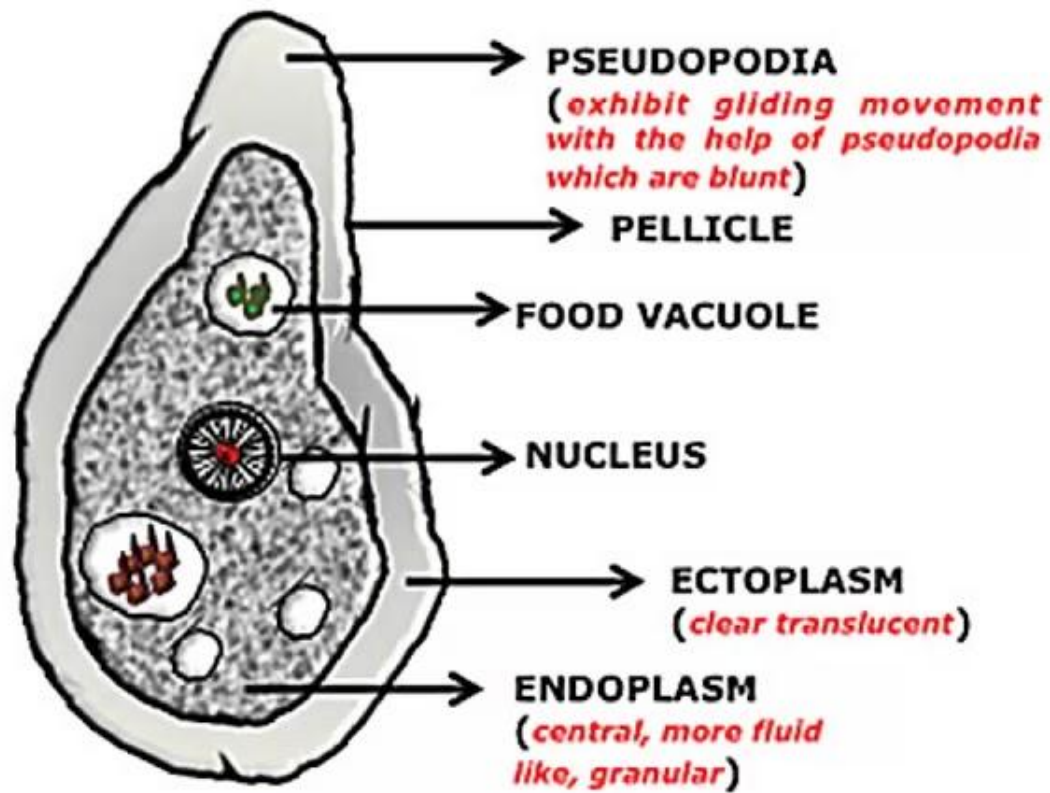
- Worldwide!
- Higher rates:
 - Tropical areas



MORPHOLOGY

- ▶ The trophozoites are 20-30 μm in diameter and contain a vesicular nucleus with a central endosome, peripheral chromatin and radial achromatic fibrils (imparting a 'cart-wheel' appearance). The cysts are spherical measuring 10-15 μm in diameter and have 4 nuclei.

Trophozoite

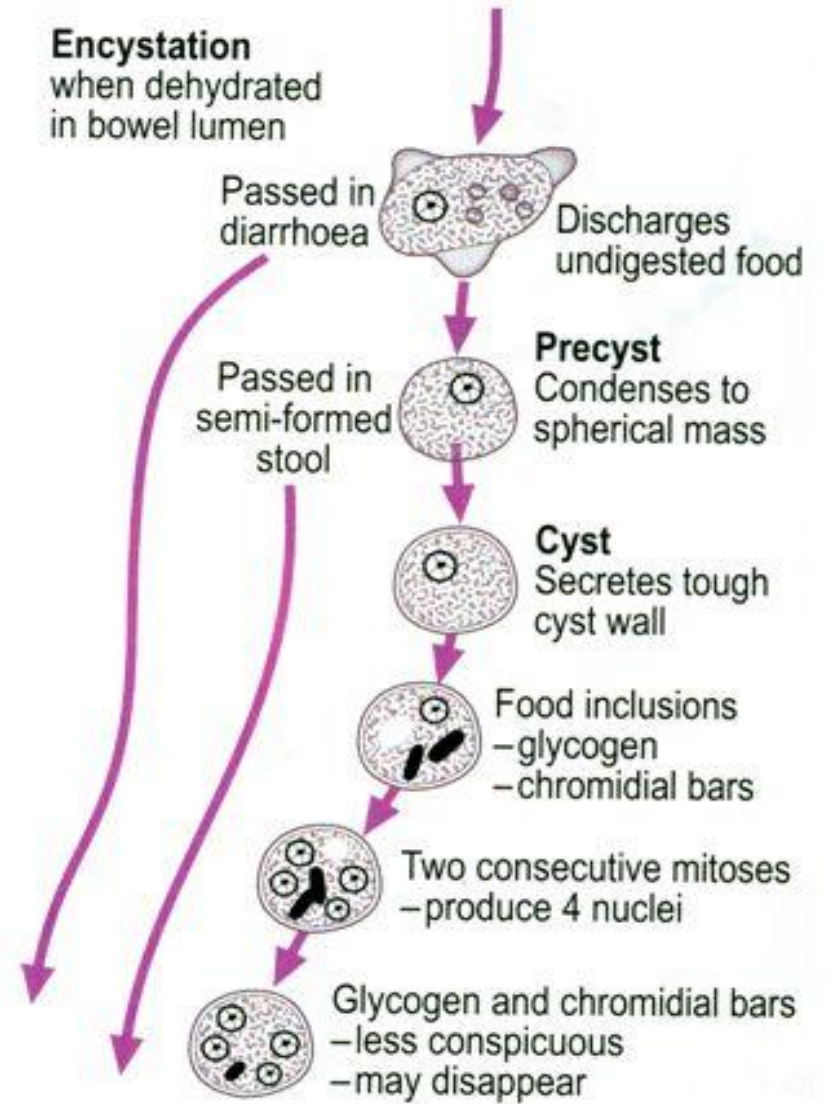
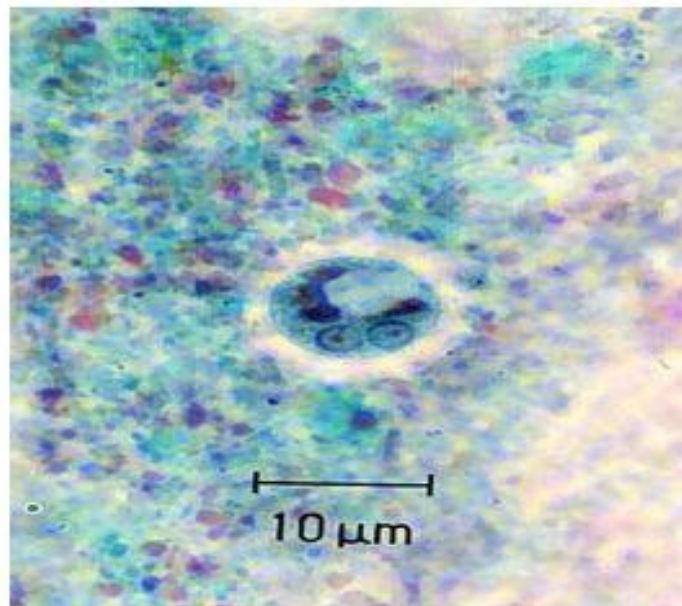
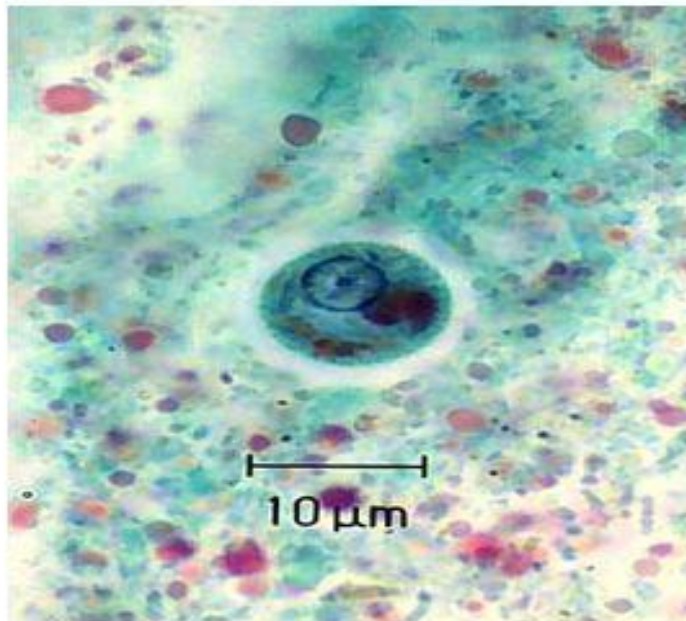
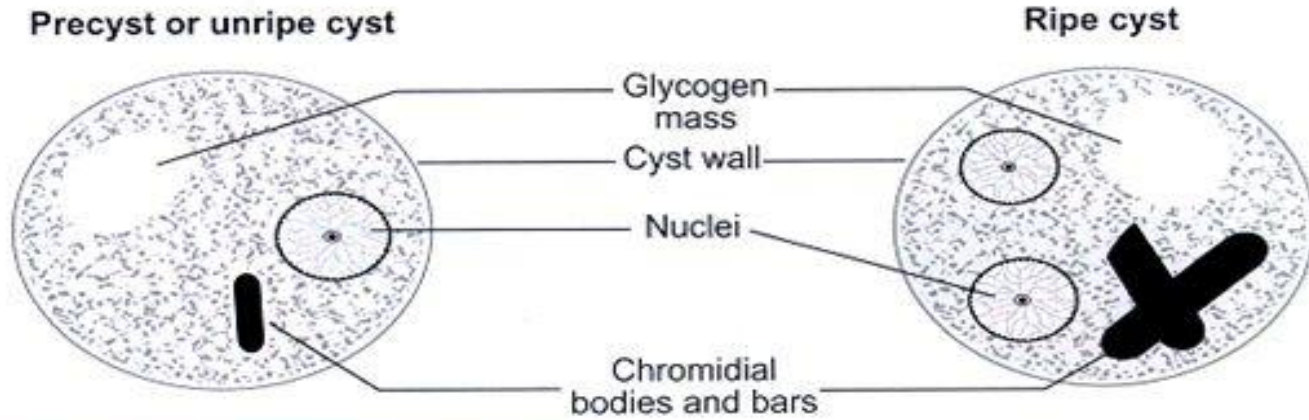


Quadrinucleate cyst

CYST MORPHOLOGY

- ▶ **Cysts** are typically found in formed stool, whereas trophozoites are typically found in diarrheal stool.
Infection with **Entamoeba histolytica** (and *E. dispar*) occurs via ingestion of mature **cysts** from fecally contaminated food, water, or hands.

Morphology of cyst:



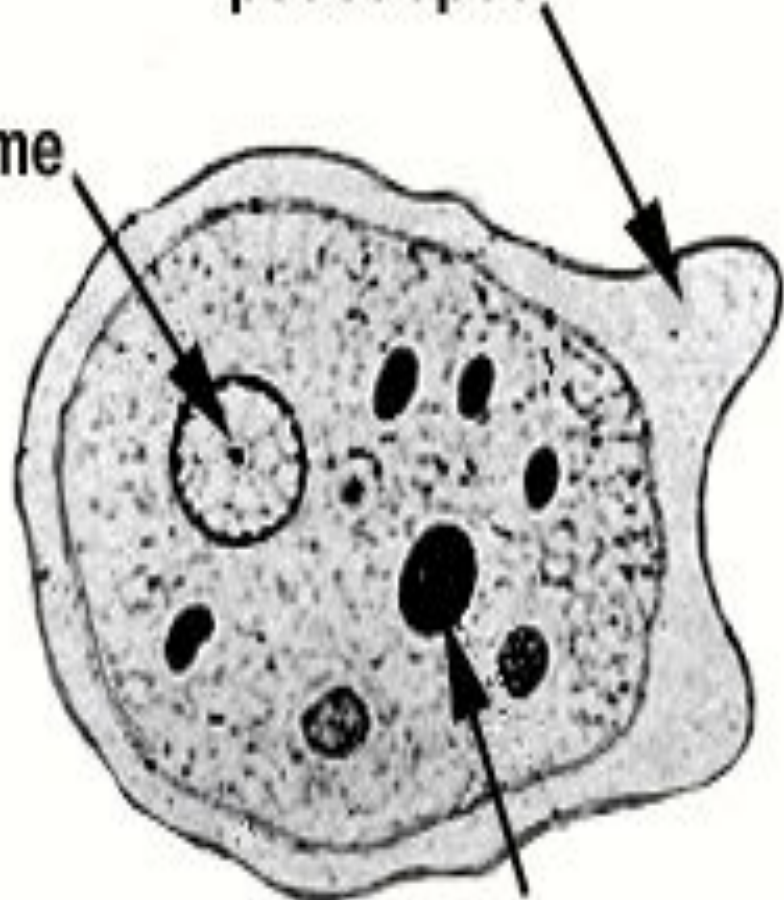
Trophozoite

Cyst

Nucleus of Cyst

pseudopod

endosome



feeding vacuole filled with a RBC



condensed chromatin

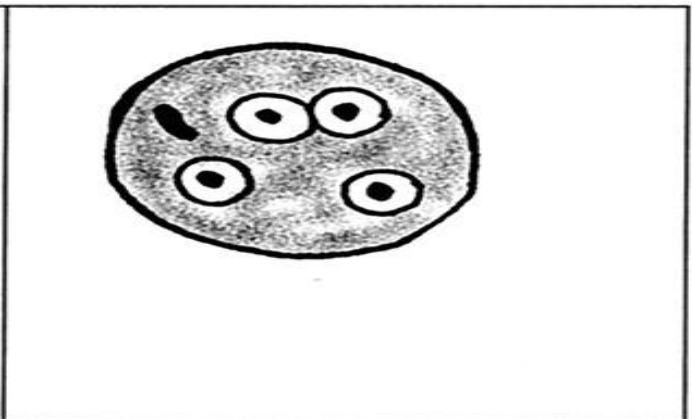
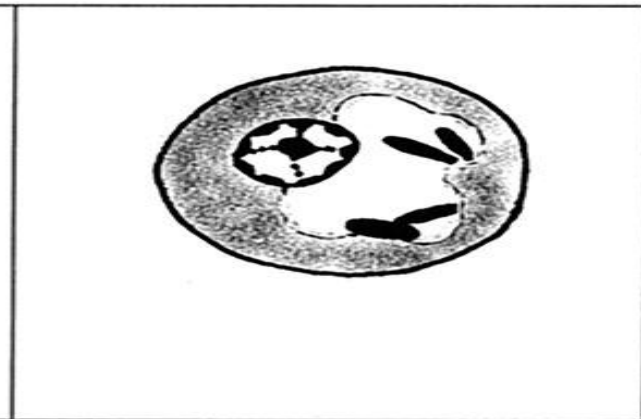
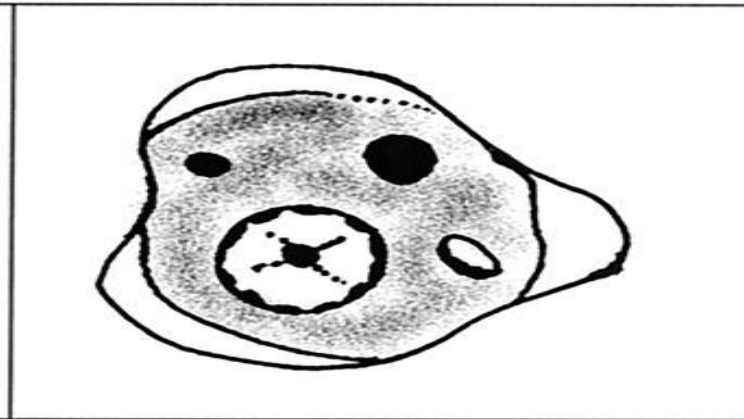


endosome

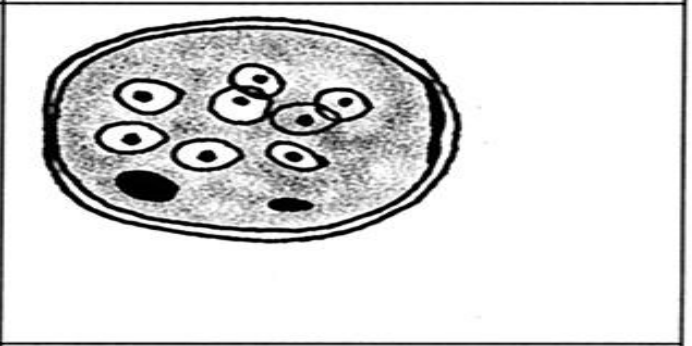
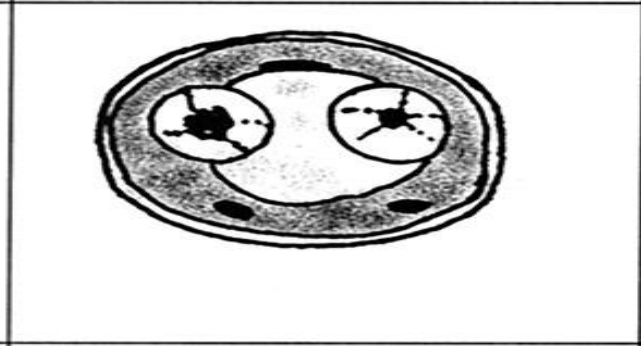
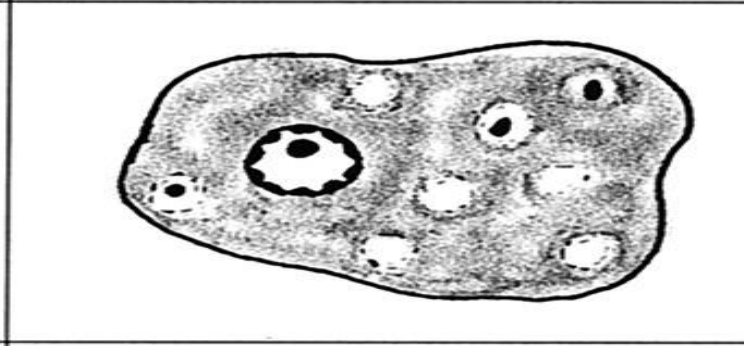
Entamoeba histolytica

Organism	Trophozoite	Precyst	Cyst
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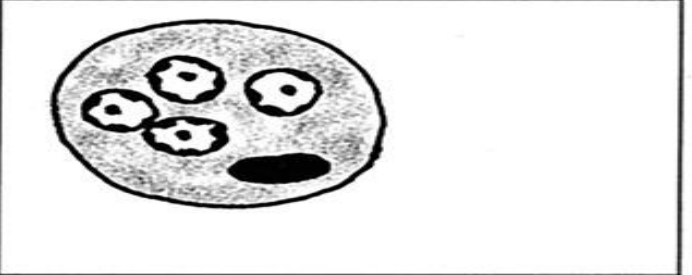
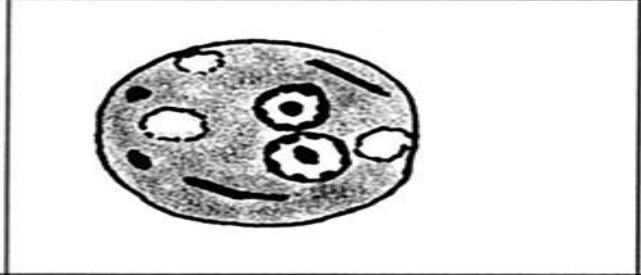
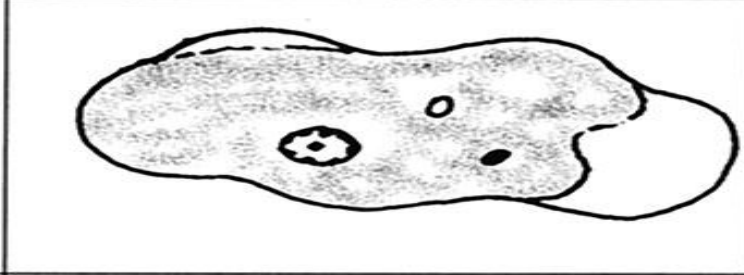
E. histolytica
E. dispar
E. moshkovskii



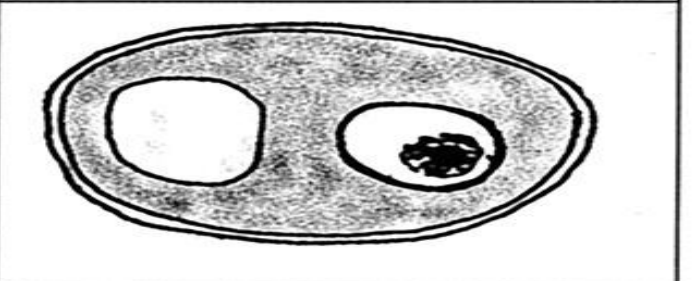
E. coli



E. hartmanni

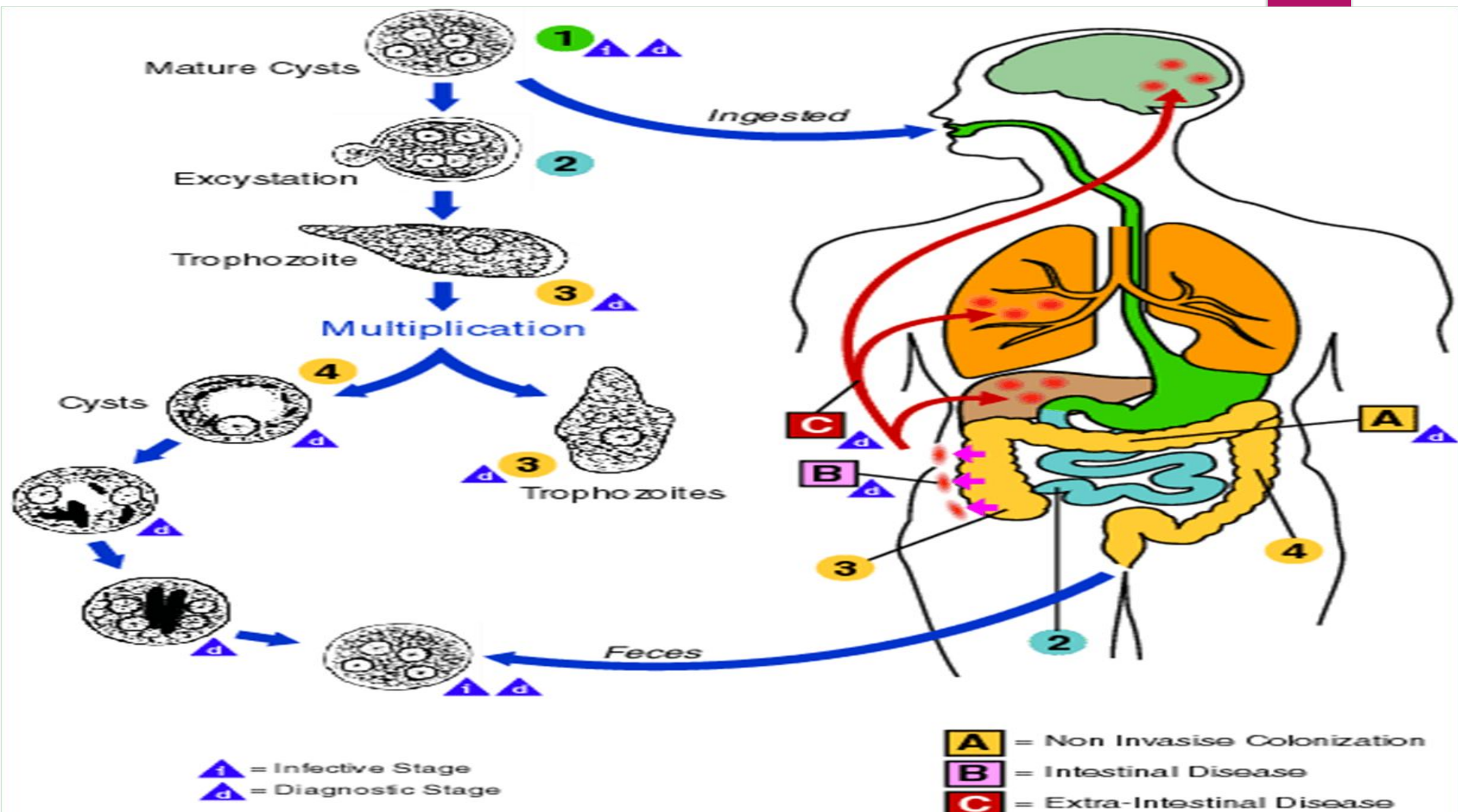


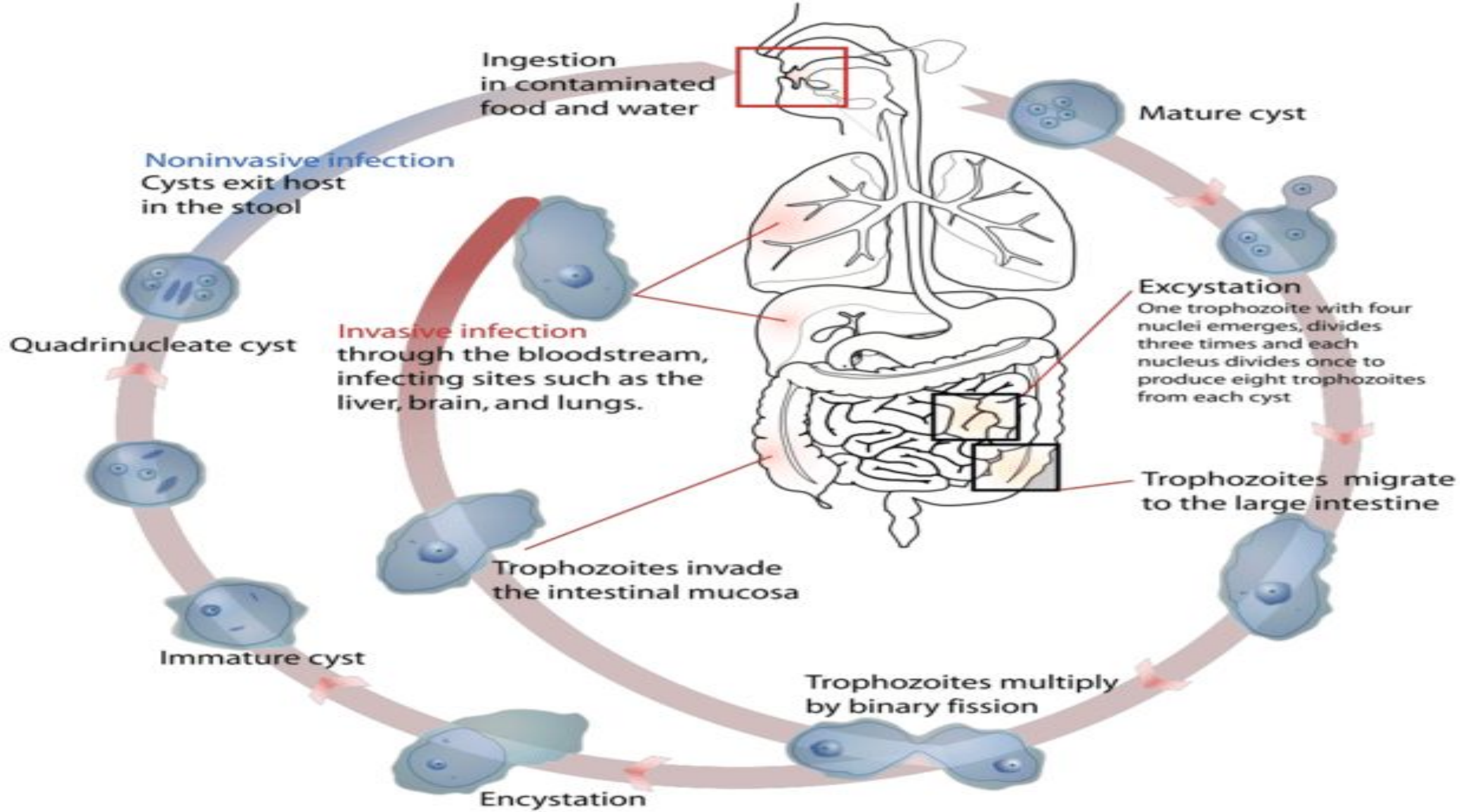
I. bütschlii



LIFE CYCLE

- ▶ Infection by **Entamoeba histolytica** occurs by ingestion of mature cysts (2) in fecally contaminated food, water, or hands. Excystation (3) occurs in the small intestine and trophozoites (4) are released, which migrate to the large intestine.





PATHOGENECITY

- ▶ **Entamoeba histolytica**, a protozoan parasite, is the etiologic agent of amoebiasis in humans. It exists in two forms—the trophozoite which is the active, dividing form, and the cyst which is dormant and can survive for prolonged periods outside the host. In most infected individuals the trophozoites exist as commensals.

DISEASE

- ▶ *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. *E. histolytica* infection is estimated to kill more than 55,000 people each year.

DIAGNOSIS

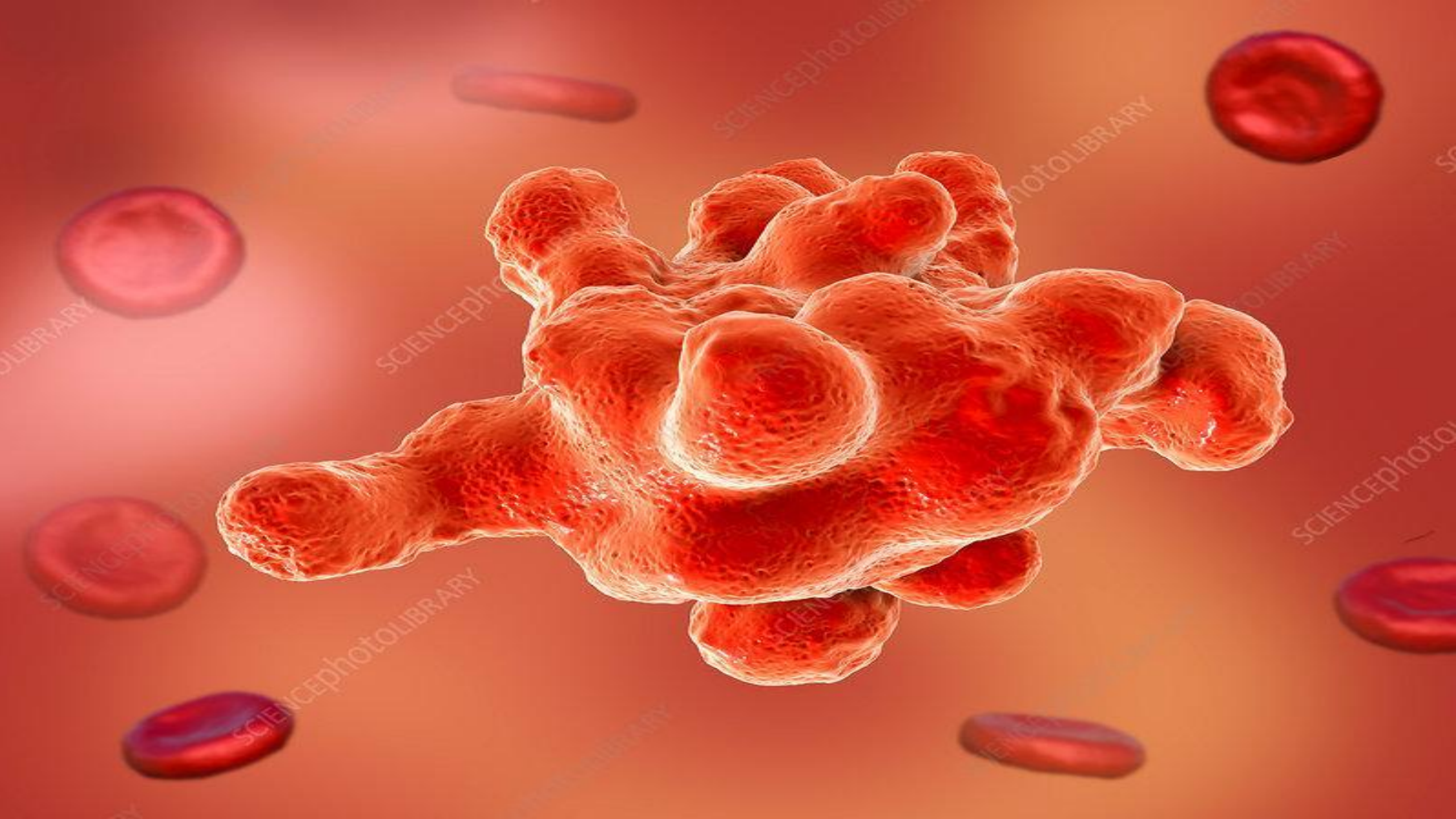
- ▶ A single stool examination has a low sensitivity of detecting the parasite . The best **diagnostic** method is detection of E. **histolytica** antigen or DNA in stool . Clinical **diagnosis** of amebiasis is difficult because of the nonspecific nature of symptoms

TREATMENT

- ▶ To **treat** invasive amebiasis, metronidazole (Flagyl, MetroGel, Noritate) is recommended even for amoebic liver abscesses (up to 10 cm sized abscesses). Tinidazole (Tindamax) is FDA approved for **treatment** of both intestinal or extraintestinal (invasive) amebiasis.

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).



THANKS FOR
YOUR ATTENTION