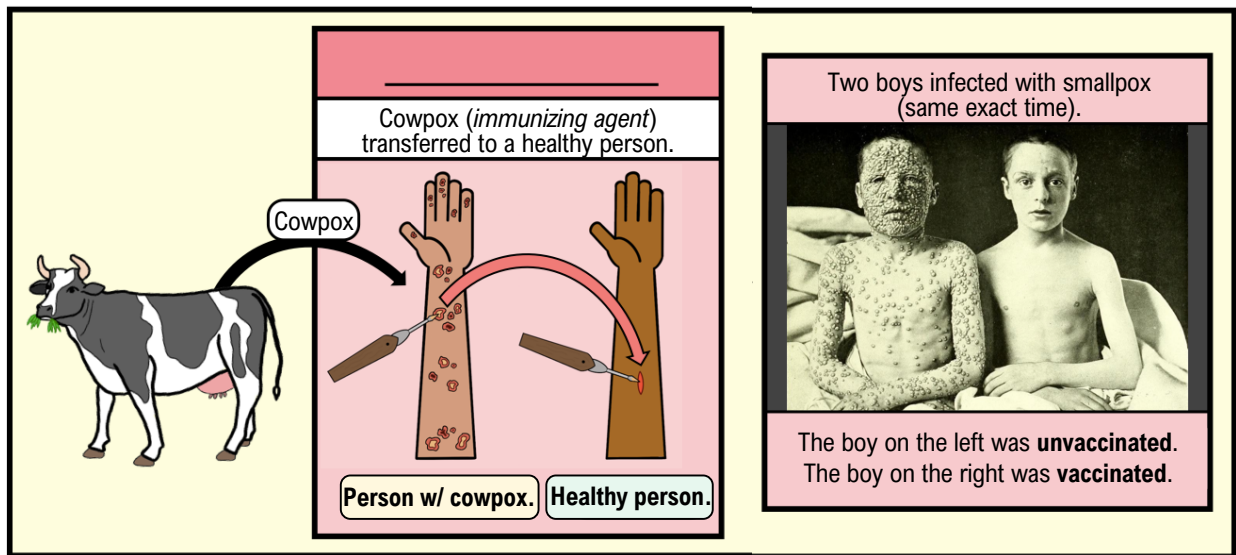


TOPIC: INTRODUCTION TO VACCINES

History of Vaccines

- ◆ Humans have long known that people who survived infection became _____ to it afterward (e.g. smallpox).
 - Led to **variolation**: inoculating people with scabs from smallpox victims to provide immunity (was risky).
- ◆ The realization that exposure to _____-pox reduces likelihood of getting smallpox led to the first vaccine.
 - **Vaccine** ("vacca" = cow): antigen preparation that safely induces artificial, _____ immunity.



PRACTICE

The varicella vaccine, commonly known as the chicken pox vaccine, contains a weakened version of the varicella zoster virus. The weakened version of the varicella zoster virus is the _____ in the vaccination.

- a) Antigen agent.
- b) Infecting agent.
- c) Immunizing agent.
- d) Vaccination agent.

PRACTICE

How does vaccination contribute to herd immunity?

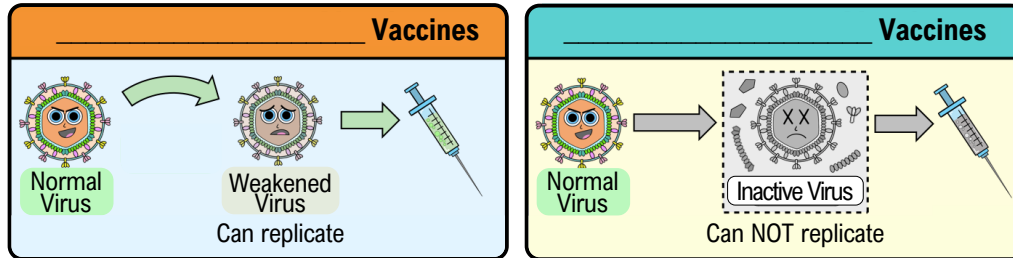
- a) In a population, only the individuals who get vaccinated will be protected.
- b) Vaccination is only effective for those who are already immunocompromised.
- c) When most people are immune to a disease due to vaccination, the disease cannot easily spread.
- d) All of the above.

TOPIC: INTRODUCTION TO VACCINES

2 Types of Vaccines

◆ **Attenuated (Live) Vaccines:** immunizing agent is *active/alive* (can _____) but is *weakened*.

◆ **Inactivated (Killed) Vaccines:** immunizing agent is *inactive/killed* (can _____ replicate).



PRACTICE

A vaccine available to the public should have all the following characteristics except:

- a) Inexpensive and easy to produce.
- b) A living, fully active version of the microbe to provide long-term immunity.
- c) Stable and easy to store.
- d) Easy to administer to patients.
- e) Be an effective defense against a disease.

PRACTICE

A living microbe that has been weakened and is now less virulent is used to create a vaccine. This microbe is considered:

- a) Inactivated.
- b) Toxoid.
- c) Attenuated.
- d) Degraded.

TOPIC: INTRODUCTION TO VACCINES

PRACTICE

_____ vaccines are safer for immunocompromised patients because the pathogen in the vaccine has been “killed” and can no longer replicate or cause disease.

- a) Attenuated.
- b) Weakened.
- c) Denatured.
- d) Inactivated.