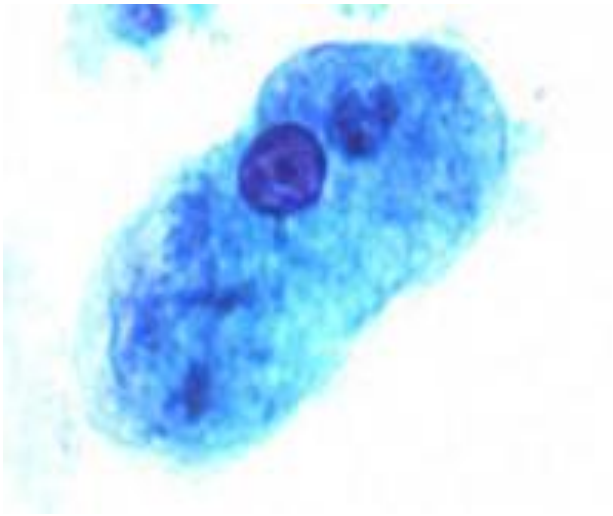
OTHER AMEBAE INHABITING THE ALIMENTARY CANAL

Entamoeba coli

the life cycle stages include; trophozoite, precyst, cyst, metacyst, and metacystic trophozoite. Typically the movements of trophozoites are sluggish, with broad short pseudopodia and little locomotion, but at a focus the living specimen cannot be distinguished from the active trophotozoite of E.histolytica. However, the cysts are variable in size. Entamoeba coli is transmitted in its viable cystic stage through faecal contamination. E.coli is non-pathogenic and produces no symptoms. The mature cyst (with more than four nuclei) is the distinctive stage to differentiate E.coli from the pathogenic E.histolytica. Specific treatment is not indicated since this amoeba is non-pathogenic. The presence of E.coli in stool specimen is evidence for faecal contamination. Prevention depends on better personal hygiene and sanitary disposal of human stool.



E*. histolytica* Troph.(18 – 60 µm)

The motile in saline, active progressive and directional

E. Coli Troph. (20 – 50 µm)

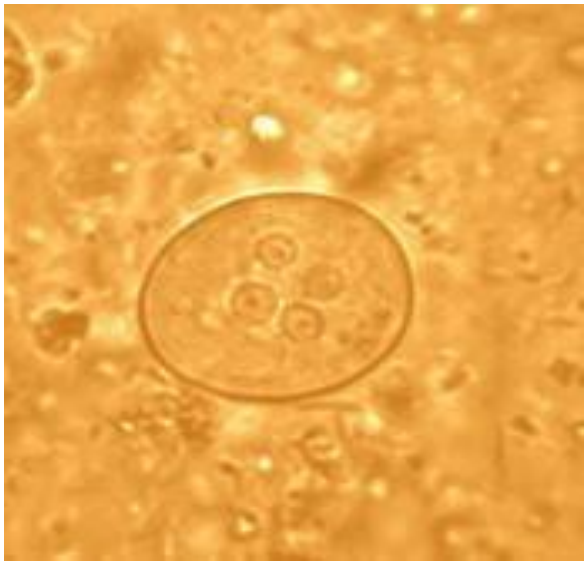
The motile in saline sluggish rarely progressive not directional

Table : Differentiation of trophozoite and cyst of E. histolytica and E. coli

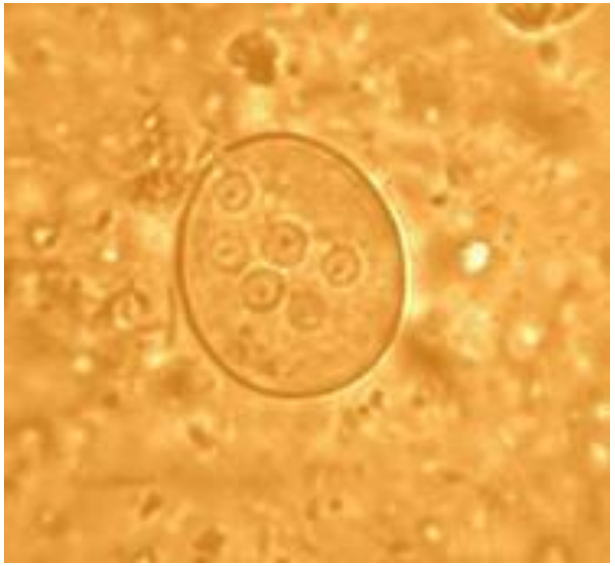
Note : as E. coli is more commonly found in the stool, the morphological differences from the pathogenic species E. histolytica is shown in the table below

	Entamoeba histolytica	Entamoeba coli
Trophozoiti.		
Size :	20 to 30µm.	20 to 40 µm.
Motility :	Very active	Sluggish
Cytoplasm :	Clearly defined into ectoplasm and endoplasm.	Not defined .
Cytoplasmic inclusions :	In food vacuoles, Red blood cells, leucocytes and tissue debris but no bacteria	Bacteria and other materials but never red blood cells .
Nucleus :	Not visible in unstained preparation .	visible in unstained preparation .
Stained with iodine :		
Nuclear character :	Central karyosome; fine chromatin granules line the delicate nuclear membrane .	Eccentric karyosome; coarse chromatin granules line the thick nuclear membrane .

	Entamoeba histolytica	Entamoeba coli
cyst : Stained with iodine : Size : Nucleus : Glycogen mass : Chromatoid bodies :	 6 to 15 µm. 1 to 4 central karyosome. Visible in uninucleate stage . Rounded bars .	 15 to 20 µm. 1 to 8 eccentric karyosome . Large and visible in the binucleate stage. Filamentous, thread – like with square or pointed ends .



E. histolytica Cyst (5 – 20 µm)



E. Coli Cyst (15 – 33 µm)

Entamoeba hartmanni (non pathogenic)

In all of its life–cycle stage, E.hartmanni resembles E.histolytica except in size, yet there is a slight overlap in the size range. The trophozoites do not ingest red blood cells, and their motility is generally less vigorous than that of E.histolytica. As in other amebae, infection is acquired by ingestion of food or water contaminated with cyst-bearing faeces. Identification is based on examination of small amebae in unstained or iodine-stained preparations. Usually no treatment is indicated,measures generally effective against faecal-borne infections will control this amoebic infection

Entamoeba polecki

a relatively cosmopolitan parasite of hog and monkey. It can cause human disease but is rarely isolated. The disease is manifested as mild, transient diarrhoea. The diagnosis of *E.polecki* infection is confirmed by the microscopic detection of cysts in stool specimens. Treatment is the same as for *E.histolytica* infection. Prevention is achieved by good personal hygiene.

Endolimax nana

*Is a lumen dweller in the large intestine, primary at the cecal level,*where it feeds on bacteria. The life cycle is similar to *E.histolytica. Motility is typically* sluggish. Human infection results from ingestion of viable cysts in polluted water or contaminated food. Typical ovoid cysts of *E.nana are confirmative. Rounded cysts and living trophozoites are often* confused with *E.hartmanni and E.histolytica. No treatment is indicated for this* nonpathogenicminfection. Prevention can be achieved through personal cleanl and community sanitation.

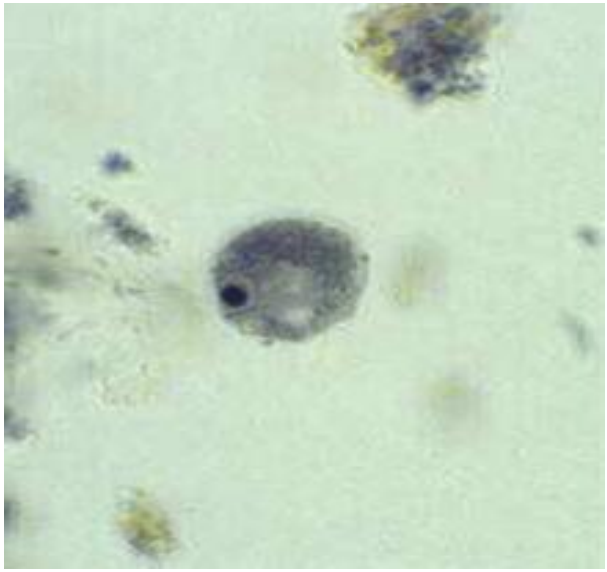
Endolimax nana

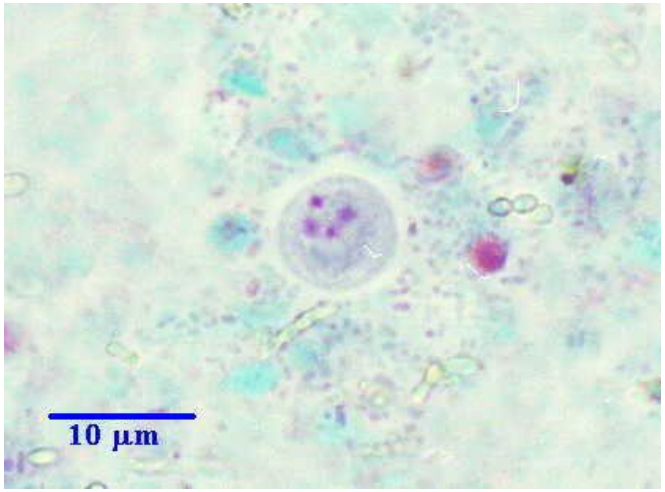
- *live in large intastine*

smallest amoeba

- *Life cycle is similar to E.histolytica*
- *Troph.has large karyosome*
- *Feed on bacteria*

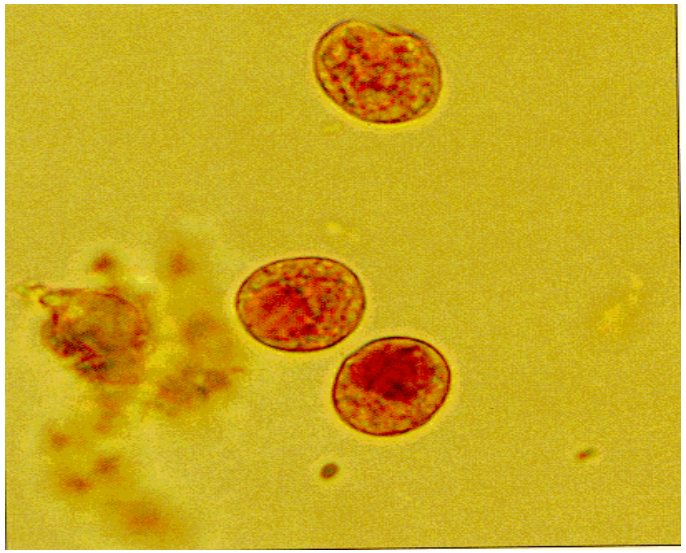
Cyst is small in size ,oval or spherical in shape contain four nuclei

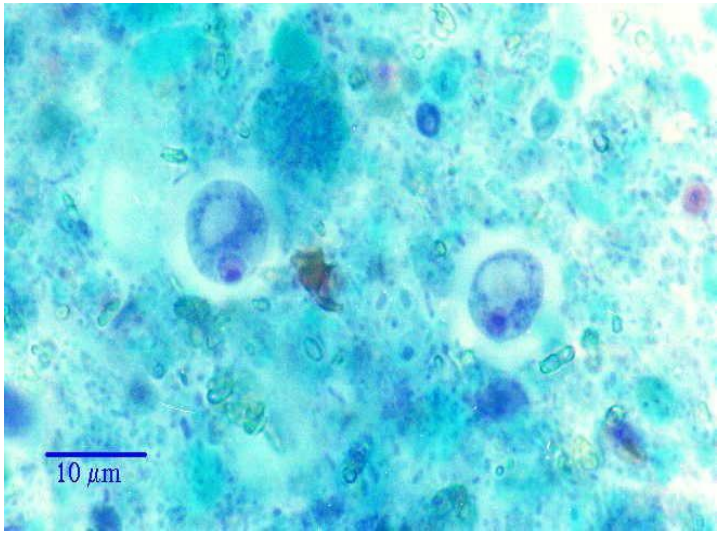




Iodamoeba buetschlii: -

the natural habitat is the lumen of the large intestine, the principal site probably being the caecum. The trophozoite feeds on enteric bacteria; it is a natural parasite of man and lower primates. It is generally regarded as a nonpathogenic lumen parasite. No treatment is ordinarily indicated. Prevention is based on good personal hygiene and sanitation in the community.





Entamoeba gingivalis

only the trophozoite stage presents,all species oral and encystation probably does not occur. *E.gingivalis is a commensal, living primarily on exudate from the* margins of the gums, and thrives best on unhealthy gums. No specific treatment is indicated. However the presence of *E.giingivalis suggests a need for better oral* hygiene.

Blastocystis hominis

is an inhabitant of the human intestinal tract previously regarded as non-pathogenic . Its pathogenecity remains controversial. The organism is found in stool specimen from asymptomatic people as well as from people with persistent diarrhoea. B.hominis is capable of pseudopodia extension and retraction, and reproduces by binary fission or sporulation. The classic form that is usually seen in the human stool specimen varies tremendously in size, from 6-40µm. There are thin –walled cysts involved in autoinfection, and thick–walled cysts responsible for external transmission via the faecal-oral route. The presence of large numbers of these parasites(five or more per oil immersion microscopic field) in the absence of other intestinal pathogens indicates disease. Treatment with iodoquinol or metronidazole has been successful .

FREE-LIVING AMOEBAE

Among the numerous free-living amoebae of soil and water habitats, certain species of Naegleria, Acanthamoeba and Balamuthia are facultative parasites of man. Most human infections of these amoebae are acquired by exposure to contaminated water while swimming. Inhalation of cysts from dust may account for some infections.