

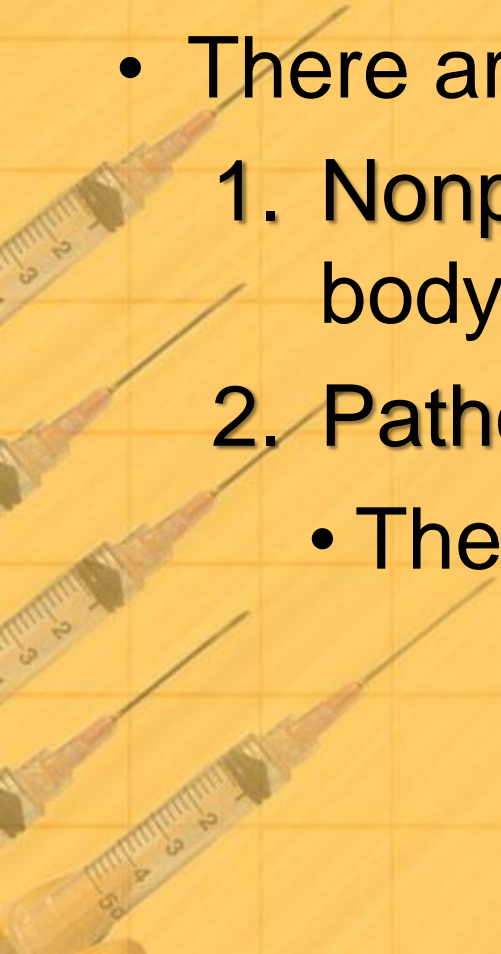
8/26/14 Today's Agenda:

1. **Students will complete Infection Control Crossword (25 minutes).**
2. **Students will watch understanding bacteria video.**
3. **TO: What are 5 microorganisms that cause disease (dz)?**
4. **Students will be given user name and password for Infection Control Weebly and Rubric.**
5. **Closure: You're Stuck Here Until...**

U1 EQ: What potential infectious hazards are there in medical facilities and how may we prevent them?

Microorganisms

- Small, living organism (not visible)
- There are two types:
 1. Nonpathogens: beneficial to certain body processes.
 2. Pathogens: (germs) - cause inf & dz.
 - There are 5 types:



1. Bacteria

Simple 1-celled organisms that multiply rapidly.

There are 7 different shapes/types of bacteria.

Overview of Bacterial infections

Bacterial meningitis

- *Streptococcus pneumoniae*
- *Neisseria meningitidis*
- *Haemophilus influenzae*
- *Streptococcus agalactiae*
- *Listeria monocytogenes*

Otitis media

- *Streptococcus pneumoniae*

Pneumonia

Community-acquired:

- *Streptococcus pneumoniae*
- *Haemophilus influenzae*
- *Staphylococcus aureus*

Atypical:

- *Mycoplasma pneumoniae*
- *Chlamydia pneumoniae*
- *Legionella pneumophila*

Tuberculosis

- *Mycobacterium tuberculosis*

Skin infections

- *Staphylococcus aureus*
- *Streptococcus pyogenes*
- *Pseudomonas aeruginosa*

Sexually transmitted diseases

- *Chlamydia trachomatis*
- *Neisseria gonorrhoeae*
- *Treponema pallidum*
- *Ureaplasma urealyticum*
- *Haemophilus ducreyi*

Eye infections

- *Staphylococcus aureus*
- *Neisseria gonorrhoeae*
- *Chlamydia trachomatis*

Sinusitis

- *Streptococcus pneumoniae*
- *Haemophilus influenzae*

Upper respiratory tract infection

- *Streptococcus pyogenes*
- *Haemophilus influenzae*

Gastritis

- *Helicobacter pylori*

Food poisoning

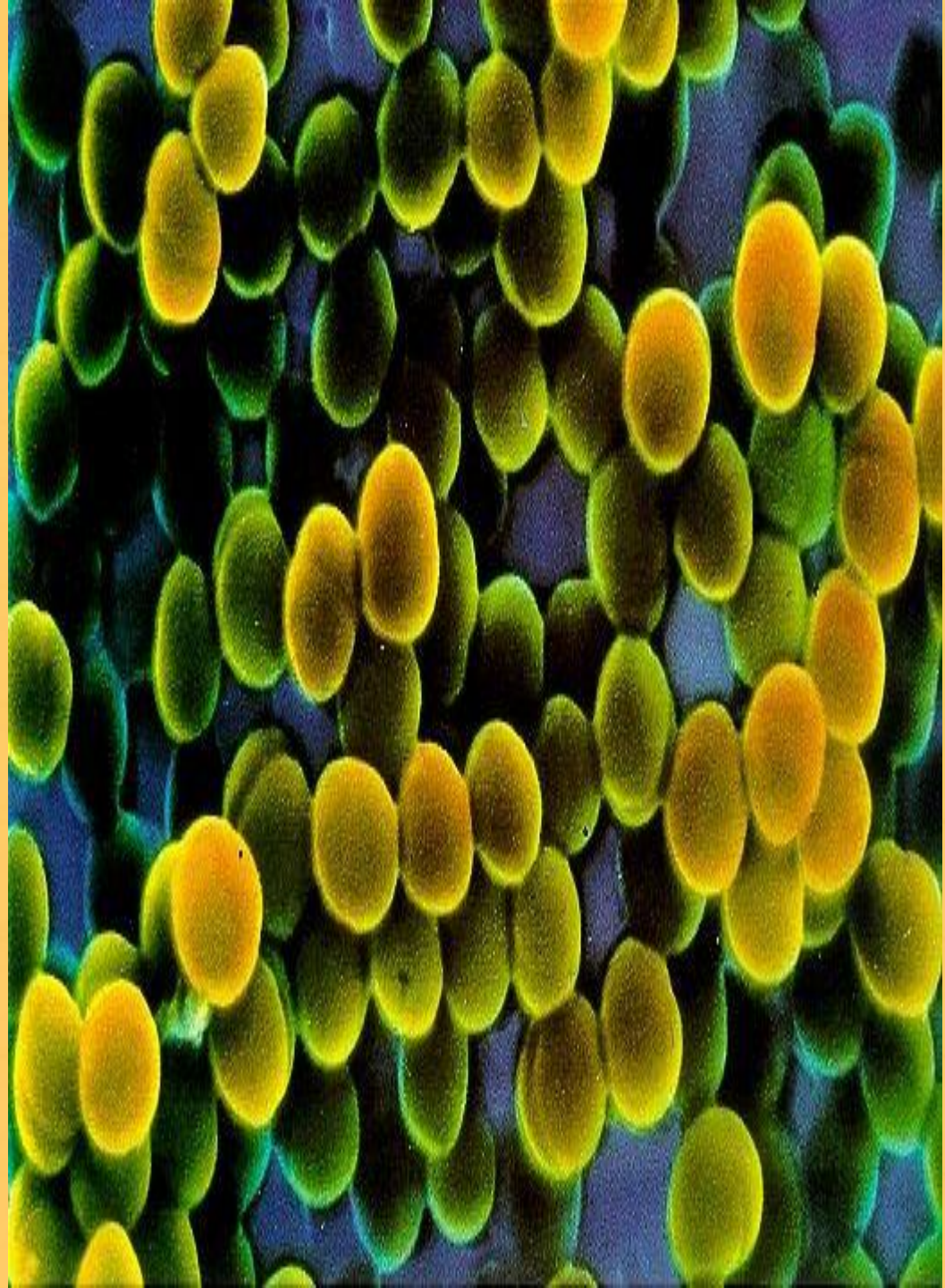
- *Campylobacter jejuni*
- *Salmonella*
- *Shigella*
- *Clostridium*
- *Staphylococcus aureus*
- *Escherichia coli*

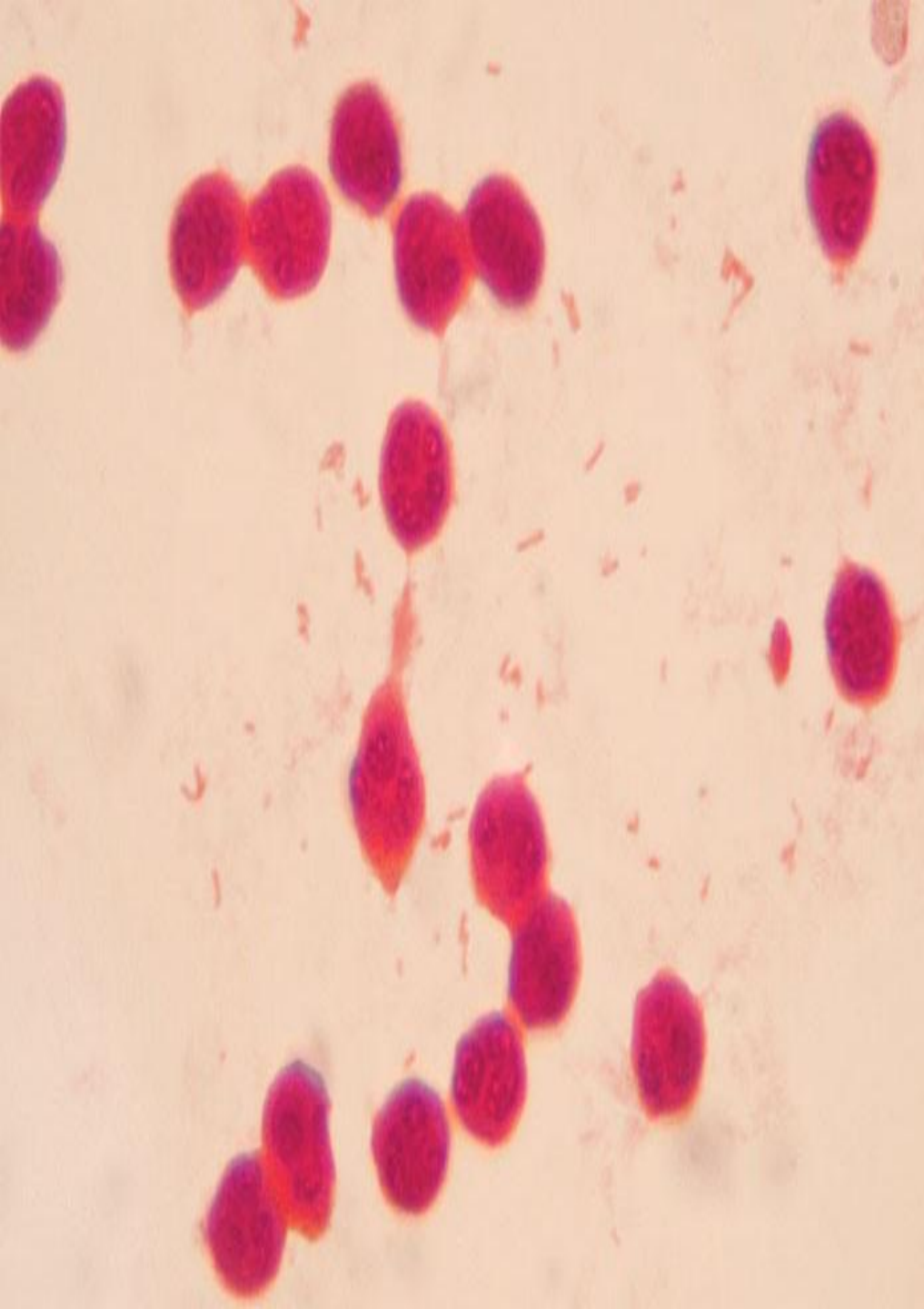
Urinary tract infections

- *Escherichia coli*
- Other Enterobacteriaceae
- *Staphylococcus saprophyticus*
- *Pseudomonas aeruginosa*

A. Cocci

Round





B. Diplococci

Pairs
i.e. pneumonia,
gonorrhoea

C. Streptococci

Chains

i.e. strep throat





D. Bacilli

Rod shaped
i.e. TB, tetanus

E. Bacilli c/ Flagella

Flagella - threadlike projections, like tails for movement.



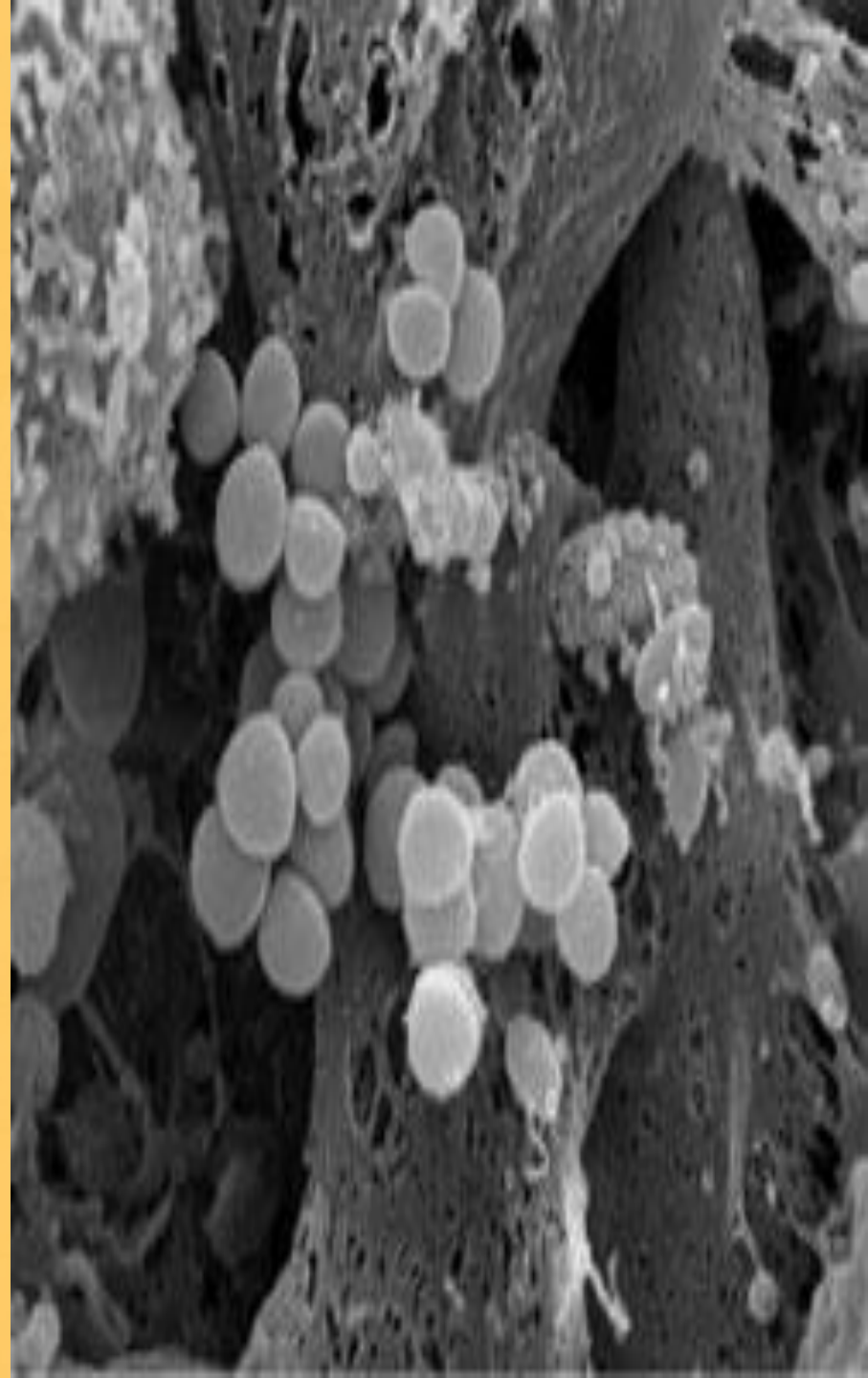
F. Spirilla

Spiral or corkscrew
shaped;
i.e. syphilis



G. Staphylococci

Groups or clusters
i.e. boils, wound inf,
staph inf



**Antibiotics kill bacteria
but some are resistant
like.....**



MRSA

A close-up photograph of a petri dish held in a person's hand. The dish contains a bacterial culture that has turned a yellowish-orange color, indicating a positive result for MRSA. A wooden stick is being used to stir the culture. The background is blurred, showing a laboratory setting.

Methicillin Resistant
Staphylococcus Aureus

2. Protozoa

1-celled animal-like organism found in decayed materials & contaminated H₂O; have flagella;
i.e Malaria



RBC c/ Malaria



3. Fungi

Simple, plant-like organism that lives on dead organic matter.

i.e: yeast, molds, ring worm, athlete's foot.

Tx: antifungal, not antibiotic



4. Rickettsiae

Parasitic; can't live outside the cells of another living organism therefore carried by fleas, ticks, lice, mites; i.e. Typhus, Rocky Mountain Spotted fever, Lyme's Dz



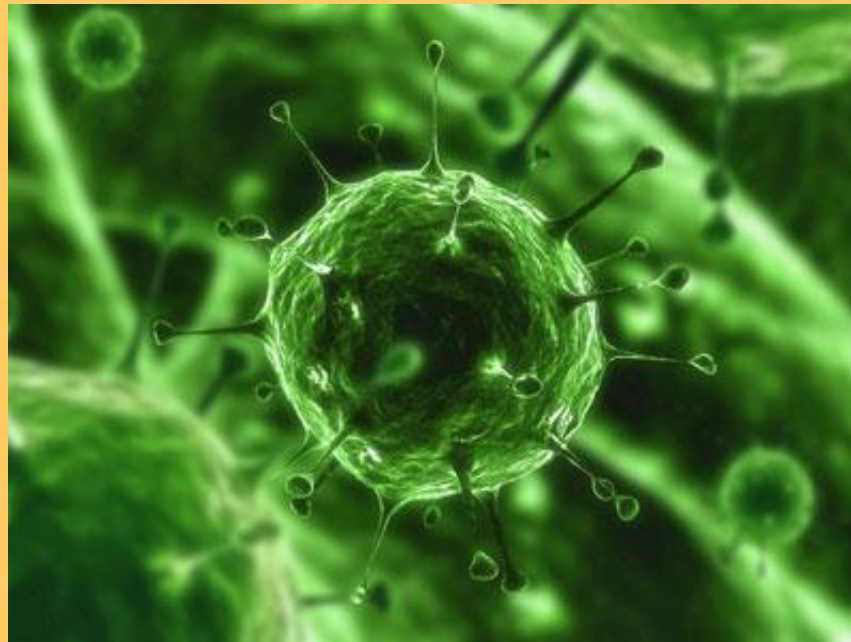
5. Viruses

Smallest pathogen - electron microscope to see

Can't reproduce until inside another living cell

Not affected by antibiotics

I.e. cold, flu, measles, mumps, chicken pox, polio



Overview of Viral infections

Encephalitis/ meningitis

- JC virus
- Measles
- LCM virus
- Arbovirus
- Rabies

Common cold

- Rhinoviruses
- Parainfluenza virus
- Respiratory syncytial virus

Eye infections

- Herpes simplex virus
- Adenovirus
- Cytomegalovirus

Pharyngitis

- Adenovirus
- Epstein-Barr virus
- Cytomegalovirus

Gingivostomatitis

- Herpes simplex type 1

Parotitis

- Mumps virus

Pneumonia

- Influenza virus, Types A and B
- Parainfluenza virus
- Respiratory syncytial virus
- Adenovirus
- SARS coronavirus

Cardiovascular

- Coxsackie B virus

Hepatitis

- Hepatitis virus types A, B, C, D, E

Myelitis

- Poliovirus
- HTLV-I

Skin infections

- Varicella zoster virus
- Human herpesvirus 6
- Smallpox
- Molluscum contagiosum
- Human papillomavirus
- Parvovirus B19
- Rubella
- Measles
- Coxsackie A virus

Sexually transmitted diseases

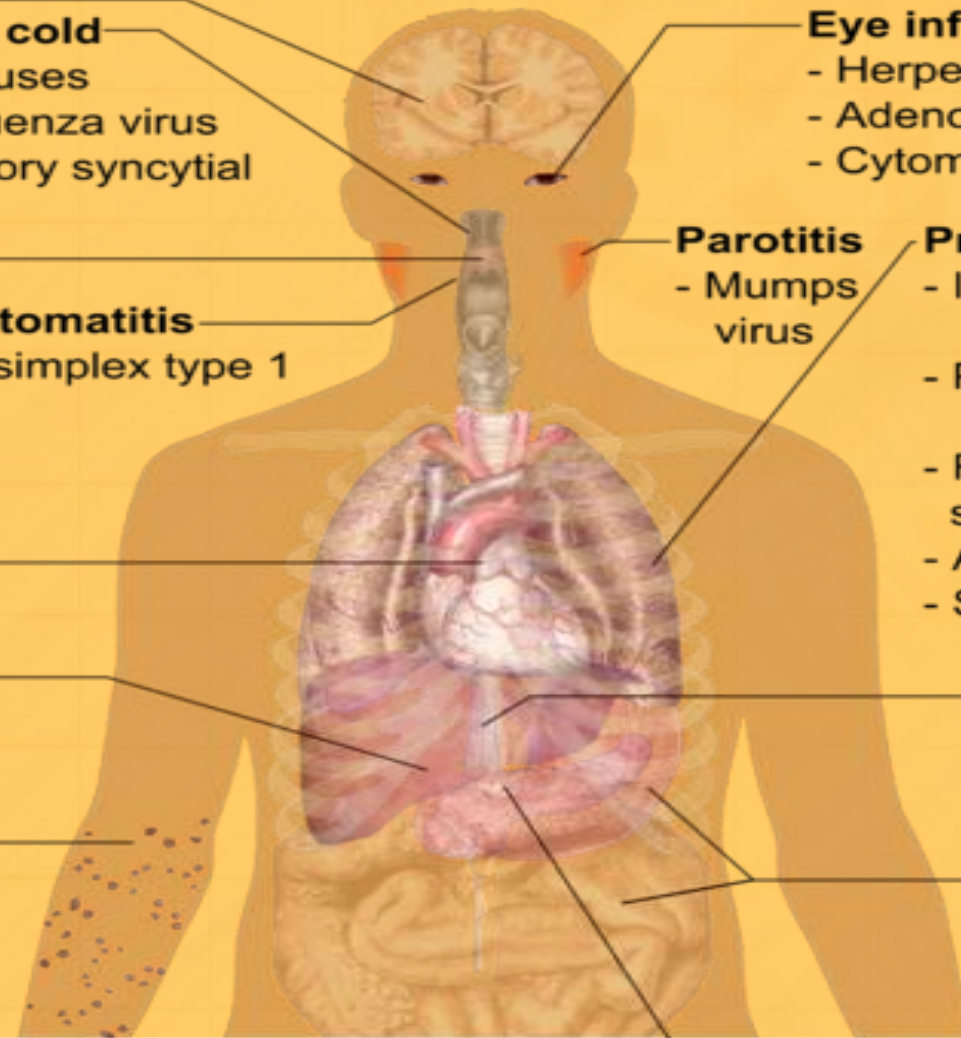
- Herpes simplex type 2
- Human papillomavirus
- HIV

Gastroenteritis

- Adenovirus
- Rotavirus
- Norovirus
- Astrovirus
- Coronavirus

Pancreatitis

- Coxsackie B virus



3 Major Viruses

- **Hepatitis B - HBV**

- Transferred by bld, bodily secretions
- Vaccine can prevent; series of 3 injections; law to provide
- Results in liver damage

- **Hepatitis C - HCV**

- Transferred by bld, bldy secretions
- Asymptomatic; mild flu symptoms
- Results in liver damage

- **AIDS - HIV**

- Suppresses immune system
- No cure

Pathogens

- Most microo prefer a dark, warm, source of food & moisture.
- Aerobic - need oxygen to live
- Anaerobic - no oxygen is needed
- The human body is an ideal enviro't for microo.

Infections & dzs are also classified as:

- **Endogenous** originates c/in body (i.e. tumors).
- **Exogenous** - originates outside body (i.e. radiation, electric shock)
- **Nosocomial** - acquired in a HC or LTC facility (i.e. MRSA)
- **Opportunistic** - occur when the body's defenses are weak (i.e. Kaposi's sarcoma, pics on R)

