Microbiology (Bio 206) #29:
Intestinal Parasites and Hepatitis

Terms you should know:

- parasite
- trophozoite
- cyst
- amoeba
- hepatitis
- helminths

**Entamoeba histolytica**
- **Description:** Single-celled protist (amoeba), exists as trophozoites and cysts
- **Diseases:** Amoebic dysentery, can spread to liver
- **Virulence factors:** Kills intestinal cells
- **Treatment:** Iodoquinol (kills cells in intestines), Chloroquine (kills cells in tissues)
- **Reservoir and spread:** Cysts persist in environment; spread by fecal-oral route

**Giardia lamblia**
- **Description:** Single-celled protist, moves by flagella, exists as trophozoites and cysts
- **Diseases:** Giardiasis
- **Virulence factors:** Curved underside serves as a “suction cup” to attach to intestine
- **Treatment:** Quinacrine, metronidazole (multiple doses)
- **Reservoir and spread:** Animal reservoir, fecal-oral spread (cysts persist in water)
  - Low infectious dose (1-10 cysts)

**Hookworms and Threadworms**
- **Description:** Small worms; adults have a hooked plate for attachment
- **Diseases:** Can cause anemia if many adults are present
- **Treatment:** Mebendazole
- **Life cycle and spread:** Eggs hatch in soil; larvae climb grass stalks and burrow through
  Move through blood to lungs, coughed up and swallowed
  Adults mature and lay eggs in intestine
  Threadworm eggs can hatch in intestine for immediate reinfection

**Hepatitis A virus (HAV)**
- **Description:** Small, naked virus with single-stranded RNA genome
- **Diseases:** Hepatitis A (symptoms appear in about 25 days); usually no complications
- **Treatment:** None; vaccine approved in 1995, recommended for travel to risk areas
- **Reservoir and spread:** Human virus; fecal-oral spread

**Hepatitis B virus (HBV)**
- **Description:** Enveloped virus with DNA genome
- **Diseases:** Hepatitis B (symptoms in 10-12 weeks)
  - 10% of patients get chronic infection; leading cause of liver cancer
- **Treatment:** None; vaccine in use but expensive
- **Reservoir and spread:** Humans; spread by sexual or blood-blood contact; low infectious dose