

Plague

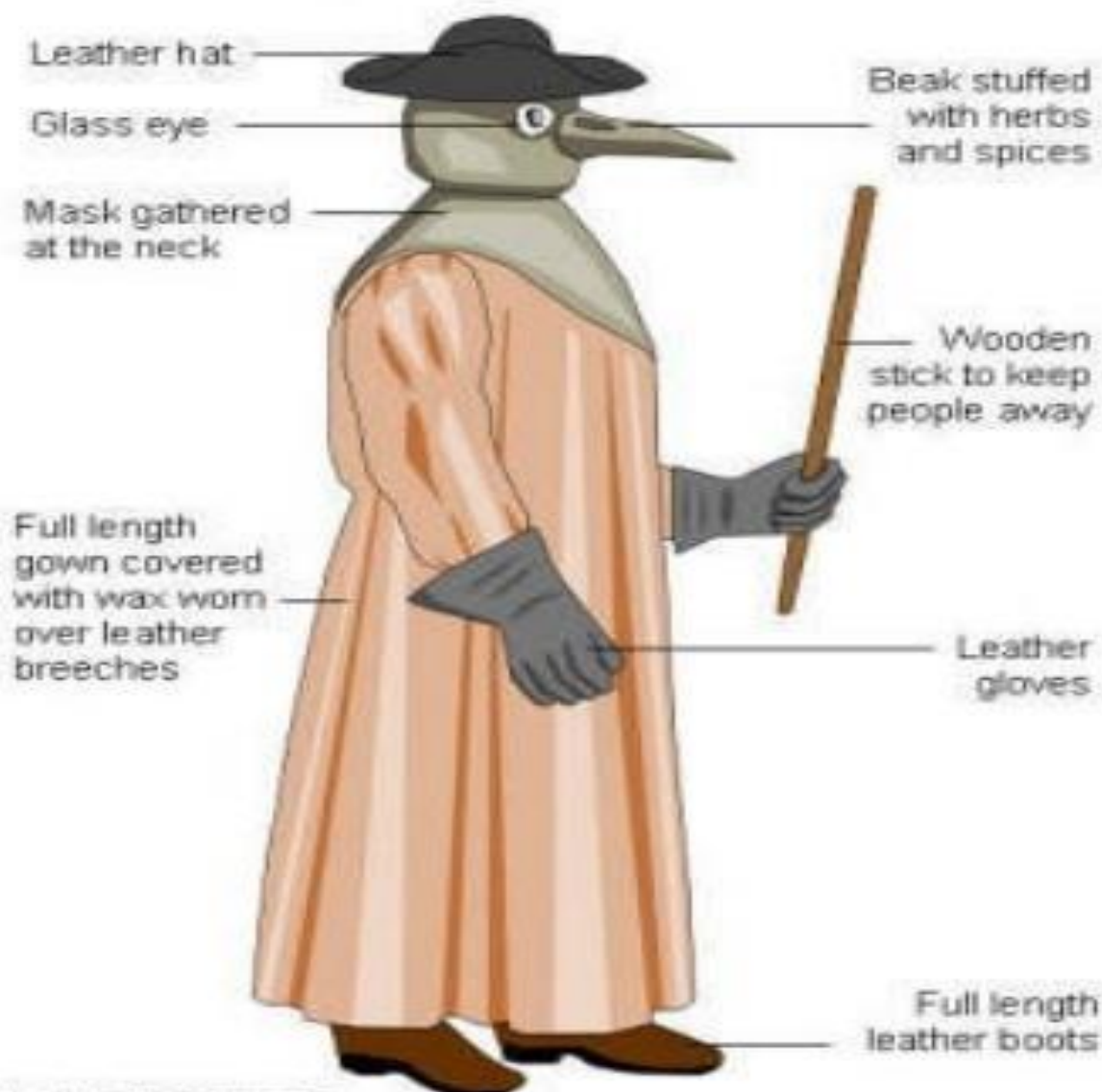
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The Spread of the Black Death





The Plague Doctor



Plague is an infectious disease caused by the bacterium *Yersinia pestis*. Symptoms include fever, weakness and headache. Usually this begins one to seven days after exposure. In the bubonic form there is also swelling of lymph nodes, while in the septicemic form tissues may turn black and die, and in the pneumonic form shortness of breath, cough and chest pain may occur.

Bubonic and septicemic plague are generally spread by [flea](#) bites or handling an infected animal. The pneumonic form is generally spread between people [through the air](#) via infectious droplets. Diagnosis is typically by finding the bacterium in fluid from a lymph node, blood or [sputum](#).

Those at high risk may be [vaccinated](#). Those exposed to a case of pneumonic plague may be treated with preventive medication. If infected, treatment is with [antibiotics](#) and [supportive care](#). Typically antibiotics include a combination of [gentamicin](#) and a [fluoroquinolone](#).^[3] The risk of death with treatment is about 10% while without it is about 70%.

Globally, about 600 cases are reported a year. In 2017, the countries with the most cases include the [Democratic Republic of the Congo](#), [Madagascar](#) and [Peru](#). In the United States, infections occasionally occur in rural areas, where the bacteria are believed to circulate among [rodents](#). It has historically occurred in large [outbreaks](#), with the best known being the [Black Death](#) in the 14th century, which resulted in more than 50 million deaths.

Signs and symptoms

General symptoms of plague include fever, chills, headaches, and nausea. Many people experience swelling in their lymph nodes if they have bubonic plague. For those with pneumonic plague, symptoms may (or may not) include a cough, pain in the chest, and haemoptysis

Bubonic plague

When a flea bites a human and contaminates the wound with regurgitated blood, the plague-causing bacteria are passed into the tissue. *Y. pestis* can reproduce inside cells, so even if phagocytosed, they can still survive. Once in the body, the bacteria can enter the lymphatic system, which drains interstitial fluid. Plague bacteria secrete several toxins, one of which is known to cause beta-adrenergic blockade.

Y. pestis spreads through the [lymphatic vessels](#) of the infected human until it reaches a [lymph node](#), where it causes acute [lymphadenitis](#).^[7] The swollen lymph nodes form the characteristic [buboes](#) associated with the disease,^[8] and autopsies of these buboes have revealed them to be mostly [hemorrhagic](#) or [necrotic](#).

If the lymph node is overwhelmed, the infection can pass into the bloodstream, causing *secondary septicemic plague* and if the lungs are seeded, it can cause *secondary pneumonic plague*.

THANK YOU