

Disease of the Day

Malaria "Bad air"

Malaria

- ✓ 1955 - WHO began eradication
 - Insecticides such as DDT
 - Treating infected patients
 - 10/52 nations eradicated malaria
 - Bureaucracy and complacency and resistanceThe program failed in 1976
- ✓ Today - 3 million people die/year
- ✓ 300-500 million are infected/year

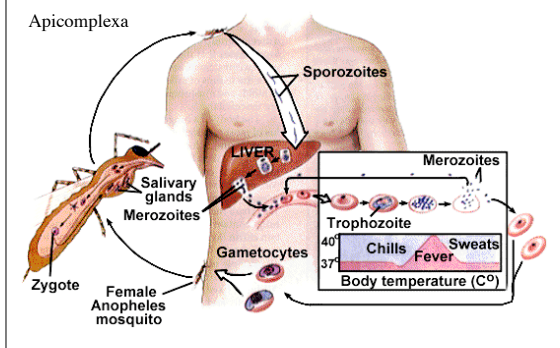
Malaria

- ✓ Organism
 - *Plasmodium vivax*
 - *Plasmodium falciparum*
 - *Plasmodium malariae*
 - *Plasmodium ovale*
- ✓ They are Protists, protozoan, and belong to the divisions of apicomplexa
- ✓ Non-motile

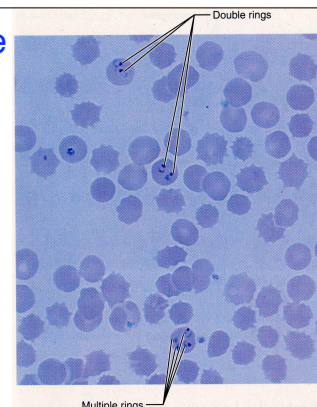
Malaria

- ✓ Transmission
 - Infected female *Anopheles* mosquito
 - Sharing needles
 - blood transfusions
- ✓ Resistance
 - Some lack the receptors on their RBC
 - Sickle cell anemia

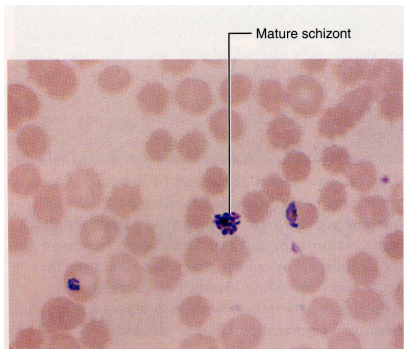
Life cycle of *Plasmodium* (malaria)



Trophozoite



Schizont



Malaria

✓ Sign/symptoms

- Incubation is about 1-2 weeks
 - Flu-like - fever, headache, pain in joints, and muscles - last for about 3 weeks
 - Cold phase - Cold chills for an hour
 - Hot phase - high fever (104°F)
 - Wet phase - temp fall and sweating occurs
 - Repeats every 48-72 hrs
- RBC become rigid, capillaries get plugged, tissue oxygen deprivation, anemia, enlarged spleen

Malaria

✓ Diagnosis

- Microscopic examination and identification of the parasite in the RBC

Malaria

✓ Treatment

- Chloroquine - while living in endemic areas
- Primaquine - after leaving endemic areas
- Mefloquine + doxycycline
- Quinine

✓ Prevention

- DEET
- Insecticide covered netting