

Parasite

- **Protozoa:** unicellular, cyst (the form that transmits) to trophozoite (the form that grows, feeds, divides, etc), size of RBCs, multiply w/in humans via asexual binary fission, - eosinophilia
 - GI (refer to GI Notes)
 - Vaginitis: *Trichomonas vaginalis* (refer to STD)
 - CNS Dz: *Toxoplasma gondii* (refer to HIV)
 - Multi-Organ: *Plasmodium* spp aka "Malaria", *Trypanosomi* spp aka "African Sleeping Sickness & Central/South American Chagas Disease" (Vector: TseTse fly, Geography: Africa & C/S America, S/S: D-CM and Achalasia & Megaesophagus/Colon, Tx: abx and arsenic from CDC), *Leishmania* spp aka "Kala Azar, Oriental Sore, Espundia"
- **Helminth aka Worms:** multicellular, egg to larva to worm, size from mm to meters, can survive for decades in humans so even a remote history of foreign travel, emigration and exotic diet is important, multiply outside of humans via various sexual ways, most are asymptomatic but can cause severe dz in certain circumstances, some pass w/ BM and terrify pts, some believe that helminth exposure is protective against diseases that damage b/c of excessive immune reactions (eg. IBD), + eosinophilia, Tx: various weird dugs but they all work by paralyzing the worm so that it releases and clears out of the GI tract
 - GI (refer to GI Notes)
 - Multi-Organ Dz: *Wuchereria bancrofti* aka "Elephantitis", *Onchocerca volvulus* aka "River Blindness" (refer to The Unusuals)
- *Leishmaniasis* spp. aka "Leishmaniasis"
 - Reservoir/Vector: Sand Fly (seen in soldiers fighting in Iraq)
 - Visceral Leshmaniasis aka "Kala Azar": S/S (F, HSM, LAD, pancytopenia) Tx: amphotericin
 - Cutaneous Lashmaniasis aka "Oriental Sore" "Baghdad Boil": S/S (painless nodular ulcer that eventually scar over) Tx: nothing
 - Mucosal Leshmaniasis aka "Espundia": S/S (nasal discharge that eventually results in nasal derangement) Tx: stibogluconate
- *Trypanosomi* spp aka "African Sleeping Sickness & Central/South American Chagas Disease" (refer to Achalasia)
- *Plasmodium* spp. aka "Malaria"
 - Vector: Anopheles mosquito
 - Geography: Malaria is restricted to tropical and subtropical areas
 - S/S: severity depends on host immunity, age, strain, species, etc, F (periodic but is often not useful) then chills then night sweats then the cycle is repeated every few days, Myalgias/Arthralgias, HSM/N/V/D, Hemolytic anemia, thrombocytopenia, prolonged PT, Hypoglycemia, Metabolic Acidosis, LFTs, AKI
 - Mechanism: hemolysis w/ release of toxins and stimulates RBCs to produce sticky protein on its surface which binds endothelium causing organ infarction (*P. falciparum* is the only one that can be fatal)
 - Epidemiology: 500 million get infected each year and 2 million die each year (esp children, sub-Saharan Africa, *P. falciparum*, med resistance) only 1500 Americans get infected each year during travel
 - Dx: thick & thin smear w/ RBC intracellular Shizonts (round shaped), PCR
 - Tx: all chloroquine sensitive species (VOM) = Chloroquine (for *P. vivax/ovale* you must add primaquine to prevent relapse from persistent hepatic infection) VS chloroquine-resistant species (F) = Mefloquine, Doxycycline, Atovaquone/Proguanil
 - Px: use the Tx meds above depending what species are present where you are going, start 1-2wks prior and continue 4-6wks after coming back

	<i>P. falciparum</i>	<i>P. vivax</i>	<i>P. ovale</i>	<i>P. malariae</i>
Severity	Severe	Mod	Mild	Mild
Distribution	Worldwide	Worldwide	Africa/Asia	Africa
Complications	Superinfection	Splenic Rupture		Nephrotic Syndrome