

Preventing the Rabid Touch

The ancient Sanskrit word 'rabhas' means violence and the Latin word 'rabere' means to rage or rave. Rabid dogs are known to appear enraged or violent. The family of viruses causing rabies are called lyssaviruses with 'lyssa' being the Greek term for frenzy or madness. Close to sixty thousand humans die annually due to rabies, with half of the victims being under 15 years. The disease is present on all continents except Antarctica and has been reported in more than 150 countries. More than 95% of deaths occur in Asia and Africa. Bites by dogs are the cause of over 95% of human cases, but all warm-blooded animals, wild or tame, can be infected. Bats, jackals, cats, racoons, monkeys, skunks and even farm animals such as cows and horses can contract rabies and in turn transmit it to humans. Very little data is available of rabies in travellers, with the risk estimated to be up to 200 per 100 000 travellers.

It is however not a frenzied dog that suddenly appears out of nowhere and bites the unsuspecting traveller. Instead the rabid animal often draws its victim to it by its seemingly docile and 'cute' nature and only bites and shows abnormal behaviour when stimulated by touch, sound or movement. The most

important message to any traveller is hence: Do not touch any animal!

A review of the medical literature reveals that worldwide only 13 are known to have survived infection caused by rabies, including one in South Africa in 2012. All of them had some

form of medical intervention, whether standard or experimental, and natural recovery from the deadliest infectious

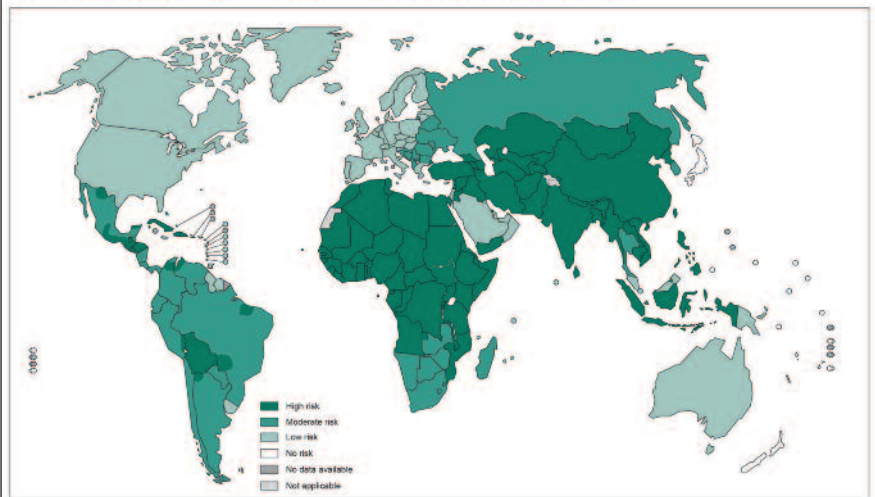
disease known to mankind is unheard of. Rabies is a frightening disease to contract; frightening for the patient who suffers the symptoms, frightening for the family who witness the suffering and inevitable demise of the victim, and frightening for the medical fraternity who can only stand by supporting the patient but offer nothing to effect a

cure. The disease is imminently preventable by using a very effective vaccine before possible exposure (Pre exposure prophylaxis, PrEP) or taking appropriate steps immediately after exposure (post exposure prophylaxis, PEP).

The rabies virus is contracted through wounds (e.g. scratches from an infected animal) or by direct contact with mucosal surfaces (e.g. bite from an infect animal). The animal frequently displays abnormally aggressive behaviour, but this may not always be evident. Children tend to want to pet animals and may get bitten or scratched in the process. They also do not always report exposure. Children are at higher risk for rabies exposure because of their smaller stature, which makes severe bites to high-risk areas, such as the face and head, more likely. Once inside the body, the virus replicates in the

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Distribution of risk levels for humans contacting rabies, worldwide, 2013



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Data Source: World Health Organization
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affected muscle and gains access to nerve fibres and travel to the central nervous system. Here the majority of the clinical symptoms manifest as an acute encephalitis or meningoencephalitis. The incubation period for rabies is typically between one and three months, but may vary from one week to one year. The initial symptoms of rabies are fever and often pain or an unusual or unexplained paraesthesia at the wound site. As the

virus spreads through the central nervous system, progressive, fatal inflammation of the brain and spinal cord develops. It then spreads to the salivary glands and can be spread by the infected saliva via bites or licking of disrupted skin.

Two forms of the disease can then

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manifest itself. About 70% of patients develop furious rabies and exhibit signs of hyperactivity, excited behaviour, hydrophobia and sometimes aerophobia. Death occurs within a few days due to cardiorespiratory arrest. Paralytic rabies accounts for about 30% of cases. This form of rabies runs a less dramatic and usually longer course than the furious form. There is a gradual and progressive increase in muscle paralysis, starting at the site of the bite or scratch. A coma slowly develops, and the patient eventually dies. The paralytic form of rabies is often misdiagnosed as it does not 'conform' to the known description of the disease. This leads to the under-reporting of the disease.

Rabies in travellers is best prevented by adopting a comprehensive strategy. Measures that can be taken include education about risks and the need to avoid bites from mammals, taking PrEP if there is any risk of contracting the disease during travel, taking proper action to prevent rabies after a bite and being able to obtain PEP. Urgent international travel may be

required if PEP is not available in a particular country and the importance of adequate comprehensive travel insurance has to be emphasised. It is known that no traveller has died while

trying to obtain PEP. In fact travellers who have succumbed to rabies either did not seek PEP or received inadequate care when they did.

Travellers to rabies-enzootic countries should be warned about the risk of rabies exposure and educated in avoiding animal bites. Travellers should avoid free-ranging mammals, be aware of their surroundings so that they do not accidentally surprise a dog, and avoid contact with bats and other wildlife. Travellers should be advised to not approach or otherwise interact with monkeys or carry food while monkeys are near, especially those habituated to



Bats can also spread rabies

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tourists. Entering caves where Not many cases of bats transmitting rabies to humans have been documented, but travellers should be educated to not handle bats or other wildlife. Many bats have tiny teeth, and not all wounds may be apparent. Any suspected or documented bite or wound from a bat should be grounds for seeking PEP.

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of soap and water for at least 15 minutes. All travellers should be informed that immediately cleaning bites as soon as possible substantially reduces

Categories of exposure		
Category	Description	Action
Cat 1	licking, touching, on intact skin	None
	saliva on scratches or abrasions on the skin without bleeding; or nibbling of uncovered skin	Clean wound Immediate rabies vaccination
Cat 2	Bites or scratches that penetrate the skin. Exposure (coming in contact) of the eye or mouth to saliva from licks.	Clean wound Immediate rabies vaccination Immediate rabies immunoglobulin
Cat 3		

the risk of infection, especially when followed by timely administration of PEP. The type of wound and previous vaccination status will then determine whether a series of vaccinations should then commence and if rabies immune globulin (RIG) is required. RIG is often not readily available in all countries and travellers at high risk of exposure to rabid animals should consider pre-travel vaccination which would negate the need for RIG and would only require two vaccines after exposure. PEP in an unvaccinated person may require RIG into the wound as well as a series of 4 or 5 vaccines. Annually more than 15 million need PEP!

Pre-exposure vaccination does not eliminate the need for additional medical attention after a rabies exposure, but it simplifies PEP. Pre-exposure vaccination may also provide some protection when an exposure to rabies virus is unrecognized and PEP might be delayed. Travellers who have completed a 3-dose PrEP series or have received full PEP are considered immunized and do not require routine boosters.

Rabies is one of the most deadliest diseases known yet is easily preventable by appropriate PrEP if a risk of exposure exists. PEP may not always be available and a traveller must carefully consider the risks of contracting the disease versus the benefits and costs of the expensive vaccine. The cardinal rule must in any case always be obeyed which is: DO NOT TOUCH ANIMALS WHEN TRAVELLING!



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