Rabies Risk Assessment and Treatment Following Bat Exposure in the UK or abroad.

During the summer months, the likelihood of individuals coming into contact with bats is potentially higher due to a number of factors including: increased activities outdoors; more time spent outside in the evenings; sleeping with windows open.

Bat Lyssavirus / Rabies Risk

Bats, including those found in Scotland, may carry bat lyssavirus which can cause rabies. Rabies, although rarely contracted from bats, can be fatal in humans once symptoms appear. However, prompt treatment with rabies vaccine after an exposure is effective at preventing the disease. **All bat bites, scratches or other exposures, whether in Scotland, the rest of the UK or abroad**, should therefore be assessed promptly by a health professional so they can arrange post-exposure treatment if needed.

Assessment of Bat Contacts

Members of the public, volunteers and professionals who come into contact with bats and may therefore have had a potentially rabies prone exposure, are advised to seek urgent medical assessment and advice. It is therefore important that healthcare professionals who may be contacted in this respect are aware of how to conduct a risk assessment and to ensure that timely appropriate treatment is given when required.

In Scotland, Infectious Disease consultants usually assist with the risk assessment (see contacts later).

The risk assessment comprises:

- Collation of basic information about the individual (name, age, contact, general health status etc.)
- Details of exposure incident and categorisation of risk (see table 1)
- Assessment of composite rabies risk: Green, Amber, or Red (see table 2)

Table 1: categories of exposure to bats:

CATEGORY 1	**No physical contact** (i.e. no direct contact with the bat's saliva) • touching a bat where the person was protected by a barrier capable of preventing saliva contact, such as a boot, shoe, or appropriate protective clothing • a bat in the same room as a person (including a sleeping person in the UK/Ireland)*
CATEGORY 2	**Uncertain physical contact** (i.e. where there has been no observed direct physical contact (with saliva) but this could have occurred)

	For example: • handling a bat without appropriate protective clothing(i.e. gloves) • a bat becoming tangled in hair • potentially unrecognised contact with bat (i.e. any bat found in the room of a sleeping person outside the UK/Ireland; or any bat found in the room of an intoxicated person or young child in any country)**
CATEGORY 3	**Direct contact with bats saliva** For example • all bites and scratches • contamination of mucous membranes

*Most bats found in houses and attics in the UK/Ireland are pipistrelles, which are not known to be infected with rabies-related viruses. Healthy bats avoid contact with humans therefore bats behaving normally (i.e flying into a room but not grounded or acting aggressively) do not constitute a risk.
**For countries outside the UK/Ireland, any bat found in the room of a sleeping or intoxicated person should be considered a category II exposure. In the USA 50% of human rabies with bat variant virus have resulted from unrecognised bat bites.

Frequently, individuals are uncertain about the nature of a bat exposure as bat bites can be difficult to see or feel.

Under Rabies Classification of Country Risk for Rabies, all bats in the UK are classified as 'Low Risk'.

Table 2: Composite rabies risk

Country/Animal Risk	Category 1 Exposure	Category 2 Exposure	Category 3 Exposure
No Risk	**Green**	**Green**	**Green**
Low Risk	**Green**	**Amber**	**Amber**
High Risk	**Green**	**Amber**	**Red**
Confirmed rabid animal*	**Green/Amber**	**Red**	**Red**

Post Exposure Treatment

Where there is wound, the individual should be advised to immediately clean the wound by thoroughly flushing with running water for several minutes and washing with soap.

The **composite risk categorisation** determines the recommended treatment as can be seen in table 3 below.

- Anyone with a Red or Amber categorisation should be referred for follow up and treatment (usually to the nearest Infectious Diseases Unit) without delay

- Anyone with Green composite risk categorisation needs no further referral or treatment.

Table 3: Recommended treatment based on composite risk categorisation

	Post Exposure Treatment		
Composite Rabies RIsk	Non-immunised/ partially immunised	Fully immunised	Immunosuppressed
Green	None	None	None
Amber	Four doses of vaccine d0, d3, d7, d21	Two doses of vaccine d0, d3-7	HRIG and five doses of vaccine d0, d3, d7, d14 and d30
Red	HRIG* and four doses of vaccine d0, d3, d7, d21	Two doses of vaccine d0, d3-7	HRIG and five doses of vaccine d0, d3, d7, d14 and d30

Where can post exposure treatment be given and by whom?

In Scotland, post exposure rabies treatment is usually given in Infectious Disease Units where healthcare practitioners have experience in assessing risk, know how and where to access immunoglobulin and rabies vaccine, and know how to administer treatment.

An infectious disease physician should be consulted by healthcare practitioners when considering post exposure rabies treatment.

Table 4 below is a list of hospitals where on call Infectious Disease Consultants can be accessed via the main hospital switchboard number.

Table 4: Scottish on call infectious disease consultant contact information

Hospital main switchboard numbers	
Aberdeen Royal Infirmary	0345 456 6000
Crosshouse Hospital, Ayr	01563 521 133
Dumfries and Galloway Royal Infirmary	01387 246 246
Queen Elizabeth Hospital, Glasgow	0141 201 1100
Monklands Hospital, Lanarkshire	01236 748 748
Ninewells Hospital, Dundee	01382 680 111
Raigmore Hospital Inverness	01463 704 000
Victoria Hospital, Fife	01592 643 355
Western General Hospital, Edinburgh	0131 537 1000

Further advice can be found the Rabies Green Book Chapter.

An information leaflet on bat contact and rabies risk is also available here.

Passive Surveillance for European Bat Lyssaviruses in bats

The Animal and Plant Health Agency (APHA) operates a passive surveillance programme whereby members of the public and those working with bats can submit dead bats they find to APHA. This is a passive system to improve understanding of EBLV in the UK. It is **NOT** designed to support the risk assessment of exposed individuals. **If indicated post exposure treatment should be given urgently at the time of exposure and must not be delayed until results of any testing of the bat become available**.

Resources

The Animal and Plant Health Agency (APHA). Bats and Disease in the UK. 2019. https://www.bats.org.uk/about-bats/bats-and-disease/bats-and-disease-in-the-uk/animal-plant-health-agency-passive-surveillance-programme

Health Protection Scotland. TRAVAX: Rabies.2019. https://www.travax.nhs.uk/diseases/vaccine-preventable/rabies/#references9

Public Health England. Green Book Rabies Chapter 27. Public Health England; 2018. https://www.gov.uk/government/publications/rabies-the-green-book-chapter-27

Public Health England. Rabies post exposure treatment: management guidance. 2019. https://www.gov.uk/government/publications/rabies-post-exposure-prophylaxis-management-guidelines