

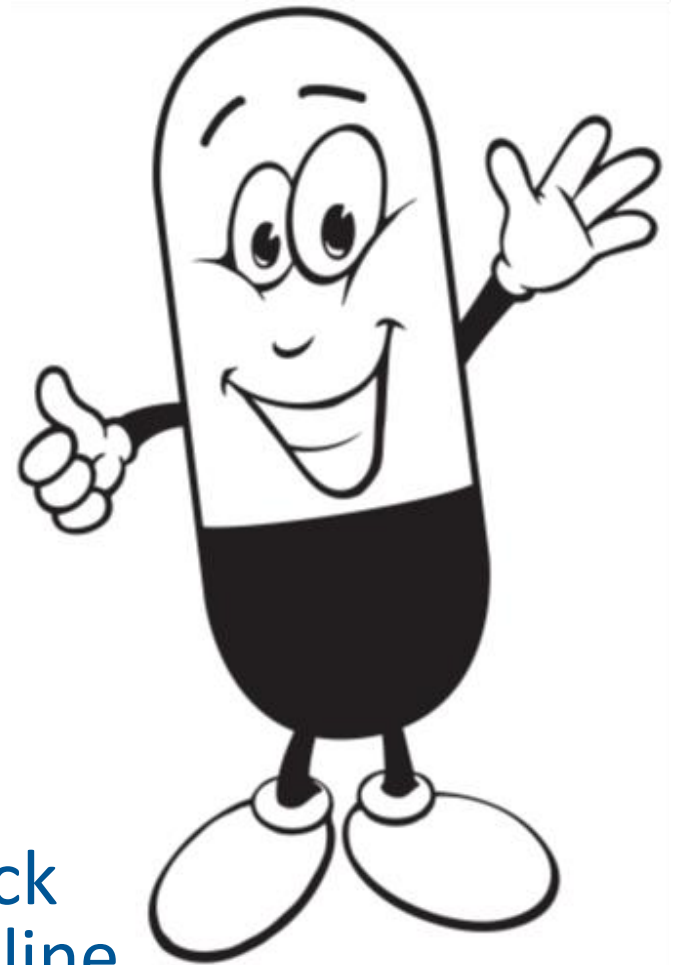
Antibiotics & You

The inside story on how antibiotics work and what you can do to prevent antibiotic resistance.



What will we learn today?

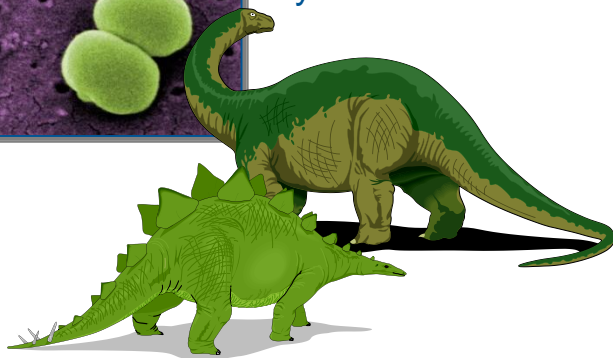
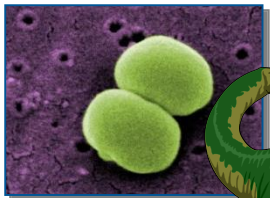
- Antibiotic timeline
- All about GERMS
 - Viruses and bacteria
 - How germs spread
 - How germs get inside you
- Your body fights back
- Antibiotics to the rescue
 - How antibiotics work
 - Antibiotic resistance
 - What to do when you get sick
 - Protecting our antibiotic lifeline



Antibiotic Timeline

Way B.C.

Dinosaurs and bacteria roam the earth



1920s

President's son dies from a bacterial infection

1940s

The first antibiotics are made for humans



1970s

Your parents are born



2000s

You are born!

Today

2030

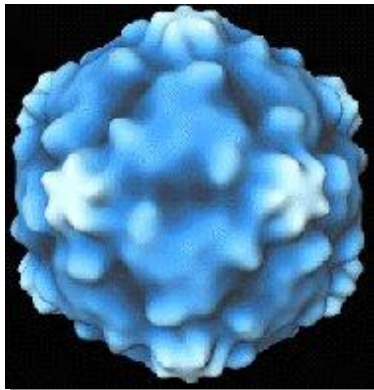
Will we have antibiotics that work?



Two major types of germs

Viruses

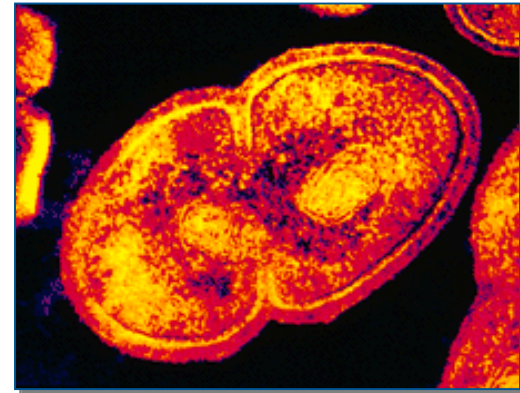
- Genetic material in a protective coat
- Parasite that attaches itself to a host cell to reproduce inside the cell



Rhinovirus (cold)

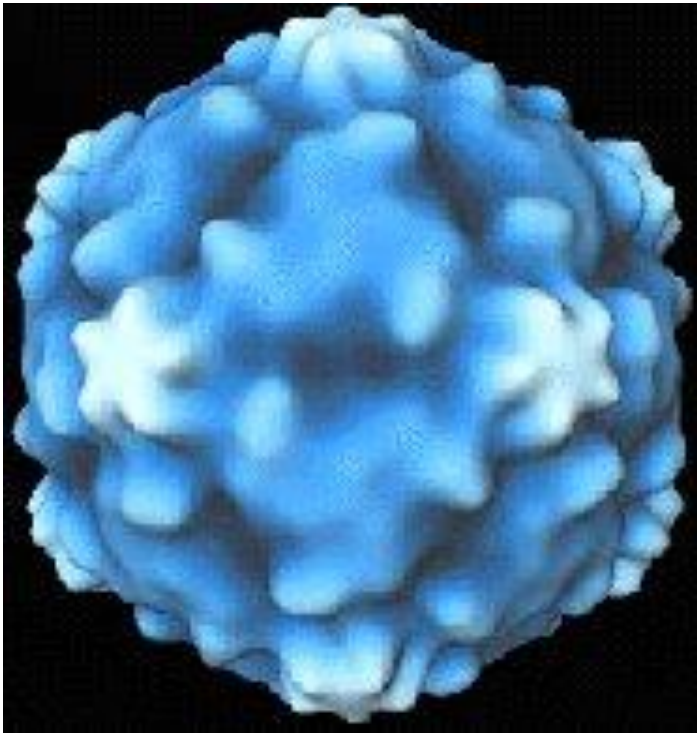
Bacteria

- Independent organism
- Able to live and reproduce outside cells



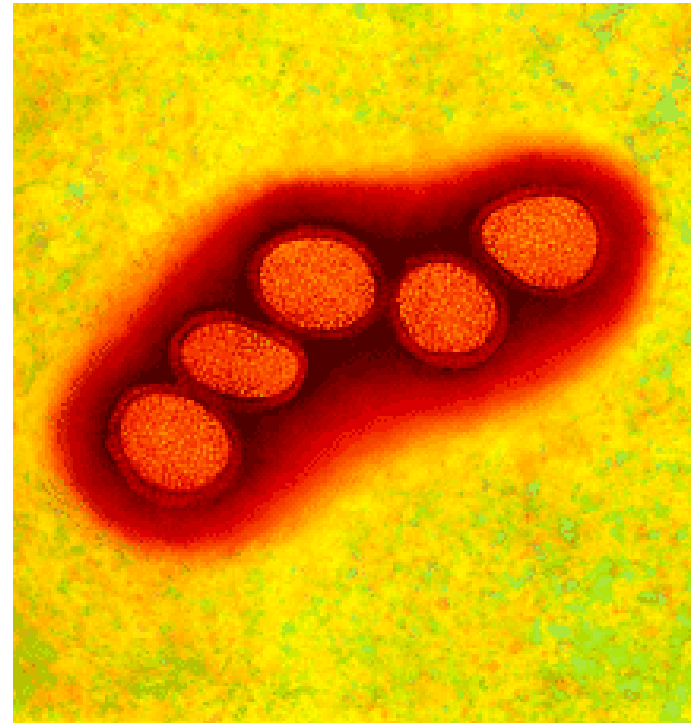
Streptococcus pneumoniae

What some viruses look like



Rhinovirus

- Common cold



Influenza Virus

- Flu

Virus facts

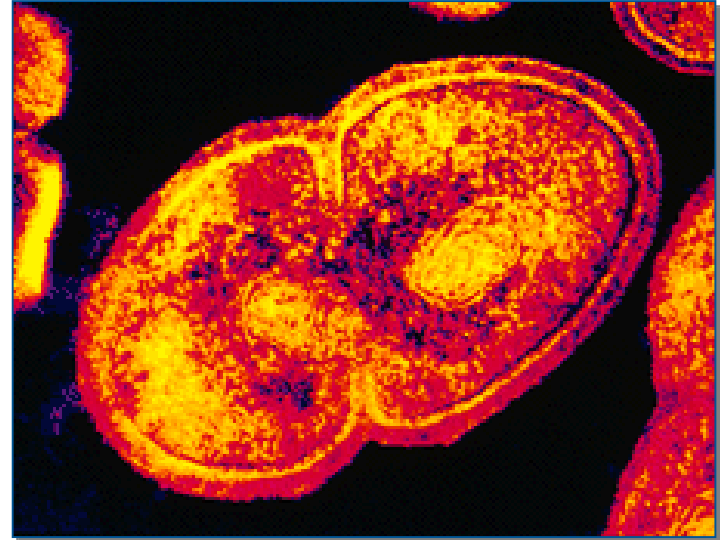
- Some viruses make you sick (flu, colds and most coughs)
- Some viral infections can be prevented by immunization and vaccines
- Antibiotics don't work on viruses
- Treat a viral infection with:
 - Rest
 - Plenty of liquids
 - Over-the-counter medicine like cough syrup or Tylenol®

What some bacteria look like



Escherichia coli (*E coli*)

- Urinary Tract Infection



Streptococcus pneumoniae

- Ear infections and pneumonia

Bacteria facts

- Bacteria are much larger than viruses
- They live on your skin, inside your mouth, nose, throat and intestines
- They help your body function and digest food
- They help protect you from harmful germs

Bacteria help me stay healthy!



More bacteria facts

- Bacteria can also make you sick
 - When they get where they are not supposed to be
 - When conditions allow them to grow quickly
- Bacteria can cause:
 - Sinus infections
 - Strep throat
 - Some ear infections
 - Food poisoning (salmonella)
- Bacterial illnesses can be treated with antibiotics

Getting sick



- You're feeling fine and suddenly your nose starts running, you start coughing and your head aches
- What makes this happen?

How germs spread

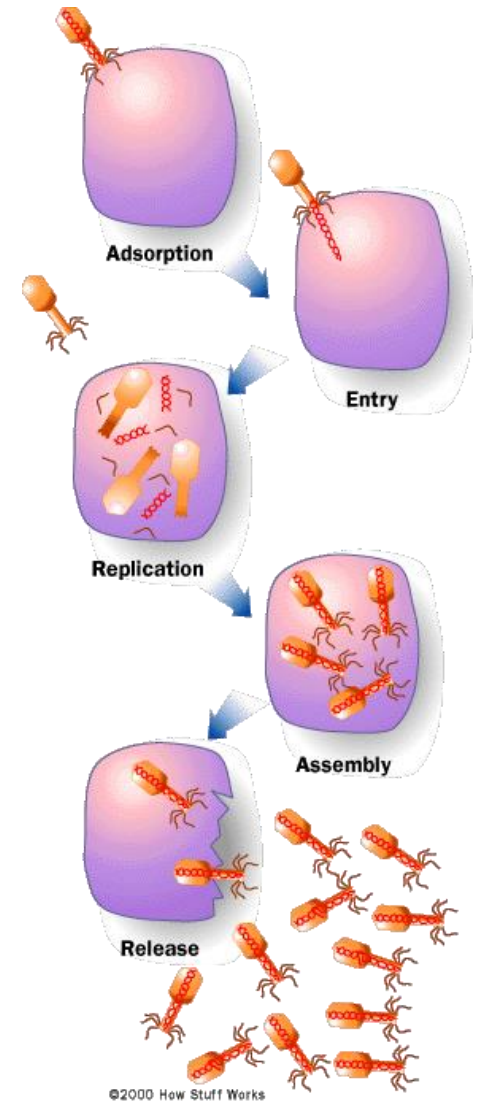
Passing germs from one person to another is called “transmission”

- Ways germs can find you and make you sick:
 - Contact with a sick person
 - Touching contaminated surfaces like desks, door knobs or keyboards
 - Eating improperly cooked or unclean food
 - Drinking contaminated water
 - Bites from ticks, mosquitoes, flees and flies



How germs get inside you

- Germs enter your body through any opening they can find
 - Nose
 - Mouth
 - Cuts in the skin
- Once they get in they multiply quickly



Virus infecting a cell

Your body fights back

- Your immune system defends your body against invading germs
- Healthy bodies can fight off most germs
- But sometimes the germs are stronger than you are...



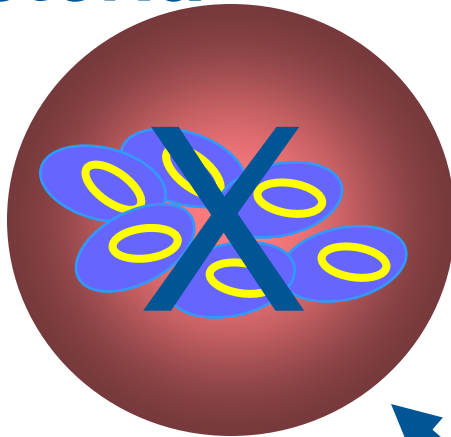
Antibiotics to the rescue

If your immune system cannot fight a bacterial infection, your doctor may give you an antibiotic



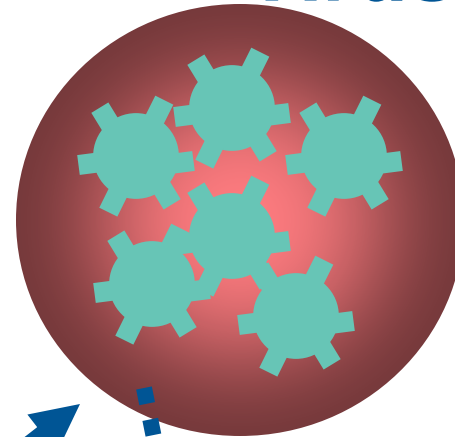
Antibiotics treat ONLY bacterial infections!

Bacteria



Break down cell walls
Stop replication

Viruses



No effect



Antibiotics

Remember: Anti**B**iotic = Anti**B**acterial

How do we fight viral infections like colds and flu?

- Lots of rest
- Plenty of liquids
- Healthy foods
- Medicine like Tylenol[®] or cough syrup
- Vaccines can help prevent the flu



What is an Antibiotic?

- A chemical that kills bacteria or stops them from growing
- Antibiotics are specialized medicines
 - They only work on specific types of bacteria
- Antibiotics work **only against bacteria**, not viruses



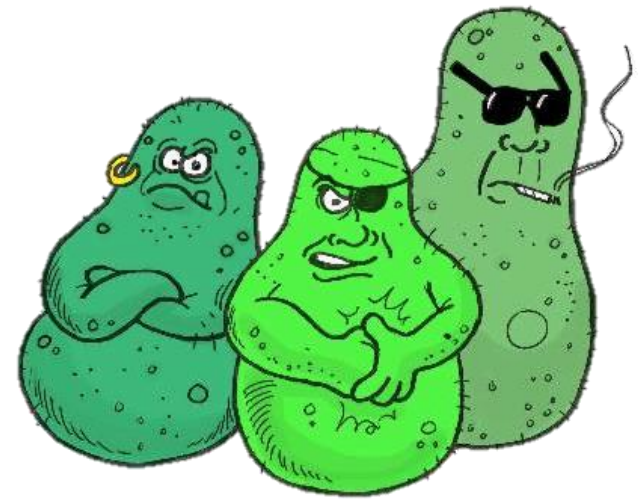
How antibiotics work

- Think of bacteria as a lock, and antibiotics as a key
- Antibiotics get inside the bacteria's wall of defense and stop them from
- Virus "locks" are different so the antibiotic "key" does not work.



Antibiotic Resistance

- Term used to describe bacteria that don't respond to antibiotic treatment
 - Antibiotic overuse and misuse speeds up this naturally occurring process
- Bacteria are very smart and they learn to work around the antibiotic very quickly



Preventing Germs is the Best Medicine!

- Wash your hands properly
 - Before eating
 - After going to the bathroom
 - After a sneeze or cough
- Cover your coughs and sneezes
- Take care of your body
 - Eat healthy foods
 - Exercise regularly
 - Get plenty of sleep every night
- **NEVER** take an antibiotic for a viral infection, like a cold or flu



Antibiotic resistance

Antibiotic resistance is a very serious problem.

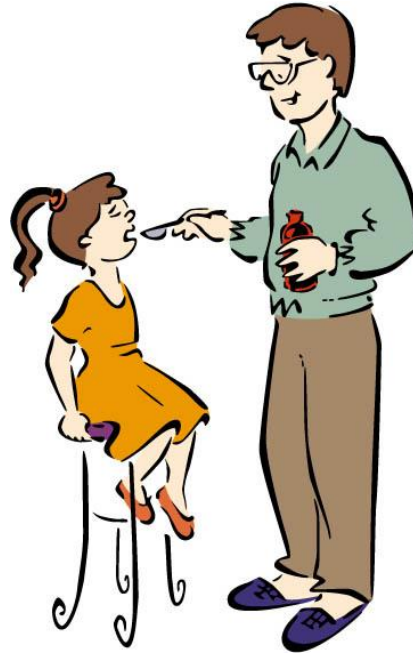
We need your help to stop it!



What to do if you get sick



See the doctor and tell her how you feel



If your doctor gives you an antibiotic:

- Take your medicine exactly as prescribed
- Take all of your medicine, even if you're feeling better
- Never share your medicine or save it for the next time you get sick



Help your body fight back by drinking lots of liquids and getting plenty of rest

Antibiotics & You

For antibiotics the rule is clear.
It's simple, it's easy, it's important to hear.
These drugs fight bacteria, not viruses, you see.
But take as directed and better you'll be.
Don't misuse them or share them or save them, my dear.
Or else they won't work when you need them, I fear.

