



# What in the World is Rabies?



**ALBERTA  
SPAY NEUTER  
TASK FORCE**

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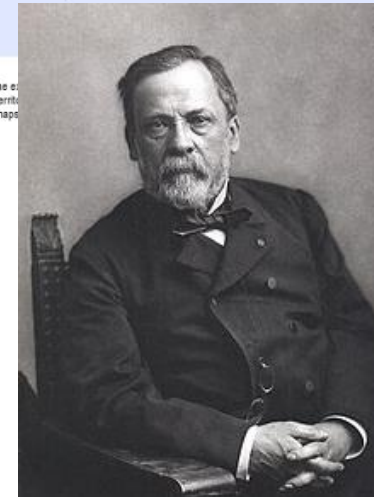
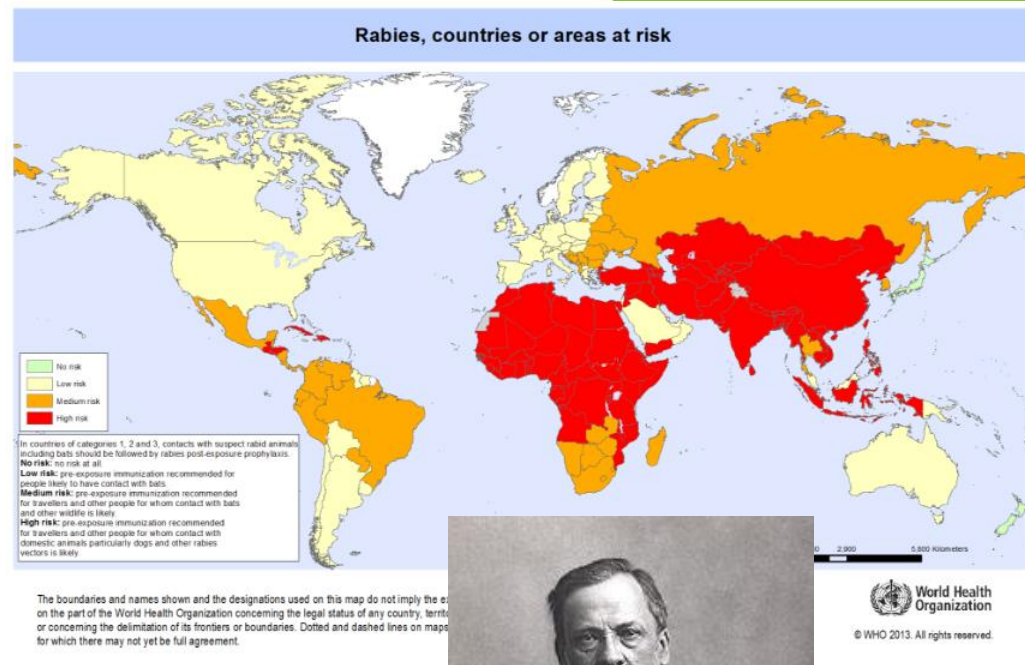
[www.abtaskforce.org](http://www.abtaskforce.org)



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# WORLD RABIES DAY - SEPT 28

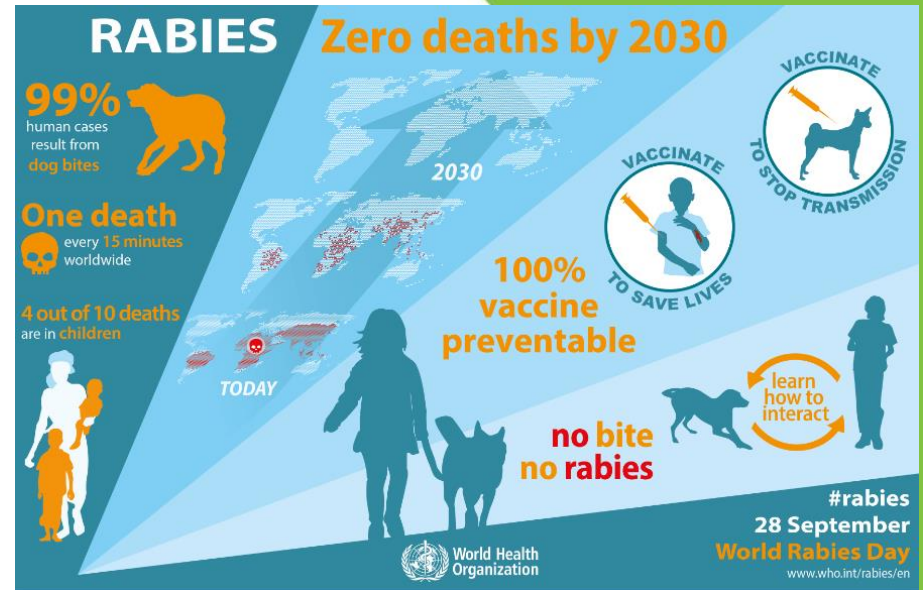
- Anniversary of the death of Louis Pasteur (1895)
- Developed the first rabies vaccine and promotion of rabies prevention
- 95% of human deaths occur in Africa and Asia (59,000/year)
- India is the most critical (20,000 deaths/yr)
- 40% occur in children under 15yrs
- Canada is low risk



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## WORLD RABIES DAY - SEPT 28

- World wide campaign to eliminate human deaths from rabies by 2030
  - Vaccination
  - Increase awareness and education
  - Immediate treatment of people who have been bitten (in high risk areas)
- San Lazaro Referral and Infectious Disease Hospital (Animal Bite Treatment Center) - 400 post rabies vaccines per day (Philippines)



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## WHAT IS RABIES?

- Virus
  - Family Rhabdoviridae
  - Genus Lyssavirus
- 10 species variants (bat, skunk, fox, raccoon ect) or strains
- Can infect all mammals
- Main reservoir hosts in Canada
  - Bats
  - Arctic and Red Fox
  - Racoons
  - Skunks
- Rare to be infected - rabbits, hamsters, guinea pigs, gerbils, squirrels, chipmunk, rats, birds and mice



# RABIES IN ALBERTA

- Virus is maintained in wildlife reservoirs in North America
- Average 3-7 positive cases in bats per year in AB
- Through vaccination very rare to see in dogs and cats
  - 2013 positive case in a dog in AB (from NWT)
  - 2010 positive case in a cat in AB

## Rabies cases in Canada 2017

### Calendar Year 2017

#### Samples Submitted

	BC	AB	SK	MB	ON	QC	NB	NS	PE	NL	NU	NT	YT
Samples Submitted	122	368	237	130	1619	151	82	13	7	17	24	4	1

#### Rabies Cases

Rabies Cases	BC	AB	SK	MB	ON	QC	NB	NS	PE	NL	NU	NT	YT
Arctic Fox						3					10	1	
Bat	11	7	3		20	8	7						
Bovine			1	2	4								
Cat				2	1	1							
Dog			1	1		2					3		
Raccoon					86		1						
Red Fox					1							1	
Skunk			13	9	37		3						
Total	11	7	18	14	149	14	11	0	0	0	13	2	0

Canadian Food Inspection Agency



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## RABIES IN CANADA

- Positive case in a dog - Sept 17, 2018 (Estavan, SK)
- AB has a skunk surveillance program along the SK border (and including counties: Cardston, Warner, Cypress and Forty Mile)
- Vaccinating wildlife through oral vaccines, generally thrown from planes

With rabies detected in Maine, New Brunswick looks to eliminate virus in wild animals with tasty vaccines

Julia Wright · CBC News · Posted: Aug 15, 2016 10:00 AM AT | Last Updated: August 15, 2016



Rabies vaccines have a wax coating that smells of maple. (Catherine Harrop/CBC)

[3 comments](#) 

Maple-scented, marshmallow-coated rabies vaccines will be distributed throughout New Brunswick this week in a bid to eliminate the fatal, brain-altering virus.

Jim Goltz, the chief provincial veterinarian, said raccoons, skunks and foxes quickly sniff out vaccine when it's encased in fat, marshmallow and sugar.



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# RABIES DEATHS IN CANADA

## Alberta Health Public Health Disease Management Guidelines Rabies

case, five other people recovered from rabies but all were either previously immunized or received some sort of prophylaxis before onset of illness.

### **Canada (1;14-16)**

Canada has reported 24 cases of rabies from 1924 to 2007. Only one case was acquired abroad. All were fatal. Cases reported are from six provinces: Quebec (12), Ontario (six), Saskatchewan (two), Alberta (two), Nova Scotia (one), and British Columbia (one). A bat bite was identified as the source in the majority of locally-acquired cases.

### **Alberta (16-18)**

In Alberta, the most recent case of rabies occurred in 2007. The individual became infected following a bat exposure, did not seek medical intervention and subsequently died within 6 – 7 months of the exposure. This was the first case of rabies in Alberta since 1985.

<https://open.alberta.ca/publications/rabies>





## HOW DO YOU CONTRACT RABIES?

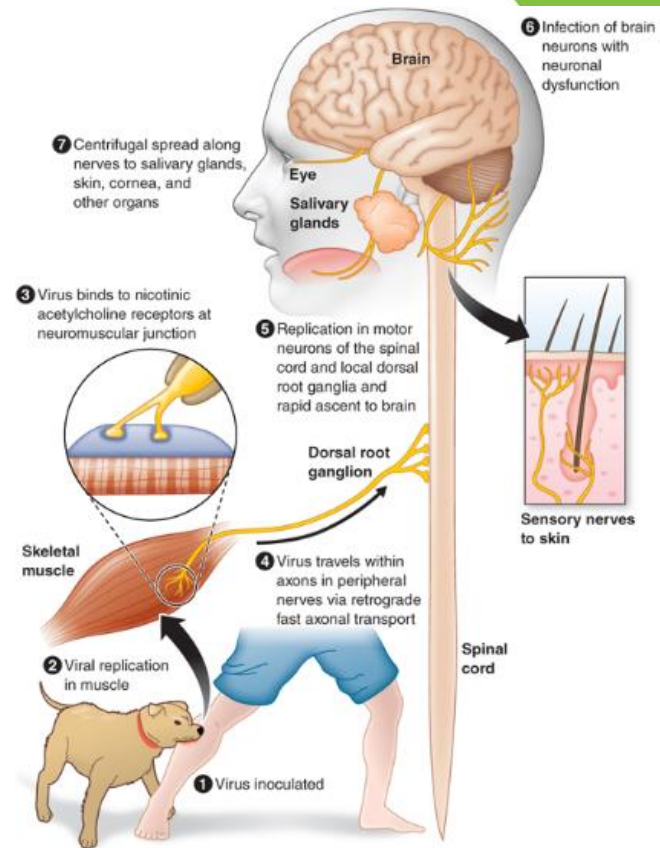
- Transmitted via saliva
  - Bites or scratches
  - Contact to existing wounds
  - Contact to mucous membranes of eyes, mouth or nose
  - Documented transmission through hunter skinning an animal (cut hand)
- Risk from meat, blood, milk or urine extremely low



## CLINICAL SIGNS - STAGE 1/3

- **PRODROMAL STAGE**

- Time for virus to travel to the brain (time between infection and specific symptoms)
  - Fever, cough, sore throat
  - Tingling of bite wound
  - Incubation period of 1-3 months
  - Can vary 1 week to 1 year
- Stage to treat with post exposure vaccines or immune globulins



## CLINICAL SIGNS - STAGE 2/3

- **EXCITATIVE OR FURIOUS STAGE**

- Causes inflammation of the brain, appear 'mad'
- Hyperreactive and often try to bite anything near
- Self mutilation
- Drooling
- Abnormal barking
- Confusion
- Lasts 3-4 days



## CLINICAL SIGNS - STAGE 3/3

- **PARALYTIC STAGE (Brain damage)**

- Weakness / Lethargy
- Hind leg paralysis
- Facial / throat paralysis
  - Drooling
  - Difficulty swallowing
  - Appear scared of water (hydrophobia)
- Difficulty Breathing
- Death



## CLINICAL SIGNS

- **Most common clinical signs by species**
  - Dogs - either form
  - Cats - furious form
  - Horses - paralytic form
  - Cattle - paralytic form
  - Bats - paralytic form

*(Typical behaviours)*



## A WORD ABOUT BATS

- Do not handle
- Alberta Health Services consider a bat being in the house overnight to be a potential risk and will request testing
- Wear gloves (do not handle) use an object to move to a hard plastic container



## CLINICAL SIGNS

- **Once symptoms start death will occur in 2-10 days**
- **Survival after symptoms start is almost unknown**
  - 2004 teenager in the US survives after being bitten by a bat (Milwaukee Protocol)
  - 5 cases of 35 since 2004 in the US have survived

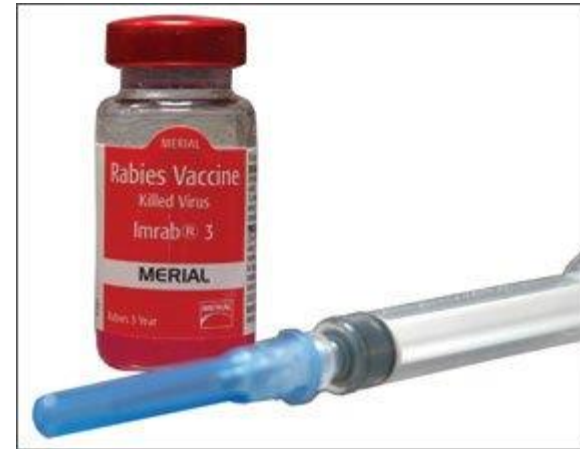


The Girl Who Survived Rabies - YouTube Documentary



## STEPS FOLLOWING HUMAN EXPOSURE - PUBLIC

- Take a picture, make note of animals description or confine if safe to do so
- Wash the wound for 15 minutes with soap +/- iodine
- Seek medical attention or call Health Link 1-866-408-5465
- If domestic animal determine rabies vaccination status if possible
- Questions? Public Health Veterinarian, Dr. Darcia Kostiuik 1-844-427-6847
- Do not euthanize the animal without first consulting the Public Health Vet





## STEPS FOLLOWING HUMAN EXPOSURE - HEALTH CENTER

- Wound care
- If domestic animal determine rabies vaccination status if possible, animal location
- Notify MOH; Dog Bite Form on One Health Portal - will advise further treatment;
  - Immune globulin (short term antibodies) and/or post vaccination (stim body to make antibodies)
  - Tetanus
  - Quarantine or testing of animal
- Public Health Veterinarian, Dr. Darcia Kostiuk 1-844-427-6847





# CANINE AND FELINE RABIES VACCINATION PROTOCOLS

- Puppies and kittens are vaccinated between 3-4 months
- Booster in 1 year, then booster every 3 years
- ASNTF tattoos every animal in the right ear, vaccination records can be retrieved with this number
  - F (Year)
  - FN (ASNTF)
  - 2028 (Identifying number)
- Please call or email anytime for vaccine records for any dogs with 'FN' tattoos or help tracing other tattoos
- [www.albertaanimalhealthsource.ca](http://www.albertaanimalhealthsource.ca) has AB tattoo master list, some vet clinics and rescues also use microchips



2004 – P  
2005 – R  
2006 – S  
2007 – T  
2008 – U  
**2009 – W**  
**2010 – X**  
**2011 – Y**  
**2012 – Z**  
**2013 – A**  
**2014 – B**  
**2015 – C**  
**2016 – D**  
**2017 – E**  
**2018 – F**  
**2019 – G**  
**2020 – H**



## HUMAN VACCINATION PROTOCOLS

- People who work with animals qualify for free vaccination;
  - Veterinarians / Vet Techs
  - Bylaw Officers
  - Wildlife Officers
- Set of 3 intradermal injections
- Titre tested every two years
- Health Link is available 24hrs/7 days a week for advice and information 1-866-408-5465



## TESTING ANIMALS FOR RABIES

- Done at no cost (to the public) in AB, if the Public Health Vet authorizes
  - Costs ~ \$500 per submission
  - Requires brain tissue (animal must be euthanized)
  - Entire animal or head is sent in
  - Lab in Lethbridge
- Alternative is to quarantine the animal for 10 days and observe for death
- Working on a low cost inhouse test that vet clinics can run



## DISTEMPER - CLINICALLY SIMILAR VIRUS

- Several cases seen across AB
- Affect dogs, cats, ferrets and wildlife (raccoons, wolves, coyotes, foxes, skunks ect)
- Prevented by vaccination
- Not zoonotic to people
- Fever, runny nose, eye discharge, muscle twitching, paralysis, tremors
- Diagnosed with oral swab or blood test
- No treatment, only supportive care, most patients die



# RABIES PREVENTION

- Education
- Reporting / testing
- Vaccination (70% of canine population)
- Caution handling wildlife, esp when acting unusual
- Dog bite prevention



## DOG BITE PREVENTION

- In most cases dogs bite b/c they feel scared or threatened, not bc they are aggressive
- Dogs that are tied up become scared and frustrated. They are more likely to bite
- Don't leave children and dogs together unsupervised
- Neuter male dogs
- Don't run away from a threatening dog
- Dogs that are cared for and socialized are less likely to bite
- Free posters [www.drSophiaYin.com](http://www.drSophiaYin.com)

## Body Language of Fear in Dogs



Slight Cowering



Major Cowering

### More Subtle Signs of Fear & Anxiety



Licking Lips  
when no food nearby



Panting  
when not hot or thirsty



Brows Furrowed, Ears to Side



Moving in Slow Motion  
walking slow on floor



Acting Sleepy or Yawning  
when they shouldn't be tired



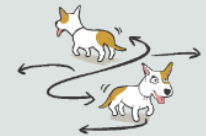
Hypervigilant  
looking in many directions



Suddenly Won't Eat  
but was hungry earlier



Moving Away



Pacing





## PREVENTION

- ASNTF Dog Bite Prevention Brochure
- 2019 launching a video called 'Staying Safe in Free Roaming Dog Communities' which will be available on our website
  - Currently filming in Siksika



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## LONG TERM SOLUTIONS

- We can also provide guidance and resources for community based Dog Care and Control Programs;
  - Bylaws
  - Animal Control Officer Training
  - Education regarding dog bite prevention and dog care
  - Registration and licensing of dogs
  - Structured free dog food program
  - Accessible spay and neuter program which includes vaccines and parasite control
  - Off site housing of impounded or dangerous dogs



THANK YOU!

Any Questions?





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