

***Entamoeba histolytica*/E. *dispar* group or complex**

Organism: The *Entamoeba histolytica*/E. *dispar* group or complex comprises the following organisms:

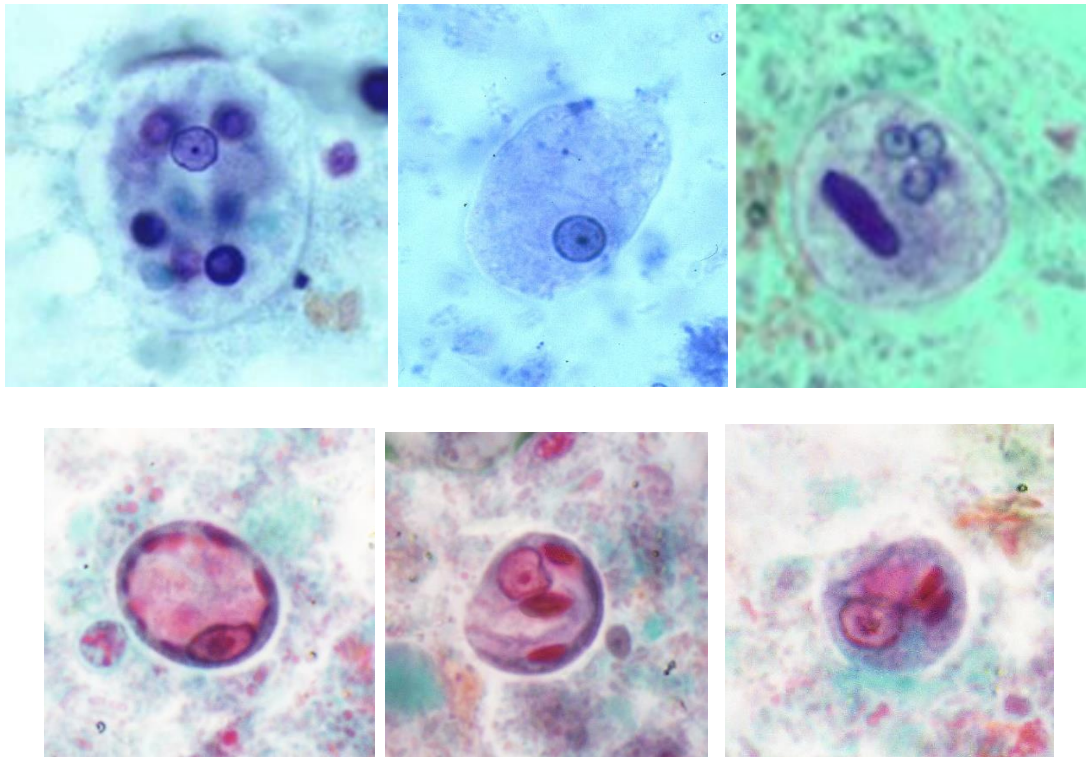
Entamoeba histolytica (true pathogen)

Entamoeba dispar, nonpathogen

Entamoeba moshkovskii, nonpathogen, but with some controversy

Entamoeba bangladeshi, nonpathogen

There are over 40 species within the genus *Entamoeba*, eight of which infect humans. Of these, four species (*Entamoeba histolytica*, E. *dispar*, E. *moshkovskii*, and E. *bangladeshi*) are morphologically indistinguishable from each other, and yet differentiation is important for appropriate treatment decisions.



Row 1: (Left) *Entamoeba histolytica* (true pathogen) trophozoite containing ingested RBCs in the cytoplasm; (Middle) *Entamoeba histolytica*/E. *dispar* group/complex trophozoite; (Right) *Entamoeba histolytica*/E. *dispar* group/complex mature cyst containing 4 nuclei and a typical chromatoidal bar. Row 2: All three organisms, *Entamoeba histolytica*/E. *dispar* group/complex precysts

Life Cycle:

Large bowel, organisms passed in feces

Acquired:

Fecal-oral transmission via cyst form; contaminated food and water

Epidemiology:

Worldwide, primarily human-to-human transmission

Clinical Features:

None, assuming the true pathogen, *Entamoeba histolytica*, is not present

Clinical Specimen:

Intestinal: Stool

Laboratory Diagnosis:

Intestinal: Ova and Parasite examination (concentration, permanent stained smear); fecal immunoassay for the *Entamoeba histolytica/E. dispar* group or the true pathogen, *E. histolytica*.

Organism Description:

Trophozoite: Evenly arranged nuclear chromatin, central karyosome, fine cytoplasm (will normally not contain ingested RBCs)

Precyst: Usually contains a single, enlarged nucleus. Chromatoidal bars with smooth, rounded edges may be present.

Cyst: May contain chromatoidal bars with smooth, rounded edges; mature cyst contains 4 nuclei (rarely more seen).

Laboratory Report:

Without confirmation using the specific immunoassay or molecular testing to detect the true pathogen, *E. histolytica*, the report must indicate: *Entamoeba histolytica/E. dispar* group (indicate cysts and/or trophozoites); make sure your clients know what this report means in terms of pathogens/nonpathogens. NOTE: Although *Entamoeba moshkovskii* and *Entamoeba bangladeshi* are a part of the group/complex, they are not specifically mentioned on the laboratory report; it is felt this additional information is not that clinically relevant and may be confusing for the physician.

Report Comment: Submit a fresh stool if you want confirmation of the true pathogen (*Entamoeba histolytica*). The laboratory will then test the fresh stool (fresh, frozen, some acceptable in Cary-Blair) for the presence of the true pathogen, *Entamoeba histolytica*, antigen. If confirmation of *E. histolytica* is not performed, then the physician will usually treat if the patient is symptomatic.

Treatment:

None, if it has determined via specific testing that rules out the presence of the true pathogen, *Entamoeba histolytica*.

Control:

Improved hygiene, adequate disposal of fecal waste, adequate washing of contaminated fruits and vegetables

Comments:

E. histolytica (true pathogen, cause of amebiasis) cannot be differentiated from the nonpathogenic members of the group/complex (**although when trophozoites are found to contain ingested RBCs, it is generally considered to be *E. histolytica* and will be reported as such**).