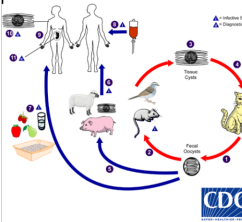
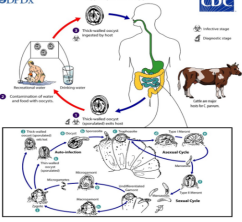
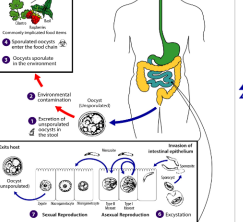
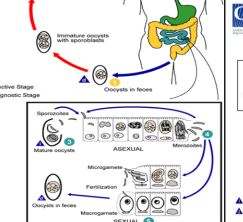
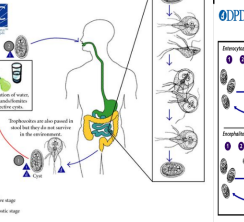
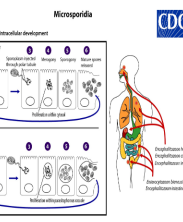
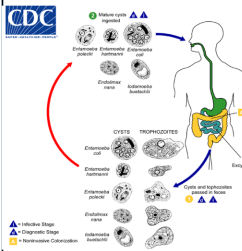
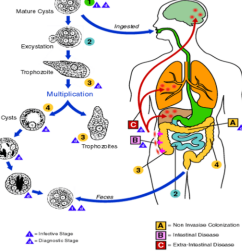
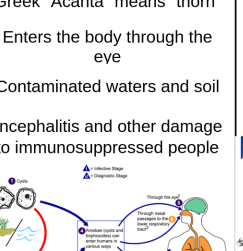
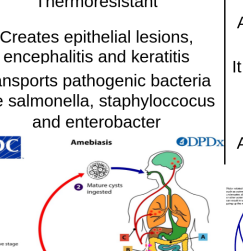


Water-associated parasites

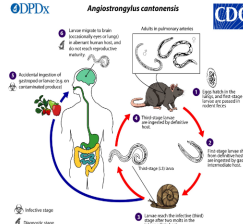
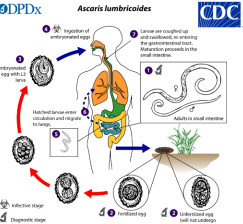
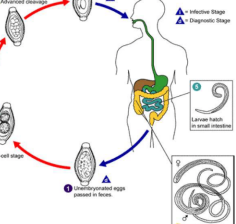
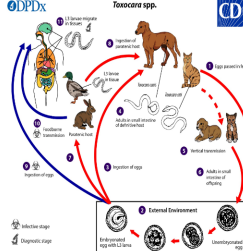
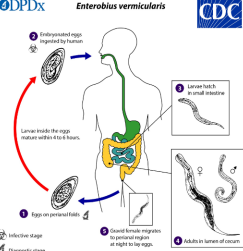
Protozoa

Toxoplasma gondii	Cryptosporidium spp.	Cyclospora cayentanensis	Cystoisospora belli	Giardia spp.	Microsporidium
intracellular obligated parasite. Asexual and sexual phases. Oocysts: contain sporozoites Trophozoites Cysts: contain bradyzoites	Oocysts, Cysts and Spores oocysts can resist Cl ⁻ Asexual and sexual phases. Digestive and respiratory tract → parasite vacuole	zoonosis. 10µm Oocysts with 2 sporozoites and 2 sporozoites	zoonosis. 30µm Oocysts with 2 sporozoites and 4 sporozoites	very frequent, flagellated and clonal parasite Oocysts (infection) and Trophozoites (attach intestines)	intracellular obligated parasite. ↑ resistant spore with 2 layers: endospore and exospore. Extrusion apparatus (attach)
					
Oral (contaminated water), Vertical, Transfusional Fever. Abortion, blindness, epilepsy. AIDS: eye-brain cysts Visualisation, Serology, PCR No specific treatment Gloves, hygiene, raw meat and milk, cat litter boxes	Water quality of the country Diarrhoea, nausea, fever. AIDS: persistent infection Serology, choprology Nothing. Antiretroviral therapy Water treatment, faeces control	Cosmopolitan, Haiti mainly Diarrhoea, malabsorption, lung infection. Guillen-Barré. Coprology Sulfamethoxazole not infective at exit, hands wash and water control, veggies wash	same as C. cayentanensis same as C. cayentanensis Eosinophilia, Choprology, PCR Sulfamethoxazole and medical same as C. cayentanensis	Everywhere, zoonotic Asymptomatic. Diarrhoea, nausea, fever, malabsorption Water concentration-clarification, immunofluorescence. PCR Antibiotics: Nitroimidazoles Hygiene in schools and water control and treatment	Everywhere, especially in tropical areas. Diahorrea Water concentration-clarification, immunofluorescence. PCR Albendazol and antifungi Water treatment and control

Free-Living Amoebas

Acanthamoeba	Vermamoeba vermiformis	Naegleria fowleri	Balamuthia mandrillaris
Greek "Acantá" means "thorn" Enters the body through the eye Contaminated waters and soil Encephalitis and other damage to immunosuppressed people	Thermoresistant Creates epithelial lesions, encephalitis and keratitis Transports pathogenic bacteria like salmonella, staphylococcus and enterobacter	Contaminated water 28°C Affects immunocompetent too. 8 genotypes It has a 3rd stage with flagellum Causes Primary Amebic Meningoencephalitis Australia & Mexico legislations	On soil and suspended dust Produces encephalitis and cutaneous lesions. Keratitis They become cysts if there is no "food" Microbiologic diagnosis with PCR
			
Worldwide distribution, tropical Asymptomatic They're indicators of water quality	"Traveller's diarrhoea" contaminated water Asymptomatic. Diarrhoea with bleeding and ulcers Biopsy, Choprology, Serology ELISA and PCR Metronidazol Water and faeces control, hygiene, avoid oral-fecal		

Nematodes

Angiostrongylus cantonensis parasite in rats' lungs Affects paratenic and accidental hosts. Sam's case... OPDx Angiostrongylus cantonensis CDC  CHI, IND, AUS, USA, BRA... Meningitis eosinophilic: fever, headaches, stiffness, seizures... Serology, eosinophilia Not very effective. Corticosteroids ↓ Anthelmintics ↓ ↓ Rats and snail control, hygiene Hands, food and water washing	Ascaris lumbricoides White worm, the typical intestine worm. Autoinfection Males smaller than females, 30M stored - 200K eggs a day OPDx Ascaris lumbricoides CDC  Everywhere, soil transmission Lungs bleeding, obstruction and low nutrient absorption Coprology and PCR Albendazole and mebendazole Hands washing, teach children, soil & water control	Trichuris trichura male 4cm, female 5cm. 5K eggs 2 regions: thin-long and thick-short (organs). Syncytium OPDx Trichuris trichura CDC  Global top 3 parasite. Tropical Asymptomatic. Diahorrea. Intestinal bleeding. Find the egg No specific treatment Faeces control
Toxocara canis/cati typical worm of dogs/cats female 15cm, male 5cm similar to Ascaris, cephalic wings. we as accidental hosts, larvae. OPDx Toxocara spp. CDC  Common between children playing with cats and dogs Liver pain, blindness, fever, inflammation, lungs... systemic Serology ELISA, liver biopsy (ecruated cysts) No specific treatment (humans). Hygiene, cat and dog faeces control, animal treatment pills	Enterobius vermicularis 12mm white female. 15K eggs around the anus. autoinfection the most infective parasite (air transmission) causes anal itching OPDx Enterobius vermicularis CDC  500M people urban zones Anal itching mainly Graham tape in the anus Mebendazol Hygiene, children control	

