

From the Chief Medical Officer
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and Public Safety**

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HSS(MD)42/2008

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Your Ref:

Our Ref: HSS(MD)42/2008

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URGENT COMMUNICATION

Dear Colleague

SUSPECTED HUMAN RABIES CASE IN NORTHERN IRELAND

I am writing to advise you that a patient with suspected rabies infection is currently being managed in the intensive care unit of the Royal Group of Hospitals Trust. This patient had previously been overseas in an area associated with rabies in animals and may have been bitten there. A multi-agency investigation is currently underway into this incident. A risk assessment has been undertaken in relation to staff and others who may have been in contact with this patient who may require post-exposure prophylaxis and arrangements are in place for this. However the risk to the wider community is deemed negligible.

A human case of rabies has not been seen in Northern Ireland since 1938 thus awareness of this disease may be low amongst health professionals. It is important that those providing travel health advice consider the requirement for rabies immunisation as appropriate. In addition all clinicians should be aware of the clinical features of rabies and consider it in the differential diagnosis of an encephalitic illness in those returning from areas where rabies occurs.

What is rabies?

Rabies is an acute viral encephalomyelitis caused by members of the lyssavirus genus. Human infection is usually via the bite or scratch of a rabid animal, most frequently a dog. In some parts of the world other animals such as bats, cats and monkeys are important sources of exposure. Person to person spread of the disease has not been documented other than in exceptional circumstances.

Most cases of rabies in the UK now occur in quarantined animals or in people infected abroad. Since 1946 there have been 23 deaths in people infected with rabies abroad, 3 of which have occurred since 2000. The most recent human case in the UK occurred in 2005 and had been acquired by a dog bite in Goa. None of the imported cases received post-exposure prophylactic treatment for rabies either in the country of origin or in the UK.

Symptoms and signs of rabies in humans

Rabies affects the central nervous system and initial symptoms can include anxiety, headaches and fever; later the effects of the encephalitis intensify. These include spasms of swallowing muscles making it difficult or impossible for patients to drink (hydrophobia) and respiratory failure.

Immunisation for rabies

All general practitioners and those providing travel health services or advice will find detailed information on rabies and rabies immunisation in the most recent version of *Immunisation Against Infectious Disease 2006* (The Green Book). Specifically the following would need to be protected by immunisation:

1. People at risk through their jobs or occupations, for example workers in laboratories, quarantine kennels and licensed and unlicensed bat handlers.
2. Some people go out to developing countries where rabies is common who may be exposed through their work (for example working with animals) or travelling to particular areas where medical services are poor and the risk of being bitten is high.
3. Anyone bitten by a potentially rabid animal abroad or by a bat in the UK. They should seek vaccination as soon as possible.



Protecting people
Preventing harm
Preparing for threats

Rabies: Frequently Asked Questions

Rabies is an [encephalitis](#) caused by rabies virus, a member of the rhabdovirus family. Worldwide, it is estimated that there are around 55,000 cases of classical rabies each year, almost entirely in developing countries.

How common is rabies in humans?

Human rabies is extremely rare in the UK. The last case of classical rabies acquired in this country was more than a century ago, in 1902. Cases occurring since then have all been acquired abroad, usually through dog bites. In 2002 a man who was a licensed bat handler died in Scotland from infection with [European Bat Lyssavirus 2](#), a rabies-like virus. This does not alter the status of the UK as rabies-free. On rare occasions someone who is incubating rabies arrives in this country and then falls ill with the disease.

How many cases of rabies have there been in the UK?

Since 1946, twenty-three cases have been reported in the United Kingdom, all imported. Only 3 cases have occurred since 2000. Two unconnected cases occurred in 2001, imported from the Philippines and Nigeria ([CDR Weekly 11 May 2001](#) , [CDR Weekly 14 June 2001](#)). The most recent case reported in the UK was in 2005 and followed a dog-bite in Goa ([Eurosurveillance, 28 July 2005](#)). A case of rabies-like infection caused by a Bat Lyssavirus occurred in Scotland in November 2002 ([CDR Weekly 28 November 2002](#)).

How do humans catch rabies?

Humans generally catch rabies through being bitten by an infected animal (usually a dog). In this country, rabies has long been eliminated in the animal population, so recent human cases in the UK have all been associated with exposure to infected animals elsewhere in the world. There are no documented cases of human-to-human spread, except by the artificial route of organ transplantation. In a corneal transplant a part of the cornea is surgically removed after death and grafted into the eye of another person. Once the rabies risk from this was recognised, screening protocols were introduced and there have been no reports of rabies transmission by corneal transplant for over 15 years. In 2004, for the first time cases resulted from transplantation of solid organs from a donor in the United States, later discovered to have rabies. Later in the same year a similar incident occurred in Germany, where the donor had probably been infected while travelling in India ([CDR Weekly 3 March 2005](#)).

Is rabies spread from person to person?

No. There is no risk to other humans or animals from a patient with rabies. Despite there being tens of thousands of cases each year worldwide, there has never been a documented case of human-to-human transmission, other than the few cases resulting from organ transplant. Despite the lack of evidence for human-to-human transmission, people who have been exposed closely to the secretions of a patient with rabies will sometimes be offered immunisation purely as a precautionary measure.

How common is rabies in animals?

In the UK, rabies has been eliminated from the animal population; however, in some parts of the world it continues to infect a variety of mammals. [A puppy in quarantine](#) in the UK was found to be rabid in 2008. Dogs and cats, due to their high level of contact with the human population and propensity to bite, are the main risk to humans. People who are travelling should consult their GP or a travel clinic about whether they need rabies vaccination for their itinerary. When abroad in a country where rabies exists it is vital to seek advice immediately following any animal bites or scratches. Rabies affects bats as well as terrestrial animals, and twice in the last few years rabies-like viruses have been found in bats in the UK. These viruses are known as [European Bat Lyssaviruses \(EBLVs\)](#) very rarely cross the species barrier from bats to humans, and are unlike the 'classical' rabies virus found in dogs and other animals. EBLVs are found more commonly in bats elsewhere in Europe than the UK. There have only been four documented cases of transmission of EBLs to humans in Europe from bats in the last 25 or more years.

What are the symptoms and signs of rabies in humans?

Rabies is a very serious infection which affects the central nervous system. Initial symptoms can include anxiety, headaches and fever; later the effects of the encephalitis intensify. There are spasms of the swallowing muscles making it difficult or impossible for patients to drink (hydrophobia), and respiratory failure sets in.

How long is the incubation period?

The incubation period is generally from 2 to 8 weeks, but very variable. On some occasions incubation periods have been several months or more.

How dangerous is rabies?

Rabies is a fatal condition but it is preventable by vaccination. It is important for people who are at risk through their work or through travelling to countries where rabies is circulating in animals to seek advice on vaccination. Once clinical rabies develops, it is almost always fatal. Those few people who have survived the infection have suffered serious long-term disability.

Who should be protected by immunisation?

- People at risk through their jobs or occupations *eg* workers in laboratories, quarantine kennels, and licensed and unlicensed bat handlers
- Some people going to developing countries where rabies is common who may be exposed through their work (*eg* working with animals) or travelling to particular areas where medical services are poor and the risk of being bitten is high
- Anyone bitten by a potentially rabid animal abroad or by a bat in the UK. They should seek vaccination as soon as possible.

What can be done to treat rabies?

Rabies must be prevented, because there is no treatment. This means that people should seek advice about vaccination before they travel if going to developing countries where rabies is present. When travelling they should steer clear of animals in general, but particularly stray or unattended dogs. Anyone who is bitten or scratched by a warm blooded animal such as a dog, cat or bat in a country where there is rabies should get advice immediately as rabies vaccine can be given to protect them. It works best if given as soon as possible (see below [What should travellers do ?](#)). *Within the UK, if someone is bitten by a bat they should seek medical attention as soon as possible. Expert advice for doctors is available through the Health Protection Agency. They can then be advised on whether they need any preventative treatment. All bat handlers whether licensed or not should be vaccinated preventatively against rabies. If a person has rabies there is no specific treatment currently recommended.*

What measures are taken to prevent animals with rabies from entering the country?

The UK eliminated rabies from its terrestrial animal population early in the 20th century. It maintains this by requiring immunisation in vulnerable animals coming into the country and applying quarantine laws to unimmunised animals. Further questions about this should be directed to the Department for the Environment and Rural Affairs (DEFRA), which regulates quarantine legislation (<http://www.defra.gov.uk/>).

What should travellers do?

Travellers should:

- Seek advice before travel about whether they need rabies vaccine; while this is generally not recommended for travel in Western Europe, for example, it may be recommended for visits of more than a month to some countries, especially developing countries where rabies is common in animals.
- When travelling, stay away from stray or unattended animals.
- If bitten in a country where rabies is present clean the wound thoroughly with soap and plenty of water and seek medical advice immediately. If a person has not had treatment in that country they should still seek medical advice immediately on return, even if the bite was weeks before.

Professionals can find advice in the Health Protection Agency Immunoglobulin handbook (http://www.hpa.org.uk/infections/topics_az/immunoglobulin/menu.htm) and in the "Green Book" (<http://www.dh.gov.uk/assetRoot/04/11/09/70/04110970.pdf>).

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