



# Rabies

## A recurrent risk to the EU from dogs introduced from endemic countries (case studies)

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# RABIES - key facts

- Although vaccine-preventable, worldwide-occurring disease of major public health concern
- Once symptoms develop rabies is fatal.
- WHO reports 55,000 human deaths each year, mostly in Asia and Africa
- 30-50% of cases are children of less than 15 years old.
- Dogs are the source of around 99% of human rabies cases.
- Around 10 million people receive treatment after exposure to animals in which rabies is suspected.

## RABIES in Europe (1)

- Fox-mediated
- About €20 million is spent annually on oral vaccination programmes in wildlife in MSs
- About €10 million is spent annually from 2008 in the Balkan countries
- Incidence in humans is very low

1992



2012



## RABIES in Europe (2)

Recent human cases following dog bites in travellers returning from countries with urban rabies:

- 2003: a three-year-old infected when playing with dogs in Gabon died in France
- 2004: young Austrian tourist died after being bitten by a dog in Morocco
- 2004: a young German woman died after being bitten by a dog in India
- 2005: a British man died after being bitten by a dog in India
- 2007: a German man died after being bitten by a dog in Morocco which had been fighting the man's own dog

## Overview of recent imported rabies cases

Year	Animal	Origin	Destination
2001	Dog	Nepal	Germany
2001	Puppy	Morocco	France
2002	Puppy	Azerbaijan	Germany
2002	Dog	Morocco	France
2003	Puppy	North Africa	Switzerland
2004	Puppy	Morocco	France
2004	Dog	Morocco	France
2004	Dog	Morocco	France
2004	Dog	Morocco	Germany
2007	Puppy	India	Finland
2007	Puppy	Morocco	Belgium
2008	Dog (secondary cases in 2 dogs)	Morocco	France
2008	Dog	Gambia	Belgium/France
2008	Puppy	Sri Lanka	UK
2008	Puppy	Morocco	France
2008	Puppy	Croatia	Germany
2010	Puppy	Bosnia-Herzegovina	Germany
2011	Puppy	Morocco	France
2012	Puppy	Morocco	Spain/The Netherlands
2013	Dog	Morocco	Spain
2013	Kitten	Morocco	France

## Three case studies - Introduction of infected pets from countries with urban rabies

- N°1: unvaccinated cat  
*case of a kitten introduced from Morocco to France (2013)*
- N°2: immunised dog - pre-vaccination exposure  
*case of a dog introduced from Gambia to France via Belgium (2008)*
- N°3: immunised dog - post-vaccination exposure  
*case of a Spanish dog returning from Morocco (2013)*

All presented at the Standing Committee on the Food Chain and Animal Health  
[http://ec.europa.eu/food/committees/regulatory/scfcah/animal\\_health/index\\_en.htm](http://ec.europa.eu/food/committees/regulatory/scfcah/animal_health/index_en.htm)

## Case study N°1 - sequence of events

25/10: a kitten (about 2 months old) found in a street in Argenteuil (France)

28/10: death of the kitten following abnormal behaviour and neurologic symptoms

→ a vet is contacted

29/10: cat sent for analyse to Pasteur Institute (Paris) and tracing of in-contact people (post-exposure treatment)

30/10: FAT positive

31/10: confirmation (genotype 1, Moroccan strain)

## Case study N°1 - investigations (1)

- 12/10: a kitten collected on Ain Diab's beach in Casablanca (Morocco)
  - « International health certificate » issued by a local vet who vaccinated the kitten (except against rabies) and certified absence of clinical signs of contagious diseases, including rabies.
- 13/10: return to France by plane
  - No control by Moroccan authorities and airline company - No presentation to the French custom authorities in Orly airport
- From 13/10 to 21/10 : put in a street in Argenteuil.
  - Several people, a dog and a cat in contact.



## Case study N°1 - investigations (2)

From 24/10 to 25/10 : kept in a second family in the same street, kitten seen with a stray cat, several people in contact

From 25/10 to 28/10 : kept in a third family in the same street and then in Cormeil-en-Parisis (France) Several people, one and two cats in contact

28/10 : Death of the kitten

01/11 : another kitten is found dead in the same zone with negative result for rabies

## Case study N°1 – control measures (3)

- Communication to the public.
- Definition of a surveillance and restriction area of 1 km in width around the street where the kitten was found.
- Definition of an intervention area that has permitted to discover the kitten's origin, trace it up to its death, determine people and animals in contact (20 persons - 15 treated, 5 domestic animals and 2 stray animals → euthanasia or surveillance depending on their vaccinal status and the risk of contamination).
- Collection of stray animals in the area.
- Analysis of all carnivores with neurologic signs or found dead in the area.

## Case study N°2-sequence of events (1)

- 3/2008: a six-month-old stray puppy found injured by a Belgian tourist in Gambia is brought to a local veterinary clinic to be operated.
- 15/3/2008: anti-rabies vaccination, microchipping.
- 5/4/2008: certificate of good health issued by a vet.
- 6/4/2008: the dog, sedated before departure, travelled back to Belgium in the cabin inside a travel box carried on the tourist's lap, with however two possible human contacts during the flight.
- 8/4/2008: the dog was taken to a veterinary clinic in Brussels to be treated for a necrotic wound (possibly a bite).

## Case study N°2-sequence of events (2)

- 13/4/2008: the owner went by car to the South of France and let the dog in her garden.
- 16/4/2008: first symptoms of rabies and examination in several veterinary clinics
- 21/4/2008: death of the dog.
- 24/4/2008: rabies is confirmed by Pasteur Institute in Paris (strain similar to those circulating in Guinea and Sierra Leone).

## Case study N°2 – control measures (3)

- Estimated at-risk period for transmission: 1/4/2008 (15 days before symptoms) to 21/4/2008 (date of death).
- Active tracing of possible in-contact individuals and animals in France, Belgium and Gambia (post-exposure treatment for 19 persons in France and 25 in Belgium, including two passengers and the staff in the aeroplane).
- In Belgium: information and warning posters were displayed by the administrative authorities and districts concerned, a press release was issued reminding the public of the EU Regulation on pet movements.

## Case study N°3 - sequence of events

- 1/6/2013: a dog attacked 4 children, the father of one child and a dog in a park in Toledo (Spain).  
The police killed the dog.
- 5/6/2013: rabies is confirmed (North African strain similar to the one circulating in Morocco)

## Case study N°3 – investigations (1)

- The aggressive dog lived with 2 other dogs and their owners (a couple) in Cataluña
- 29/11/2012: vaccination of two dogs against rabies for the first time
- 1/12/2012: vaccination of the aggressive dog (4 years old)
- 12/12/2012: the aggressive dog leaves Spain for a trip to different places in Morocco with its owners and the 2 other dogs.
- 5/2/2013: dogs rejected by vet officials at Algeciras's BIP (no evidence of antibody titration test reports).
- 12/4/2013: dogs introduced illegally in Ceuta during night and then Algeciras (dogs were checked as compliant).

## Case study N°3 – investigations (2)

- From 12/4/2013 to 22/5/2013: Cataluña.
- From 7/5/2013 to 11/5/2013: Monzón (Aragón).
- 21/5/2013: they arrived in Argés (Toledo).
- 27/5/2013: suspicious aggressive behaviour.
- 31/5/2013: the aggressive dog escaped from home.



## Case study N°3 – control measures

- Estimated infectious period: 1/5/2013 to 1/6/2013
- Tracing of in-contact animals: 19 under surveillance and 2 sacrificed
- 7/6/2013: establishment of restriction zones for 6 months
  - 20 km from Argés (Toledo)
  - in Cataluña (Banyoles, Porqueres, Montcadai Reixac y Piera)
- Mandatory vaccination of dogs, cats and other susceptible species in the restriction zones.
- Restricted movements of pets from this area (prior authorisation by Competent Authority)

## Consequences of illegal introduction of potentially infected pets

- Complicated investigations by public and animal health authorities (tracing possibly covering several countries)
- Post-exposure vaccination for humans
- Surveillance or euthanasia of in-contact pet animals
- Subsequent substantial expenditure

## Importance of awareness campaign targeting travellers

- Danger of contracting rabies
- Avoid contacts with stray animals
- Pre-exposure prophylaxis and post-exposure treatment options
- Don't bring home a 'living souvenir' or ensure that it complies with EU rules before entering the EU (4 to 7 months are necessary).



## Reminder on the EU rules on pet movements from third countries

- Vaccination against rabies
- For certain third countries: rabies antibody titration test in an EU-approved laboratory - also for re-entry - and three month-waiting period
- EU health certificate issued by an official veterinarian (EU pet passport on re-entry)
- EU travellers' points of entry

[http://ec.europa.eu/food/animal/liveanimals/pets/index\\_en.htm](http://ec.europa.eu/food/animal/liveanimals/pets/index_en.htm)



European  
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## RABIES

# Spread the message

