

# Infectious Diseases

## I. Viruses

### A. DNA Viruses

1. Adenovirus – causes 10 varieties of the cold
2. Cytomegalovirus – commonly found in stillborn babies
3. Epstein-Barr Virus – mononucleosis; "kissing disease" (causes sore throat, fever)
4. Hepatitis B Virus – causes life-long liver infection
5. Herpes Simplex #1 – causes cold sores
6. Herpes Simplex #2 – STD, causes genital herpes and warts
7. Human Papilloma Virus – causes genital warts and plantar warts on feet
8. J C Virus – causes white matter to form in the brain (disrupts nervous / immune system)
9. Parvovirus – life-threatening to dogs and hogs
10. Varicella-Zoster Virus – causes chickenpox (child) & shingles (adult) / (irritates skin)
11. Variola Virus – causes smallpox (eradicated in 1980) / (produces skin lesions)

### B. RNA Viruses

1. Filovirus – causes Ebola (hemorrhagic fever) / (can bleed to death within 10 days)
2. Flavivirus – causes Denge Fever (bleed to death), St. Louis Encephalitis (inflamed CNS), & West Nile Virus (disrupts neurological functioning)  
- transmitted by mosquitoes
3. Hantaan Virus – causes an accumulation of mucus in lungs  
- no way to prevent (potential epidemic)
4. Hepatitis A Virus – causes fever, abdominal pain, nausea
5. Human Immunodeficiency Virus – leads to AIDS
6. Influenza A – causes the flu; highly contagious
7. Morbillivirus – causes measles (extremely contagious; no extreme effects)  
- given MMR vaccine by 15 months
8. Mumps Virus – causes inflamed lymph glands (given MMR vaccine)
9. Rubivirus – causes rubella (German Measles) / (pregnant women are at high risk)  
- given MMR vaccine
10. Poliovirus – causes stiff neck, possibly paralysis  
- once treated with the Iron Lung (AIDS epidemic of the 1940's / 1950's)
11. Respiratory Syncytial Virus – causes viral pneumonia in children
12. Rhabdovirus – causes rabies by being bitten (organisms become furious and paralyzed)
13. Rhinovirus – causes 100+ cold varieties; "nose virus"
14. Rotavirus – causes 24 hour flu

## II. Bacteria

1. Bacillus anthracis – causes anthrax (attacks immune system)
2. Borrelia burgdorferi – causes Lyme Disease (arthritis)
3. Chlamydia trachomatis – causes STD (genital inflammation)
4. Clostridium botulinum – causes botulism (food poisoning)
5. Clostridium tetani – causes lock jaw
6. Corynebacterium diphtheriae – causes Whooping Cough (respiratory tract infection)
7. Escherichia coli – causes food poisoning
8. Helicobacter pylori – causes stomach ulcers (due to lowered immune response)
9. Lactobacillus acidophilus – ferments milk
10. Mycobacterium leprae – causes Leper's Disease (body parts "decay off")
11. Mycobacterium tuberculosis – causes tuberculosis (fever, chills, & affects respiratory tract)
12. Mycoplasma pneumonia – causes walking pneumonia
13. Neisseria gonorrhoeae – causes gonorrhea (STD); genital sores, pain
14. Neisseria meningitidis – causes meningitis (inflamed brain and spinal cord)
15. Rickettsia rickettsia – causes Rocky Mountain Spotted Fever (fever, chills)
16. Salmonella – causes typhoid fever (food poisoning)
17. Staphylococcus – normally found in mouth, throat, and on skin
18. Streptococcus pneumoniae – causes pneumonia (mucus build-up in lungs)
19. Streptococcus pyogenes – Strept Throat
  - Scarlet Fever
  - Rheumatic Fever (antibodies attack body tissue)
  - Flesh Eating Bacteria
20. Treponema pallidum – causes syphilis (STD); sores
21. Yersinia pestis – causes the Black Plague (blood clots too much)

## III. Protists

1. Entamoeba histolytica - causes traveler's diarrhea (found in contaminated food)
2. Gyrodinium aureolum – release nerve toxin (causes Paralytic Shellfish Poisoning)
3. Giardia lamblia – causes traveler's diarrhea (fecally transmitted (salad bars / day cares))
4. Gonyaulax excavata – causes red-orange tides
5. Leishmania donovani – causes fever, spleen-liver problems, death (passed by sand flies (Gulf War))
6. Phytophthora cinnamomi - destroys avocado, eucalyptus plants
7. Phytophthora infestans - caused Potato Blight in Ireland in 1845
8. Plasmodium malarie – causes malaria (fever, chills) / (passed by mosquitoes)
9. Plasmopara viticola - causes downy mildew on grapes

10. *Pneumocystis carinii* – major cause of death of AIDS patients
11. *Saprolegnia ferax* - causes water mold in aquariums
12. *Toxoplasma gondii* – causes toxoplasmosis (carried by cats)  
- life-threatening to fetuses (can cause mental impairments)
13. *Trichonympha campanula* – found in termite guts (digests wood)
14. *Trichomonas vaginalis* – causes inflammation of the vagina
15. *Trypanosoma cruzi* – causes American Sleeping Sickness (passed by the *Reduviid* bug)
16. *Trypanosoma gambiense* – causes African Sleeping Sickness (passed by the tsetse fly)  
- attacks nervous / immune system (person may fall into deep, fatal sleep)

#### **IV. Fungi**

##### **A. Common Molds**

1. *Rhizopus solonifera* - "Black Bread Mold"

##### **B. Sac Fungi**

1. *Ceratocystis ulmi* - causes Dutch Elm Disease (imported from Holland)
2. *Endothia parasitica* - causes Chestnut Blight (wiped out American Chestnut in eastern U.S.)
3. *Morchella esculenta* - "Morel Mushroom" (found in late April, early May)
4. *Neurospora crassa* - "Red Bread Mold" (studied extensively in genetics)
5. *Saccharomyces cerevisiae* - bread and beer yeasts
6. *Sarcoscypha coccinea* - "Scarlet Cup Fungus"
7. *Tuber melanosporum* - "Truffles" (found in oak roots by pigs) / (European delicacy)

##### **C. Club Fungi**

1. *Amantia* - very poisonous toadstool (bright red, yellow, or white = poisonous)
2. *Boletus varilpes* - edible, choice mushrooms (salads, pizza)
3. *Calvatia gigante* - giant puffballs
4. *Cantharellus cinnabarinus* - edible, choice mushrooms
5. *Fomes* - "Bracket Fungi" (found on trees)
6. *Phallus ravenelii* - stinkhorn mushrooms in yards
7. *Puccinia graminis* - "Wheat Rust" (major problem for farmers in 1930's)
8. *Ustilago maydis* - causes corn smut to form (delicacy in Mexico)

##### **D. Imperfect Fungi**

1. *Aspergillus niger* - used to make Beano
2. *Aspergillus terreus* - use to make Lactaid (lowers cholesterol production)
3. *Candida albicans* - causes thrush infections in mouth & urinary tract
4. *Microsporum audouinii* - causes ringworm & Athlete's Foot
5. *Penicillium notatum* - used to make penicillin (discovered by Alexander Fleming)