**Plasmodium**

**General information**

* They are blood parasites.
* There are approximately 156 named species of Plasmodium which infect various species of vertebrates. Four species are considered true parasites of humans, as they utilize humans almost exclusively as a natural intermediate host**: P. falciparum, P. vivax, P. ovale and P. malariae.**

**Host:**

1.**Anopheles mosquito(female)**

2.Human

**Disease:** Malaria

**Geographic distribution:** Malaria today is usually restricted to tropical and subtropical areas(Africa and Asia).

**Prophylaxis:** Several medications are available for chemoprophylaxis.

*When deciding which drug to use, consider specific itinerary, length of trip, cost of drug, previous adverse reactions to antimalarials, drug allergies, and current medical history.****All travelers should seek medical attention in the event of fever during or after return from travel to areas with malaria.***

**Leishmania**

**General information:**

* They are intracellular protozoa.
* Human infection is caused by more than 20 species. These include the L. donovani complex with 2 species (L. donovani, L. infantum [also known as L. chagasi in the New World]); the L. mexicana complex with 3 main species (L. mexicana, L. amazonensis, and L. venezuelensis); L. tropica; L. major; L. aethiopica; and the subgenus Viannia with 4 main species (L. [V.] braziliensis, L. [V.] guyanensis, L. [V.] panamensis, and L. [V.] peruviana).

**Host:**  phlebotomine sand flies

**Disease:** Leishmaniasis(cutaneous and visceral are the most common)

**Geographic distribution:** It is found in parts of the tropics, subtropics, and southern Europe.

**Prophylaxis:** **No vaccines or drugs to prevent infection are available.**

**When outdoors (or in unprotected quarters):**

* Minimize the amount of exposed (uncovered) skin. To the extent that is tolerable in the climate, wear long-sleeved shirts, long pants, and socks; and tuck your shirt into your pants. (See below about wearing insecticide-treated clothing.)
* Apply insect repellent to exposed skin and under the ends of sleeves and pant legs. Follow the instructions on the label of the repellent. The most effective repellents generally are those that contain the chemical DEET (N,N-diethylmetatoluamide).

**When indoors:**

* Stay in well-screened or air-conditioned areas.
* Keep in mind that sand flies are much smaller than mosquitoes and therefore can get through smaller holes.
* Spray living/sleeping areas with an insecticide to kill insects.
* If you are not sleeping in a well-screened or air-conditioned area, use a bed net and tuck it under your mattress. If possible, use a bed net that has been soaked in or sprayed with a pyrethroid-containing insecticide. The same treatment can be applied to screens, curtains, sheets, and clothing (clothing should be retreated after five washings).

**Trypanosoma**

**General information:**

* They are are protozoan hemoflagellates.
* T. b. gambiense*, causing chronic African trypanosomiasis (“West African sleeping sickness”) and*T. b. rhodesiense*, causing acute African trypanosomiasis (“East African sleeping sickness”).*

**Host:** tsetse fly

# Disease: Trypanosomiasis

**Geographic distribution:** T. b. gambiense is endemic in West and Central Africa. T. b. rhodesiense is restricted to East and Southeast Africa.

**Prophylaxis:** **There is no vaccine or drug for prophylaxis against African trypanosomiasis.**

* Wear long-sleeved shirts and pants of medium-weight material in neutral colors that blend with the background environment. Tsetse flies are attracted to bright or dark colors, and they can bite through lightweight clothing.
* Inspect vehicles before entering. The flies are attracted to the motion and dust from moving vehicles.
* Avoid bushes. The tsetse fly is less active during the hottest part of the day but will bite if disturbed.
* Use insect repellent. Permethrin-impregnated clothing and insect repellent have not been proved to be particularly effective against tsetse flies, but they will prevent other insect bites that can cause illness.

**Ascaris Lumbricoides**

**General information:**

Ascaris species are very large (adult females: 20 to 35 cm; adult males: 15 to 30 cm) nematodes (roundworms) that parasitize the human intestine.

**Host:**human

**Disease:**ascariasis (infective eggs are swallowed)

**Geographic distribution:** Ascariasis is the most common human helminthic infection globally. The burden is highest in tropical and subtropical regions, especially in areas with inadequate sanitation. This infection is generally rare to absent in developed countries, but sporadic cases may occur in rural, impoverished regions of those countries.

**Prophylaxis:**

* Avoid ingesting soil that may be contaminated with human or pig feces, including where human fecal matter (“night soil”), wastewater, or pig manure is used to fertilize crops.
* Wash your hands with soap and  water before handling food.
* Wash your hands with soap and water after touching or handling pigs, cleaning pig pens, or handling pig manure.
* Teach children the importance of washing hands to prevent infection.
* Supervise children around pigs, ensuring that they do not put unwashed hands in their mouths.
* Wash, peel, or cook all raw vegetables and fruits before eating, particularly those that have been grown in soil that has been fertilized with manure.

**Trichinella Spiralis**

**General information:**It is a roundworm found worldwide in many carnivorous and omnivorous animals.

**Host:** pigs and anthropophilic rodents, but other domestic animals such as horses can be involved;  bear, moose and wild boar

**Disease:** Trichinellosis (by eating undercooked meat)

**Geographic distribution:** Worldwide. Most common in parts of Europe and the United States.

**Prophylaxis:**

* Wash your hands with warm water and soap after handling raw meat.
* Cook meat to [safe temperatures](https://www.canada.ca/en/health-canada/services/general-food-safety-tips/safe-internal-cooking-temperatures.html)
* **Curing (salting), drying, smoking, or microwaving meat alone does not consistently kill infective worms; homemade jerky and sausage were the cause of many cases of trichinellosis**.
* Freeze pork less than 6 inches thick for 20 days at 5°F (-15°C) to kill any worms.
* Freezing wild game meats, unlike freezing pork products, may not effectively kill all worms because some worm species that infect wild game animals are freeze-resistant.
* Clean meat grinders thoroughly after each use.