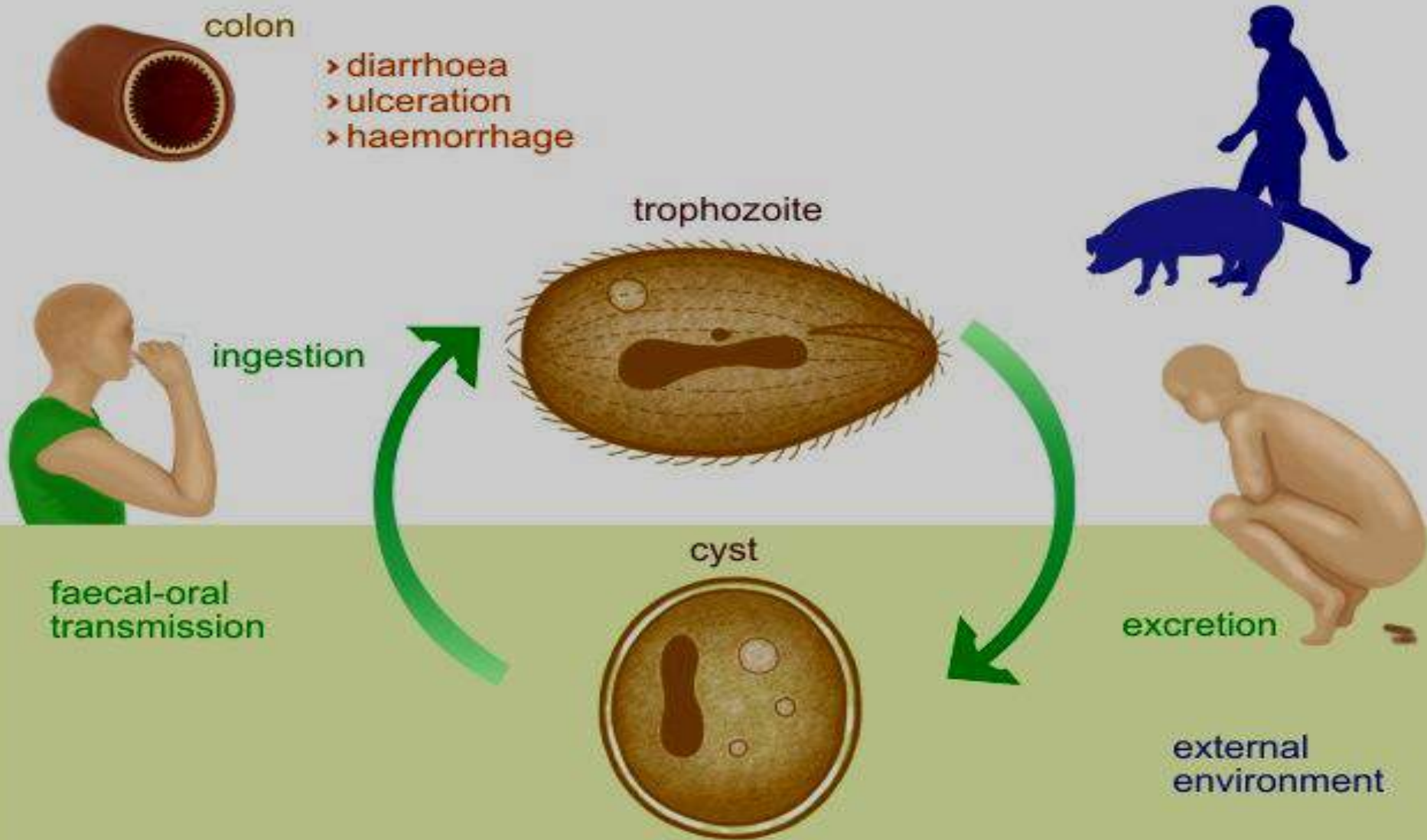
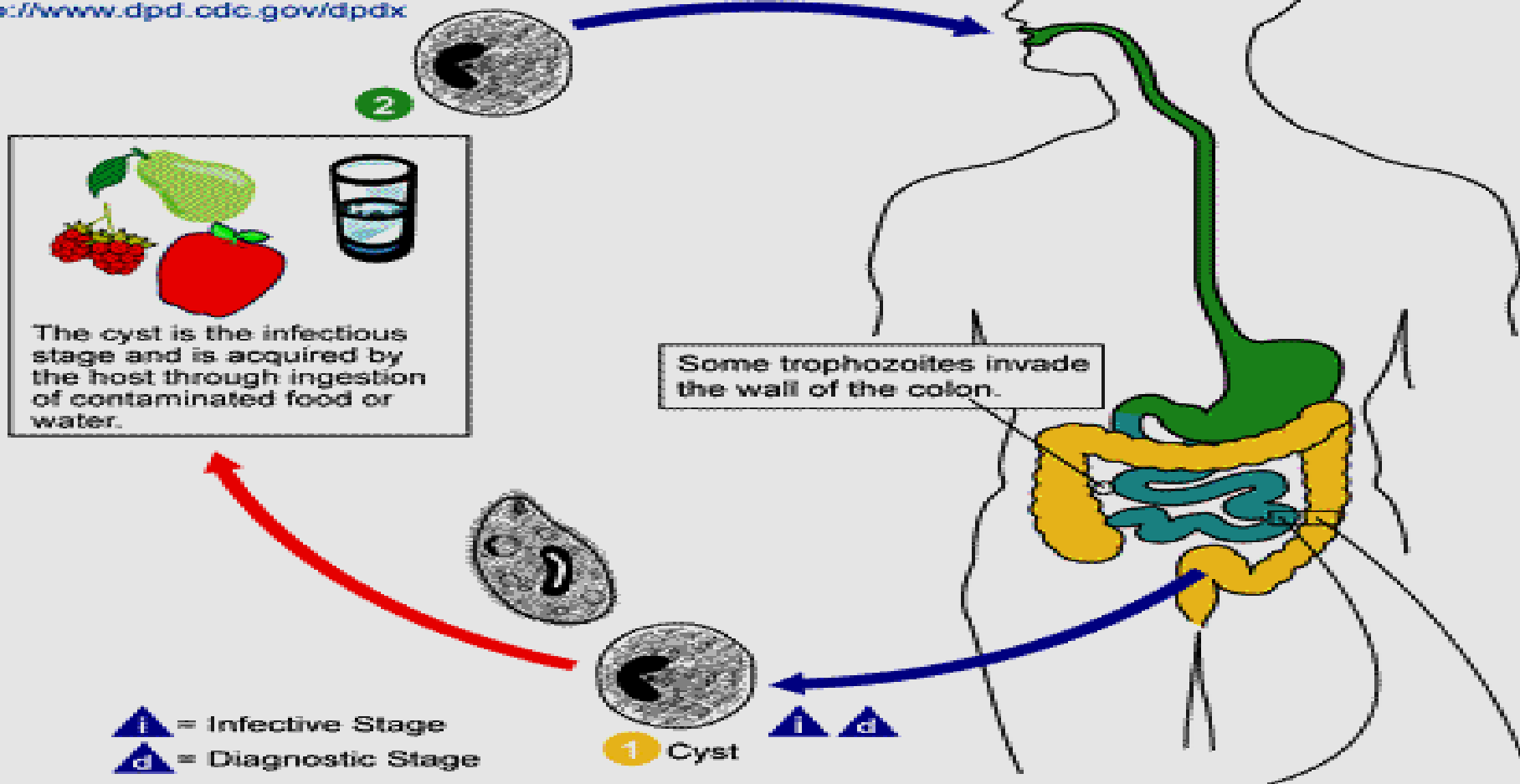


Route of transmission

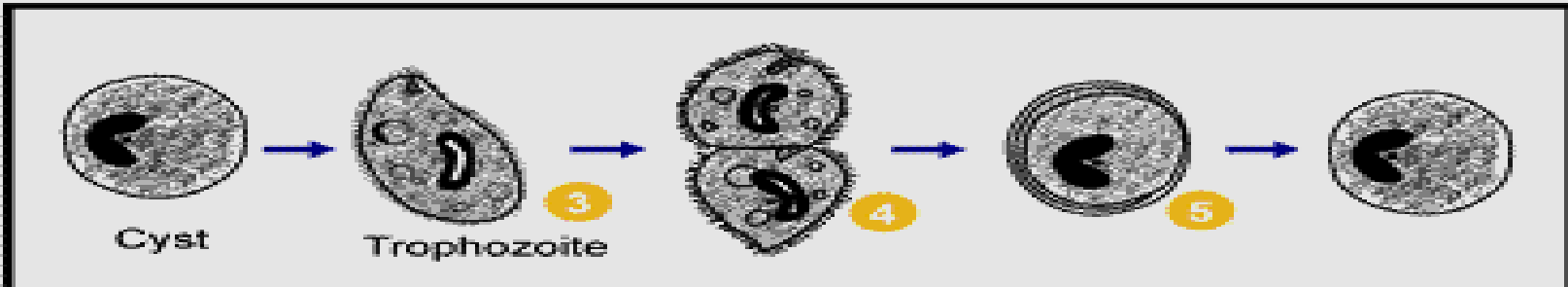


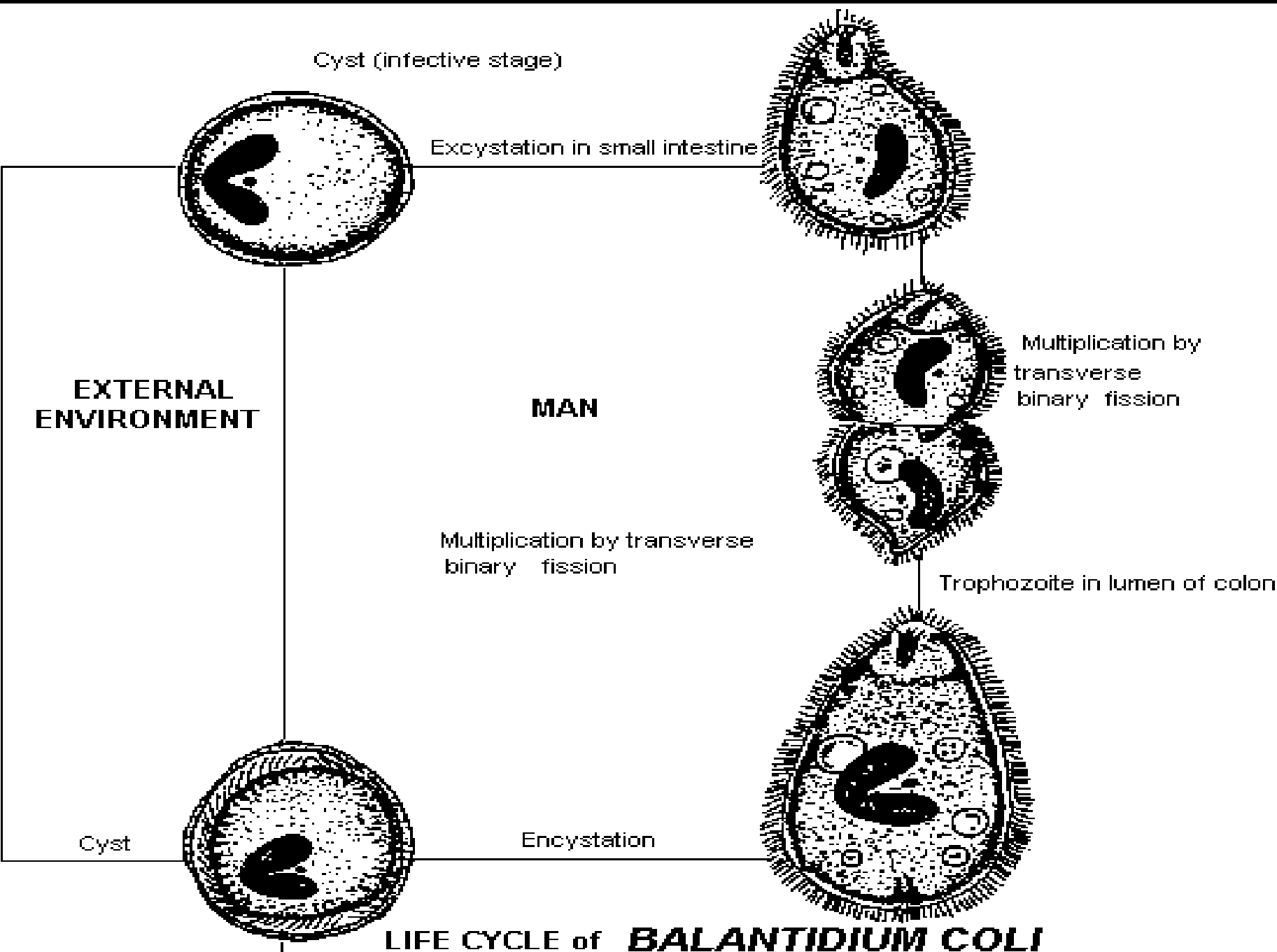


The cyst is the infectious stage and is acquired by the host through ingestion of contaminated food or water.

Some trophozoites invade the wall of the colon.

i = Infective Stage
d = Diagnostic Stage





LIFE CYCLE of **BALANTIDIUM COLI**

Adapted and redrawn from NCDC

Pathogenicity

- There is little if any evidence that *Balantidium coli* produces deep invasion of the intestinal wall, although there may be superficial erosion of the mucosa. the mucosal layer may be penetrated, with extensive submucosal destruction. Since *Balantidium coli* is a much larger, sturdier organism than *Entamoeba histolytica*, it produces a bigger opening in the intestinal mucosa as it enters the wall. Moreover, its penetration seems to be accomplished more by boring action than by lysis. Once established in the tissue it usually has no difficulty in penetration through the muscularis mucosae into the submucosa, where it spreads out rapidly, causing rapid destruction of the tissues; but unlike *E. histolytica* it rarely invades the muscular coats and it has seldom been found in extra-intestinal tissues. While balantidial lesions may develop at any level of the large intestine, they most commonly occur in the cecal and sigmoid-rectal regions.

Balantidium coli
trophozoite

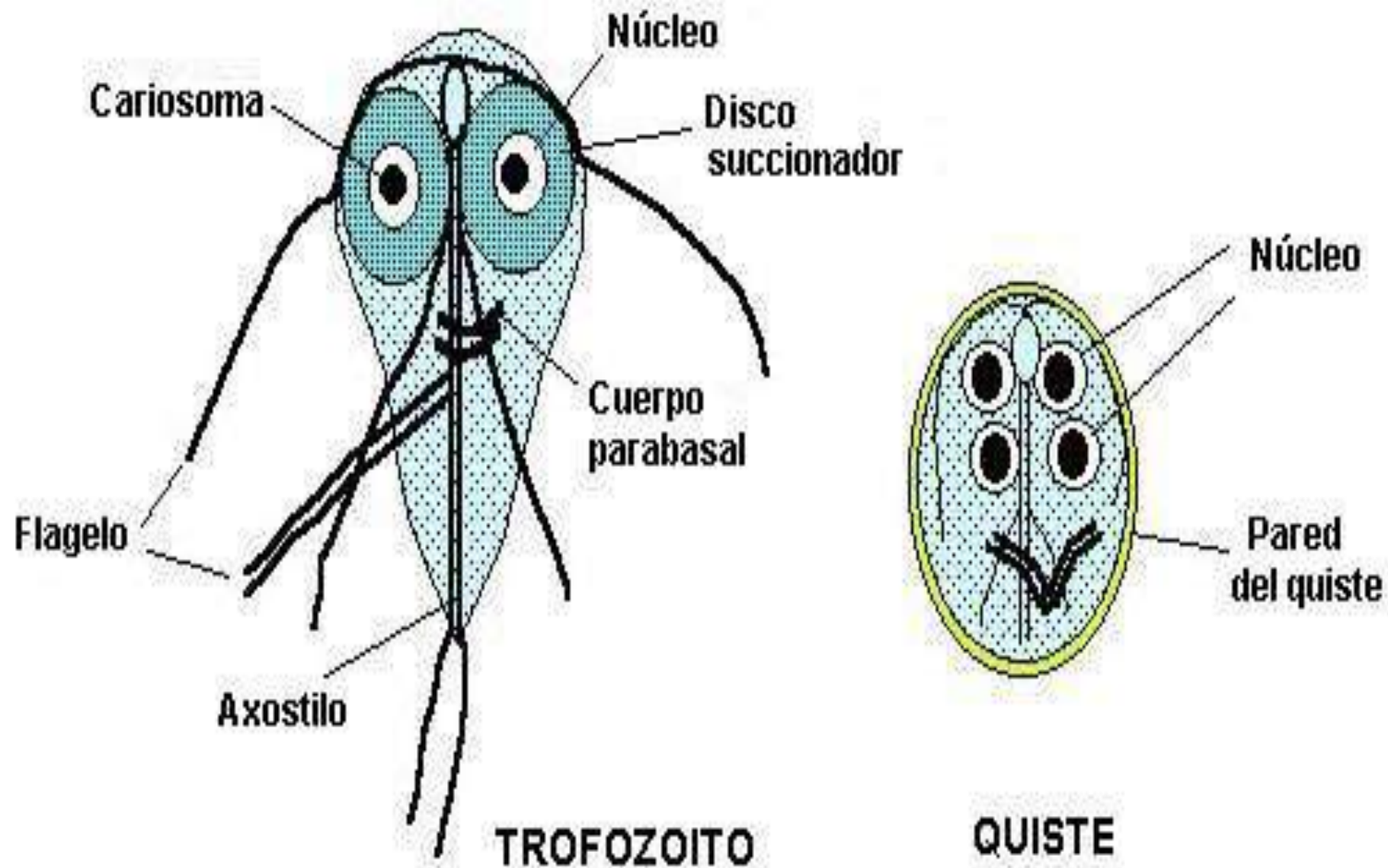
cilia

20µm

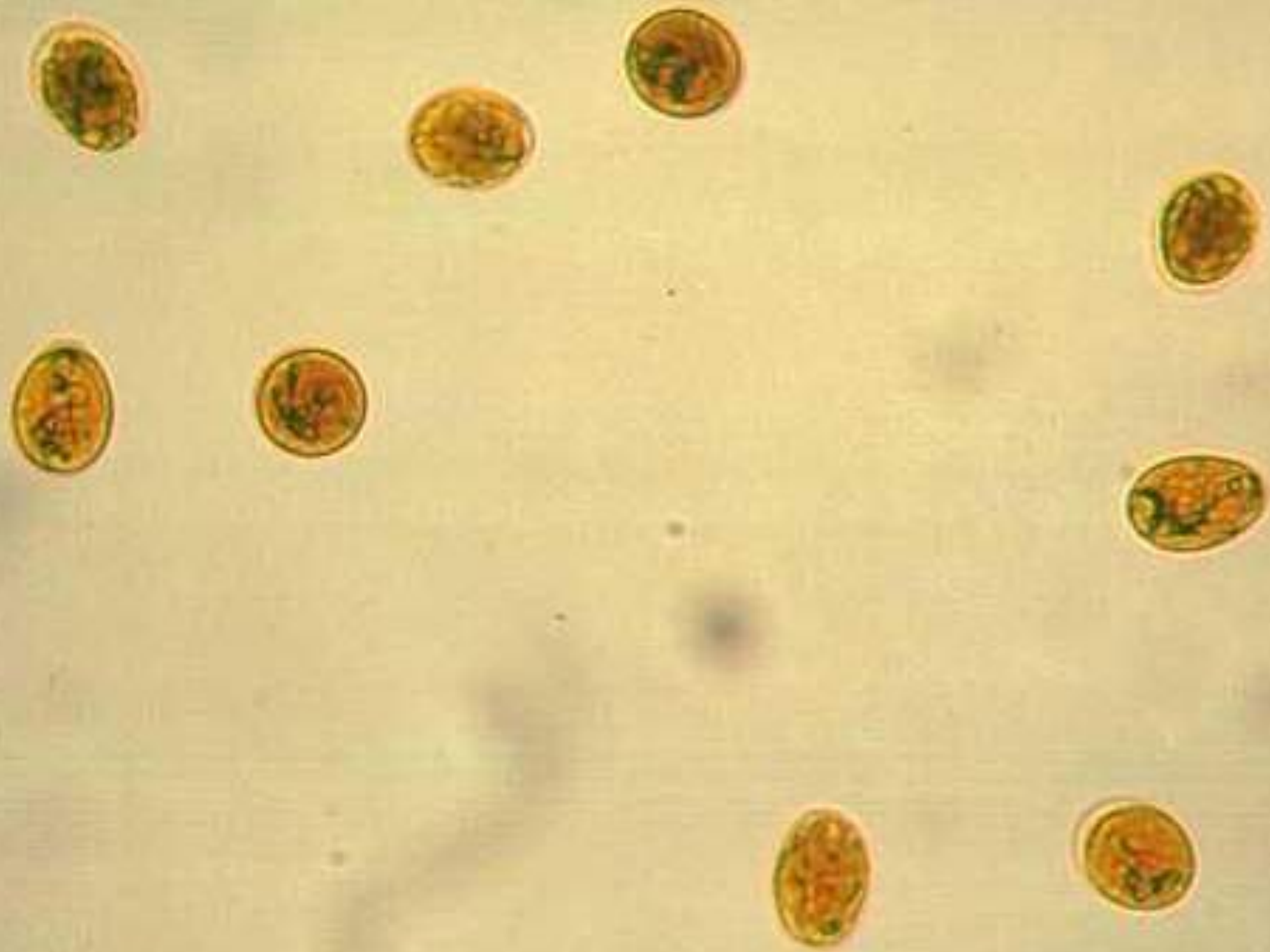


Class three :The Flagellated Protozoa

- **Intestinal species**
- *Giardia lamblia*
- *Trichomonas hominis*
- *Chilomastix mesnili*
- *Enteromonas hominis*
- *Retortamonas intestinalis*
- **Oral and vaginal species .**
- *Trichomonas tenax*
- *Trichomonas vaginalis*
- **Blood species**
- *Leishmania donovani*
- *Leishmania tropica*
- *Leishmania brazielinses*
- *Trypanosoma cruzi*
- *Trypanosoma gambiense*
- *Trypanosoma rhodesience*



Giardia lamblia (12-15 um)



Species of Trichomonas

- ***Trichomonas hominis***:-

- *Trichomonas hominis* has a cosmopolitan distribution. It inhabit the lumen of the cecum .

- ***Trichomonas tenax***:-

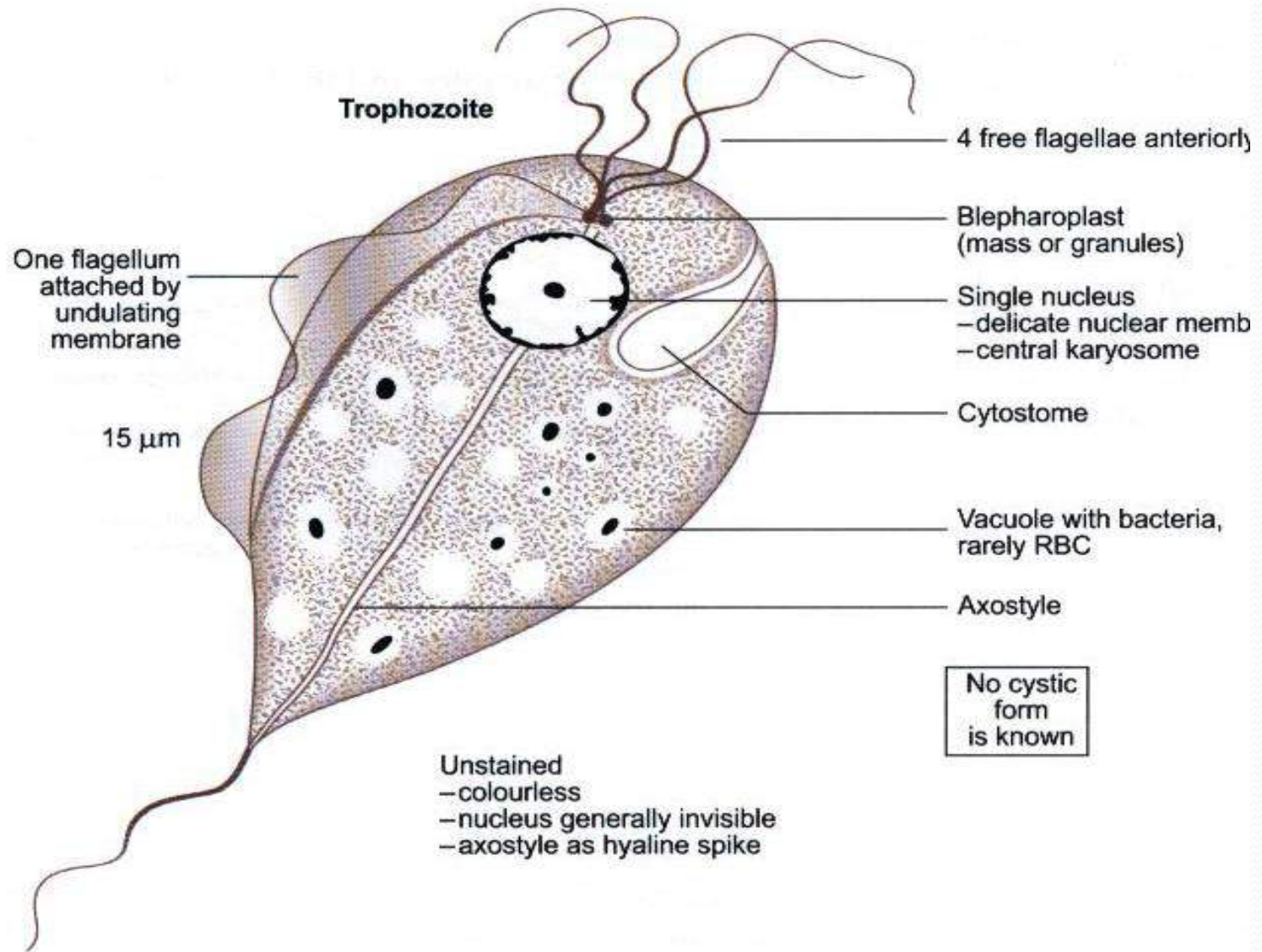
- *Trichomonas tenax* is probably a cosmopolitan parasite of man . On the average *Trichomonas tenax* is smaller than *T. hominis*. The normal habitat is the mouth, particularly in diseased gums, in tartar around the teeth and in carious teeth. It is not pathogenic but its presence indicates poor oral hygiene.

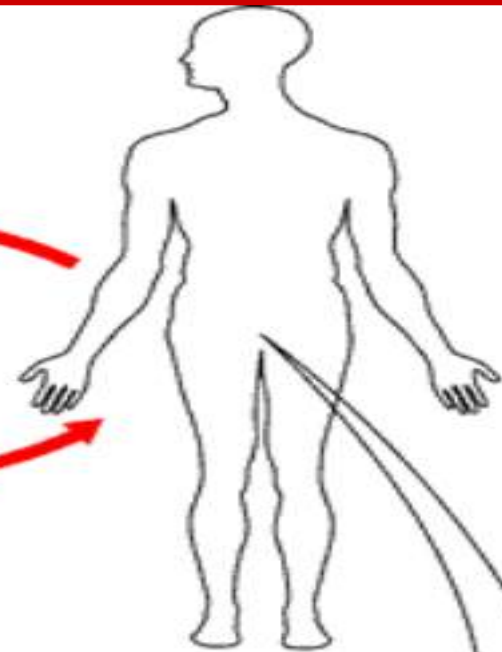
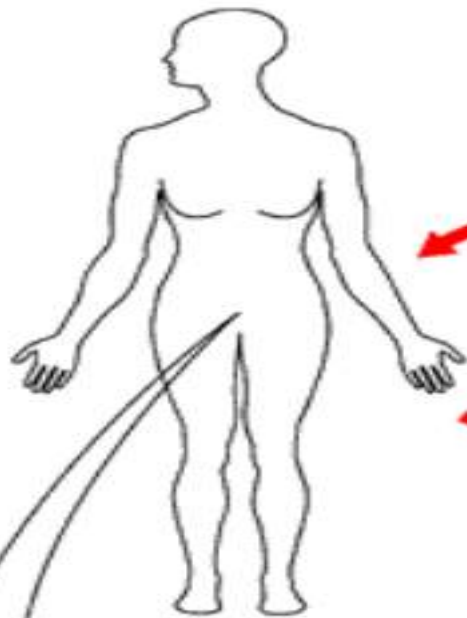


- ***Trichomonas vaginalis*** :

- *Trichomonas vaginalis*, a flagellate, is the most common pathogenic protozoan of humans in industrialized and developing countries. It causes trichomoniasis. The infection is transmitted sexually (STD) .





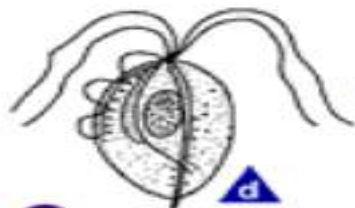


sexual intercourse

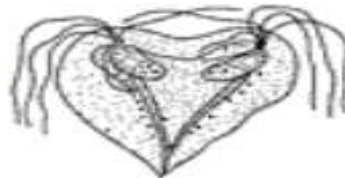


i = Infective Stage
d = Diagnostic Stage

Trichomonas vaginalis



1 Trophozoite in vaginal and prostatic secretions and urine



2 Multiplies by longitudinal binary fission



3 Trophozoite in vagina or orifice of urethra



DIAGNOSIS

- The specific diagnosis of trichomoniasis is made by demonstration of organisms (a jerky motile trophozoites) in the genital specimens and also in the urine by microscopy. Microscopic examination of wet mounts may establish the diagnosis by detecting actively motile organisms. This is the most practical and rapid method of diagnosis (allowing immediate treatment). women, examination should be performed on highly vaginal swab (HVS) and urethral secretions. In men, anterior urethral or prostatic secretions should be examined. PCR also useful .