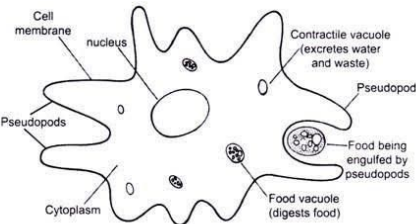

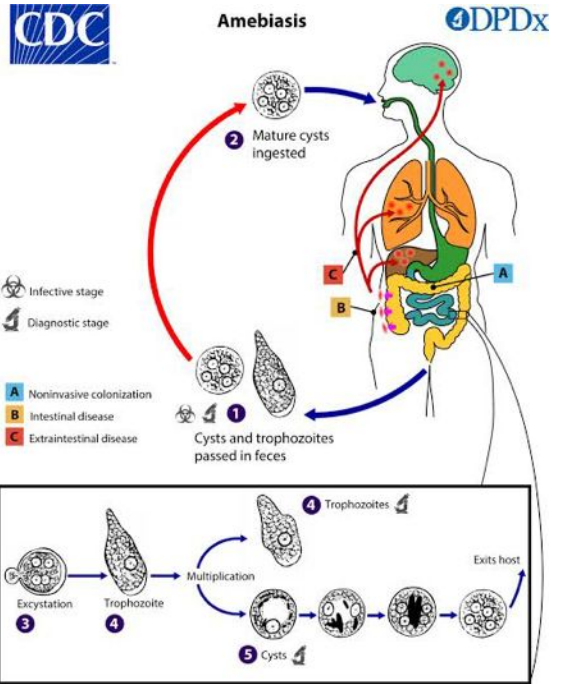
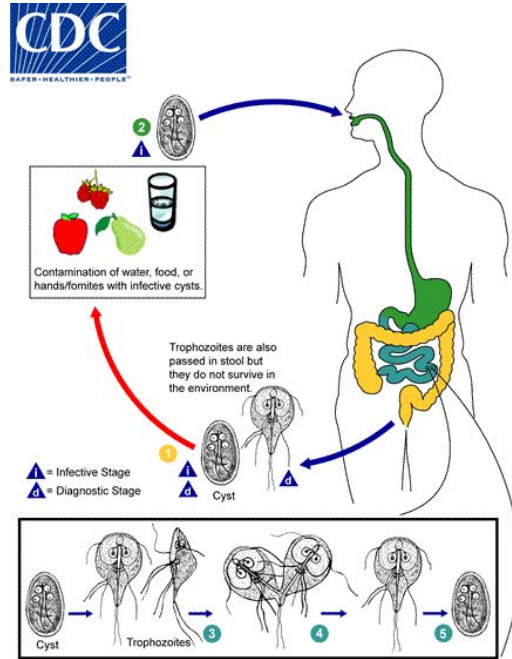
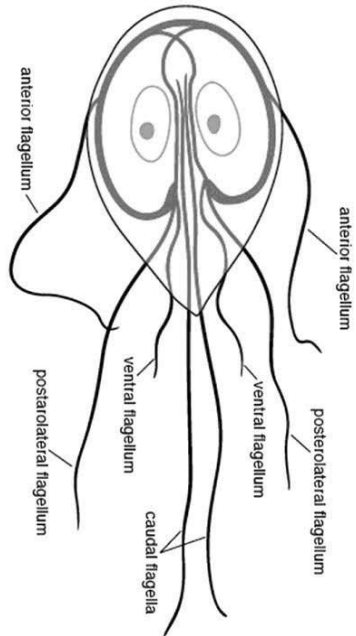


PARASITE	LIFE CYCLE	CLINICAL SIGNS	LOCATION/MODE OF TRANSMISSION	DIAGNOSIS	TREATMENT/PREVENTION
<p>SARCODINA/AMOEBAE (Generalised for all species)</p>  <p>Fig. 9.7 <i>Amoeba proteus</i></p>	<p>Amebiasis </p>  <p>Infective stage 1 Diagnostic stage</p> <p>A Noninvasive colonization B Intestinal disease C Extraintestinal disease</p> <p>Cysts and trophozoites passed in feces</p> <p>Excystation (3) → Trophozoite (4) → Multiplication → Trophozoites (4) → Cysts (5) → Exits host</p>	<p>Most species cause encephalitis, skin lesions, keratitis, or corneal ulcers.</p>	<p>Found free-living in environment (soil, water, body surfaces, etc.).</p>	<p>Microscopic examination of biopsy specimens (observe motile trophozoites).</p>	<p>Treat with antibacterials.</p>

ZOOMASTIGOPHORA (Flagella/Zoomastigophora)

Giardia (Diplomonadida)

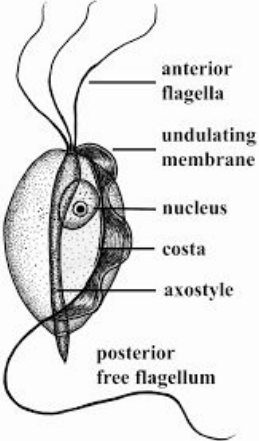
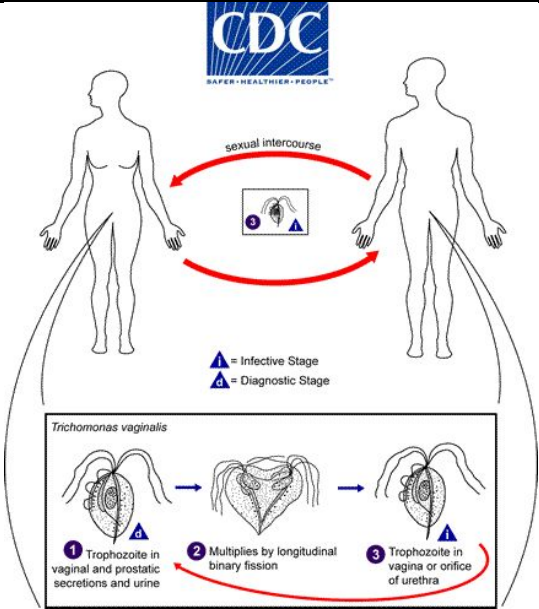
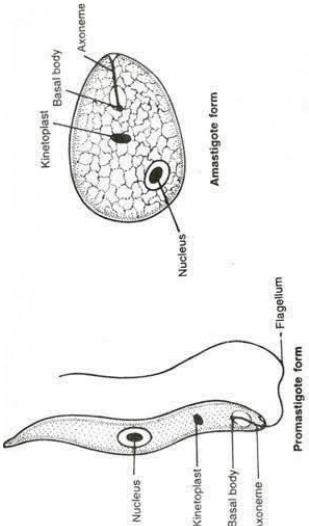
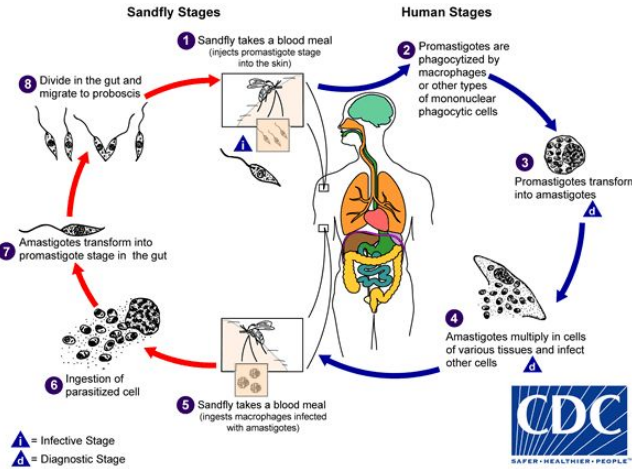


Diarrhoea, abdominal cramping/pain, malnutrition (due to reduced absorption of food).

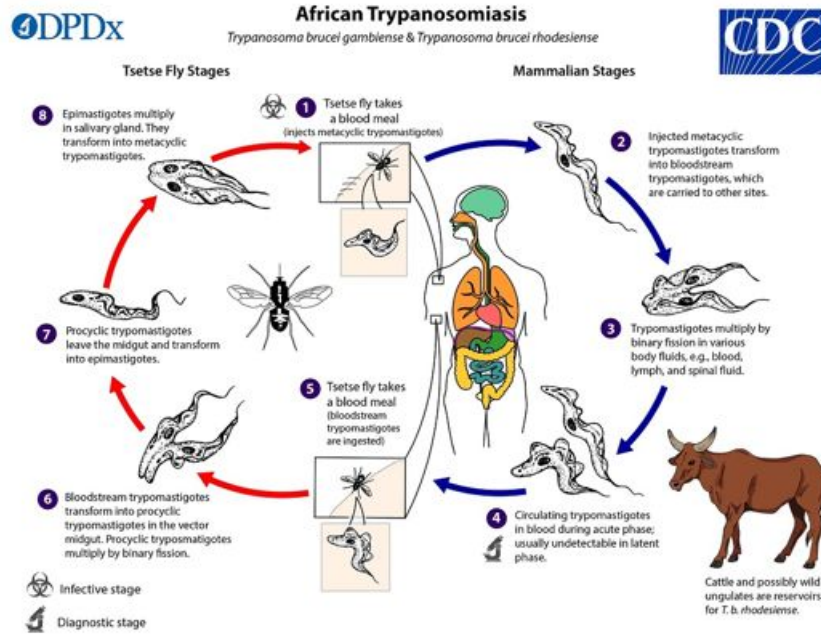
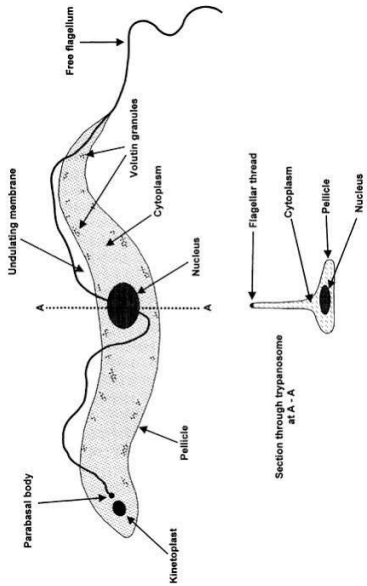
Routes of transmission: faeces, contaminated water and food, person-to-person contact, unprotected anal sex. Definitive: Human. Direct life cycle.

Stool exam detecting the presence of Giardia parasite in the stool. Note cysts can be excreted intermittently so multiple collections increase test sensitivity.

If mild/no symptoms then no treatment necessary. Effective treatments include metronidazole, tinidazole, and nitazoxanide. Prevention includes hand washing, gloves, washing/cooking food, boiling/sterilising /filtration of water.

<p>Tritrichomonas (Trichomonadida) (Tritrichomonas foetus is studied in detail)</p> 		<p>Cows: vaginitis, placentitis, abortion within 1-16 weeks of service, uterine discharge, irregular oestrous cycles, permanent sterility Bulls: micturition pain, decreased libido, mucopurulent discharge, signs disappear in 1-2 weeks, permanent asymptomatic carrier</p>	<p>Found in cattle. Bulls on the penis and membranes inside the sheath, not normally in semen. In the cow, colonises the vagina, uterus and oviducts. Definitive: human or cow. Direct life cycle.</p>	<p>Swab, microscopy, culture, PCR, usually test bulls. Note this is a notifiable disease in NSW.</p>	<p>Treatment usually involves a single dose of antibiotics (either metronidazole or tinidazole).</p>
<p>Leishmania (Kinetoplastida)</p>  <p>Fig. 178. Morphological forms of <i>Leishmania donovani</i></p>		<p>Increased size of liver and spleen, decreased body weight, anaemia, ulcers. Visceral, mucocutaneous, and cutaneous effects.</p>	<p>Lives in white blood cells. Promastigote (no flagella) in insect host, amastigote (flagella) in vertebrate host. Spread by female sandfly. Definitive: human. Intermediate: sandfly. Sometimes has reservoir host.</p>	<p>Biopsy, blood sample, microscopy (dark spots present in the white blood cell cytoplasm are the parasite), culture, serology, PCR.</p>	<p>Treat skin sores with liquid nitrogen. Sores will self heal but will scar. Some spp. may spread through skin sores. Drug treatments are available and should be used for visceral cases as they are usually fatal. Prevent by controlling vector, which are female sandflies.</p>

Trypanosoma (Kinetoplastida)



In cattle: lymphadenopathy, anaemia, emaciation, death. In humans: 2 stages including CNS and peripheral circulation, sore at bite site, fever, headache, muscle/joint aches, increased lymph node size, rash, neurologic problems, death. African sleeping sickness. Definitive: human or cow etc. Intermediate: fly.

Extrace llular, found in blood plasma of vertebrates. Spread by female Tsetse fly.

Cattle: blood sample. Human: find parasite in bodily fluids.

Treat with Metamidium and Diaminazine aceturate, however these are toxic drugs and relapse often occurs. To prevent, control the vector, which are female Tsetse flies.

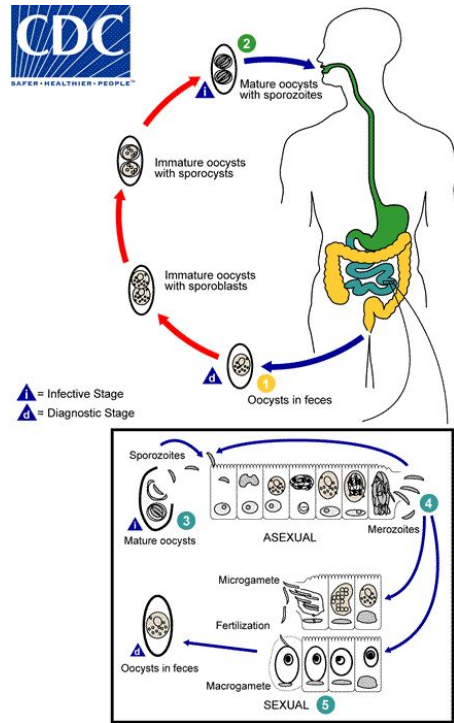
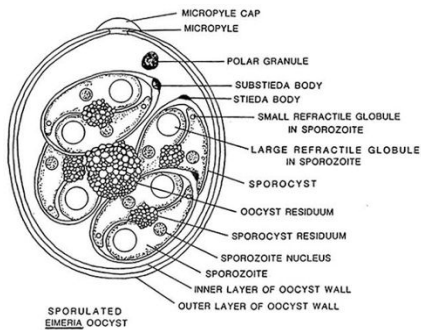
APICOMPLEXA/SPOROZOA

Eimeria spp. (Eimeriida/Coccidia)

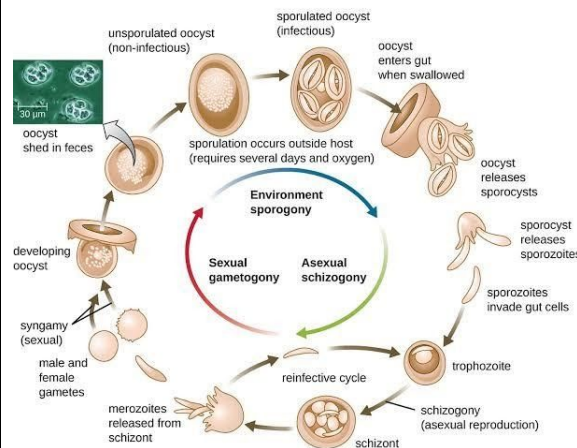
Oocysts are discernible only by use of a compound microscope (wide range of oocyst sizes so difficult to distinguish species).

Molecular techniques using DNA to specifically identify the oocysts.

Morphology of sporulated oocyst is important



Eimeria Life Cycle



Cause Coccidiosis, diarrhoea (poultry, lambs, calves, pigs). Usually not apparent until sent to market. Decreased weight gain, malabsorption, increased FCR, droopiness, emaciation, death, rupture of schizonts in the lamina propriety is the major lesion resulting in epithelial sloughing and blood loss.

Cosmopolitan distribution. Many species; chickens, sheep, goats, cattle, pigs and horses are each infected with their own species. 7 species in chickens: *E. acervulina*, *E. brunetti*, *E. maxima*, *E. mitis*, *E. necatrix*, *E. praecox*, and ***E. tenella***.

Farm history, clinical examination, post mortem examination, microscopic examination, scraping of the intestinal mucosa will reveal schizonts, PCR.

Vaccination in 1st week, chemoprophylaxis (using anticoccidial drugs), infections treated with sulphonamides, amprolium, toltrazuril. To prevent, avoid moist, warm conditions for sporulation and stressors (overstocking, contamination)/