



FREQUENTLY ASKED QUESTIONS: RABIES



1. What is rabies?

Rabies is an acute viral disease characterised by encephalitis (inflammation of the brain), caused by the rabies virus. The disease normally occurs in domestic and wild animals, although it can also affect humans through contact with saliva from infected animals, such as following a bite by a rabid dog.

2. What are the symptoms of rabies disease?

The site of the bite and the age of the person determine the onset of symptoms. The younger the person and the closer to the head the bite is, the more rapid the progression of the disease. Initial symptoms of rabies are:

- Mild fever
- Pain or itching at the site of bite if bitten
- Headache and nausea
- Sore throat
- Loss of appetite
- Increased saliva production
- Sensitivity to light or sound

The illness can then follow two forms:

a) Furious Rabies

This is characterised by:

- Hyperactivity
- High fever
- Hallucinations
- Hydrophobia (fear of water)
- Fluctuating consciousness
- Inspiratory spasms
- Cardiovascular arrest
- Death

b) Paralytic Rabies

This is characterised by

- Ascending flaccid paralysis
- Death

3. Why is rabies a health problem in South Africa and the world?

Rabies is an enzoonotic (i.e. animal- transmissible) disease of both wild and domestic animals such as dogs, foxes, raccoons and bats in about 100 countries, placing more than 2.5 billion people at high risk. The disease has been eliminated in most of the industrialised countries of the world and the vast majority of fatalities (99%) are from Africa, Asia, and South America.

It is estimated that globally more than 50 000 people die each year from rabies, and more than 10 million receive post-exposure prophylaxis. Children aged 5 years to 15 years are at a greater risk.

In South Africa, rabies is endemic, particularly in the rural areas. The Eastern Cape, KwaZulu-Natal, Limpopo and Mpumalanga provinces are particular risk areas for dog rabies, and that is where most of the human cases of rabies occur. Several hundreds of animal cases occur annually with corresponding 30-50 human cases. The majority of the cases are in children. In 2005, there have been four laboratory confirmed cases of rabies.

4. Who is at risk?

Everyone is at risk of contracting rabies, however there are certain groups which are at an increased risk and they include:

- Children under 15 years of age
- Laboratory staff
- Veterinarians
- Animal handlers
- Game rangers with frequent exposure to potentially infected animals
- Travellers to rabies endemic regions

5. How is rabies transmitted?

Rabies is an animal disease and usually gets transmitted to a human through a bite or scratch by an infected animal. The rabies virus can also be transmitted in the following ways:

- Infectious material such as saliva coming into contact with broken skin
- Inhalation of virus-containing aerosols.

Even though theoretically possible, rabies transmission from one human to another happens rarely, if ever.

6. How do I know if I have or have had rabies disease?

There are currently no diagnostic tests for rabies infection before onset of disease. If you have just been bitten by a dog, seek medical help immediately. Describe to your doctor how the animal was behaving and any signs of salivating. Ensure that the animal is captured, so that in the absence of rabies vaccination history, it can be euthanized and its brain be taken for testing. In South Africa, the testing of animals is done at the [Onderstepoort Veterinary Institute](#) in Pretoria, while the testing of humans is performed at the [National Institute of Communicable Diseases](#) in Johannesburg. The onset of clinical symptoms is another way that you can know if you have rabies. But sadly, once the disease sets in, death follows within a week if prompt treatment is not provided. The cause of death can then be confirmed by post-mortem testing of the brain at the [NICD](#).

7. What is the treatment following rabies infection?

Following a bite by a suspected rabid dog, the wound must be washed thoroughly with soap and water, detergent or antiseptic and water for at least five minutes. Post-exposure prophylaxis can then be administered.

Post-exposure prophylaxis (PEP)

Exposure to rabies-infected material is classified into 3 categories, and PEP is administered based on these categories

Category	Type of contact	Recommended treatment
I	Touching or feeding of animals Licks of intact skin	None, if reliable case history is available
II	Nibbling on unbroken skin Minor scratches without bleeding Licks on broken skin	Administer rabies immunoglobulin and vaccine immediately. Further doses of the vaccine are given on days 3, 7, 14 and 28. Stop treatment if animal remains healthy after 10 days of observation or laboratory tests are negative for rabies
III	Single or multiple transdermal bites or scratches Contamination of mucous membrane with saliva	Administer rabies immunoglobulin and vaccine immediately. Further doses of the vaccine are given on days 3, 7, 14 and 28. Stop treatment if animal remains healthy after 10 days of observation or laboratory tests are negative for rabies

8. How is rabies prevented?

Rabies results in death if there is failure to initiate treatment promptly. No one has ever recovered from clinical rabies. There are several ways to prevent clinical rabies:

- Prevention of rabies in dogs will lead to a reduction in the number of cases in humans. The best way to do this in dogs is to vaccinate them. In South Africa, it is compulsory for dog owners to have their dogs vaccinated against rabies.
- Prevention of rabies in persons who, because of their occupation are at an increased risk of infection, can also lead to a reduction of rabies. There is a safe and effective vaccine available for those who require vaccination.
- Rabies in humans can also be prevented if prompt post-exposure prophylaxis is administered following a bite by a suspect rabid animal.

9. Who should get the rabies vaccine?

Rabies vaccine is used as PEP to prevent clinical disease. It can also be used on certain groups who are deemed to be at an increased risk of rabies virus infection, and they include:

- Children under 15 years of age
- Laboratory staff
- Veterinarians
- Animal handlers
- Game rangers with frequent exposure to potentially infected animals
- Travellers to rabies endemic regions

10. How and when is the rabies vaccine given?

The vaccine is given by intramuscular injection.

i) Pre-exposure prophylaxis

Three doses of the vaccine are given on days 0, 7, and 28, with a booster dose after 1 year.

ii) Post-exposure prophylaxis

Five doses of the vaccine are given on days 0, 3, 7, 14 and 28.

11. Should HIV positive individuals be vaccinated?

Rabies vaccines have been shown to be safe to administer to individuals who are HIV positive. However, if rabies vaccine is to be used for post-exposure treatment, intramuscular vaccine and rabies immunoglobulin are mandatory and their antibody response should be monitored serologically.

12. What are the side effects of the rabies vaccine?

The current rabies vaccines are safe. The common side effects are pain, swelling and itching at the site of injection accompanied by mild fever.

Where to find us:

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