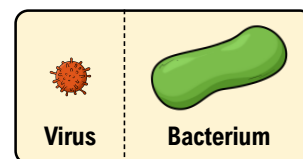


CONCEPT: PATHOGENS & DISEASES: VIRUSES

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</i> and <i>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.	▸ Respiratory droplets.	▸ Antiviral medicine. ▸ _____ vaccines for prevention.
COVID-19 SARS-CoV-2 (<i>Coronavirus</i>)		▸ Pneumonia, organ _____.		▸ Antiviral medicine. ▸ Vaccines for prevention.

EXAMPLE

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

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

PRACTICE

Select incorrect statement about viral infections.

- a) Influenza can be treated with antibiotics while COVID-19 cannot.
- b) Common cold is mainly caused by coronaviruses and rhinoviruses.
- c) SARS-CoV-2 and influenza viruses are transmittable through respiratory droplets in the air.
- d) 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	<ul style="list-style-type: none">▸ Fever, headache, fatigue, nausea.▸ Skin rashes, _____▸ Jaundice: yellowing of skin & whites of eyes.	<ul style="list-style-type: none">▸ Acute liver _____.	<ul style="list-style-type: none">▸ _____ contaminated:<ul style="list-style-type: none">- water or food.▸ Close or sexual contact.	_____
HAV				
Hepatitis B		<ul style="list-style-type: none">▸ Cirrhosis.▸ Liver failure.▸ Liver _____.	<ul style="list-style-type: none">▸ Sexual contact.▸ Bodily fluids.	_____
HBV				
Hepatitis C		<ul style="list-style-type: none">▸ Liver _____.	<ul style="list-style-type: none">▸ Sexual contact.▸ Bodily fluids.	_____
HCV				

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?

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

- a) HCV
- b) HAV
- c) HBV
- d) 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:<ul style="list-style-type: none">- _____ & encephalitis.	<ul style="list-style-type: none">▸ OTC medicine:<ul style="list-style-type: none">- 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?

- a) West Nile can be transmitted through sexual contact, similar to Zika.
- b) Pregnant mothers infected with West Nile virus will give birth to babies with meningitis.
- c) Best way to prevent contracting West Nile virus is to wear mosquito repellent and avoid mosquito-infested areas.
- d) 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?

- a) Microcephaly and other birth defects.
- b) Chronic joint pain in infants.
- c) Encephalitis.
- d) Fever and skin rash.