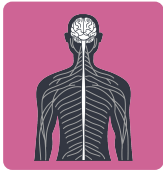


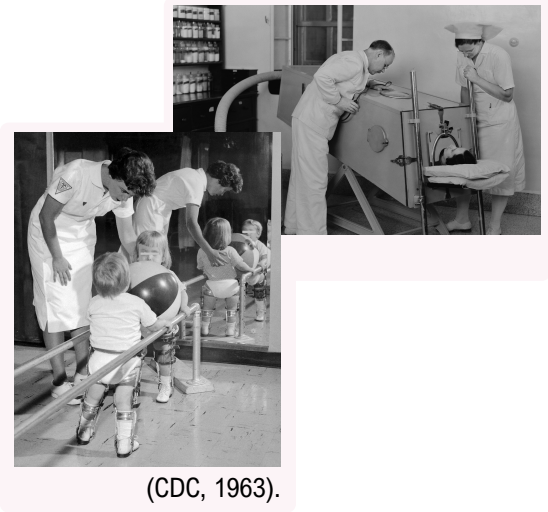
TOPIC: POLIOMYELITIS



Poliomyelitis

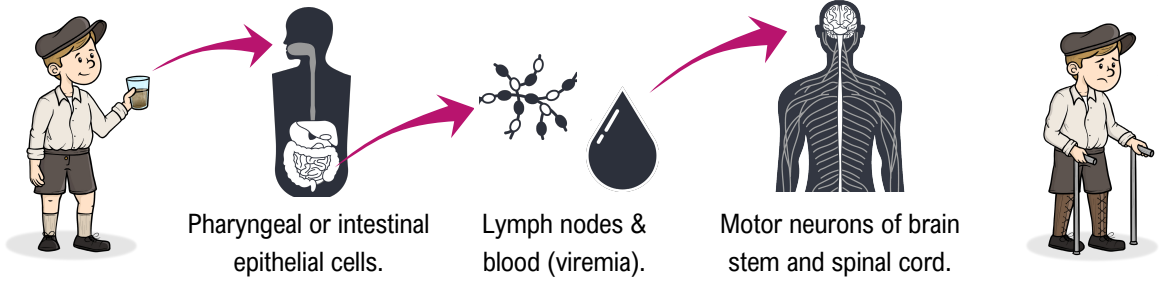
Viral

_____ Virus
Non-enveloped Picornavirus



CAUSE

_____ : 3 main serotypes (1, 2 & 3).
 ◆ Infections start in the _____ or _____ intestine.
 ▶ Can lead to _____.
 ◆ Irradicated in the United States since 1979.



SPREAD

Contaminated _____.

TOPIC: POLIOMYELITIS

SYMPTOMS

Symptoms vary: asymptomatic to _____.

- ◆ **Asymptomatic:** most common. (~90%)
- ◆ **Minor polio:** ____-like symptoms. (~5%)
- ◆ **Nonparalytic polio:** viral _____. (~2%)
 - ▶ Neck spasms, muscle spasms, & flu-like symptoms.
- ◆ **Paralytic polio:** infection of the brain stem and spinal cord.
 - ▶ Infected neurons die → _____. (<2%)



DIAGNOSIS

Virus isolated from _____ or _____ secretions.

TREATMENT

Supportive care.

IMMUNITY

Inactivated Polio Vaccine (_____): preferred vaccine in US.

Oral Polio Vaccine (_____): preferred in developing nations.

References:

- (1960). [Dr. Barrett injecting a child with the polio vaccine]. Centers for Disease Control and Prevention. <https://wwwn.cdc.gov/phil/Details.aspx?pid=28076>
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- Hilpertshauer, M. (1963). [Poster of Wellbee encouraging children to receive the polio vaccine]. Centers for Disease Control and Prevention. <https://wwwn.cdc.gov/phil/Details.aspx?pid=7224>
- Everett Historical (n.d.). [Photograph of a child in an iron lung]. Shutterstock

TOPIC: POLIOMYELITIS



The Polio Vaccine

IMMUNITY

Inactivated Polio Vaccine (IPV)
_____ Vaccine (1955)
Inactivated (killed) poliovirus. ◆ Extremely _____.
_____: requires sterile syringes. ◆ _____ cost and expertise.
Limited immunity → requires booster. ◆ Prevents disease, not _____.
Preferred in countries with developed health care and _____ polio.

Inactivated Polio Vaccine (IPV)
_____ Vaccine (1963)
Live _____ (weakened) virus. ◆ May be shed, immunizing others in community; ◆ May _____ to be virulent (rare).
_____ drops. ◆ _____ cost and expertise to administer.
Likely lifetime immunity → no booster. ◆ Prevents disease and _____.
Preferred vaccine in developing countries and countries with _____ polio.

PRACTICE

Which is the most common outcome of polio infection?

- a) Paralysis.
- b) Meningitis.
- c) Flu-like symptoms.
- d) Asymptomatic infection.

TOPIC: POLIOMYELITIS

PRACTICE

Historically, some people who contracted polio had to use an “iron lung”. Why was this intervention necessary?

- a) Poliovirus infects and damages motor neurons of the brain stem and spinal cord, including those that control breathing.
- b) Meningitis caused by polio causes increased pressure on the neurons that control breathing.
- c) Polio toxin causes paralysis, including of the diaphragm, requiring assistive breathing.
- d) Polio infection damages the neuromuscular junction, blocking the release of neurotransmitters that stimulate breathing.

PRACTICE

For a country or region that has eradicated polio, which vaccine is generally preferred for use and why?

- a) IPV: it provides longer-lasting immunity.
- b) IPV: as an inactivated vaccine, it is generally considered safer.
- c) OPV: along with preventing disease, it prevents the spread of disease.
- d) OPV: it is far cheaper to administer on a per-dose basis.