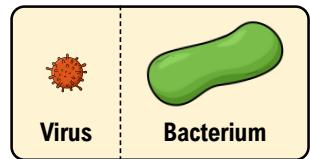


CONCEPT: PATHOGENS & DISEASES: VIRUSES

Introduction to Viruses

◆ **Virus:** _____ pathogen consisting of protein structure with RNA or DNA.



► Reproduction: must _____ host cell and hijack its machinery to make copies of itself.

◆ Viruses can be challenging to _____ due to long *incubation* periods.

Viral Infections

Viral Infections				
Infection/Disease	Symptoms	Complications	Transmission	Treatment
Common Cold <i>Rhinovirus and Coronavirus</i>	► Stuffy nose, sneezing, sore throat, cough.	► Sinus and ear infection.	► Skin-to-_____ contact. ► Respiratory droplets	► OTC medicine: - Relieve symptoms.
Influenza "The flu"	► Fever, muscle aches, fatigue, shortness of breath. ► _____ symptoms.	► Pneumonia. ► Pneumonia, organ _____.	► Respiratory droplets.	► Antiviral medicine. ► _____ vaccines for prevention.
COVID-19 SARS-CoV-2 (Coronavirus)				► Antiviral medicine. ► Vaccines for prevention.

EXAMPLE

Which of the following best identifies the differences between the common cold and the flu in adults?

- Sore throat and muscle pain is only associated with the flu.
- The flu rarely leads to complications, whereas the common cold often causes pneumonia.
- The common cold rarely causes fever unlike the flu.
- Cold symptoms are more severe than the flu.

PRACTICE

Select incorrect statement about viral infections.

- Influenza can be treated with antibiotics while COVID-19 cannot.
- Common cold is mainly caused by coronaviruses and rhinoviruses.
- SARS-CoV-2 and influenza viruses are transmittable through respiratory droplets in the air.
- Pneumonia is a common complication from influenza and COVID-19 diseases.

CONCEPT: PATHOGENS & DISEASES: VIRUSES

Hepatitis

◆ Inflammation of the _____ that can lead to chronic liver disease and other complications.

Viral Infections				
Infection/Disease	Symptoms	Complications	Transmission	Have Vaccine
Hepatitis A HAV	► Fever, headache, fatigue, nausea. ► Skin rashes, _____ yellow urine. ► Jaundice: yellowing of skin & whites of eyes.	► Acute liver _____. ► Cirrhosis. ► Liver failure. ► Liver _____.	► _____ contaminated: - water or food. ► Close or sexual contact.	_____
Hepatitis B HBV			► Sexual contact.	_____
Hepatitis C HCV			► Bodily fluids.	_____

Note: _____ is the leading cause of death from liver disease.

EXAMPLE

Which of the following options best describes differences between hepatitis A, B and C?

- Hepatitis B is transmitted through sexual contact and sewage contaminated water.
- Hepatitis C has a widely used vaccine for prevention, while A and B don't.
- All three types of hepatitis cause chronic liver disease.
- Hepatitis B and C are mainly transmitted through sexual contact and bodily fluids.

PRACTICE

A public official is advising residents of a rural region affected by frequent floods to get vaccinated against a type of hepatitis that is commonly transmitted by ingesting contaminated water. Which hepatitis is most likely the concern in this scenario?

- HCV
- HAV
- HBV
- None

CONCEPT: PATHOGENS & DISEASES: VIRUSES

Mosquito-Borne Infections

- ◆ Mosquitos are carriers of several pathogens that are transmitted through bites.

Mosquito-Borne Infections		
Infection/Disease	Symptoms	Treatment
West Nile 	<ul style="list-style-type: none">► Fever, body aches, fatigue, skin rash.► Severe cases: - _____ & encephalitis.	<ul style="list-style-type: none">► OTC medicine: - Relieve symptoms.► Focus on _____.
Zika 	<ul style="list-style-type: none">► Fever, joint & muscle pain, skin rash.► Birth defect: _____.	

Microcephaly

Babies born with small head due to abnormal brain development.

EXAMPLE

Which of the following best describes West Nile virus?

- West Nile can be transmitted through sexual contact, similar to Zika.
- Pregnant mothers infected with West Nile virus will give birth to babies with meningitis.
- Best way to prevent contracting West Nile virus is to wear mosquito repellent and avoid mosquito-infested areas.
- There is a widely used vaccine to prevent West Nile virus in humans.

PRACTICE

Which of the following is the major concern with Zika virus during pregnancy?

- Microcephaly and other birth defects.
- Chronic joint pain in infants.
- Encephalitis.
- Fever and skin rash.