

Mosquitoes & Illnesses

Read the article and then do the activities at the end

MOSQUITOES- DENGUE AND OTHER PROBLEMS

The Buzz About Diseases Spread by Mosquitoes

The insects cause millions of deaths throughout the world.

There are more than two thousand different kinds of mosquitoes. Female mosquitoes bite people to drink their blood. Male mosquitoes do not drink blood. They drink fluids from plants. The female mosquito uses its thin sucking tube to break the skin, find blood and inject the victim with a substance that keeps blood flowing.



A female mosquito drinks the blood of a victim

The female mosquito drinks the blood and uses it to produce as many as two hundred fifty eggs. The insect leaves the eggs in any standing water.

The eggs produce worm-like creatures called larvae in two days to a few months. However, some eggs can stay in water for years until conditions are right for development. The larvae feed on organisms in the water. After four to ten days, they change again, into creatures called pupas. The pupas rise to the surface of the water. Adult mosquitoes pull themselves out of the pupas and fly away.

The World Health Organization says mosquitoes carry organisms that cause disease and death for millions of people throughout the world. The most important disease spread by mosquitoes is **malaria**. The W.H.O. says two hundred forty-seven million people became infected with malaria in two thousand six. Malaria caused almost one million deaths, mostly among children in Africa. The disease is found in more than one hundred countries in Africa, Asia, the western Pacific Ocean, the Middle East and Central and South America.

Malaria parasites enter a person's blood through a mosquito bite. These organisms travel to the liver. They grow and divide there. After a week or two, the parasites invade red blood cells and reproduce thousands of times. They cause the person's body temperature to rise. They also may destroy major organs. People with malaria may suffer kidney failure or loss of red blood cells.

Some medicines are generally effective in preventing and treating malaria. They are designed to prevent the parasites from developing in the body. People die from malaria because they are not treated for the disease or the treatment is delayed.

The World Health Organization says mosquito control efforts are improving in many areas. But it warns that mosquitoes are becoming increasingly resistant to pesticides, the products used to kill insects.

This month, the W.H.O. joined with other groups to announce a new effort against malaria. The goal is to reduce use of the pesticide known as DDT. The United States banned most uses of DDT in nineteen seventy-two.

The W.H.O. announced ten projects to test non-chemical methods for fighting mosquitoes. These include trees that repel mosquitoes and fish that eat the larvae. However, officials say any reduction in the use of pesticides must make sure that disease control efforts are not weakened.

Mosquitoes also carry **dengue fever**. The insects can survive in new and different environments. They can spread diseases to new areas. For example, experts say only nine countries had dengue fever before nineteen seventy. Since then, the disease has spread to more than one hundred countries.



AP Photo

A patient recovering from dengue fever in Asuncion, Paraguay, in 2007

The World Health Organization says about fifty million people suffer from dengue fever each year. There is no cure. Children may develop a kind of the disease that is not serious. They may have a high body temperature and some areas of

Older adults suffer from dengue fever much more. They may develop reddish skin and lose their sense of taste. They also may have pain in the head or behind their eyes. And they may experience pain in joints such as the elbow or knee. This kind of joint pain is the reason why dengue fever is sometimes known as breakbone fever.

The most severe kind of the disease is called dengue hemorrhagic fever. People who have this disease bleed from the nose or other openings in the body. Dengue hemorrhagic fever kills about five percent of all people it infects. The only treatment involves controlling the bleeding and replacing lost body fluids.

Yellow fever is another disease carried by mosquitoes. There are no effective drugs against yellow fever. Doctors can only hope that a person's defense system is strong enough to fight the disease. Yellow fever is found mainly in Africa, the northern part of South America and the islands of the Caribbean Sea. The World Health Organization says there are an estimated two hundred thousand cases of the disease and thirty thousand deaths each year.

A virus causes yellow fever. A few days after a mosquito bite, the victim experiences high body temperature and pain in the head or muscles. Victims also may expel food they ate. Most patients improve after three to four days.

However, fifteen percent of patients develop a more serious condition. High body temperatures return and the body turns yellow in color. The victim bleeds from the nose, mouth, eyes or stomach. Half the people with this condition die within ten to fourteen days.

A vaccine can prevent yellow fever. Experts say the vaccine is safe and very effective. The protection continues for at least ten years and possibly for life.

Answer:

- 1.- Why is it important to learn about mosquitoes?
- 2.- What is the difference between male and female mosquitoes?
- 3.- Where do mosquitoes lay the enormous number of eggs they produce?
- 4.- How many eggs are produced by a single female mosquito? How long can eggs live?
- 5.- What are larvae?
- 6.- How long can they live and what do they feed on?
- 7.- What do mosquitoes carry and what do these produce?
- 8.- What is the most important disease spread by mosquitoes?
- 9.- What do malaria parasites do when they enter the blood?
- 10.- What is DDT? Is it allowed in Argentina? (Find out)
- 11.- What non chemical methods have been announced to combat mosquitoes?
- 12.- How many countries had dengue fever before 1970? And now?
- 13.- Is there any cure?
- 14.- What are the symptoms?
- 15.- What is the most severe type of dengue? Characteristics:
- 16.- Is there any effective drug against yellow fever?
- 17.- How many people die of yellow fever every year?
- 18.- What causes yellow fever?
- 19.- What happens to the victims?
- 20.- Is there a vaccine?

More about diseases caused by mosquitoes:

Mosquitoes also carry **lymphatic filariasis**, also known as elephantiasis. The disease has affected more than one hundred twenty million people. One-third of those infected live in India. Another third are in Africa. The others live in South Asia or islands in the Pacific Ocean.

Mosquito bites spread the worms that cause elephantiasis. People usually begin to develop the disease as children. Many children never experience signs of the disease. But it may cause hidden damage to the body's lymphatic system and kidneys.

The worst signs of elephantiasis appear in adults. The signs are more common in men than in women. These include damage to the arms, legs and reproductive organs. Two drugs are effective in treating the disease.

Another disease carried by mosquitoes is **encephalitis**. It causes an infection or swelling of the brain. Many different viruses cause different kinds of the disease. One virus lives naturally in birds and horses. Mosquitoes spread it to people. Mosquitoes in several Asian countries spread a kind of encephalitis known as Japanese encephalitis. A vaccine can prevent this sickness.



AP Photo

A scientist for the Massachusetts Department of Health prepares mosquitoes to be tested for viruses that can cause encephalitis

Other kinds of encephalitis include West Nile, Saint Louis and Eastern Equine. Most healthy people infected with the virus show no signs. Or they become sick for only a day or two. But those with weak natural defenses may develop a severe infection. They may suffer from high body temperature, head pain, shaking and even death.

Experts have learned many things about mosquitoes. For example, the insects can smell carbon dioxide in the breath of a person or animal from as far away as sixty meters. Mosquitoes often like the blood of animals better than the blood of people.

The insects also like dark colors. They do not bite women who are bleeding during their fertility period. But they do bite pregnant women. Many kinds of mosquitoes are most active in the early morning and early evening. They eat mostly at night.

Experts say the best way to prevent the diseases carried by mosquitoes is not to be bitten by one. There are several ways to prevent mosquito bites. Do not keep standing water anywhere near your home.

Remove all containers that could provide a place for mosquitoes to live. Stay in an enclosed area when mosquitoes are most active. Wear clothes that cover most of the body.

Other ways to prevent mosquito bites are to put anti-insect products on the skin, clothing and sleeping areas. Also, place nets treated with insect poison on windows and over the bed at night.