

RABIES

Rabies is a severe viral infection transmitted to humans by animals and affects the brain and nervous system. The virus is in the animal's saliva and is transmitted through a bite or when the rabid animal licks an open cut or wound. On rare occasions the virus can be inhaled, for example from exposure to air in caves which are densely populated with rabid bats. In developing countries dogs and monkeys are the most common source of human infections. However bats, skunks, cats and foxes can also transmit it. Rabbits, squirrels, chipmunks, rats and mice are rarely infected, but any mammal with teeth can theoretically spread rabies.



Animal behaviour is NOT a reliable sign as to whether an animal is rabid, as the animal can look healthy while the rabies is slowly growing within its brain. The only guaranteed way to tell is by killing the animal and examining its brain.

WHAT COUNTRIES ARE INFECTED?

Most countries within Asia, Africa and South America have infected regions. Countries with a significant rabies problem include Bangladesh, Bolivia, China, Colombia, Ecuador, El Salvador, Ethiopia, Guatemala, India, Mexico, Nepal, Peru, Philippines, Sri Lanka, Tanzania, Thailand, & Vietnam. There is also rabies in Europe and North America, but many animals there are vaccinated against rabies and the risk is lower. Many countries are rabies free, such as the UK, Japan and New Zealand. Bali has been declared a rabies free island but other islands in Indonesia are infected.

Worldwide, there are approximately 50,000 human deaths each year from rabies. Approximately half of these occur in India.

SIGNS AND SYMPTOMS OF THE DISEASE

The incubation period (the time between being bitten and when symptoms occur) can be any time between 4 days and several years. The average incubation period is 3 -12 weeks. There are usually no symptoms during the incubation.

EARLY SYMPTOMS	LATE SYMPTOMS
<ul style="list-style-type: none">• Headache• Fever• Tiredness• Pain, itching or tingling at the site of the wound• Nausea	<ul style="list-style-type: none">• Muscle spasms• Inability to drink and swallow• Paralysis• Convulsion
FINAL STAGE Coma, cardiac or respiratory failure, and almost always death.	

PREVENTION

The most effective preventative measure is to avoid contact with animals. Children are particularly vulnerable to animal bites, and are more likely to have severe bites. They are also less likely to report that they have been bitten or scratched. Cyclists are also at a higher risk of getting bitten. Other high-risk groups include cave explorers, botanists & naturalists and animal handlers, eg. zoologists and veterinarians and abattoir workers. Travellers visiting high-risk countries for longer than 30 days should consider vaccination. Anyone going to a remote area or a country where it will be difficult to obtain post-exposure treatment should also consider vaccination.



Pre-Exposure Vaccination

This is a course of 3 injections given over a period of 3-4 weeks, and should be commenced 6–8 weeks before departure. A **booster is recommended** at one year then two yearly if continuing to travel into high-risk areas.

This does **NOT** eliminate the need for post-exposure vaccination, however it does mean;

- your chances of survival are much higher.
- you will **not** need rabies immunoglobulin for treatment (which is a blood-based product that can be difficult to obtain).
- you only need 2 post exposure injections as opposed to 6.
- you have more time to get to a doctor or hospital (one week rather than 2 days).

Post Exposure

The most important treatment is to clean the wound thoroughly.

- immediately wash and flush with soap and water. Do this for a long period of time, 20 minutes if possible.
- apply either 40-70% alcohol or tincture of iodine.

Seek Medical Aid

It is important to receive treatment as soon as possible as the likelihood of success decreases the longer the treatment is delayed. If treatment is given within 48 hours it is likely to be 100% successful. If you have had pre-exposure vaccinations, we still recommend that you obtain medical care within 7 days. If you have not had pre-exposure vaccinations, seek medical attention as soon as possible, preferably within 48 hours.

1. If you **have not** had pre-exposure vaccination, rabies immunoglobulin (RIG) must be injected into and around the wound, and intramuscularly. This is a blood product, which is often not available in developing countries. If blood products are not adequately screened and tested, there is also the risk of transmitting blood-borne diseases such as HIV or hepatitis B or C. You should also consider bringing your own supply of sterile needles and syringes when travelling to developing countries.
2. The wound **must not** be stitched.
3. Start a course of post exposure rabies vaccination. This involves 5 doses of the vaccine – one each on days 0, 3, 7, 14 and 28. Stop chloroquine and mefloquine (lariam) as these interfere with absorption of rabies vaccine. (Remember to continue using other methods of protection against malaria such as long sleeved clothing, insect repellents, permethrin and mosquito nets).
4. Have a tetanus injection if this is not up to date.

The problem of rabies is enormous and most developing countries are unable to do much to prevent it. In parts of India, 1 in 500 hospital admissions are due to rabies from dog bites. 3 in 10 dogs caught in Bangkok carry the rabies virus. Therefore, **AVOID ALL ANIMAL CONTACT** while overseas in areas with rabies and if you are unlucky enough to be exposed, **SEEK MEDICAL ADVICE IMMEDIATELY**.