

PARASITES in Alphabetical order complements of GROK AI.

The brief summaries of each parasite have been provided by GROK AI and may not be accurate. Please double check with other sources as required.

Acanthamoeba

Physiological Role: Acanthamoeba is a free-living amoeba found in soil, water, and air. It causes opportunistic infections in humans, primarily through contact with contaminated water or contact lenses. It has no beneficial role in humans.

Organ Interactions:

- **Eyes:** Infects the cornea, leading to Acanthamoeba keratitis with inflammation, scarring, and potential vision loss.
- **Brain:** Causes granulomatous amoebic encephalitis (GAE), invading the central nervous system and causing neurological deterioration.
- **Skin:** Leads to cutaneous lesions or ulcers, often in immunocompromised individuals.
- **Lungs:** Rarely causes pulmonary infections, impairing respiratory function.
- **Immune System:** Overwhelms immune responses, particularly in those with weakened immunity, leading to disseminated infection.

Clinical Implications:

- **High Acanthamoeba:** Indicates active infection, causing keratitis (eyes), GAE (brain), or disseminated disease (skin, lungs).
- **Low/Absent Acanthamoeba:** Normal, as it is an environmental organism not part of the human microbiome.

Amebiasis

Physiological Role: Entamoeba histolytica, an amoebic protozoan, causes amebiasis, transmitted via contaminated food or water. It has no beneficial role in humans.

Organ Interactions:

- **Intestines:** Invades the colonic mucosa, causing amoebic dysentery, ulcers, and bloody diarrhea.
- **Liver:** Disseminates via the portal vein, causing amoebic liver abscesses, impairing detoxification.
- **Lungs:** Rarely spreads to the lungs, causing abscesses or pleural effusion, impairing respiration.
- **Brain:** Extremely rare, but causes cerebral amoebiasis, leading to abscesses and neurological damage.
- **Immune System (Lymph Nodes):** Triggers inflammation, overwhelming immune defenses in severe cases.

This general information has been gathered from multiple sources using GROK AI generator which may not be correct. If you have any concerns please see a doctor.

Clinical Implications:

- High *Entamoeba histolytica*: Indicates amebiasis, causing dysentery (intestines), liver abscesses (liver), or rare pulmonary/brain complications (lungs, brain).
- Low/Absent *Entamoeba histolytica*: Normal, as it is not part of the human microbiome and is cleared by immune responses.

Angiostrongyliasis (caused by *Angiostrongylus cantonensis*)

Physiological Role: *Angiostrongylus cantonensis* is a parasitic nematode (rat lungworm) transmitted via ingestion of contaminated raw snails, slugs, or produce. It has no beneficial role in humans.

Organ Interactions:

- Brain and Meninges: Larvae migrate to the central nervous system, causing eosinophilic meningitis with inflammation and nerve damage.
- Eyes: Rarely invades ocular tissues, leading to inflammation and vision impairment.
- Lungs: Can cause pulmonary symptoms like cough if larvae migrate there.
- Spinal Cord: Affects spinal nerves, leading to pain or paralysis in severe cases.
- Immune System: Provokes eosinophilia and inflammatory responses, potentially leading to hypersensitivity.

Clinical Implications:

- High *Angiostrongylus cantonensis*: Indicates angiostrongyliasis, causing meningitis (brain), ocular issues (eyes), or rare spinal complications (spinal cord).
- Low/Absent *Angiostrongylus cantonensis*: Normal, as it is not a human commensal and is eliminated by immune mechanisms.

Anisakiasis (caused by *Anisakis* spp.)

Physiological Role: *Anisakis* is a parasitic nematode transmitted through consumption of raw or undercooked fish. It has no beneficial role in humans.

Organ Interactions:

- Stomach and Intestines: Larvae penetrate the gastrointestinal mucosa, causing acute abdominal pain, nausea, and inflammation.
- Immune System: Triggers allergic reactions, including anaphylaxis in sensitized individuals.
- Throat: Rarely causes pharyngeal anisakiasis with swelling and discomfort.

Clinical Implications:

- High *Anisakis*: Indicates anisakiasis, causing gastric or intestinal perforation (stomach, intestines) and allergic responses (immune system).

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- Low/Absent Anisakis: Normal, as it is not part of the human microbiome.

Ascariasis (caused by *Ascaris lumbricoides*)

Physiological Role: *Ascaris lumbricoides* is a parasitic roundworm transmitted via fecal-oral route through contaminated soil or food. It has no beneficial role in humans.

Organ Interactions:

- Intestines: Adult worms reside in the small intestine, causing malnutrition, obstruction, and abdominal pain.
- Lungs: Larvae migrate through lungs during life cycle, causing pneumonia-like symptoms (Loeffler's syndrome).
- Liver and Pancreas: Worms can migrate to bile ducts or pancreas, causing blockages and inflammation.
- Immune System: Induces eosinophilia and hypersensitivity reactions.

Clinical Implications:

- High *Ascaris lumbricoides*: Indicates ascariasis, causing intestinal blockage (intestines), respiratory issues (lungs), or biliary obstruction (liver).
- Low/Absent *Ascaris lumbricoides*: Normal, as it is a pathogen cleared by immunity or hygiene.

Babesiosis (caused by *Babesia* spp.)

Physiological Role: *Babesia* is a protozoan parasite transmitted by tick bites or blood transfusion. It has no beneficial role in humans.

Organ Interactions:

- Blood (Red Blood Cells): Infects erythrocytes, causing hemolysis, anemia, and fatigue.
- Spleen: Overburdens splenic function, leading to splenomegaly or rupture in severe cases.
- Liver: Causes hepatomegaly and impaired liver function due to hemolysis.
- Kidneys: Can lead to renal failure from hemoglobinuria.
- Immune System: Suppresses immunity, worsening in immunocompromised hosts.

Clinical Implications:

- High *Babesia*: Indicates babesiosis, causing hemolytic anemia (blood), organ enlargement (spleen, liver), or renal issues (kidneys).
- Low/Absent *Babesia*: Normal, as it is not commensal and is cleared by immune responses.

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Balamuthia (caused by Balamuthia mandrillaris)

Physiological Role: Balamuthia mandrillaris is a free-living amoeba found in soil and water, causing opportunistic infections via skin wounds or inhalation. It has no beneficial role in humans.

Organ Interactions:

- Brain: Causes granulomatous amoebic encephalitis (GAE), leading to neurological deficits and seizures.
- Skin: Initial entry via lesions, causing chronic ulcers.
- Lungs: Rarely inhaled, leading to pulmonary involvement.
- Immune System: Evades and overwhelms immune defenses in immunocompromised individuals.

Clinical Implications:

- High Balamuthia mandrillaris: Indicates balamuthiasis, causing GAE (brain) or skin lesions (skin).
- Low/Absent Balamuthia mandrillaris: Normal, as it is environmental and not part of the microbiome.

Balantidiasis (caused by Balantidium coli)

Physiological Role: Balantidium coli is a ciliated protozoan transmitted via fecal-oral route from pigs or contaminated water. It has no beneficial role in humans.

Organ Interactions:

- Intestines: Invades colonic mucosa, causing dysentery, ulcers, and diarrhea.
- Immune System: Triggers inflammatory responses, worsening in malnourished hosts.

Clinical Implications:

- High Balantidium coli: Indicates balantidiasis, causing intestinal ulcers and dysentery (intestines).
- Low/Absent Balantidium coli: Normal, as it is not a human commensal.

Baylisascaris (caused by Baylisascaris procyonis)

Physiological Role: Baylisascaris procyonis is a roundworm of raccoons, transmitted via ingestion of eggs from contaminated environments. It has no beneficial role in humans.

Organ Interactions:

- Brain: Larvae migrate to CNS, causing neural larva migrans with encephalitis and neurological damage.

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- Eyes: Ocular larva migrans, leading to vision loss.
- Liver and Lungs: Visceral larva migrans, causing inflammation and eosinophilia.
- Immune System: Provokes strong eosinophilic response.

Clinical Implications:

- High Baylisascaris procyonis: Indicates baylisascariasis, causing encephalitis (brain), blindness (eyes), or visceral disease (liver, lungs).
- Low/Absent Baylisascaris procyonis: Normal, as it is zoonotic and not human-adapted.

Bed Bugs (*Cimex lectularius*)

Physiological Role: Bed bugs are ectoparasitic insects that feed on human blood, transmitted through infested environments. They have no beneficial role in humans.

Organ Interactions:

- Skin: Bites cause itchy welts, inflammation, and secondary infections.
- Immune System: Can trigger allergic reactions or anaphylaxis in sensitive individuals.
- Psychological (Brain): Chronic infestations lead to insomnia and anxiety.

Clinical Implications:

- High Bed Bugs: Indicates infestation, causing dermatological issues (skin) and sleep disturbances (brain).
- Low/Absent Bed Bugs: Normal, as they are external pests not part of the body.

Blastocystis hominis

Physiological Role: Blastocystis hominis is a protozoan found in the gut, transmitted fecal-orally; its pathogenicity is debated, often commensal but can be opportunistic. It may have no clear beneficial role but is common in healthy individuals.

Organ Interactions:

- Intestines: Associated with diarrhea, abdominal pain, and IBS-like symptoms in symptomatic cases.
- Immune System: May modulate gut immunity or exacerbate in immunocompromised hosts.

Clinical Implications:

- High Blastocystis hominis: May indicate blastocystosis, causing gastrointestinal symptoms (intestines) in some cases.
- Low/Absent Blastocystis hominis: Often normal, as it can be commensal without harm.

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Capillariasis (caused by *Capillaria philippinensis*)

Physiological Role: *Capillaria philippinensis* is a nematode transmitted via raw fish consumption. It has no beneficial role in humans.

Organ Interactions:

- Intestines: Infects small intestine, causing malabsorption, diarrhea, and protein loss.
- Immune System: Leads to hypoalbuminemia and weakened immunity.

Clinical Implications:

- High *Capillaria philippinensis*: Indicates capillariasis, causing severe diarrhea and malnutrition (intestines).
- Low/Absent *Capillaria philippinensis*: Normal, as it is not commensal.

Cercarial Dermatitis (Swimmer's Itch, caused by avian schistosomes)

Physiological Role: Caused by larval trematodes from birds/snails, penetrating skin in water. It has no beneficial role in humans.

Organ Interactions:

- Skin: Causes pruritic rash and inflammation at penetration sites.
- Immune System: Triggers hypersensitivity reaction.

Clinical Implications:

- High Cercarial Larvae: Indicates swimmer's itch, causing dermal irritation (skin).
- Low/Absent Cercarial Larvae: Normal, as it is accidental and self-resolving.

Chagas disease (caused by *Trypanosoma cruzi*)

Physiological Role: *Trypanosoma cruzi* is a protozoan transmitted by triatomine bugs or congenitally. It has no beneficial role in humans.

Organ Interactions:

- Heart: Chronic myocarditis, leading to cardiomyopathy and heart failure.
- Digestive System: Megaesophagus or megacolon, impairing swallowing and digestion.
- Brain: Rarely acute meningoencephalitis.
- Immune System: Causes immunosuppression in chronic phase.

Clinical Implications:

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- High *Trypanosoma cruzi*: Indicates Chagas, causing cardiac damage (heart) or gastrointestinal megasyndromes (digestive system).
- Low/Absent *Trypanosoma cruzi*: Normal, as it is cleared or absent in non-endemic areas.

Chilomastix mesnili

Physiological Role: *Chilomastix mesnili* is a flagellated protozoan in the gut, transmitted fecal-orally; generally non-pathogenic commensal.

Organ Interactions:

- Intestines: Rarely associated with mild diarrhea.
- Immune System: Minimal interaction, as often harmless.

Clinical Implications:

- High *Chilomastix mesnili*: Usually asymptomatic, but high levels may correlate with mild GI upset (intestines).
- Low/Absent *Chilomastix mesnili*: Normal, as it can be commensal or absent.

CLM (Cutaneous Larva Migrans, caused by animal hookworms like *Ancylostoma braziliense*)

Physiological Role: Larvae of zoonotic hookworms penetrate skin from contaminated soil. It has no beneficial role in humans.

Organ Interactions:

- Skin: Causes serpiginous tracks with itching and inflammation.
- Immune System: Triggers eosinophilia and local hypersensitivity.

Clinical Implications:

- High Larvae: Indicates CLM, causing pruritic skin lesions (skin).
- Low/Absent Larvae: Normal, as it is self-limiting and zoonotic.

Clonorchiasis (caused by *Clonorchis sinensis*)

Physiological Role: *Clonorchis sinensis* is a liver fluke transmitted via raw fish. It has no beneficial role in humans.

Organ Interactions:

- Liver and Bile Ducts: Chronic inflammation, leading to cholangitis or cholangiocarcinoma.
- Gallbladder: Obstruction and stones.

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- Immune System: Promotes chronic inflammation.

Clinical Implications:

- High *Clonorchis sinensis*: Indicates clonorchiasis, causing biliary disease (liver) and cancer risk.
- Low/Absent *Clonorchis sinensis*: Normal, as not commensal.

Crabs family (Pubic Lice, *Phthirus pubis*)

Physiological Role: Pubic lice are ectoparasites transmitted sexually or through close contact. They have no beneficial role in humans.

Organ Interactions:

- Skin (Pubic Area): Bites cause itching, irritation, and blue spots.
- Immune System: Can lead to secondary infections from scratching.

Clinical Implications:

- High Pubic Lice: Indicates pediculosis pubis, causing dermal irritation (skin).
- Low/Absent Pubic Lice: Normal, as external pests.

Cryptosporidiosis (caused by *Cryptosporidium* spp.)

Physiological Role: *Cryptosporidium* is a protozoan transmitted via contaminated water or food. It has no beneficial role in humans.

Organ Interactions:

- Intestines: Infects epithelial cells, causing watery diarrhea and malabsorption.
- Immune System: Severe in immunocompromised, leading to chronic infection.

Clinical Implications:

- High *Cryptosporidium*: Indicates cryptosporidiosis, causing prolonged diarrhea (intestines), especially in AIDS patients.
- Low/Absent *Cryptosporidium*: Normal, cleared by immunity.

Cyclosporiasis (caused by *Cyclospora cayetanensis*)

Physiological Role: *Cyclospora cayetanensis* is a protozoan transmitted via contaminated produce. It has no beneficial role in humans.

Organ Interactions:

- Intestines: Infects small intestine, causing diarrhea, fatigue, and weight loss.

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- Immune System: Worsens in immunocompromised hosts.

Clinical Implications:

- High *Cyclospora cayetanensis*: Indicates cyclosporiasis, causing persistent GI symptoms (intestines).
- Low/Absent *Cyclospora cayetanensis*: Normal, as not commensal.

Cysticercosis (caused by *Taenia solium* larvae)

Physiological Role: Larval stage of pork tapeworm, transmitted via fecal-oral route. It has no beneficial role in humans.

Organ Interactions:

- Brain: Neurocysticercosis with cysts causing seizures and hydrocephalus.
- Muscles: Cysts in skeletal muscle, often asymptomatic.
- Eyes: Ocular cysts leading to vision impairment.
- Immune System: Inflammatory response to dying cysts.

Clinical Implications:

- High *Taenia solium* Larvae: Indicates cysticercosis, causing neurological issues (brain) or muscle pain (muscles).
- Low/Absent *Taenia solium* Larvae: Normal, absent in good hygiene.

Cystoisospora (caused by *Cystoisospora belli*)

Physiological Role: *Cystoisospora belli* is a protozoan transmitted fecal-orally. It has no beneficial role in humans.

Organ Interactions:

- Intestines: Infects small intestine, causing diarrhea and malabsorption.
- Immune System: Severe in immunocompromised, like HIV patients.

Clinical Implications:

- High *Cystoisospora belli*: Indicates cystoisosporiasis, causing chronic diarrhea (intestines).
- Low/Absent *Cystoisospora belli*: Normal, cleared by immunity.

Dientamoeba fragilis

Physiological Role: *Dientamoeba fragilis* is a flagellated protozoan transmitted fecal-orally, often via pinworms; pathogenicity variable, sometimes commensal.

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Organ Interactions:

- Intestines: Associated with IBS-like symptoms, diarrhea, and abdominal pain.
- Immune System: May alter gut microbiota balance.

Clinical Implications:

- High *Dientamoeba fragilis*: May indicate dientamoebiasis, causing GI discomfort (intestines).
- Low/Absent *Dientamoeba fragilis*: Often normal, as it can be asymptomatic.

Diphyllobothriasis (caused by *Diphyllobothrium latum*)

Physiological Role: *Diphyllobothrium latum* is a tapeworm transmitted via raw fish. It has no beneficial role in humans.

Organ Interactions:

- Intestines: Adult worm absorbs vitamin B12, causing megaloblastic anemia.
- Blood: Leads to B12 deficiency affecting red blood cells.
- Immune System: Mild inflammation.

Clinical Implications:

- High *Diphyllobothrium latum*: Indicates diphyllobothriasis, causing anemia (blood) and GI symptoms (intestines).
- Low/Absent *Diphyllobothrium latum*: Normal, not commensal.

Dipylidium (caused by *Dipylidium caninum*)

Physiological Role: *Dipylidium caninum* is a tapeworm transmitted via fleas from dogs/cats. It has no beneficial role in humans.

Organ Interactions:

- Intestines: Causes mild diarrhea or abdominal discomfort.
- Immune System: Minimal impact, often asymptomatic.

Clinical Implications:

- High *Dipylidium caninum*: Indicates dipylidiasis, causing mild GI issues (intestines).
- Low/Absent *Dipylidium caninum*: Normal, zoonotic and rare.

Dirofilariasis (caused by *Dirofilaria* spp.)

Physiological Role: *Dirofilaria* is a nematode transmitted by mosquitoes from animals. It has no beneficial role in humans.

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Organ Interactions:

- Lungs: Pulmonary nodules mimicking cancer.
- Eyes: Subcutaneous or ocular migration causing inflammation.
- Skin: Subcutaneous nodules.
- Immune System: Eosinophilia.

Clinical Implications:

- High *Dirofilaria*: Indicates dirofilariasis, causing lung nodules (lungs) or ocular issues (eyes).
- Low/Absent *Dirofilaria*: Normal, as dead-end host.

Dracunculiasis (caused by *Dracunculus medinensis*)

Physiological Role: *Dracunculus medinensis* (Guinea worm) transmitted via contaminated water. It has no beneficial role in humans.

Organ Interactions:

- Skin: Adult worm emerges through blisters, causing pain and secondary infections.
- Muscles and Joints: Migration causes inflammation.
- Immune System: Local allergic reactions.

Clinical Implications:

- High *Dracunculus medinensis*: Indicates dracunculiasis, causing skin ulcers (skin) and disability (joints).
- Low/Absent *Dracunculus medinensis*: Normal, near eradication.

Echinococcosis (caused by *Echinococcus* spp.)

Physiological Role: *Echinococcus* is a tapeworm transmitted zoonotically via dogs/sheep. It has no beneficial role in humans.

Organ Interactions:

- Liver: Hydatid cysts impair function and cause pain.
- Lungs: Cysts lead to cough and hemoptysis.
- Brain: Rare cysts causing neurological symptoms.
- Immune System: Anaphylaxis if cysts rupture.

Clinical Implications:

- High *Echinococcus*: Indicates echinococcosis, causing cysts in liver or lungs with rupture risks.

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- Low/Absent Echinococcus: Normal, not commensal.

Elephantiasis (Lymphatic Filariasis, caused by *Wuchereria bancrofti*, *Brugia* spp.)

Physiological Role: Filarial nematodes transmitted by mosquitoes. They have no beneficial role in humans.

Organ Interactions:

- Lymphatic System: Blockage leads to lymphedema and elephantiasis.
- Skin: Chronic swelling and thickening.
- Genitals: Hydrocele in males.
- Immune System: Eosinophilia and inflammation.

Clinical Implications:

- High Filarial Worms: Indicates lymphatic filariasis, causing limb swelling (lymphatics) and disfigurement (skin).
- Low/Absent Filarial Worms: Normal, absent in non-endemic areas.

Endolimax nana

Physiological Role: *Endolimax nana* is an amoeba in the gut, transmitted fecal-orally; non-pathogenic commensal.

Organ Interactions:

- Intestines: Asymptomatic colonization.
- Immune System: No significant interaction.

Clinical Implications:

- High *Endolimax nana*: Usually harmless, no clinical disease.
- Low/Absent *Endolimax nana*: Normal, common commensal.

Entamoeba coli

Physiological Role: *Entamoeba coli* is a gut amoeba, transmitted fecal-orally; non-pathogenic commensal.

Organ Interactions:

- Intestines: Asymptomatic, may indicate poor hygiene.
- Immune System: Minimal impact.

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Clinical Implications:

- High *Entamoeba coli*: Indicates possible hygiene issues but no disease.
- Low/Absent *Entamoeba coli*: Normal.

Entamoeba dispar

Physiological Role: *Entamoeba dispar* is a gut amoeba, transmitted fecal-orally; non-pathogenic, morphologically similar to *E. histolytica*.

Organ Interactions:

- Intestines: Asymptomatic colonization.
- Immune System: No effect.

Clinical Implications:

- High *Entamoeba dispar*: Harmless, often misidentified as pathogenic.
- Low/Absent *Entamoeba dispar*: Normal.

Entamoeba hartmanni

Physiological Role: *Entamoeba hartmanni* is a small gut amoeba, transmitted fecal-orally; non-pathogenic commensal.

Organ Interactions:

- Intestines: Asymptomatic.
- Immune System: None.

Clinical Implications:

- High *Entamoeba hartmanni*: No clinical implications.
- Low/Absent *Entamoeba hartmanni*: Normal.

Entamoeba histolytica

Physiological Role: *Entamoeba histolytica* is an amoebic protozoan causing amebiasis, transmitted via contaminated food/water. It has no beneficial role in humans.

Organ Interactions:

- Intestines: Invades mucosa, causing ulcers and dysentery.
- Liver: Abscesses via dissemination.
- Lungs and Brain: Rare extraintestinal spread.

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- Immune System: Overwhelms in severe cases.

Clinical Implications:

- High *Entamoeba histolytica*: Causes amebiasis with dysentery (intestines) and abscesses (liver).
- Low/Absent *Entamoeba histolytica*: Normal, not microbiome component.

Entamoeba polecki

Physiological Role: *Entamoeba polecki* is a gut amoeba from pigs, transmitted zoonotically; rarely pathogenic.

Organ Interactions:

- Intestines: Mild diarrhea in rare cases.
- Immune System: Minimal.

Clinical Implications:

- High *Entamoeba polecki*: Usually asymptomatic, rare GI symptoms.
- Low/Absent *Entamoeba polecki*: Normal.

Fascioliasis (caused by Fasciola hepatica/gigantica)

Physiological Role: Liver flukes transmitted via contaminated plants/water. No beneficial role.

Organ Interactions:

- Liver: Chronic biliary obstruction, fibrosis.
- Gallbladder: Inflammation.
- Immune System: Eosinophilia.

Clinical Implications:

- High *Fasciola*: Causes fascioliasis with liver damage and fever.
- Low/Absent *Fasciola*: Normal.

Fasciolopsiasis (caused by Fasciolopsis buski)

Physiological Role: Intestinal fluke transmitted via aquatic plants. No beneficial role.

Organ Interactions:

- Intestines: Attachment causes ulcers, diarrhea, edema.
- Immune System: Malnutrition-related weakening.

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Clinical Implications:

- High *Fasciolopsis buski*: Causes fasciolopsiasis with severe GI symptoms.
- Low/Absent *Fasciolopsis buski*: Normal.

Giardiasis (caused by *Giardia lamblia*)

Physiological Role: *Giardia lamblia* is a flagellated protozoan transmitted via contaminated water. No beneficial role.

Organ Interactions:

- Intestines: Adheres to duodenum, causing malabsorption, diarrhea.
- Immune System: Chronic infection in immunocompromised.

Clinical Implications:

- High *Giardia lamblia*: Causes giardiasis with chronic diarrhea and weight loss.
- Low/Absent *Giardia lamblia*: Normal.

Gnathostomiasis (caused by *Gnathostoma* spp.)

Physiological Role: Nematode transmitted via raw fish/meat. No beneficial role.

Organ Interactions:

- Skin: Migratory swelling.
- Brain: Eosinophilic meningitis.
- Eyes: Ocular damage.
- Immune System: Eosinophilia.

Clinical Implications:

- High *Gnathostoma*: Causes gnathostomiasis with migratory lesions.
- Low/Absent *Gnathostoma*: Normal.

Heterophyiasis (caused by *Heterophyes heterophyes*)

Physiological Role: Intestinal fluke transmitted via raw fish. No beneficial role.

Organ Interactions:

- Intestines: Mild diarrhea.
- Heart/Brain: Rare egg embolization.

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- Immune System: Mild inflammation.

Clinical Implications:

- High Heterophyes: Causes heterophyiasis with GI symptoms, rare systemic.
- Low/Absent Heterophyes: Normal.

Hookworm Human (caused by *Necator americanus*/*Ancylostoma duodenale*)

Physiological Role: Soil-transmitted nematodes penetrating skin. No beneficial role.

Organ Interactions:

- Intestines: Blood loss causing anemia.
- Lungs: Larval migration causes cough.
- Skin: Ground itch at entry.
- Immune System: Eosinophilia.

Clinical Implications:

- High Hookworms: Causes hookworm disease with anemia and malnutrition.
- Low/Absent Hookworms: Normal.

Hookworm Zoonotic (caused by *Ancylostoma caninum* etc.)

Physiological Role: Animal hookworms causing CLM in humans. No beneficial role.

Organ Interactions:

- Skin: Serpiginous tracks.
- Immune System: Hypersensitivity.

Clinical Implications:

- High Zoonotic Hookworms: Causes CLM with itching.
- Low/Absent Zoonotic Hookworms: Normal.

Hymenolepiasis (caused by *Hymenolepis nana*/*diminuta*)

Physiological Role: Tapeworm transmitted fecal-orally or via insects. No beneficial role.

Organ Interactions:

- Intestines: Mild abdominal pain, diarrhea.

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- Immune System: Minimal.

Clinical Implications:

- High Hymenolepis: Causes hymenolepiasis with GI symptoms.
- Low/Absent Hymenolepis: Normal.

Kala-azar (Visceral Leishmaniasis, caused by *Leishmania donovani*)

Physiological Role: Protozoan transmitted by sandflies. No beneficial role.

Organ Interactions:

- Spleen: Splenomegaly.
- Liver: Hepatomegaly.
- Bone Marrow: Anemia, pancytopenia.
- Immune System: Immunosuppression.

Clinical Implications:

- High *Leishmania*: Causes kala-azar with fever, weight loss, organ failure.
- Low/Absent *Leishmania*: Normal.

Keratitis (*Acanthamoeba* Keratitis, caused by *Acanthamoeba* spp.)

Physiological Role: Free-living amoeba via contact lenses/water. No beneficial role.

Organ Interactions:

- Eyes: Corneal infection, pain, vision loss.
- Immune System: Inflammation.

Clinical Implications:

- High *Acanthamoeba*: Causes keratitis with corneal ulcers.
- Low/Absent *Acanthamoeba*: Normal.

Loiasis (caused by *Loa loa*)

Physiological Role: Filarial worm transmitted by deer flies. No beneficial role.

Organ Interactions:

- Eyes: Subconjunctival migration (Calabar swellings).
- Skin: Transient swellings.

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- Immune System: Eosinophilia.

Clinical Implications:

- High Loa loa: Causes loiasis with eye worm and swellings.
- Low/Absent Loa loa: Normal.

Lymph filariasis (Lymphatic Filariasis, caused by *Wuchereria*/*Brugia* spp.)

Physiological Role: Mosquito-transmitted filaria. No beneficial role.

Organ Interactions:

- Lymphatics: Lymphedema, elephantiasis.
- Skin: Thickening.
- Genitals: Hydrocele.
- Immune System: Inflammation.

Clinical Implications:

- High Filaria: Causes lymph filariasis with swelling and disability.
- Low/Absent Filaria: Normal.

Malaria (caused by *Plasmodium* spp.)

Physiological Role: Protozoan transmitted by mosquitoes. No beneficial role.

Organ Interactions:

- Blood: Hemolysis, anemia.
- Brain: Cerebral malaria, seizures.
- Liver/Spleen: Enlargement.
- Kidneys: Failure in severe cases.
- Immune System: Cytokine storm.

Clinical Implications:

- High *Plasmodium*: Causes malaria with fever, organ failure.
- Low/Absent *Plasmodium*: Normal.

Microsporidiosis (caused by *Microsporidia* spp.)

Physiological Role: Fungal-like parasites transmitted via spores. No beneficial role.

This general information has been gathered from multiple sources using GROK AI generator which may not be correct. If you have any concerns please see a doctor.

Organ Interactions:

- Intestines: Diarrhea in immunocompromised.
- Eyes: Keratoconjunctivitis.
- Kidneys: Nephritis.
- Immune System: Opportunistic in AIDS.

Clinical Implications:

- High Microsporidia: Causes microsporidiosis with systemic infections.
- Low/Absent Microsporidia: Normal.

Myiasis (caused by fly larvae like Dermatobia)

Physiological Role: Larval infestation of tissue via flies. No beneficial role.

Organ Interactions:

- Skin: Boils, wounds.
- Eyes/Nose: Cavitary myiasis.
- Immune System: Inflammation.

Clinical Implications:

- High Larvae: Causes myiasis with tissue destruction.
- Low/Absent Larvae: Normal.

Naegleria (caused by *Naegleria fowleri*)

Physiological Role: Free-living amoeba in warm water, enters via nose. No beneficial role.

Organ Interactions:

- Brain: Primary amoebic meningoencephalitis (PAM), rapid destruction.
- Immune System: Overwhelmed response.

Clinical Implications:

- High *Naegleria fowleri*: Causes PAM, fatal brain infection.
- Low/Absent *Naegleria fowleri*: Normal.

Neurocysticercosis (caused by *Taenia solium* larvae in brain)

Physiological Role: Larval pork tapeworm in CNS. No beneficial role.

This general information has been gathered from multiple sources using GROK AI generator which may not be correct. If you have any concerns please see a doctor.

Organ Interactions:

- Brain: Cysts cause seizures, hydrocephalus.
- Spinal Cord: Rare compression.
- Immune System: Inflammation to cysts.

Clinical Implications:

- High Larvae: Causes neurocysticercosis with epilepsy.
- Low/Absent Larvae: Normal.

Opisthorchiasis (caused by *Opisthorchis* spp.)

Physiological Role: Liver fluke via raw fish. No beneficial role.

Organ Interactions:

- Liver/Bile Ducts: Cholangitis, cancer risk.
- Gallbladder: Obstruction.
- Immune System: Chronic inflammation.

Clinical Implications:

- High *Opisthorchis*: Causes opisthorchiasis with biliary disease.
- Low/Absent *Opisthorchis*: Normal.

Paragonimiasis (caused by *Paragonimus* spp.)

Physiological Role: Lung fluke via raw crustaceans. No beneficial role.

Organ Interactions:

- Lungs: Cysts, hemoptysis, mimics TB.
- Brain: Ectopic migration, seizures.
- Immune System: Eosinophilia.

Clinical Implications:

- High *Paragonimus*: Causes paragonimiasis with pulmonary symptoms.
- Low/Absent *Paragonimus*: Normal.

Pediculosis Lice (caused by *Pediculus humanus*)

Physiological Role: Head/body lice transmitted by contact. No beneficial role.

This general information has been gathered from multiple sources using GROK AI generator which may not be correct. If you have any concerns please see a doctor.

Organ Interactions:

- Skin/Scalp: Itching, excoriations.
- Immune System: Secondary infections.

Clinical Implications:

- High Lice: Causes pediculosis with irritation, potential disease vector.
- Low/Absent Lice: Normal.

Pneumocystis (caused by *Pneumocystis jirovecii*)

Physiological Role: Fungus-like opportunist in lungs. No beneficial role.

Organ Interactions:

- Lungs: Pneumonia (PCP) in immunocompromised.
- Immune System: Opportunistic in AIDS.

Clinical Implications:

- High *Pneumocystis jirovecii*: Causes PCP with respiratory failure.
- Low/Absent *Pneumocystis jirovecii*: Normal colonization in healthy.

River Blindness (Onchocerciasis, caused by *Onchocerca volvulus*)

Physiological Role: Filarial worm via blackflies. No beneficial role.

Organ Interactions:

- Skin: Nodules, itching.
- Eyes: Keratitis, blindness.
- Immune System: Inflammation.

Clinical Implications:

- High *Onchocerca*: Causes river blindness with visual loss.
- Low/Absent *Onchocerca*: Normal.

Roundworm human (Ascariasis, caused by *Ascaris lumbricoides*)

Physiological Role: Soil-transmitted roundworm. No beneficial role.

Organ Interactions:

- Intestines: Obstruction.

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- Lungs: Pneumonitis.
- Liver: Biliary blockage.
- Immune System: Eosinophilia.

Clinical Implications:

- High *Ascaris lumbricoides*: Causes ascariasis with malnutrition.
- Low/Absent *Ascaris lumbricoides*: Normal.

Roundworm raccoon (Baylisascariasis, caused by *Baylisascaris procyonis*)

Physiological Role: Raccoon roundworm via eggs. No beneficial role.

Organ Interactions:

- Brain: Encephalitis.
- Eyes: Blindness.
- Liver/Lungs: Inflammation.
- Immune System: Eosinophilia.

Clinical Implications:

- High *Baylisascaris*: Causes severe neural damage.
- Low/Absent *Baylisascaris*: Normal.

Sappinia (caused by *Sappinia* spp.)

Physiological Role: Free-living amoeba rare in humans. No beneficial role.

Organ Interactions:

- Brain: Amoebic encephalitis.
- Immune System: Rare opportunistic.

Clinical Implications:

- High *Sappinia*: Causes rare brain abscess.
- Low/Absent *Sappinia*: Normal.

Sarcocystosis (caused by *Sarcocystis* spp.)

Physiological Role: Protozoan via undercooked meat. No beneficial role.

Organ Interactions:

This general information has been gathered from multiple sources using GROK AI generator which may not be correct. If you have any concerns please see a doctor.

- Muscles: Cysts, myositis.
- Intestines: Diarrhea.
- Immune System: Inflammation.

Clinical Implications:

- High Sarcocystis: Causes sarcocystosis with muscle pain.
- Low/Absent Sarcocystis: Normal.

Scabies (caused by *Sarcoptes scabiei*)

Physiological Role: Mite burrowing in skin, transmitted by contact. No beneficial role.

Organ Interactions:

- Skin: Intense itching, rash.
- Immune System: Hypersensitivity.

Clinical Implications:

- High Mites: Causes scabies with crusted forms in immunocompromised.
- Low/Absent Mites: Normal.

Schistosomiasis (caused by *Schistosoma* spp.)

Physiological Role: Blood flukes via snail-infested water. No beneficial role.

Organ Interactions:

- Bladder/Liver: Fibrosis, cancer (*S. haematobium*/*mansoni*).
- Lungs: Pulmonary hypertension.
- Brain: Neuroschistosomiasis.
- Immune System: Granulomas.

Clinical Implications:

- High *Schistosoma*: Causes schistosomiasis with organ fibrosis.
- Low/Absent *Schistosoma*: Normal.

Strongyloidiasis (caused by *Strongyloides stercoralis*)

Physiological Role: Soil-transmitted nematode. No beneficial role.

Organ Interactions:

This general information has been gathered from multiple sources using GROK AI generator which may not be correct. If you have any concerns please see a doctor.

- Intestines: Chronic diarrhea.
- Lungs: Larval migration.
- Skin: Larva currens rash.
- Immune System: Hyperinfection in immunocompromised.

Clinical Implications:

- High Strongyloides: Causes strongyloidiasis, potentially fatal hyperinfection.
- Low/Absent Strongyloides: Normal.

Tapeworm, human (Taeniasis, caused by *Taenia saginata*/*solium*)

Physiological Role: Tapeworm via undercooked beef/pork. No beneficial role.

Organ Interactions:

- Intestines: Mild symptoms, segments in stool.
- Brain: If *solium*, cysticercosis.
- Immune System: Minimal.

Clinical Implications:

- High *Taenia*: Causes taeniasis with GI issues, potential cysticercosis.
- Low/Absent *Taenia*: Normal.

Toxocariasis (caused by *Toxocara canis*/*cati*)

Physiological Role: Zoonotic roundworm from dogs/cats. No beneficial role.

Organ Interactions:

- Eyes: Ocular larva migrans, blindness.
- Liver/Lungs: Visceral larva migrans.
- Brain: Neurological symptoms.
- Immune System: Eosinophilia.

Clinical Implications:

- High *Toxocara*: Causes toxocariasis with organ inflammation.
- Low/Absent *Toxocara*: Normal.

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Toxoplasmosis (caused by *Toxoplasma gondii*)

Physiological Role: Protozoan via cats/undercooked meat. No beneficial role.

Organ Interactions:

- Brain: Encephalitis in immunocompromised.
- Eyes: Retinochoroiditis.
- Lymph Nodes: Lymphadenopathy.
- Immune System: Latent in healthy.

Clinical Implications:

- High *Toxoplasma gondii*: Causes toxoplasmosis, severe in fetus/AIDS.
- Low/Absent *Toxoplasma gondii*: Often latent, normal in immune-competent.

Trichinellosis (caused by *Trichinella* spp.)

Physiological Role: Nematode via undercooked meat. No beneficial role.

Organ Interactions:

- Muscles: Cysts, myalgia.
- Heart: Myocarditis.
- Brain: Encephalitis.
- Immune System: Eosinophilia.

Clinical Implications:

- High *Trichinella*: Causes trichinellosis with muscle pain, edema.
- Low/Absent *Trichinella*: Normal.

Trichomoniasis (caused by *Trichomonas vaginalis*)

Physiological Role: Protozoan transmitted sexually. No beneficial role.

Organ Interactions:

- Genitourinary: Vaginitis, urethritis.
- Immune System: Inflammation.

Clinical Implications:

- High *Trichomonas vaginalis*: Causes trichomoniasis with discharge, itching.
- Low/Absent *Trichomonas vaginalis*: Normal.

This general information has been gathered from multiple sources using GROK AI generator which may not be correct. If you have any concerns please see a doctor.

Trypanosomiasis (African Sleeping Sickness, caused by *Trypanosoma brucei*)

Physiological Role: Protozoan via tsetse flies. No beneficial role.

Organ Interactions:

- Brain: Meningoencephalitis, sleep disturbances.
- Lymph Nodes: Swelling.
- Heart: Myocarditis.
- Immune System: Evasion.

Clinical Implications:

- High *Trypanosoma brucei*: Causes trypanosomiasis with neurological decline.
- Low/Absent *Trypanosoma brucei*: Normal.

GROK Disclaimer: Grok is not a doctor; please consult one.