



# **The Public Health Management of a Suspected Case of Human Rabies**

**A Standard Operating Procedure for Communication & Action**

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**(updated July 2009 for agency terminology and contact details)**

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## Abbreviations

**CCDC** Consultant in Communicable Disease Control  
**CDC** Centres for Disease Control and Prevention  
**CEHO** Chief Environmental Health Officer  
**Cfi** Centre for Infections  
**COSHH** Control of Substances Hazardous to Health Regulations  
**CPHM** Consultant in Public Health Medicine  
**CSF** Cerebrospinal Fluid  
**DEFRA** Department for Environment Food and Rural Affairs  
**DH** Department of Health  
**DPH** Director of Public Health  
**HPA** Health Protection Agency  
**HPU** Health Protection Unit  
**HPS** Health Protection Scotland  
**LA** Local Authority  
**LARS** Local and Regional Services  
**NHS** National Health Service  
**OCT** Outbreak Control Team  
**PCT** Primary Care Trust  
**SOP** Standard Operating Procedure  
**StHA** Strategic Health Authority  
**VENDU** Veterinary Exotic Notifiable Diseases Unit  
**VLA** Veterinary Laboratories Agency  
**VRD** Virus Reference Department  
**VO** Veterinary Officer  
**WHO** World Health Organisation

## Aims & Objectives

The primary aim of this document is to provide an updated Chapter 4 of the Department of Health Memorandum on Rabies (2000). The objectives are to:

1. To provide a standard operating procedure (SOP) for communications across the Health Protection Agency (HPA), National Health Service (NHS), Department for Environment, Food and Rural Affairs (DEFRA), Department of Health (DH) and Local Authorities (LAs) for the public health management of (a) a clinically suspected case of human rabies and (b) the management of a possible human rabies exposure from a UK animal or bat <sup>a</sup>.
2. To ensure clearly defined lines of communication and procedures for communication and action across the NHS, HPA, DH, DEFRA, VLA and LAs in the public health management of (a) a suspected case of human rabies and (b) the management of a possible human rabies exposure from a UK animal or bat
3. To protect public health by ensuring a proportional precautionary response to a notification of a suspected case of human rabies

### Limitations of the document

1. The terminology used throughout the document refers to current structures in England only. While the terminology is not directly transferable it should be understood that the relevant agencies and departments within the Devolved Administrations would be involved in the public health management of a suspected case of human rabies in their jurisdiction.
2. This document deals with a single suspected case of human rabies and the actions listed are intended to be an adjunct to any existing local outbreak plans.
3. This document is not intended to be a definitive clinical (post exposure treatment) or infection control document. These issues are dealt with comprehensively in the [Green Book chapter on rabies](#)

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<sup>a</sup> Exposure is defined as a break in skin (bite or scratch), contamination through contact with infected aerosol, saliva or organ transplant

## Introduction

Rabies is a viral disease that, in humans, nearly always results in fatal encephalitis. The World Health Organization (WHO) has estimated the annual number of human rabies deaths worldwide to be between 40,000-70,000. Most of these deaths take place in developing countries, particularly in Africa, India and South East Asia.

The last human death from rabies acquired from a terrestrial mammal in the UK was recorded in 1902. Since 1946 there have been 24 rabies deaths, 4 of which have occurred since 2000. All these were cases who had been bitten and infected while abroad in rabies endemic countries. In 2002 a licensed bat handler died from infection with European Bat Lyssavirus type-2 acquired in Scotland.

## Virology

Rabies is caused by a bullet shaped RNA virus belonging to the family Rhabdoviridae, genus Lyssavirus. Using genetic sequencing and phylogenetic analysis it has been determined that within the Lyssavirus genus there are six other closely related viruses, which can cause rabies like disease in mammals, European bat lyssavirus type-1, European bat lyssavirus type-2, Duvenhage virus, Mokola virus, Lagos bat virus and Australian Bat Lyssavirus.

## Mode of transmission

Humans generally become infected when virus-laden saliva is introduced into the body usually through the bite of a rabid animal (usually a dog)<sup>1</sup>.

It is also possible, but quite rare, that people may get rabies if infectious material from a rabid animal, such as saliva, gets directly into their eyes, nose, mouth, or a wound.

Strict adherence to containment measures required by COSHH regulations is essential when high titred virus is handled in the laboratory setting.

## Incubation period

The reported incubation period for human rabies varies from a few days to more than 19 years although 75% of patients become ill in the first 90 days after exposure and infections presenting more than a year after exposure are very rare. The risk of infection depends on the severity of the wound, the site of the wound in relation to its nerve supply and its distance from the brain, the amount and strain of virus introduced<sup>2</sup>.

## Clinical manifestations of human rabies

The initial symptoms of rabies resemble those of other systemic viral infections, including fever, headache and generally feeling unwell. There may be discomfort or paresthesia at the site of exposure (bite), followed by symptoms of cerebral dysfunction, anxiety, confusion, agitation, progressing to delirium, abnormal behaviour, hallucinations, and insomnia i.e. furious (or encephalitic) rabies. Occasionally the presentation is with sudden death.

Neurological symptoms occur later in the disease process. The acute period of disease typically ends after 2 to 10 days. Once clinical signs of rabies appear, the disease is nearly always fatal, and treatment is typically supportive.

Paralytic rabies patients lack the classical symptoms described above. Their initial findings suggest an ascending paralysis resembling an acute inflammatory polyneuropathy or a symmetric quadriparesis. As the disease progresses the patient becomes confused and then declines into coma.

An emerging pattern in the epidemiology of human rabies is a lack of clinical suspicion of rabies and a delay in diagnosis. In one series of cases in the United States, rabies was not clinically suspected in 12 of 32 patients (38%) and was diagnosed after death<sup>3</sup>.

## **Risk of human-to-human and human-to-animal spread**

There has never been a documented virologically confirmed case of natural human-to-human or human-to-animal transmission despite there being tens of thousands of cases of human rabies every year worldwide<sup>4</sup>.

Human-to-human transmission of rabies has occurred among recipients of transplanted corneas in Thailand (2 cases), India (2 cases), Iran (2 cases) the United States (1 case), and France (1 case). Stringent guidelines for acceptance of donor corneas have since reduced this risk and there have been no reports of rabies transmission by corneal transplant for over 15 years.

In 2004 the Centres for Disease Control and Prevention (CDC) in Atlanta confirmed the diagnosis of rabies in four recipients of transplanted organs (liver, kidneys and vascular) and in their common donor, who was subsequently found to have serologic evidence of rabies infection. In Germany in 2005, rabies developed in three of six individuals who had received organs from a donor with unrecognised rabies.

Bite and non-bite exposures inflicted by infected humans on others could theoretically transmit rabies, but no virologically confirmed cases have ever been documented. Casual contact, such as touching a person with rabies or contact with non-infectious fluid or tissue (urine, blood, and faeces) does not constitute an exposure and does not require post-exposure prophylaxis.

Despite the lack of evidence for human-to-human transmission people who have been closely exposed to the secretions of a patient with rabies may, after a clinical risk assessment, be offered immunisation (post exposure schedule) purely as a precautionary measure.

## Ante-Mortem Laboratory Diagnosis

Rabies virus or viral antigen may sometimes be detected before death in saliva, cerebrospinal fluid (CSF), corneal impressions or skin biopsies, but unfortunately there are no reliable ante-mortem (before death) diagnostic methods that can be used for each rabies case. In early disease there may not be sufficient virus or antigen to yield a positive result. In addition the virus may be absent from biopsies, saliva or CSF during the late stages of disease possibly due to the presence of neutralising antibodies. The transient presence of virus means that negative results do not exclude rabies infection<sup>5,6,7</sup>.

Consequently ante-mortem rabies diagnosis is almost always based on the clinical findings and case history rather than laboratory test results. In many circumstances a conclusive laboratory based diagnosis for rabies is only possible from post-mortem brain samples and for a positive ante-mortem test result it must be demonstrated from different tissues or from more than one sample taken on different days<sup>8</sup>.

# Standard Operating Procedure

## Notification Sources

There are three possible routes by which either clinically suspected cases of human rabies or a possible rabies exposure can generally be reported.

1. A person presents with clinical symptoms. The attending clinician should notify a clinically suspected case of human rabies. See **Notification Actions To Be Taken With A Clinically Suspected Case, p10**
2. A person presents to a medical practitioner or vet with a history of a possible rabies exposure. These cases should be managed according to post-exposure guidance as described in the [Green Book chapter on rabies](#). See also **Communications between agencies after a possible exposure to rabies in UK animals, p23**
3. First point of contact is made directly or indirectly with Government Departments & Agencies (VLA, DEFRA, DH, LAs) to report a bite, a suspicious animal, a request for a rabies test other than routine surveillance samples or samples submitted from a clinician. See **Managing Direct Reporting Incidents to DEFRA, VLA or DH, p24**

## Notification Actions to Be Taken With a Clinically Suspected Case

- Rabies is a notifiable human disease under the Public Health (Infectious Diseases) Regulations 1988
- All clinicians should be aware that they must inform the CCDC from their local health protection unit (HPU) if one of their patients is *suspected* to be suffering from rabies
- The attending clinician should also inform the relevant Consultant Microbiologist or Virologist, Director of Infection Prevention & Control and Occupational Health Department<sup>b</sup>
- A CCDC from the local health protection unit will lead the local public health investigation and:
  - Liaise with the attending clinical and infection control teams<sup>c</sup>
  - Inform and update senior Local and Regional Services (LARS) staff (local HPU lead, Regional Director/Regional Epidemiologist)
  - Inform and update HPA staff with national responsibility for rabies surveillance and control. They can provide expert advice on investigation/control, rabies vaccine, immunoglobulin and post-exposure prophylaxis
  - Inform and update Local Primary Care Trust (PCT), Director of Public Health (DPH)
  - Inform and update Local Authority Chief Environmental Health Officer (CEHO)
- Rabies is a notifiable animal disease under Section 15(2) of the Animal Health Act 1981. Anyone who knows or suspects that an animal may have rabies has a legal duty to report this to either the police, the Local Authority or the local Animal Health Office. Suspected animal cases will be investigated by a Veterinary Officer (VO) of Animal Health in close liaison with DEFRA Headquarters and the relevant Local Authority (LA)

If a case of rabies is occupationally acquired then employers have a statutory duty to report such an incident under the requirements of the Reporting of Injuries, Disease and Dangerous Occurrences Regulations (RIDDOR) 1995. See **Appendix 1, Contact Details, p25**

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<sup>b</sup> An Infectious Disease Physician (if available) should also be notified

<sup>c</sup> The attending clinical and infection control team should decide on a primary contact person for ongoing external communications with the CCDC, VLA and others

## Clinical Diagnosis

The diagnosis of rabies in humans is relatively straightforward where an animal that is known to be potentially rabid has bitten someone who then subsequently presents with excitability, aerophobia, paralysis, hydrophobia, delirium and convulsions. However in the UK and in other countries where there is generally little or a very low risk of rabies in animals the diagnosis may be considerably more difficult. Firstly there is a low level of suspicion because of the rarity of the disease. Secondly a history of animal contact relevant to rabies exposure is not always recognised or remembered by the patient, family or friends, and thirdly such a history is often not ascertained by medical staff.

Rabies should be included in the differential diagnosis of any case of acute, rapidly progressing encephalomyelitis. A large Infectious Diseases or Tropical Medicine unit may be able to help with the interpretation of unusual clinical presentations.

It is extremely important to explicitly enquire from family or friends about:

1. A history of travel to a rabies endemic country even when travel has occurred a year or more previously
2. A history of a possible exposure to a bat in the UK<sup>d</sup>
3. A history of a possible exposure to imported animals<sup>d</sup>

The diagnosis of rabies in animals is normally accompanied by changes in their behaviour although some animals may die without showing any clinical signs.

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<sup>d</sup> Exposure is defined as a break in skin (bite or scratch), contamination through contact with infected aerosol, saliva or organ transplant.

## Requesting a laboratory test for a clinically suspected case of human rabies

Testing of clinical samples for rabies, human as well as animal, is carried out at the Veterinary Laboratories Agency (VLA), Weybridge, Surrey. The VLA laboratory is the UK National Reference Laboratory for Rabies and a WHO designated collaborating centre for the characterisation of rabies virus isolates.

- The attending clinician should first contact a Consultant Virologist or Microbiologist locally who should then contact a Consultant Virologist at the HPA Virus Reference Department (VRD) to discuss the clinical presentation, the request for testing and make a preliminary risk assessment. See **Clinical Risk Assessment, p13**
- The attending Consultant Virologist or Microbiologist should then contact the VLA to discuss the sample set to take from the patient, its appropriate transport<sup>e</sup> and the preliminary risk assessment
- HPA VRD should liaise with the HPA Consultant Epidemiologist, informing them of the clinical sample request
- The HPA Consultant Epidemiologist will ensure that the relevant local HPU & CCDC has been informed
- The HPA Consultant Epidemiologist will liaise with DEFRA informing them of the clinical sample request. No actions are needed by DEFRA until results are available. See **Result Cascade, p14**
- VLA will initiate a result cascade. See **Result Cascade**

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<sup>e</sup> Transport of infectious substances to and from UK premises by road and rail is subject to the Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2004 as amended by the Carriage of Dangerous Goods and Use of Transportable Pressure Equipment (Amendment Regulations 2005)..They place general duties on everyone with a role in the carriage of dangerous goods and specific duties on those in the transport chain i.e. consignors, carriers, loaders, packers etc. The 2005 revision of the transport regulations changed the provision for transfers of infectious substances; pathogens are no longer assigned according to their risk group, but according to two new Categories, A and B. Samples which may contain rabies virus are Category A.

## Clinical Risk Assessment

### Rabies - Unlikely

A patient presenting clinically with an unexplained acute encephalomyelitis who:

(i) has not travelled to a rabies endemic area

**Or**

(ii) has remained in the UK and has no known contact history with either a bat, an imported animal or rabies virus

### Rabies - Low suspect

A patient presenting clinically with an unexplained acute encephalomyelitis who:

(i) has travelled to a rabies endemic area in the previous 12 months but has no known history or clinical evidence of exposure by an animal bite or scratch or mucosal contamination

**Or**

(ii) has remained in the UK but has had contact with bats or an imported animal in the previous 12 months but no known history or clinical evidence of exposure by a bite or scratch or mucosal contamination

### Rabies - High Suspect/Confirmed

A patient presenting clinically with 'classical rabies' symptoms

**Or**

A patient presenting clinically with an unexplained acute encephalomyelitis who

(i) has had occupational exposure to rabies virus in a laboratory

**or**

(ii) has travelled to a rabies endemic area and has a known history or clinical evidence of exposure to a potentially rabid animal

**or**

(iii) has remained in the UK but has a history of bite, scratch or mucosal contamination through contact with either a bat or an imported animal

**and/or**

(iv) has had microbiological confirmation of the diagnosis of rabies

## Result Cascade

- VLA will notify the requesting clinician/microbiologist/virologist<sup>f</sup> of the result by phone and fax
  - The clinician/microbiologist/virologist<sup>g</sup> should in turn notify the CCDC in their local HPU
- VLA will notify DEFRA, VENDU of the result by phone & fax
- VLA will inform HPA, VRD of the result by phone and fax
- HPA, VRD will inform HPA, Consultant Epidemiologist of the result by phone
- HPA Consultant Epidemiologist will inform DH and DEFRA of the result by phone
- HPA Consultant Epidemiologist will ensure the CCDC has been informed

The outcome of the clinical risk assessment and the laboratory results will determine the need for a result teleconference. See **Result Teleconference, p15**

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<sup>f</sup> VLA's primary contact will be with the individual whose contact details are on the laboratory request form

<sup>g</sup> The attending clinical and infection control team should decide on a primary contact person for ongoing external communications with the CCDC, VLA and others

## Result Teleconference

### Rabies Unlikely

If the initial risk assessment classifies the case as **Rabies-unlikely** and the initial laboratory result is consistent with this, then no further public or animal health action is required unless the risk assessment is subsequently upgraded on the basis of additional clinical or laboratory investigations. Management of the patient in this classification category is primarily clinical. See Table 3

### Rabies Low Suspect or High Suspect/Confirmed

If the initial risk assessment classifies the case as either **Rabies-low suspect** or **high suspect/confirmed** then a results teleconference should be held as soon as is practicable (ideally within 24 hours of the result).

- The relevant HPU should arrange a results teleconference<sup>h</sup> within 24 hours and forward dial-in details to their primary contact<sup>i</sup> in the attending clinical team, LARS HPA Regional Office, VLA Weybridge, HPA VRD, HPA Consultant Epidemiologist, DH and DEFRA. See **Appendix 1 Contact Details, p25**

Participants in the results teleconference should include:

- CCDC, HPU, LARS
- Regional Director/Epidemiologist
- Hospital - Attending Clinician
- Hospital - Consultant Microbiologist/Virologist
- Hospital - Occupational Health Department
- Hospital - Director of Infection Prevention & Control
- VLA Weybridge
- NHS Trust and HPA Communications
- HPA, Consultant Epidemiologist
- HPA, VRD
- DEFRA
- ID physician from an Infectious Diseases or Tropical Medicine Unit
- Local Authority (if an indigenous animal implicated)

The make up of the teleconference is in no particular order of importance nor is it meant to be exhaustive but suggests some of the key personnel that need to be involved.

The Agenda for the teleconference should include:

- Review of Clinical Presentation & Clinical Risk Assessment
- Interpretation of laboratory results
- Clinical samples - containment & transport
- Clinical Management & Possible transfer
- Decide on proportional precautionary response by public health (including pre- and post-exposure prophylaxis)
- DEFRA to advise on veterinary action to be taken
- Agree future teleconference dates

<sup>h</sup>. Circulate the dial-in number and access code, together with the date and time of the conference call, and proposed agenda to all intended participants.

<sup>i</sup> The attending clinical and infection control team should decide on a primary contact person for ongoing external communications (e.g. CCDC, VLA etc).

## The Response-Roles and Responsibilities

There are three possible rabies response levels dependent on the outcome of the clinical risk assessment.

**Table 2: Response to the Clinical Risk Assessment**

Clinical Risk Assessment	Rabies Response Level
Rabies - <b>unlikely</b>	<b>1</b>
Rabies - <b>low suspect</b>	<b>2</b>
Rabies - <b>high suspect/confirmed</b>	<b>3</b>

The specific actions that should be taken at each response level are shown in **Table 3, Table 4, and Table 5**

**Table 3. Response Level 1**

Name	Specific Actions
Attending Clinician	<ol style="list-style-type: none"> <li>1. Clinical management of patient</li> <li>2. Liaise with Consultant Microbiologist/Virologist</li> <li>3. Inform CCDC of any change in status that would change outcome of risk assessment e.g. additional history from friend or relative that would raise suspicion of rabies</li> </ol>
Hospital Consultant Microbiologist/Virologist	<ol style="list-style-type: none"> <li>1. Liaise with attending clinician</li> <li>2. Liaise with occupational health</li> <li>3. Liaise with Director of Infection Prevention &amp; Control</li> </ol>
Hospital Occupational Health	<ol style="list-style-type: none"> <li>1. Liaise with attending clinician</li> <li>2. Liaise with Consultant Microbiologist</li> <li>3. No indication for rabies vaccination of staff</li> </ol>
CCDC, HPU, HPA LaRS	<ol style="list-style-type: none"> <li>1. Liaise with attending clinician</li> <li>2. Inform and update Senior LaRS staff (Local Lead, LaRS HPA Regional Office)</li> <li>3. Inform and liaise with HPA Consultant Epidemiologist</li> <li>4. Inform and liaise with local PCT DPH</li> <li>5. Inform LA CEHO</li> </ol>
HPA Cfl & VRD	<ol style="list-style-type: none"> <li>1. Available to clinician and local Consultant Virologist/Microbiologist to discuss clinical presentation, the request for testing and make a preliminary risk assessment.</li> <li>2. Liaise with VLA</li> </ol>
HPA Cfl	<ol style="list-style-type: none"> <li>1. Liaise with CCDC</li> <li>2. Keep DH informed</li> </ol>
VLA	<ol style="list-style-type: none"> <li>1. Available to clinician and local Consultant Virologist/Microbiologist to discuss clinical testing, sample sets to be taken and their appropriate transport</li> </ol>
DH	<ol style="list-style-type: none"> <li>1. No specific action</li> </ol>
DEFRA	<ol style="list-style-type: none"> <li>1. No specific action</li> </ol>
HPA Communications Strategy	<ol style="list-style-type: none"> <li>1. Reactive press release ready from HPA, DH and DEFRA</li> </ol>

**Summary of Response Level 1**

- Rabies is **very unlikely** and is one of many diagnoses being considered. The family are more than likely unaware of all tests being ordered
- Clinical management of the patient is paramount and rests with the attending clinician, medical and nursing staff
- The clinician should notify the CCDC of any changes that could change the outcome of the initial clinical risk assessment
- There is no justification for information on a patient at this level of risk becoming public but HPA, DH and DEFRA in conjunction with the relevant NHS trust should have an agreed reactive press release ready

**Table 4. Response Level 2**

<b>Name</b>	<b>Specific Actions</b>
Attending Clinician	<ol style="list-style-type: none"> <li>1. Clinical management of patient</li> <li>2. Liaise with Consultant Microbiologist/Virologist and occupational health</li> <li>3. Inform CCDC of any change in status that would change outcome of risk assessment e.g. additional history from friend or relative that would raise suspicion of rabies</li> <li>4. Participate in result teleconference</li> </ol>
Hospital Consultant Microbiologist / Virologist	<ol style="list-style-type: none"> <li>1. Liaise with attending clinician</li> <li>2. Liaise with occupational health</li> <li>3. Liaise with Director of Infection Prevention &amp; Control and oversee infection control procedures</li> <li>4. Participate in result teleconference</li> </ol>
Hospital Occupational Health	<ol style="list-style-type: none"> <li>1. Liaise with attending clinician</li> <li>2. Liaise with Consultant Microbiologist/Virologist</li> <li>3. Keep a log of all attending nursing and medical staff</li> <li>4. Participate in initial result teleconference (Consider pre- and post-exposure prophylaxis for attending nursing and medical staff)</li> </ol>
CCDC, HPU, HPA LaRS	<ol style="list-style-type: none"> <li>1. Liaise with attending clinician</li> <li>2. Inform and update senior LaRS staff (Local Lead, LaRS HPA Regional Office)</li> <li>3. Inform and liaise with HPA Cfl,</li> <li>4. Inform patient's GP of low suspicion of rabies</li> <li>5. Inform and liaise with local PCT DPH</li> <li>6. Inform LA, CEHO</li> <li>7. Organise and coordinate result teleconference</li> <li>8. Participate in result teleconference (Consider pre- and post-exposure prophylaxis for close family contacts)</li> </ol>
HPA LARS Regional Office	<ol style="list-style-type: none"> <li>1. Inform Regional Director of Public Health and StHA DPH</li> <li>2. Provide assistance and logistical support to CCDC as required</li> <li>3. Regional Director/Epidemiologist to participate in results teleconference</li> </ol>
HPA Cfl & VRD	<ol style="list-style-type: none"> <li>1. Available to clinician and local Consultant Virologist/Microbiologist to discuss clinical presentation, the request for testing and make a preliminary risk assessment</li> <li>2. Liaise with VLA</li> <li>3. Participate in result teleconference</li> </ol>
HPA Cfl,	<ol style="list-style-type: none"> <li>1. Liaise with CCDC</li> <li>2. Keep DH informed</li> <li>3. Participate in result teleconference</li> </ol>
VLA	<ol style="list-style-type: none"> <li>1. Available to clinician and local Consultant Virologist/Microbiologist to discuss clinical testing, sample sets to be taken and their appropriate transport</li> <li>2. Participate in result teleconference</li> </ol>

DH	<ol style="list-style-type: none"> <li>1. Liaise with HPA Cfl</li> <li>2. Liaise with DEFRA</li> </ol>
DEFRA	<ol style="list-style-type: none"> <li>1. Participate in result teleconference <ul style="list-style-type: none"> <li>• Is a possible animal source identifiable and UK based? If yes, then DEFRA will instigate a veterinary enquiry</li> <li>• If animal source is overseas and traceable then health status checked</li> <li>• Are there animal contacts of the human case e.g. household pets? If yes, then DEFRA in conjunction with the CCDC will conduct a veterinary enquiry<sup>j</sup></li> </ul> </li> <li>2. Liaise with LA</li> <li>3. Liaise with DH</li> </ol>
HPA Communications Strategy	<ol style="list-style-type: none"> <li>1. Reactive press release ready from HPA, DH and DEFRA</li> <li>2. Liaise with NHS Trust and PCT communications</li> <li>3. Copy any press release/FAQs to LA</li> </ol>

### Summary of Response **Level 2**

- There is a **low suspicion of rabies**
- Clinical management of the patient is paramount and rests with the attending clinician, medical and nursing staff
- The clinician should notify the CCDC of any changes that could change the outcome of the initial clinical risk assessment
- Teleconference participants should decide on the proportional precautionary response needed by public health (including pre- and post-exposure prophylaxis)
- DEFRA will advise on veterinary action to be taken
- Unless the teleconference participants decide that the public health/animal health risk dictates otherwise there is no justification for information on a patient at this level of risk becoming public but HPA, DH and DEFRA in conjunction with the relevant NHS trust should have an agreed reactive press release ready

<sup>j</sup> Public health and animal health expertise working in partnership ensuring all questions have been asked to assess any possible animal health risks

**Table 5 Response Level 3**

<b>Name</b>	<b>Specific Actions</b>
Attending Clinician	<ol style="list-style-type: none"> <li>1. Clinical management of patient</li> <li>2. Liaise with Consultant Microbiologist/Virologist and occupational health</li> <li>3. Participate in OCT</li> </ol>
Hospital Consultant Microbiologist/Virologist	<ol style="list-style-type: none"> <li>1. Oversee appropriate infection control procedures</li> <li>2. Liaise with clinician and occupational health</li> <li>3. Liaise with Director of Infection Prevention &amp; Control and oversee infection control procedures</li> <li>4. Participate in OCT</li> </ol>
Hospital Occupational Health	<ol style="list-style-type: none"> <li>1. Liaise with clinician and Consultant Microbiologist/Virologist</li> <li>2. Pre- and post-exposure rabies vaccination for staff caring for patient</li> <li>3. Participate in OCT</li> </ol>
CCDC, HPU, HPA LARS	<ol style="list-style-type: none"> <li>1. Form an Outbreak Control Team (OCT) * <ul style="list-style-type: none"> <li>• CCDC</li> <li>• Attending Clinician &amp; Hospital Microbiologist/Virologist</li> <li>• Occupational Health Team</li> <li>• Director of Infection Prevention &amp; Control</li> <li>• Regional Epidemiologist</li> <li>• Regional Consultant Microbiologist/Consultant Virologist</li> <li>• Senior Press/Media Spokesperson</li> <li>• VLA</li> <li>• HPA Consultant Epidemiologist</li> <li>• HPA VRD</li> <li>• DEFRA Headquarters with local delegation as appropriate</li> <li>• Local Authority Environmental Health Department</li> <li>• PCT Senior Manager</li> <li>• Others as deemed necessary</li> </ul> </li> </ol>
HPA LARS Regional Office	<ol style="list-style-type: none"> <li>1. Inform Regional Director of Public Health and StHA DPH</li> <li>2. Provide assistance and logistical support to CCDC as required</li> <li>3. Provide coordination support if issues span more than one HPU district</li> <li>4. Participate in OCT</li> </ol>
OCT Immediate Action Points	<ol style="list-style-type: none"> <li>1. Agree a chairperson &amp; secretary</li> <li>2. Ensure resources are available to meet demand-Clerical, Administrative, IT, Incident Room</li> <li>3. Establish terms of reference, roles and responsibilities and contact details of each member of the team</li> <li>4. Review current information to date (including identification and containment of possible sources, other cases)</li> <li>5. Agree, prioritise and coordinate post exposure treatment for those considered at risk of infection e.g.</li> </ol>

	<p>intimate home contacts and those who have been in direct contact with the patient's body fluids since onset of symptoms</p> <p>6. Inform patient's GP</p> <p>7. Address confidentiality issues for patient and family</p> <p>8. Address decontamination issues (patient's home, clothes etc.)</p> <p>9. Agree press strategy as part of overall HPA and Trust Communications strategy</p> <p>10. Agree method &amp; lines of communication and ensure regular and timely feedback to all parties e.g. regular teleconferences</p> <p>11. Agree methods &amp; lines of communicating updates e.g. laboratory results</p> <p>12. Agree Publication Strategy</p> <ul style="list-style-type: none"> <li>Outbreak Report</li> <li>Peer Review Scientific Journals</li> <li>VLA, HPA CfI, VRD &amp; LaRS to prepare a joint publication for HPA Health Protection Report, Eurosurveillance, and Veterinary Record</li> <li>Other information outlets e.g. PROMED</li> </ul> <p>13. Liaise with Bat Conservation Trust/Natural England if bat implicated</p>
HPA CfI & VRD	<p>1. Available to clinician and local Consultant Virologist/Microbiologist to discuss clinical presentation, the request for testing and make a preliminary risk assessment</p> <p>2. Liaise with VLA</p> <p>3. Participate in OCT</p>
HPA CfI	<p>1. Liaise with CCDC</p> <p>2. Keep DH informed</p> <p>3. Participate in OCT</p> <p>4. Liaise when necessary with relevant national centre/country if suspected source is an animal overseas</p>
VLA	<p>1. Available to clinician and local Consultant Virologist/Microbiologist to discuss clinical testing and sample sets to be taken from the patient and its appropriate transport</p> <p>2. Participate in OCT</p>
DH	<p>1. Liaise with HPA CfI</p> <p>2. Liaise with DEFRA</p>
DEFRA	<p>1. Participate in OCT</p> <p>2. Liaise with DH</p> <p>3. Liaise with LA</p> <p>4. Source</p> <ul style="list-style-type: none"> <li>4.1 <i>Is a possible source identifiable and UK based?</i> <ul style="list-style-type: none"> <li>• DEFRA will instigate a veterinary enquiry</li> </ul> </li> <li>4.2 <i>If source is an animal overseas</i> <ul style="list-style-type: none"> <li>• If traceable, check health status of animal</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>• No specific action on this source animal if not traceable</li> </ul> <p>4.3 <i>If a bat is implicated and has been captured</i></p> <ul style="list-style-type: none"> <li>• Testing of bat for rabies at VLA, Weybridge</li> <li>• Identification of animal contacts with the implicated bat</li> </ul> <p>4.4 <i>If source is unknown</i></p> <ul style="list-style-type: none"> <li>• Veterinary enquiry to identify animal contacts/imported animal contacts of index case to identify possible sources and contact animals</li> </ul> <p>5. Animal contacts of human case</p> <ul style="list-style-type: none"> <li>• If there are animal contacts of the human case e.g. household pets, DEFRA in conjunction with the CCDC will conduct a veterinary enquiry</li> </ul> <p>6. DEFRA's Framework Response Plan for Exotic Animal Diseases would come into play if disease confirmed in a UK animal</p>
HPA Communications Strategy	<ol style="list-style-type: none"> <li>1. Coordinated HPA, DH, DEFRA media strategy</li> <li>2. Liaise with NHS Trust and PCT communications</li> <li>3. Copy any press release/FAQs to LA</li> </ol>

\*The make up of the outbreak control team is in no particular order of importance nor is it meant to be exhaustive but suggests some of the key personnel that may need to be involved

### Summary of Response **Level 3**

Rabies is **highly suspected or has been confirmed**

A multidivisional, multi-agency response is required

## Communications between agencies after a possible exposure to rabies in UK animals

- Individuals or agencies that are informed of a possible human rabies exposure from a UK terrestrial mammal or bat need to ensure, **as a matter of urgency**, that the relevant HPU is aware of the incident
- The possibility of contracting rabies from a terrestrial mammal in the UK is remote. If there is a suspicion that the biting animal was in, or had recently been released from quarantine, or had been imported from overseas then contact should be made with the local HPU who can obtain further information on the extent of the risk in the particular instance from the Divisional Veterinary Manager (Animal Health)
- If the possible rabies exposure occurs while the animal is in quarantine this triggers action from DEFRA as per the Rabies (Importation of Dogs, Cats and other Mammals) Order 1974 (as amended)
- The possibility of contracting rabies from UK bats is an emerging issue. Any possible human rabies exposures with bats should involve the relevant HPU, who should decide on the subsequent communication channels that need to be opened

This document is not intended to be a definitive clinical (post exposure treatment) or infection control document. For further information on clinical post exposure management, please see the [Green Book chapter on rabies](#).

See also **Appendix 1 Contact Details, p25**

# Managing Direct Reporting Incidents to DEFRA, VLA, DH or LAs

Rabies is a notifiable human disease under the Public Health (Infectious Diseases) Regulations 1988

## DEFRA

If DEFRA receive a report of a suspect rabies exposure in a UK based animal with potential human contacts then an Initial Notification email cascade takes place. This includes senior HPA Cfl and Department of Health staff with national responsibility for surveillance and control of rabies infection. The e-mail notifications will continue as test results are received from VLA. When the last result for a case is circulated the notification will mention 'final result'.

When DEFRA receive results from VLA on an animal (e.g. a bat) where a definite human biting/ scratching incident has occurred, the Veterinary Exotic Notifiable Disease Unit (VENDU) will contact the relevant Duty Veterinary Officer who in turn will forward the results to the Proper Officer (usually the Consultant in Communicable Disease Control)

## VLA Weybridge

If the Veterinary Laboratories Agency are contacted directly by individuals e.g. to report a bite, a suspicious animal or a request for a rabies test other than routine surveillance samples or samples submitted from a clinician they will be referred to VENDU who will forward details to the relevant Duty VO who in turn will contact the relevant CCDC.

Members of the public are advised by VLA to contact their local GP if they have any worries or concerns regarding rabies or a bite or scratching incident.

## DH

If the Department of Health (DH) are contacted directly by individuals e.g. to report a bite or a suspicious animal then they are referred to either the Health Protection Agency local HPU for public health advice, or to DEFRA, VENDU for animal health advice.

## Local Authorities

All local authorities have a rabies contingency plan in place that contains clear instructions as to how 'rabies calls' are handled and what information needs to be recorded and the subsequent communication channels that need to be opened on receipt of such a call.

## Appendix 1. Contact Details

Rabies is a notifiable human disease under the Public Health (Infectious Diseases) Regulations 1988. The contact details below are a reference for use by healthcare professionals involved in the public health management of a suspected case of human rabies.

### **Health Protection Agency Centre for Infections**

61 Colindale Avenue  
London  
NW9 5EQ  
Duty Doctor  
Tel: 020 8200 6868  
Fax: 020 8200 7868  
Out of hours: 020 8200 6868 (Duty Doctor)

[Note that the HPA Centre for Infections has out-of-hours contact details for DH, VLA, and VENDU, and will make contact as necessary]

### **Health Protection Agency, Centre for Infections Virus Reference Department**

61 Colindale Avenue  
London  
NW9 5EQ  
Tel: 020 8327 6017  
**Fax:** 020 8205 8195  
Out of hours: 020 8200 6868 (Duty Doctor)

**Health Protection Units** in England can be found at <http://www.hpa.org.uk/> using the postcode tool on the right hand.

### **Veterinary Laboratories Agency, Weybridge**

Woodham Lane  
New Haw, Addlestone  
Surrey,  
KT15 3NB  
*Rabies and Wildlife Zoonoses Group*  
Reference laboratory:  
Tel: +44 (0) 1932 357645 (direct line)  
Fax: +44 (0) 1932 357406  
Head of RWZG:  
Tel: +44 (0) 1932 357840 (direct line)  
Fax: +44 (0) 1932 357239

### **Department for Environment, Food and Rural Affairs**

*Veterinary Exotic Notifiable Diseases Unit*  
Email: [Notifiable.Vets@defra.gsi.gov.uk](mailto:Notifiable.Vets@defra.gsi.gov.uk)  
Fax: 0207 238 5822/5051  
VENDU Emergency phone number: 0207 238 1177 (8:30am to 5:30pm weekdays)  
for notifiable disease reports

#### *Exotic Disease Policy*

Area 5a, Nobel House, 17 Smith Square  
London SW1P 3JR  
Fax: +44 (0) 207 238 6105

**Department of Health**

Emerging Infections and Zoonoses,  
Infectious Diseases and Blood Policy Branch  
Wellington House  
133/155 Waterloo Road  
London SE1 8UG

**Department of Health Memorandum on Rabies - Prevention and Control, 2000**

Available at [www.dh.gov.uk/assetRoot/04/08/06/57/04080657.pdf](http://www.dh.gov.uk/assetRoot/04/08/06/57/04080657.pdf)

**Reporting a RIDDOR incident**

Available at [www.hse.gov.uk/riddor/](http://www.hse.gov.uk/riddor/)

**DEVOLVED ADMINISTRATIONS****National Public Health Service for Wales**

*Communicable Disease Surveillance Centre (CDSC)*  
The Temple of Peace and Health  
Cathays Park  
Cardiff  
CF10 3NW  
Tel 029 2040 2471  
Fax: 029 2040 2506

**Health Protection Scotland**

Clifton House  
Clifton Place  
Glasgow  
G3 7LN  
Tel: 0141 300 1100  
Fax: 0141 300 1170

**Communicable Disease Surveillance Centre Northern Ireland**

McBrien Building  
Belfast City Hospital  
Lisburn Road  
Belfast  
BT9 7AB  
Tel: 028 90 263765  
Fax: 028 90 263511

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