

Rabies Post-Exposure Treatment (PET) - Full Clinical Guideline

Reference no.: CG-T/2015/218

1. Introduction

Rabies is an encephalitis caused by the rabies virus. It is an acute viral infection that is almost invariably fatal once symptoms develop. Post-exposure treatment (PET) using rabies vaccine with or without human rabies immunoglobulin (HRIG) is highly effective in preventing disease if given correctly and promptly after exposure.

Transmission of rabies is generally through the bite or scratch of an infected rabid animal, usually dogs, but also cats, bats and other wildlife. Rabid animals may not always show signs of disease. Rarely, transmission of the virus has occurred through body fluids from an infectious animal coming into contact with an individual's mucous membranes. Exposure through mucous membranes has a low probability of infection but must be managed as a significant event. Infection does not occur through intact skin.

2. Aim and Purpose

The aim of this guideline is to ensure the correct procedure is followed when managing a patient that may require post-exposure treatment. Human rabies is a notifiable disease, therefore the Rabies and Immunoglobulin Service (RIgS) at the UK Health Security Agency, strictly monitor the use of rabies vaccines and HRIG and ensure that ongoing treatment is communicated to GP's.

3. Definitions, Keywords

PET - post-exposure treatment. Rabies vaccine with or without HRIG.

HRIG - Human rabies immunoglobulin

UKHSA - UK Health Security Agency

RIgS - Rabies and Immunoglobulin Service

4. Investigations and Risk Assessment

Prior to initiating PET, each case requires a full risk assessment based on the circumstances of the potential exposure.

It is important that a medical practitioner assesses all animal bites or scratches, especially:

- bat bites/scratches in the UK
- any other animal bite/scratch overseas

Risk assessment should be undertaken as soon as reasonable following exposure, so that PET, if required, can be started promptly. Sheffield Clinical Virology Service can support risk assessments and confirm whether the exposure is likely high risk requiring PET and discussion with the Rabies and Immunoglobulin Service (RIgS). The incubation period is

generally between three and 12 weeks but may range from four days to 19 years. Due to the potentially long incubation period for rabies, there is no time limit for giving PET and all potential exposures should be risk assessed.

Monday – Friday 8am – 5.30pm

For initial advice or support in assessing the patient call Sheffield Virology Service on 0114 226 6477. If confirmed high risk/requiring PET contact the Rabies and Immunoglobulin Service (RIgS) at UK Health Security Agency (UKHSA) to complete the risk assessment. Direct line - 0330 128 1020

Weekends and bank holidays and after 5.30pm

Outside RIgS working hours, the risk assessment can be completed online.

<https://www.gov.uk/government/publications/rabies-post-exposure-risk-assessment-form-and-calculator>. This should then be emailed to: RIGS@ukhsa.gov.uk

Clinician advice is available if required via the Colindale Duty Doctor. Although treatment should be started promptly, initiating rabies PET is not a medical emergency, and can often wait until the next day, with the exception of antitoxin, or a previously untreated head and neck exposure which is classified as a “RED” using the composite rabies risk, so callers after 5:30pm will be encouraged to call back the next day.

If there is a possible case of *clinical rabies* - all calls should be referred to one of the RIgS consultants, UKHSA Colindale (0330 128 1020), or out of hours to Colindale Duty Doctor (0208 200 4400)

For further information, refer to UKHSA guidelines (updated January 2023)

[Rabies post-exposure treatment: management guidelines - GOV.UK \(www.gov.uk\)](#)

5. Treatment

Post-exposure management normally consists of wound treatment and risk assessment for appropriate post-exposure treatment. Decision to initiate PET is based on Composite Rabies Risk (from the Risk Assessment) and vaccine status. Following the risk assessment the patient will fall into one of the following categories and should be treated accordingly.

Composite rabies risk	Post-exposure treatment		
	Non-immunised or partially immunised	Fully immunised	Immunosuppressed
Green	None	None	None
Amber	4 doses of vaccine d0, d3, d7, and d21	2 doses of vaccine d0, and d3-7	HRIG and 5 doses of vaccine d0, d3, d7, d14 and d30**
Red	HRIG* and 4 doses of vaccine d0, d3, d7, and d21	2 doses of vaccine d0, and d3-7	HRIG and 5 doses of vaccine d0, d3, d7, d14 and d30**

* HRIG is not required more than 7 days after the first dose of vaccine, or more than one day after the second dose. HRIG is not required for partially immunised patients (unless immunosuppressed).

** Send sample for antibody testing.

As soon as possible after the incident, the wound should be cleaned by thorough flushing under a running tap for several minutes and washing with soap or detergent and water. A suitable disinfectant should be applied, and the wound covered with a simple dressing. Suitable disinfectants include 40 to 70% alcohol, tincture or aqueous solution of povidone-iodine. Salivary exposures to mucous membranes such as eyes, nose or mouth should be washed thoroughly with clean water as soon as possible.

Be aware that primary suture could cause further damage to the wound and may increase the risk of introduction of rabies virus to the nerves. It should be avoided or postponed until PET has commenced. In patients requiring HRIG, sutures (and infiltration of local anaesthetic) should be delayed until HRIG has been infiltrated into the wound.

N.B: Please note there are **no contraindications** to post-exposure treatment with rabies vaccine (including Rabipur ® for those with severe egg allergies). In the event of a hypersensitivity reaction to a dose of a pre-exposure course, such individuals should still receive post-exposure immunisation if indicated, because the risks of rabies outweigh the risks of hypersensitivity. When there is a history of a hypersensitivity reaction to rabies immunisation, specialist advice should be sought and further doses given under close medical supervision.

6. Supply of rabies vaccine +/- human rabies immunoglobulin (HRIG)

The responsibility for arranging administration of vaccine and/or immunoglobulin lies with the requesting clinician.

Rabies vaccine

The rabies vaccine is kept in stock in pharmacy at both RDH and QHB for post exposure treatment. If RIgS advise via telephone (or out of hours via the online Risk Assessment form) that rabies vaccine is needed the prescriber should contact the pharmacist. Please see the contact details below for the best way to contact pharmacy for supply. The pharmacist will ask you to complete the prescription proforma (Appendix 1) and send to pharmacy along with a printed copy of the online risk assessment that indicates the vaccine is needed.

Pharmacy will then supply the first dose of vaccine. Out of hours the vaccine can be obtained from the Pharmacy Emergency Cupboard (PEC) at RDH or the Pharmacy Out Of Hours (POOH) cupboard at QHB once authorisation has been gained from the on-call pharmacist. Once obtained from the PEC, the on-call pharmacist will need to be contacted again to inform them of the batch number and expiry of the vaccine used.

At weekends or bank holidays the second dose may also need to be supplied. If the prescriber has not spoken to RIgS, the prescriber **MUST** email the risk assessment form to RIgS so that RIgS can arrange for further supplies to be made to the patient.

Human Rabies Immunoglobulin (HRIG)

The HRIG is not kept in stock in pharmacy. If the risk assessment indicates that HRIG is needed then the Colindale Duty Doctor at RIgS should be contacted to arrange a supply. They will ask for the pharmacy contact numbers below. Please also complete the form in Appendix 1 and send to pharmacy.

If HRIG is required, it should be given within 7 days of exposure at a dose 20 units/kg for all patients including children. The volume to be given will vary according to the potency of the current batch, so this will need to be confirmed when obtaining it.

Pharmacy Contact Numbers

RDH Monday - Friday 9am - 9pm - Dispensary Pharmacist ext 85361

QHB Monday - Friday 9am - 5pm - Dispensary pharmacist ext 5182

RDH and QHB outside of these hours - Out of hours pharmacist for each site via switchboard

NOTE to pharmacy: For information on issuing rabies vaccine and rabies immunoglobulin, please see the procedure on QPulse.

Administration of rabies vaccine and HRIG

Link to guidance on how to administer the vaccine and rabies immunoglobulin: [Rabies: administration of vaccine and immunoglobulin - GOV.UK \(www.gov.uk\)](https://www.gov.uk/guidance/rabies-administration-of-vaccine-and-immunoglobulin)

7. References

UKHSA (May 2023) Rabies: the green book, chapter 27 [online]. Accessed on 16/06/2023. Available from: [Rabies: the green book, chapter 27 - GOV.UK \(www.gov.uk\)](https://www.gov.uk/guidance/rabies-the-green-book-chapter-27)

UKHSA (January 2023) Guidelines on managing rabies post-exposure (January 2023). Accessed on 16/06/2023. Available from: [Guidelines on managing rabies post-exposure \(January 2023\) \(publishing.service.gov.uk\)](https://www.publishing.service.gov.uk/guidance/2023-01-11-guidelines-on-managing-rabies-post-exposure)

UKHSA (August 2022) Rabies: administration of vaccine and immunoglobulin. Accessed on 16/06/2023. Available from: [Rabies: administration of vaccine and immunoglobulin - GOV.UK \(www.gov.uk\)](https://www.gov.uk/guidance/rabies-administration-of-vaccine-and-immunoglobulin)

8. Documentation Controls

Reference Number CG-T/2015/218	Version: 5		Status Final	
Version / Amendment History	Version	Date	Author	Reason
	4	October 2020	Julia Lacey	Update to new guideline format. New UKHSA guidelines. Updated request and supply process. Updated treatment section.
Intended Recipients: All clinical staff.				
Training and Dissemination: Available on Koha. Disseminate to ED clinicians and pharmacy.				
Development of Guideline: Maisie-Jane Fry, Kayleigh Lehal Job Title: Specialist OPAT Pharmacist, Lead Antimicrobial Pharmacist				
Consultation with: Dr Cariad Evans Consultant Virologist Rabies and Immunoglobulin Service (RIgS) at Colindale UKHSA				
Keywords: Rabies vaccine, HRIG, Rabies PET				
Business Unit Sign Off			Group: Antimicrobial Stewardship Group Date: 20/06/2023	
Divisional Sign Off			Group: Medicine division Date: 22/06/2023	
Date of Upload			07/07/2023	
Review Date			July 2026	
Contact for Review			Kayleigh Lehal kayleigh.lehal@nhs.net Lead Antimicrobial Pharmacist	

9. Appendix 1

Pre-Printed Prescription to be used for Rabies vaccine and Human Rabies Immunoglobulin (HRIG)

Name _____ Date of Birth _____

Hospital number (if available) _____

Patient's Address _____

Contact No. _____

GP's address _____

Contact No. _____

To be collected by _____

Days since exposure _____

Circumstances of exposure contact _____

Name of virologist discussed with at UKHSA -----

Prescription

Please supply _____ doses of Rabies vaccine to be given on the following dates

Dose no	Date to be given	
1.		
2.		
3.		
4.		
5.		

Please supply _____ units of Human Rabies immunoglobulin

Signature _____ Date _____

Print name _____ Contact details _____

To be filled in by the pharmacy (There is no prescription charge to the patient)

Batch Number/expiry date _____ Date of collection _____

Signature of collector _____

Professional check _____
 Accuracy Check _____

Dispensed by _____
 Batch Numbers dispensed _____