BIOLOGY PROJECT MATERIALS ON DISEASES

!!!!The Plague!!!!

Symptoms

**Signs and symptoms include:**

* Fever and chills.
* Extreme weakness.
* Abdominal pain, diarrhea and vomiting.
* Bleeding from your mouth, nose or rectum, or under your skin.
* Shock.
* Blackening and death of tissue (gangrene) in your extremities, most commonly your fingers, toes and nose.

**Causes**

Plague is an infectious disease caused by bacteria called [*Yersinia `pestis*](https://www.medicinenet.com/script/main/art.asp?articlekey=6058). These bacteria are found mainly in rodents, particularly rats, and in the fleas that feed on them. Other animals and humans usually contract the bacteria from rodent or flea bites.

Bubonic **plague** is an infection of the lymphatic system, usually resulting from the bite of an infected flea, Xenopsylla cheopis (the **rat** flea). In very rare circumstances, as in the septicemic **plague**, the disease can be transmitted by direct contact with infected tissue or exposure to the cough of another human.

**History:**

The worst outbreak of the plague in history occurred in London, England in the 17th century.

It wiped out half the population of London and 2.5% of England, causing great fright amongst the people. Rodents and rats, although not initially suspected, were exterminated on a large scale.

Special workers were paid to enter the sewers to exterminate these rodents.

The plague in that time was refered to as the Black Death or the Great Plague

King Henry V! called for special measures to keep rats and other rodents out of the royal quarters.

**How did the plague end in London?**

The Great Fire of **London**, which happened on 2-3 September 1666, may have helped **end** the outbreak by killing many of the rats and fleas who **were** spreading the **plague**. ... By the time the Great **Plague** ended, about 2.5% of England's population had died from the **plague**.

**Does the plague still exist:**

Over 80% of United States **plague** cases have been the bubonic form. In recent decades, an average of 7 human **plague** cases are reported each year (range: 1-17 cases per year). **Plague** has occurred in people of all ages (infants up to age 96), though 50% of cases occur in people ages 12–45.

**Prevention and Treatment**

Today, the only treatment are antibiotics, invented in the 20th century, and they have a success rate over 80%. But without intervention, the death rate is between 66% and 93%. **Plague**, caused by the bacteria Yersinia pestis, is transmitted through flea bites.

In the 1347 - 1350 outbreak, **doctors** were completely unable to prevent or **cure the plague**. ... Some of the **cures** they tried included: Rubbing onions, herbs or a chopped up snake (if available) on the boils or cutting up a pigeon and rubbing it over an infected body.

**Varieties**

[Cholera](https://www.webmd.com/a-to-z-guides/cholera-faq) is an infectious disease that causes severe watery [diarrhea](https://www.webmd.com/digestive-disorders/digestive-diseases-diarrhea), which can lead to [dehydration](https://www.webmd.com/a-to-z-guides/dehydration-adults) and even death if untreated. It is caused by eating food or drinking water contaminated with a bacterium called *Vibrio cholerae*

The disease is most common in places with poor sanitation, crowding, war, and famine. Common locations include parts of Africa, south Asia, and Latin America. If you are traveling to one of those areas, knowing the following cholera facts can help protect you and your family.

**Cholera Causes**

*Vibrio cholerae*, the bacterium that causes cholera, is usually found in food or water contaminated by feces from a person with the infection. Common sources include:

* Municipal water supplies
* Ice made from municipal water
* Foods and drinks sold by street vendors
* Vegetables grown with water containing human wastes
* Raw or undercooked fish and seafood caught in waters polluted with sewage

## Cholera Symptoms

Symptoms of cholera can begin as soon as a few hours or as long as five days after infection. Often, symptoms are mild. But sometimes they are very serious. About one in 20 people infected have severe watery [diarrhea](https://www.webmd.com/digestive-disorders/diarrhea-10/zzexpired-slideshow-foods-to-avoid) accompanied by [vomiting](https://www.webmd.com/digestive-disorders/digestive-diseases-nausea-vomiting), which can quickly lead to [dehydration](https://www.webmd.com/fitness-exercise/rm-quiz-know-about-hydration). Although many infected people may have minimal or no symptoms, they can still contribute to spread of the infection.

## The cholera vaccination

Oral, killed [cholera vaccine](https://pcouk.org/drug.aspx?gbosId=434460) (Dukoral®) is the only licensed [cholera vaccine](https://pcouk.org/drug.aspx?gbosId=434460)available in the UK. It contains 1mg of recombinant cholera toxin B (rCTB) in a liquid suspension of four strains of killed V. cholerae O1, representing subtypes Inaba and Ogawa and biotypes El Tor and classical (25 × 109bacteria in each batch). This suspension is mixed with buffer and water as indicated below.

The vaccine is thiomersal-free. It is inactivated, does not contain live organisms and cannot cause the disease against which it protects. It does not contain the A subunit of the cholera toxin which is responsible for the pathogenicity of the toxin.

