

Plague is Alive and Well in the U.S. and around the Globe

When most of us think of the plague, we think of the Black Death and the millions who died in Europe in the Middle Ages. Few realize that the plague is endemic in the southwestern United States and has been with us since plague epidemics struck California in the early 1900s.

The plague has hit the news lately. A Yosemite National Park campground was closed and dusted with flea insecticide after a child, who is now recovering, contracted the plague. Plague was confirmed in two dead golden-mantled ground squirrels, and it was confirmed in fleas combed from captured squirrels and chipmunks.

What Is the Plague?

Plague is caused by a bacterium, *Yersinia pestis*. It is spread by fleas that typically infest rats and other rodents.

According to the CDC, there have been three distinct pandemics: the Justinian Plague, the "Black Death" or the Great Plague, and the Modern Plague. (A pandemic is defined as an epidemic that has spread over a large area – a global outbreak or one that has reached several countries.)

The Justinian Plague, which began in 541 AD, killed more than 25 million people over the following 200 years.

The Great Plague of Black Death started in China in 1334, spreading across the trade routes into Europe where it wiped out an estimated 60% of the population. In all, 75-200 million deaths in Eurasia were attributed to the pandemic that lasted a few short years, from 1346 to 1353.

The third pandemic, the Modern Plague, accounted for 10

million over a 20 year period beginning in 1894. This outbreak also started in China and spread to port cities around the world (including the U.S.) through globe-trotting ship rats.

While there have been no pandemics of the plague since the early 1900's, epidemics continued with outbreaks in India in the first half of the century and epidemics in Viet Nam during the 1960s and 1970s.

Currently, 95% of the cases occur in sub-Saharan Africa and Madagascar. But the plague is endemic in the southwestern United States – meaning it is a constant presence in the wild.

Forms of The Plague

Infection of the *Yersinia pestis* bacterium can take many forms, but the most common forms are bubonic, septicemic, and pneumonic.

Bubonic plague is named from the buboes (painful lumpy swellings) that form in lymph glands. This form of plague usually begins from a fleabite. The bacteria multiply in the nearest lymph node. Symptoms include fever, chills, headache, weakness, and swelling in one or more lymph nodes.

Septicemic plague refers to a systemic infection of the circulatory system. The initial infection can start as septicemic or it can occur as a result of untreated bubonic plague. Symptoms include those for bubonic plague along with shock, abdominal pain, and bleeding into the skin or other organs. Tissues and skin may turn black and die, especially on the toes, fingers, and nose.

Pneumonic plague occurs when the infection is concentrated in the lungs. The infection is spread through inhaling infectious droplets (from an infected person coughing or sneezing) or it can occur secondary to untreated bubonic or septicemic plague. It presents with fever, headache, and weakness as in the other

forms, but also includes a quick onset of pneumonia. Pneumonic plague is the only type of plague that can be spread from person to person.

Current Stats on Plague

The World Health Organization receives between 1,000 and 2,000 reports of plague each year. Most of the cases are from small towns and villages or agricultural areas in Africa.

Most of the human cases of plague in the United States occur in two regions:

1. Northern New Mexico, northern Arizona, and southern Colorado.
2. California, southern Oregon, and far western Nevada.

Cases have occurred in other states, though it is endemic in these regions, spread among the rodent population and spread to other wildlife. In recent decades, the United States averages 7 human cases per year. Eighty percent of the cases are bubonic plague.

Prevention

Without a doubt the best defense against the plague, Lyme's disease, Powassan, Rocky Mountain Spotted Fever, West Nile, or any other disease transmitted by bloodsucking ticks, mosquitoes, and fleas is reasonable, safe prevention. When working or playing in the woods or bushy areas, wear long sleeves and long pants. Tuck your pants in under your socks. Cover your hair or wear a hat. And spray your clothes and uncovered skin with insect repellent.

Consumer Reports tested 15 insect repellents in May of 2015 and found that two natural repellents (if the concentration of the essential ingredient is high enough) worked better than Deet. One contained picaridin (a 20% concentration from the

black pepper plant); the other contained lemon eucalyptus (a 30% concentration from the gum eucalyptus tree).

There are many essential oils that repel insects. To learn more, check out Powassan Virus, a Deadly Tick Disease for a recipe to make your own insect repellent. But remember, essential oils are medicinal. Do your research and use in a responsible manner.

Spray insect repellent on your clothing and exposed skin. To put repellent on your face, spray your hands and rub or pat onto your face. Apply to children to control the spray and don't put any on their hands so they don't ingest it or rub it into their eyes. Wash your hands after application.

After coming in, wash sprayed clothing in a separate wash and bathe or shower. Also, take the opportunity to thoroughly check for ticks.

Recommended Reading:

- *How to Cure Lyme Disease, and Virtually Any Other Bacterial Infection, Naturally*
- *Bullet Proof Your Immune System With These Natural Remedies*

Sources:

- *The Black Death: The Greatest Catastrophe Ever* – History Today
- *Plague – History* – CDC
- *Plague – Symptoms* – CDC
- *What really works against bug bites* – Consumer Reports
- *Powassan Virus a Deadly Tick Disease* – Organic Lifestyle Magazine