Manitoba Community Vaccinator Programming: Designated Vaccinator Training Manual

Manitoba Veterinary Medical Association

Office of the Chief Veterinarian, Manitoba Agriculture

Adapted with permission from Saskatchewan Chief Veterinary Office, Saskatchewan Ministry of Agriculture

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List of Abbreviations

CAHI	Canadian Animal Health Institute
CCVB	Canadian Center for Veterinary Biologics
CFIA	Canadian Food Inspection Agency
CVO	Chief Veterinary Officer
DV	Designated Vaccinator
ISC	Indigenous Services Canada
MAg	Manitoba Agriculture
MB	Manitoba
MCVP	Manitoba Community Vaccinator Program
MVMA	Manitoba Veterinary Medical Association
MVTA	Manitoba Veterinary Technologist Association
SV	Sponsoring Veterinarian

Chapter 1: Introduction

Community-based veterinary designated vaccinator programming allows for the delivery and administration of vaccines to cats and dogs (including rabies vaccines) in regions that have limited to no access to veterinary services by a veterinary technologist and/or a member of the public ("lay person") who has completed designated vaccinator training and is supervised by a Manitoba veterinarian.

Many regions of Manitoba are without regular veterinary care, which puts both animal and human health at risk. This includes increased risk of vaccine preventable diseases, and often negatively impacts historically excluded communities and Indigenous populations at a higher proportion than urban centers. Because of its significant disease consequence, the primary goal of community-based veterinary designated vaccinator programming is to reduce the risk of *Rabies* in domestic dogs and cats in Indigenous and other remote communities that have limited to no access to veterinary services, thus improving domestic animal health and public health outcomes.

The Manitoba Community Vaccinator Program provides an opportunity to:

- prevent diseases that threaten animal health and human health, and improve health outcomes;
- promote animal health, animal welfare, and veterinary medicine;
- protect the human-animal bond;
- strengthen a community's ability to self-govern, and their capacity for self-determination;
- expand veterinary medicine into historically excluded communities;
- enable knowledge sharing on topics such as animal diseases, First Nations, Métis, and Inuit culture, and reconciliation;
- act as a proactive and preventative tool in a rapidly changing environmental climate.

Background on Rabies Virus

Rabies is a viral disease that affects the nervous system and brain in animals and people. Rabies is primarily transmitted in the saliva through bites but can also be transmitted through scratches from an infected animal. Dogs and cats are primarily at risk of exposure from infected wildlife such as foxes, racoons, skunks, and bats (1).

Rabies is a serious animal health and public health threat because once symptoms appear there is no treatment, and the disease is fatal to all species including humans. **An animal that is infected with rabies may exhibit unusual behavior, foaming at the mouth, difficulties drinking or swallowing, aggression to people and objects, nervousness, vocalization, paralysis, and other neurological signs.** Rabies vaccination of dogs and cats is an effective tool to protect domestic animals from contracting rabies from wildlife, which in turn reduces the risk of transmission from domestic animals to people (2). While cases of rabies in wildlife and domestic animals have been low in Manitoba historically, the severity of disease continues to make rabies response and prevention efforts a priority.

In addition, limited surveillance from certain regions of the province means the true prevalence of rabies in wildlife is largely unknown.

In addition, climate change is impacting the distribution of wild animals, and therefore the distribution of the diseases they carry, including *Rabies*. For example, the distribution of arctic and red foxes (reservoir hosts of *Rabies* virus) across northern regions of Canada is being altered by climate warming (3). With these changes in population dynamics, the opportunity for domestic animals and people to be in closer proximity with potentially infected wildlife increases.

Program Objectives

Our Mandate:

To reduce the risk of *Rabies* in companion animals (dogs and cats) in Manitoba communities with limited to no access to veterinary services, to improve domestic animal health and public health outcomes from a One Health perspective.

Objectives:

- Reduce the risk of *Rabies* to domestic animals and people by increasing companion animal rabies vaccine access to remote and historically excluded communities in Manitoba by training and utilizing designated vaccinators within enrolled communities to purchase rabies vaccines directly and administer vaccines to cats and dogs.
- To create a model that leads to *sustainable* and *community driven* designated vaccinator programming.

Definitions

Companion animal: Any dog or cat under the responsibility of an individual resident and/or Manitoba community including outdoor and/or free-roaming dogs and cats.

Sponsoring Veterinarian: any veterinarian licensed to practice in the province of MB that has been approved by the MVMA to serve as a sponsoring veterinarian. This role includes training and supervising the designated vaccinator. The Designated Veterinarian must demonstrate competence in engaging with Indigenous persons and communities and Truth and Reconciliation. (Community Vaccination- Sponsoring Veterinarian Educational Requirements Policy

Designated Vaccinator: Any individual living within the corresponding remote community (or frequently visits the community) who has animal handling experience and has received training in rabies vaccine administration through the Manitoba Community Vaccinator Program and who is not a veterinarian licensed under the Manitoba Veterinary Medical Association (MVMA).

Eligible community: Any First Nation *community* in Manitoba, or any community north of the 53rd parallel.

Purpose of the document

This document will serve as a training manual for the Sponsoring Veterinarian to follow when instructing their partnering Designated Vaccinator on safe and effective animal vaccination. The document can then be used by the Designated Vaccinator as a reference guide.

Chapter 2: Animal Handling

Appropriate animal handling during vaccination is important for keeping both the animal safe as well as the Designated Vaccinator (DV), owner, or any other individual who may be assisting or holding the animal. It is important to use handling techniques that reduce an animal's fears, stress, and anxiety as much as possible (4) (5). This will make the experience more enjoyable for both the animal, DV, and owner. Safe animal handling will also help to reduce any stress for the DV.

Low Stress Handling Techniques

1) **Consider the size of the animal.**
    a. Smaller dogs may be more easily handled in someone's arms.
        i. Provides ease for the DV to administer vaccines at an appropriate height.
        ii. Cats may benefit from being left in their carriers if the top of the carrier can be removed so the DV can easily access the animal. Removing cats from carriers can often lead to animal stress.
    b. Large dogs can be vaccinated on the ground or floor.
        i. Take care when bending over, to avoid back injury. If vaccinating an animal on the floor use your knees, not your back, to get down to the animal's level. Never stand directly over a dog as this can be interpreted as dominant behavior and can cause an animal to react negatively.
2) **Animals in carriers should be handled with care.**
    a. Ensure carriers are always closed correctly and are secured to avoid animals escaping..
        i. One hand can hold the carrier from the top handle while the other hand supports the bottom of the carrier to provide stability for the animal.

    b. If an animal must be removed from a carrier always remove them gently.
        i. As mentioned above, cats may benefit from staying in their carriers if the top of the carrier can be removed.

3) **Use towels or blankets as coverage for cats that are stressed.**
    a. A fearful cat may want to hide under a towel or blanket to feel safe. Use towels/blankets to your advantage and allow timid cats to hide their head while you access their back end to administer any vaccines.
    b. Cats that prefer to remain in their carriers with the top of the carrier removed can also benefit from towels to hide their heads.

1. **Benadryl (Diphenhydramine):**Benadryl can be used for minor vaccine reactions and as a mild sedative.
2. To treat minor allergic reactions such as scratching the vaccine site, minor swelling at vaccine site, or mild hives, that occur after a vaccine is given Benadryl can be given by an owner at the time these signs are observed.
    a. More serious reactions requiring a veterinarian include but are not limited to swelling of the face, heavy breathing or respiratory distress, severe vomiting or diarrhea. See **Chapter 3, "Vaccine Reactions"** for more information.
3. Dosing**: give no more than ONCE every 8 HOURS**

Animal Weight in Pounds (lbs)	Dose Range	Number of Tablets of 25 mg Benadryl (Diphenhydramine)
< 5 lbs	3 mg to 6.25 mg	⅛ to ¼ tablet by mouth
5-10 lbs	6.25 mg to 12.5 mg	¼ to ½ tablet by mouth
10-25 lbs	12.5 mg to 25 mg	½ to 1 tablet by mouth
25-50 lbs	25 mg to 50 mg	1 to 2 tablets by mouth
50-75 lbs	50 mg to 75 mg	2 to 3 tablets by mouth
75-100 lbs	75 mg to 100 mg	3 to 4 tablets by mouth
>100 lbs	100 mg to 150 mg	4 to 5 tablets by mouth

****NOTE****: avoid Benadryl or Gravol that is mixed with other medication or children's formulations that may contain **xylitol** as this is **toxic** to dogs. Tylenol is extremely toxic to cats and can be fatal.

See over the counter dosage chart in the Program Resources chapter of this manual for a summary and print out of Benadryl information.

   c. Treats can be given by the owner/holder while you administer any vaccinations, so the animal is distracted and doesn't notice the needle.

4) **Use a "touch gradient" when you go to touch the animal.**
   a. Avoid sudden movements and abruptly placing your hands on an animal.
   b. Start by gently petting the side of the animal and keep continuous contact on the animal as you move your hands to the back of the animal. This prevents startling the animal by suddenly handling their back end.
5) **Where possible, vaccinate animals in a quiet place.**
   a. Loud sounds and busy environments can lead to animal distress.
   b. Where possible find a quiet place to vaccinate animals with minimal foot traffic, other animals, and distractions that may lead to animal stress.

Fear-Based Aggression in Dogs and Cats: Signs and Equipment

Extra care and precautions should be taken if a dog or cat is showing signs that they may BITE. Certain handling techniques and equipment can mitigate this risk, however, if an animal is showing severe signs of aggression, to the point that they could not be vaccinated without heavy sedation, the Designated Vaccinator should not attempt to vaccinate that animal. **A Designated Vaccinator should never vaccinate an animal if they are not comfortable and can refuse to vaccinate an animal at any time**.

Note: any animal that is stressed or uncomfortable, even if they are friendly under normal circumstances, can bite a person. If an animal is showing evidence that they are uncomfortable and may bite as described by the signs below, it is always better to take precautions, like using a muzzle, to mitigate the risk of being bitten. If an owner is not comfortable with a muzzle being placed on their

animal and that animal is showing signs of fear-based aggression or that they may bite, you can kindly refuse to vaccinate that animal.

1) **Signs of fear-based aggression or a pending bite in dogs:**
    a. Body language:
        i. **Tail and head/body position:**
            1. Head is low and shoulders/back are hunched.
            2. If a dog is very scared, they may tuck their tail between their legs. An aggressive dog may have his/her tail raised.
            3. An aggressive dog will stand leaning or lunging forward with their head up and chest out.
        ii. **Ear position:** Ears may be directed forward or pinned back to the head.
        iii. **Eyes:** pupils may be dilated.
        iv. **Licking lips:** A subtle and initial sign that a dog is nervous and may bite.
        v. **Lip raise or showing teeth:**
            1. May start to lift the upper lip on one side.
            2. In more extreme cases, aggressive dogs will show their front teeth with their lips pulled over the teeth.
        vi. **Hackles raised**: hair along the back and shoulders of the dog may be raised if a dog is severely stressed and agitated.
    b. Sounds:
        i. **Growling:** a clear warning sign that a dog is uncomfortable with you approaching them and that he/she may bite.
        ii. **Barking**: dogs can bark for many reasons, including if they are nervous or stressed.
        iii. **Panting:** dogs will pant if they are hot, but this can also be a sign that they are nervous, anxious, or fearful.
2) **Signs of fear-based aggression or a pending bite in cats:**
    a. Body language:
        i. **Tail flicking**: cats will flick their tails repeatedly when they are agitated or stressed.
        ii. **Ear position**:
            1. Ears that are back can indicate stress and fear.
            2. Ears that are pinned down to the head indicate severe stress and that the cat may bite.
        iii. **Eyes**: pupils may be dilated and wide when fearful or stressed.
        iv. **Hackles raised**: hair along the back, shoulders and tail of the cat may be raised if they are severely stressed and can indicate a pending bite.
        v. **Swatting**: a cat that swats with his/her front paws and nails extended is severely agitated and may cause injury.
    b. Sounds:
        i. **Hissing/Growling**: cats that are severely agitated can hiss or growl as a warning sign that they may bite.

ii. **Panting**: cats should never "pant" like a dog. This is a sign of severe distress and potential respiratory issues. If a cat is "panting" stop what you are doing and remove the cat from the stressful stimulus. A veterinarian should assess the cat for respiratory disease.

For additional material on how to interpret both canine and feline body language see the **Resource** section at the end of this manual.

3) **Equipment:**
   a. **Muzzles**:
      i. Any animal that is showing signs that they may bite should have a muzzle placed on them prior any animal handle or vaccination.
      ii. If the animal is owned, the owner can place the muzzle on their own animal as the animal will be most comfortable with them.
      iii. Ensure the muzzle is secured and the strap is tight so it will not easily slip off.
      iv. Ensure the muzzle is not placed upside down (a common mistake with cloth muzzles).
      v. Have a variety of sized muzzles for dogs to accommodate small and large breeds.
      vi. Having one small and one large size cat muzzle is usually sufficient for most types of cats.
      vii. Ensure the muzzle does not inhibit the animal's ability to breath and that it is not covering the animals nose.
      viii. Types of muzzles:

Dog Basket Muzzle	Dog Cloth Muzzle	Cat Muzzle
		

Source: Amazon.ca

4) **What to do if you are bitten by an animal?**
   a. Wash the area immediately with soap and water.
   b. Seek medical attention if necessary:
      i. Bleeding that is not controlled by pressure alone may require stiches.
      ii. Dogs and cats have a lot of bacteria in their mouths. When a tooth penetrates the skin, it can cause an infection. This can be very common with cat bites who have very sharp teeth that leave small but deep bites. These can scab over quickly and lock the bacteria inside the bite wound.

1. Bites on the hands and fingers should be assessed by a doctor. Limited space for swelling in these areas can lead to pain and/or infection.
2. Any bites to the face should be assessed by a doctor.

c. For more details on Designated Vaccinator safety and animal bites see **Chapter 5**.

Safe Animal Holds & Other Strategies

Always wash your hands or use hand sanitizer before handling an animal, between different animals, and after handling an animal.

- This reduces the risk of spreading diseases between animals, but also reduces the risk of spreading diseases from an animal to the Designated Vaccinator.

Always get a second set of hands.

- This will most likely be the owner or animal caregiver. While you are vaccinating an animal, it is important that someone else is available to hold and distract the animal in a safe manner.
- Well-mannered animals may stand, sit, or lay down while you vaccinate. Others will be easily distracted by treats and food while you administer your vaccine(s).
- Holding techniques for difficult animals or animals that don't stay still include:

Avoid fractious animals.

- Speak with the Sponsoring Veterinarian about additional training regarding handling fractious animals.

1) Dogs:

a. All dogs should remain on **leash** regardless of their temperament. Double leashing may be used for dogs known to be escape artists or those that are known to bolt. Slip leashes are best to prevent dogs from slipping out of a collar or for any dogs without a collar. In addition, slip leashes give you the best control of a dog.

b. **Bear hug**: With the dog standing (either on a table or on the floor), the owner or holder will place one hand under the dog's waist, and the second hand under the dog's head, across their neck. They will gently "hug" the dog toward their body to help keep them still for their vaccination.

c. **Small dogs** may be vaccinated with their owner holding them in their arms or lap provided the dog is well-mannered and not showing signs of aggression.

2) Cats:

a. "**Burrito wrap**": Place a bath towel on a table and lay the cat down on the towel widthwise. Wrap the cat's front paws into the towel bringing the edge of the towel up and under the cat's chin. Bring in one side of the towel over and across the cat's back before doing the same with the other side of the towel, as if you are wrapping the cat like a "burrito". It should be snug, like the cat is receiving a "hug". Open the back end of the towel open for vaccine access (hip or back leg).

b. Never "scruff" a cat by the neck. This can lead to more stress and agitation.

3) **Other strategies:**
    a. **Head tapping**: the holder can “pat” a dog’s head and nose or “tap” a cat’s head repeatedly and with enough pressure that it distracts the animal during vaccinations if they are not interested in treats or food. Tapping should not hurt the animal and should not be used if an animal is showing signs of aggression or that they may bite.

Chapter 3: Vaccination

Rabies Vaccines for Dogs and Cats

Rabies vaccines are available in Canada as a preventative measure to protect companion animals from becoming infected with rabies virus. These vaccines are labelled for use in dogs and cats **over the age of 12 weeks** and are given by injection under the skin (known as a **subcutaneous injection**). They are not given into the muscle of an animal, and they are not given by mouth. The rabies vaccine is a **"killed vaccine"** which means the virus is dead, and the vaccine cannot give an animal rabies. The vaccine works by signaling to the body to mount an immune response that will protect an animal against rabies virus if an animal is ever exposed to rabies. Dogs and cats need multiple rabies vaccines, including a booster vaccine and then ongoing maintenance vaccines to stay protected.

The rabies vaccines available in Canada are manufactured by Zoetis Canada (Vanguard Rabies 3 year vaccine) or by Boehringer Ingelheim Animal Health Canada (Imrab Rabies 3 Year). See the "Safety Data Sheet" in the **Resource** section of this manual for more details on the rabies vaccine that will be used in this program and its safety profile. A single rabies vaccine dose is 1 mL. Rabies vaccines are available in single dose vials (1 mL each) or 10 dose vials (1 mL drawn up per animal, 10 doses total).

Vanguard Rabies 3 Year Injectable 1 mL vials vaccine tray. Source: Zoetis Canada Inc. ©2023.

Rabies Vaccine Schedule

Rabies vaccines are given at specific times in dogs and cats to ensure adequate and ongoing protection:

Species	Age at initial vaccine	Booster	Maintenance
Dogs	>12 weeks **(12-16 weeks** is ideal)	**1 year** after initial vaccine.	Every **3 years** following 1 year booster
Cats	>12 weeks **(12-16 weeks** is ideal)	**1 year** after initial vaccine.	Every **3 years** following 1 year booster

Dogs and cats less than 12 weeks of age are not old enough to receive a rabies vaccine. Once the animal is **at least 12 weeks of age**, it can receive an initial rabies vaccine, followed by a booster **1 year** after the initial vaccine, and then ongoing vaccines **every 3 years**. Any cat or dog over the age of 12 weeks with no vaccine history is eligible for a rabies vaccine, followed by a booster 1 year after the initial vaccine is given, and then repeated every 3 years for long term ongoing protection.

Note: if an animal is overdue for a rabies vaccine, this will impact how public health officials view the animal's vaccination status should the animal be involved in a rabies or dog bite investigation. In addition, an animal is not considered fully vaccinated against *Rabies* until 14 days have passed since the animal was vaccinated.

Examples of rabies vaccine schedules:

Scenario 1: Owner of a 15-week-old male shepherd cross requests a rabies vaccine. The date is September 17, 2023.

Initial vaccine: **September 17, 2023**
Booster Due: **September 17, 2024**
Next Due: **September 17, 2027**
Continue rabies vaccine every 3 years ongoing.

Scenario 2: A free-roaming dog estimated to be 2 years of age has no vaccine history. The date is September 17, 2023.

Initial vaccine: **September 17, 2023**
Booster Due: **September 17, 2024**
Next Due: **September 17, 2027**
Continue rabies vaccine every 3 years ongoing.

Scenario 3: Owner of a 6-week-old kitten requests a rabies vaccine. They are anxious to get the cat vaccinated as it is going to be an outdoor cat and they have seen bats in their area at night. The date is September 17, 2023.

Initial vaccine: request owner book vaccine at minimum 12-weeks of age and keep the cat indoors for the time being: **October 29, 2023**
Booster Due: **October 29, 2024**
Next Due: **October 29, 2027**
Continue rabies vaccine every 3 years ongoing.

Scenario 4: Owner of a 4-month-old cat requests a rabies vaccine. The cat has never been vaccinated before. The date is September 17, 2023.

Initial vaccine: **September 17, 2023**
Booster Due: **September 17, 2024**
Next Due: **September 17, 2027**
Continue rabies vaccine every 3 years ongoing.

Ordering Rabies Vaccines for Community Use

Rabies vaccines are considered a "veterinary biologic drug" and are regulated by the Canadian Food Inspection Agency (CFIA). This means there are rules and regulations around who can purchase, distribute, and sell rabies vaccines. Under the Community-Based Vaccinator Program, rabies vaccine will be ordered by the SV and maintained, stored and administered by the DV.

Additionally, under the supervision of the SV the DV will record all shipments and their inventory of rabies vaccines on a dedicated master log. The purpose of this is to keep track of the number of vaccines ordered and the number of vaccines being used within a community. This will help assess uptake of the program within the community but also aid the DV with how many vaccines to order at a given time. Additionally, it will allow the DV to monitor the expiration dates on all vaccines to avoid giving expired vaccine to an animal. A template for this "**Inventory Tracking Sheet Template**" can be found on the MVMA website. This template can be photocopied, printed out, or hard copies can be mailed to the DV. Copies will also be provided to the DV at the time of hands-on training.

Scheduling Ongoing Vaccine Delivery

Each designated vaccinator will establish what works best for them and their community based on the number of animals requiring vaccines in a given year. Vaccines will always be ordered in multiple doses or "bulk". The DV will store these vaccines in established refrigerator storage (see "Vaccine Storage" below for more details) and have them available for when they need them.

DVs will have the option to run vaccine clinics where they may vaccinate many animals at one time, or have owners schedule with them individually.

The SV must be available by telephone each time a vaccine is administered. This means that the SV and DV must coordinate times when vaccines will be administered.

Examples of possible vaccine schedules for running community clinics over the span of one year:

1) **4 clinics per year, spring & fall:** lower demand. More prolonged period of time for animals to receive vaccines if they were not old enough at the previous clinic.

SPRING 2024		FALL 2024	
APRIL *Any initial vaccines for animals that meet minimum age requirements.*	**MAY** *1-month combination vaccine boosters for animals that received initial combination vaccines at spring clinic.*	**SEPTEMBER** *Any initial vaccines for animals that meet minimum age requirements.*	**OCTOBER** *1-month combination vaccine boosters for animals that received initial combination vaccines at fall clinic.*
SPRING 2025		**FALL 2025**	
APRIL *Any initial vaccines for new animals that meet minimum age requirements.* *Any 1-year boosters for animals that received initial vaccines (rabies and/or combination vaccine) at the prior spring clinic.*	**MAY** *1-month combination vaccine boosters for animals that received initial combination vaccines at spring clinic*	**SEPTEMBER** *Any initial vaccines for new animals that meet minimum age requirements but did not attend spring clinic or were not old enough.* *Any 1-year boosters for animals that receive initial doses at the prior spring clinic.*	**OCTOBER** *1-month combination vaccine boosters for animals that received initial vaccines at fall clinic.*

And so on and so forth for 3-year vaccine schedule following 1-year boosters

2) **12 clinics per year, one clinic every month (depending on demand)**: higher demand if need is great within community (high population of animals). Ensures no animals are missed and receive initial doses and boosters in timely manner.

Remember: if an animal is overdue for a rabies vaccine, this will impact how public health officials view the animal's vaccination status should the animal be involved in a rabies or dog bite investigation. Owners and animal caregivers should be encouraged to not miss their appropriate vaccine clinic to avoid their animal becoming overdue on their rabies vaccine, especially for vaccine clinics that run only certain times within the year.

Vaccine Shipping

Because many communities do not have Purolator access, direct shipment from the manufacturer to remote communities is not possible. The Sponsoring Veterinarian will arrange shipping of vaccine to the Designated Vaccinator's community through the appropriate freight company. Because vaccines must remain cold (between 2 and 8 degrees Celsius) but cannot freeze, vaccine shipments must be received immediately upon arrival. In some communities, nursing stations may be able to receive and hold vaccines. This option will need to be fully agreed-upon between the community, nursing station, Sponsoring Veterinarian, and Designated Vaccinator prior to vaccine shipment.

Vaccine Storage

- Vaccines should be stored in a refrigerator (2°C-8°C) at all times.
    - Vaccines are shipped in coolers to maintain the appropriate temperature during transport. This limits the duration of time vaccines can be on a shipping truck to reach their final destination.
    - **When vaccine shipments arrive at the community they should be received and placed into refrigerator storage immediately.** Shipments should not be left unattended, and refrigeration should not be delayed. Ensure shipments are being delivered to a location where they can be received and appropriately stored right away.
    - Ongoing refrigerated storage within the community may be done at a nursing station, doctor's office, hospital, or wellness center, etc. as deemed most appropriate and accessible within the community. This will also prevent vaccine misuse if it is stored in a dedicated and secure place. **Vaccines should never be stored in a private dwelling** as appropriate vaccine storage and handling can not be verified and can put an animal receiving that vaccine at risk.
    - If refrigerated storage is compromised (ex. refrigerator failure, prolonged power outage, etc.) the vaccines affected should be disposed.
- Do not allow vaccines to **freeze**. Vaccines should not be stored in a freezer or left outside during the winter.

Drawing Up Vaccines

Steps for drawing up a rabies vaccine (7):

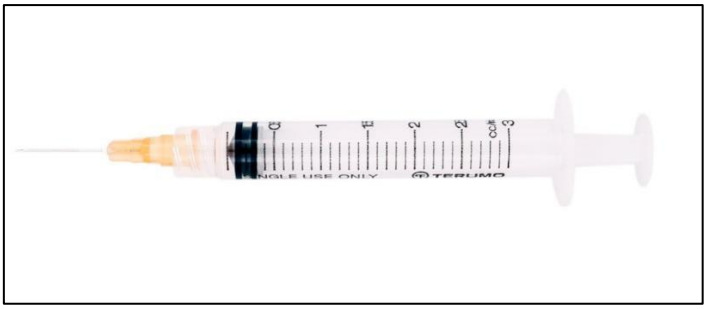
1) Vaccines should remain inside the vial and in the refrigerator (or other cold chain storage, such as a cooler with ice packs) until you are ready to vaccinate an animal.
    a. Do not draw up a vaccine too early and leave it out of refrigeration for an extended period of time so that it becomes room temperature. This can affect how well the vaccine will work. If this occurs, throw the vaccine away and draw up a new

vaccine when you are ready. If you are vaccinating dogs outside in the cold, do not leave vaccines anywhere they may freeze before you have used them.

b. Vaccines drawn up in a syringe can be refrigerated in that syringe until the end of the day. If a vaccine has already been drawn up but isn't used the same day it should be discarded.

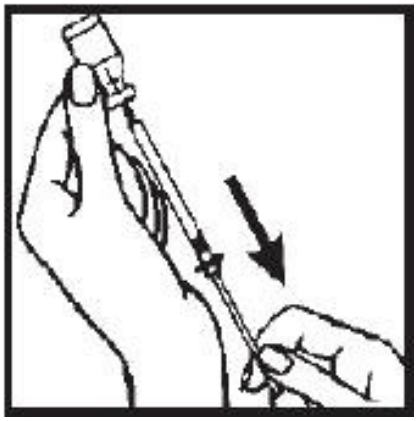
c. If vaccines are moved from refrigeration and transported to another location for vaccine delivery, vaccines can be stored in a cooler with ice packs for transport and short-term use.

2) Draw up 1 mL of rabies vaccine into a **3 mL syringe** using a new **22- or 25-gauge needle** (see **Chapter 6** for details on how to order medical supplies).



Source: Western Drug Distribution Center Ltd.

a. Remove your sterile syringe from its packaging.
    i. Depending on the type of syringe used, the needle may already be attached to the syringe. If not, you will have to attach a needle to the syringe prior to drawing up the vaccine.
        1. Remove sterile needle from packaging. With the needle cap still on, press the base of the needle into the top of the syringe and "twist" clockwise to lock it into place. This will prevent the needle from falling off of the syringe.
b. Hold the vaccine vial upside down.
c. Remove the cap on the needle carefully. Insert the needle into the bottle. The tip of the needle will need to be in the liquid part of the vaccine to draw up the vaccine. If you insert the needle too far you will draw back air.
d. Pull back the plunger.
e. Draw 1 mL of vaccine into the syringe (up to the 1 mL mark on the syringe).



Source: Government of Northwest Territories

f. Remove the needle from the bottle.
g. Tap the syringe to force any air bubbles to the top of the syringe.
h. Gently press on the plunger to remove any excess air from the syringe. Ensure you still have 1 mL of vaccine in your syringe and that you did not lose any vaccine .
    i. **If vaccinating animals outside in the cold:** to help prevent vaccines from freezing, do not depress the fluid of the vaccine up to the hub of the needle. Keep some air between the syringe and needle. A little bit of air injected under the skin is not harmful to the animal.

3) **You may replace the needle** you used to draw up the vaccine with a **new needle** prior to vaccinating an animal. Discard the first needle in a biohazard sharps container (see Sharps Disposal below).
4) Take care whenever you are removing a needle cap to avoid inadvertently sticking yourself with the needle. **Avoid recapping needles after a cap is removed.**
5) All needles should be immediately disposed of in a biohazard sharps container after they have been used.

Administering Vaccines

How to give a rabies vaccine to a cat or dog once the vaccine has been drawn up:

1) Only give 1 dose at a time:
    a. 1 dose = **1 mL** of vaccine, drawn up in a 3 mL syringe
    b. If a vaccine is spilled or lost and an animal receives only a partial dose, it is safe to draw up a full new dose (1 mL) and repeat the vaccine. It is always better for an animal to receive slightly more than they need than not enough of the vaccine to amount an immune response to protect the animal against *Rabies*.
2) Give the vaccine in the appropriate location on the animal:
    a. Rabies vaccines are given **under the skin** as a **subcutaneous injection**.
        i. Never give a rabies vaccine into the muscle or orally by mouth.

b. In **dogs**:
    i. Rabies vaccines should be given on the **right** side of the body (**R**abies = **R**ight). This is done universally so that if an animal has a vaccine reaction on the right side of their body, a veterinarian can assume that a rabies vaccine was given on that side of the body and the animal is having a local site reaction to a rabies vaccine.
        1. If you inadvertently give an animal a rabies vaccine on the *left* side, or the left is more easily accessible for a difficult animal, be sure to mark it down in the animal's vaccine record (see **Chapter 4** on **"Record Keeping"**).
        2. As long as the vaccine is given under the skin subcutaneously that is the most important thing!
c. In **cats**:
    i. Rabies vaccines are typically given under the skin on the **right** side in cats.
        1. Injection site sarcomas:
            a. Although rare, cats can develop injection related tumors. This can happen with any vaccine or injected medication. Where possible, a good rule of thumb is to vaccinate cats low on the limb. That way, in very serious cases, limb amputation is possible to prevent cancerous spread.
        2. Always mark the vaccine site location on your records.

3) The owner or another set of hands should hold the animal for you or distract the animal with treats/food using techniques described in **Chapter 2**.
4) Remove the needle cap carefully.
5) Tent the skin (pull it away from underlying tissue) of the location you are going to vaccinate. Insert your needle into the center of this "tent" which should feel like a "triangle" with the bevel of the needle facing up. Your needle should now be in the subcutaneous layer under the skin.
    a. The needle should be easy to insert, as the subcutaneous layer is fatty and soft.
    b. Do not angle the needle toward the animal, as you may go into deeper tissue like the muscle. This will be more painful for the animal and is firmer than the subcutaneous layer.
6) Pull back on the plunger of your syringe. **This is to ensure you are not in a blood vessel and that you are under the skin**. If you get any blood in the hub of your needle, reposition your needle (pull the needle out of the tissue slightly and then back in at a slightly different angle) and check for blood again before injecting the vaccine.
    a. **Never inject vaccine if you are in a blood vessel.**
7) If you do not get a flash of blood, then you are not in a blood vessel. If you get negative pressure, you are under the skin.
8) It is now safe to inject the entire vaccine dose (1 mL).
    a. Sometimes, you may insert your needle too far, and it comes out through the skin on the other side of your skin tent. This is most common in very small animals. If you

notice vaccine liquid is spilling out from the fur: stop injecting, remove your needle, and draw up a new full vaccine dose. Administer the new dose as described above.

   b. If you are injecting into the subcutaneous tissue correctly, there should be little to no resistance, vaccine liquid should not spill out from the area, and you may even notice a small fluid "bleb" under the skin.

9) Regardless of an animal's size or age **always give a full dose (1 mL)**. Never give a partial, or half dose.
   a. If you have inadvertently lost some of your vaccine during vaccination it is always better to draw up a new full dose and repeat the vaccine than to not give a full dose.
10) **Note: Never give an expired vaccine**. The expiration date is defined on the vaccine label.

Sharps Disposal

Following the vaccination, carefully place all needles used into a sharps/biohazard container. Access to sharps containers for biohazard disposal will be a coordinated approach within the community and available human health facilities.

Vaccine Reactions

Although rare, like people, dogs and cats can have vaccine reactions following any kind of vaccination. Vaccine reactions may include hypersensitivities (an exaggerated immune response to a vaccine) such as rashes, welts, swelling of the face, and local vaccine site reactions. Less common but more severe vaccine reactions may include systemic reactions (anaphylaxis, lethargy, fever, pain, gastrointestinal upset, inappetence, or behavioral changes), autoimmune disorders, and injection-site tumors (cats) (2; 8).

In the event of a more serious vaccine reaction, including but not limited to: **severe swelling anywhere on the body or at vaccine site, any swelling of the face, difficulties breathing, vomiting and diarrhea, lethargy or inappetence** (not eating, especially for more than 1 day), consult with the emergency plan in the event of adverse reaction. This is a plan established by the SV and DV prior to the DV administering vaccine .

Designated vaccinators should only proceed with vaccinating an animal if the owner has signed a liability waiver and is aware of the potential risks, side effects, and reactions following vaccination. The DV has the right to refuse administering any vaccinations to an animal if they deem the animal unfit or in poor health. See **Chapter 6** for **"Liability Considerations**" and the **Resource** section for the vaccine consent form and liability waiver that every owner must sign prior to their animal receiving a vaccination.

All adverse rabies vaccine reactions should be reported to the SV and Zoetis Canada Inc.: **1-800-461-0917.** Zoetis will also report any vaccine reactions to the CCVB or you can also contact the CCVB directly. See **Resources** at the end of this manual for full contact details.

Minor Vaccine Reactions

In the event of minor vaccine reactions such as scratching the vaccine site or other parts of the body, minor swelling or redness at the vaccine site, or minor hives/bumps on the animal, owners can safely give **Benadryl** (also known by the drug name *Diphenhydramine*) to treat mild reactions only.

Benadryl can be dosed using the chart below, based on the animal's weight. A single dose should never be given more than **once every 8 hours** at most. The most common side effect of Benadryl in dogs and cats is drowsiness.

Benadryl Dose Based on Animal Weight:

Animal Weight in Pounds (lbs)	Dose Range	Number of Tablets of 25 mg Benadryl (Diphenhydramine)
< 5 lbs	3 mg to 6.25 mg	⅛ to ¼ tablet by mouth
5-10 lbs	6.25 mg to 12.5 mg	¼ to ½ tablet by mouth
10-25 lbs	12.5 mg to 25 mg	½ to 1 tablet by mouth
25-50 lbs	25 mg to 50 mg	1 to 2 tablets by mouth
50-75 lbs	50 mg to 75 mg	2 to 3 tablets by mouth
75-100 lbs	75 mg to 100 mg	3 to 4 tablets by mouth
>100 lbs	100 mg to 150 mg	4 to 5 tablets by mouth

****NOTE****: Do not give dogs or cats Benadryl that is mixed with other medication or children's formulations that may contain **xylitol** as this is **toxic** to dogs. Tylenol is extremely toxic to cats and can be fatal. One dose of Benadryl should be **given no more than 8 hours apart**.

Other Companion Animal Vaccines

Following this training, as a designated vaccinator you will also be in a position to vaccinate cats and dogs in the community against other animal diseases. These vaccines prevent animal diseases that can be extremely contagious between animals and sometimes fatal (such as Parvovirus and Distemper). Unlike *Rabies*, these diseases are specific to animals and cannot be passed from dogs and cats to people.

Administration

Administration will be largely the same as administration of a rabies vaccine (described above), except for two main differences:

1) Rabies vaccines already come in liquid form and can be immediately drawn up into a syringe directly from the bottle. Other vaccines often need to be mixed with a ***diluent*** **(sterile saline solution)** before they can be injected.
    a. Vaccines that need to be mixed will have two vials: one is a powder (the vaccine) and the second is a clear sterile liquid (diluent).

b. Using a syringe and needle, draw up 1 mL of the diluent using the same techniques described above for drawing up a vaccine.
c. Take the 1 mL of diluent in your syringe and insert the needle into the top of the vaccine vial that is filled with powder. Inject the entire amount of liquid into the vaccine vial.
d. Gently mix the diluent and vaccine powder until all the powder has dissolved. The liquid will turn from clear to a light pink color.
e. Do not shake too aggressively or cause excessive bubbles.
f. Once you have completely mixed the diluent with the powder you have now reconstituted your vaccine.
g. The vaccine is now ready to be drawn up and administered using the same steps as your rabies vaccine.
h. **Remember**: always use a **new** needle prior to vaccinating an animal. Do not share needles between animals.

2) If administering two different types of vaccines in the same animal, use **two different locations** on the animal's body. I.e., if you have given a rabies vaccine on the right side of an animal, give the combination vaccine on the left side of the animal.

Other Core Dog Vaccines

1) DA2PP Core Combination Vaccine (*protects against all of the following in one vaccine*)
    a. Canine **D**istemper Virus
    b. **A**denovirus-**2** (hepatitis)
    c. Canine **P**arvovirus
    d. **P**arainfluenza

Other Core Cat Vaccines

1) FVRCP Core Combination Vaccine (*protects against all of the following in one vaccine*)
    a. **F**eline **V**iral **R**hinotracheitis
    b. Feline **C**alicivirus
    c. Feline **P**anleukopenia

Like rabies vaccines, these vaccines also need to be given and boostered at specific times, depending on the animal's age, vaccine history, and to ensure adequate immunity.

Vaccine Schedule

Species	Vaccine	Age at Initial Vaccine	Timing of Boosters	Maintenance
Dog	DAPP	8 weeks of age	2 **initial boosters** (3 vaccine series total): 12 weeks of age **AND** 16 weeks of age **1 year** booster: 1 year after 16 week shot.	Every **3 years** following 1 year booster
		≥ 12 weeks of age	1 **initial booster** 4 WEEKS after first shot. Booster again **1 year** after initial booster.	
Cat	FVRCP	8 weeks of age	2 **initial boosters** (3 vaccine series total): 12 weeks of age **AND** 16 weeks of age **1 year** booster: 1 year after 16 week shot.	Every **3 years** following 1 year booster
		≥ 12 weeks of age	1 **initial booster** 4 WEEKS after first shot. Booster again **1 year** after initial booster.	

Ordering Other Vaccines

DA2PP and FVRCP vaccines can be ordered directly from the Sponsoring Veterinarian.

<u>Examples of DA2PP & FVRCP vaccine schedules:</u>

Scenario 1: Owner of a 15-week-old male shepherd cross requests all vaccines. The date is September 17, 2023.

September 17, 2023 (old enough for both combo and rabies)**: DAPP #1 + Rabies**
October 17, 2023 (combination booster due 4 weeks following initial): **DAPP #2**
September 17, 2024 (1-year boosters due): **DAPP + Rabies**
Continue both vaccines every 3 years ongoing (next due **September 17, 2027)**.

Scenario 2: A free-roaming dog estimated to be 2 years of age has no vaccine history. The date is September 17, 2023.

As above.

Scenario 3: Owner of a 9-week-old female husky cross requests all vaccines. The date is September 17, 2023.

September 17, 2023: DAPP #1 (9 weeks old)
October 17, 2023: DAPP #2 (13 weeks old)
November 17, 2023: DAPP #3 + Rabies (17 weeks old)
November 17, 2024 (1-year boosters due): **DAPP + Rabies**
Continue both vaccines every 3 years ongoing (next due **November 17, 2027)**.

Scenario 4: Owner of a 4-month-old cat requests all vaccines, including leukemia. The cat has never been vaccinated before. The date is September 17, 2023.

September 17, 2023 (old enough for both combo, and rabies)**: FRCP #1 + Rabies**
October 17, 2023 (combo and leukemia booster due 4 weeks following initial): **FRCP #2**
September 17, 2024 (1-year boosters due): **FRCP + Rabies**
September 17, 2027: FRCP + Rabies
Etc.

*****Note: depending on how the Designated Vaccinator choses to schedule vaccines within their community (on an ongoing as needed basis, vs. scheduled vaccine clinics a certain number of times over the year – ex. 4 times per year) the timing of boosters should be attempted within reason).*****

Chapter 4: Record Keeping

Animal Identification

Animal identification and good record keeping are extremely important when administering vaccinations, especially rabies vaccines. Permanent identification (such as a microchip) is one of the most accurate ways to link an animal to a vaccine record. In other words, permanent identification ensures that a particular animal did or did not receive a vaccine, and *when* they received it. This is important to help prevent over vaccinating an animal who has already received vaccinations (or vice versa if you believe an animal has already been vaccinated when they have not). In addition, should a cat or dog be involved in a **rabies investigation or biting incident**, having appropriate vaccine records and ways to definitively identify if an animal is or is not up to date on their rabies vaccine will impact how local public health officials respond to an investigation.

Microchipping

A veterinary microchip is a permanent animal identification device that is inserted directly under the skin using a microchipping "gun" and needle that ejects the microchip into the subcutaneous skin of the animal. Each individual microchip ID has a unique number associated with it that becomes that animal's own permanent identification. A microchip scanner will detect the ID number on a digital display when the scanner is swept over the animal. This allows vaccine records to be appropriately linked to the correct animal so that it is very clear who has received the vaccine and when they received it.

Microchips are less invasive and less painful than animal ear tattoos, which was a common method of identifying animals in previous years. Tattoo IDs can also be prone to infection and require the animal to be sedated. Additionally, a microchip is more secure than a dangle tag placed on an animal's collar.

How to use a microchipping gun **(may vary slightly depending on the model)**:

1) Ensure the microchip/needle is already engaged within the gun.
    a. Some devices come as a single use, disposable microchipping gun, which will already have the microchip/needle attached.
    b. If needed, attach the needle that contains the microchip to the gun.
2) Record the ID# for the animal who will be receiving the microchip on their vaccine record. The ID# should be on the microchip package. This will represent the animal's unique and permanent identification moving forward.
3) As with your vaccine administration, have the owner or another individual holding the animal for you (using treats and fear free holding techniques described in **Chapter 2**).
    a. Tent the skin directly between the shoulder blades.
    b. Insert the needle gun into the center of your skin tent with the bevel facing up, through the skin and into the underlying subcutaneous tissue.
    c. Push the trigger to eject the microchip into the subcutaneous tissue.

d. Gently pinch the skin overlying the needle as you remove the needle from the skin to help keep the microchip from inadvertently coming out with the needle and to prevent bleeding.
e. Pinch the skin until any mild bleeding has subsided.
f. Use the microchip scanner to confirm the microchip was successfully ejected under the skin and that the ID# matches the package.

4) **Note:** It is very normal for microchips to migrate under the skin. Even though a microchip is originally placed between the shoulder blades, the scanner may need to be run over the length of an animal and their sides to find the microchip over time.

These ID's may not be universally accepted (ex. for internal travel), however, the purpose of microchipping dogs and cats within a community is to link an individual animal to their personal vaccine record. This offers a more permanent form of identification to ensure that a particular vaccine record coincides with a particular animal.

Colored Dog Collars

Colored dog collars, for animals who are agreeable to wearing them, can be used for any community dogs but especially those that are prone to free-roaming and will act as an immediate visual aid to anyone who comes across that animal that they have been vaccinated against rabies. While this is not recommended as a form of identification linking an animal to a rabies vaccine record and should not act as a substitute for a microchip, it is a quick way for someone to recognize that an animal has received a rabies vaccine. Colored collars can even be coordinated to the year the animal received their rabies vaccine so that members of the community know if the animal's rabies vaccine is up to date. Each year can be represented by a different color (i.e., any animal that receives a rabies vaccine in 2025 receives the same blue collar). Inexpensive collars can be ordered by the community for this purpose. This method of visual aid has been implemented with great success in mass dog vaccination campaigns in other parts of the world like Tanzania (9). Care should be taken with cats, as outdoor cats are less likely to tolerate wearing a collar and may risk injury or strangulation if they are not regularly monitored wearing a collar. Only cat safe quick release collars should be placed on cats.

Vaccine Record Keeping

To maintain appropriate records of cats and dogs vaccinated for rabies (and other core vaccines) within the community, each individual animal will receive a vaccine certificate. One copy will go with the owner or caregiver for their own use, and one copy will remain with the DV for filing.

Owners and/or caregivers should be encouraged to bring their prior vaccine records with them every time they receive an updated vaccine from the DV. This will help the DV quickly identify what vaccines the animal is due for.

Copies of the templates that will be used for vaccine certificates (owner copy and Designated Vaccinator copy can be found below, and in the **Resource** section of this manual. These templates can be photocopied, printed out, or hard copies can be mailed to the DV. Copies will also be provided to the DV at the time of hands-on training.

[Insert Clinic Logo]

Veterinary Clinic	*Sample Clinic*
Telephone	*(204)555-5555*
Address	*123 Anywhere Street, Brandon, MB*
Veterinarian Supervisor	*Dr. Jane Doe*
Limited Access Vaccinator Name	*John Doe*
Contact Information	*204-555-5555, 123 Local Street*

In case of emergency, please **[Insert contact information/emergency protocol]** .

Date: _____/_____/_____(mm/dd/yyyy)

Vaccine Certificate (Owner Copy)

Owner Information:

Full Name	
Phone Number	
Address	
Email (if applicable)	

Animal Information:

Animal Name	
Species	☐ Dog ☐ Cat
Breed/Coloring/Markings	
Estimated Birthday (Age)	
Sex	☐ Intact Female ☐ Intact Male ☐ Fixed Female ☐ Fixed Male
Microchip #	

Vaccinations (check any vaccines that were administered today for the appropriate species):

Dog Vaccines	Date Given (mm/dd/yyyy)	Next Dose Due *for All Applicable Vaccines* (mm/dd/yyyy)
Initial DAPP ☐ 4-Week DAPP Booster ☐ 1 Year DAPP ☐ 3 Year DAPP ☐		
1 Year Rabies ☐ 3 Year Rabies ☐		
Cat Vaccines		
Initial FRCP ☐ 4-week FRCP Booster ☐ 1 Year FRCP ☐ 3 Year FRCP ☐		
1 Year Rabies ☐ 3 Year Rabies ☐		

Signature Panel

_____	_____	_____/_____/_____
Designated Vaccinator Name *(please print)*	Designated Vaccinator Signature	Date (mm/dd/yyyy)

[Insert Clinic Logo]

Date: _____/_____/_____(mm/dd/yyyy)

Vaccine Certificate/Record for Individual Animal (Designated Vaccinator Copy)

Owner Information:

Full Name	
Phone Number	
Address	
Email (if applicable)	

Animal Information:

Animal Name	
Species	☐ Dog ☐ Cat
Breed/Coloring/Markings	
Estimated Birthday (Age)	
Sex	☐ Intact Female ☐ Intact Male ☐ Fixed Female ☐ Fixed Male
Microchip #	

Animal History:

Does the animal appear to be in good health to receive vaccines today?	☐ Yes	☐ No
Is the animal friendly?	☐ Yes	☐ No
Does the animal have a known history of vaccine reactions?	☐ Yes	☐ No
Did the animal receive any medication prior to the vaccine appointment?	☐ Yes	☐ No

If yes, what medication? _____ When was it given? _____

Vaccinations (check any vaccines that were administered today for the appropriate species):

Dog Vaccines	Date Given (mm/dd/yyyy)	Location Given	Vaccine Manufacturer/Lot Number	Next Dose Due *for All Applicable Vaccines* (mm/dd/yyyy)
Initial DAPP ☐ 4-Week DAPP Booster ☐ 1 Year DAPP ☐ 3 Year DAPP ☐				
1 Year Rabies ☐ 3 Year Rabies ☐				
Cat Vaccines				
Initial FRCP ☐ 4-week FRCP Booster ☐ 1 Year FRCP ☐ 3 Year FRCP ☐				
1 Year Rabies ☐ 3 Year Rabies ☐				

Designated Vaccinator Information:

Name: _____

Vaccine Inventory Tracking

The Sponsoring Veterinarian is responsible for the safe handling, storage and maintenance of vaccines provided to the DV. While the Sponsoring Veterinarian is able to set reasonable inventory management procedures (as they are able to do within clinic), the MVMA has developed a Vaccination Inventory Tracking Template as well as an Inventory Tracking Guide to help Sponsoring Veterinarians. Both documents are found below and on the MVMA website.

Lay Vaccinator Inventory Sheet

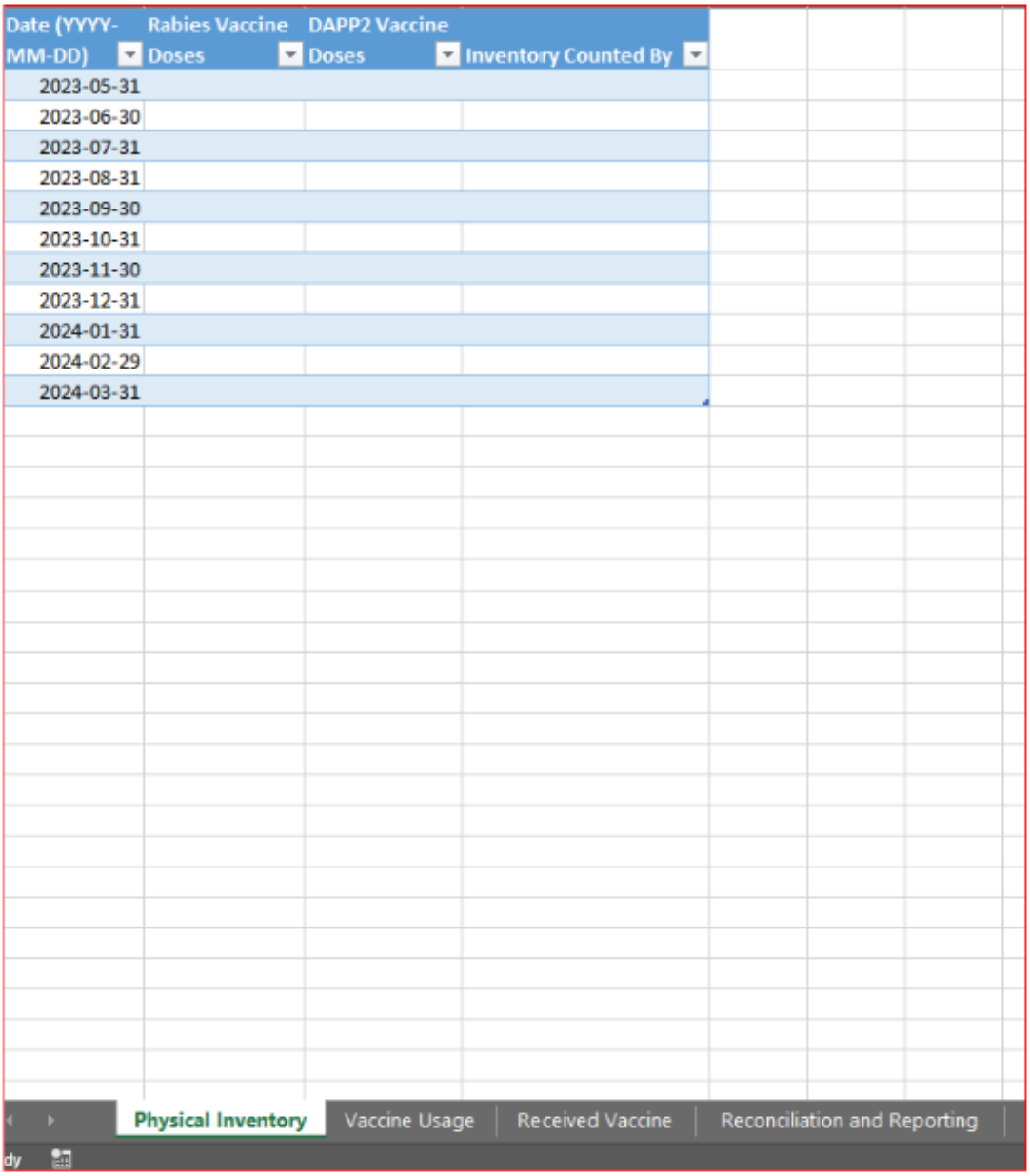
Begin using the lay vaccinator inventory sheet by entering in your starting inventory under the "Reconciliation and Reporting" tab in the highlighted cells.

Monthly Report		May-23	Jun-2
Part A- Physical Inventory			
1	**Last Month Inventory:**		
	Rabies Vaccine Vials (doses):	70	
	DAPP Vaccine doses:	50	
2	**End of this month Inventory**		
	Rabies Vaccine Vials (doses):		
	DAPP Vaccine doses:		
3	**This month Physical Usage *** ***Last month inventory - (minus) this month inventory***	May-23	Jun-2
	Rabies Vaccine doses:		
	Dapp Vaccine doses:		
Part B- Reported Use			
	Rabies Vaccine Total:	0	
	DAPP Vaccine Total:	0	
Part B(a)- Received			
	Rabies Vaccine Total:	0	
	DAPP Vaccine Total:	0	
Part C- Reconcilation			
	Part A3 Rabies -(minus) Part B Rabies	0	
	Part A3 DAPP -(minus) Part B DAPP	0	
	**If difference is "0" you are balanced*		
	** If difference is not zero, please provide an explanation*		
Part D- Other Reporting			
	Have all owners signed a consent for vaccination? ** If no please provide an explanation*		
	Have all owner consents been sent to the MVMA? ** If no please provide an explanation*		
	Any adverse reactions reported? ** If yes, please provide details*		
	Was vaccine received by the TOC this		

Physical Inventory | Vaccine Usage | Received Vaccine | **Reconciliation and Reporting**

Physical Inventory Tab

At the end of each month, count the number of doses that you have on hand and record the number on the "Physical Inventory" tab.



Date (YYYY-MM-DD)	Rabies Vaccine Doses	DAPP2 Vaccine Doses	Inventory Counted By
2023-05-31			
2023-06-30			
2023-07-31			
2023-08-31			
2023-09-30			
2023-10-31			
2023-11-30			
2023-12-31			
2024-01-31			
2024-02-29			
2024-03-31			

The number recorded here will automatically be recorded on the "Reconciliation and Reporting" sheet.

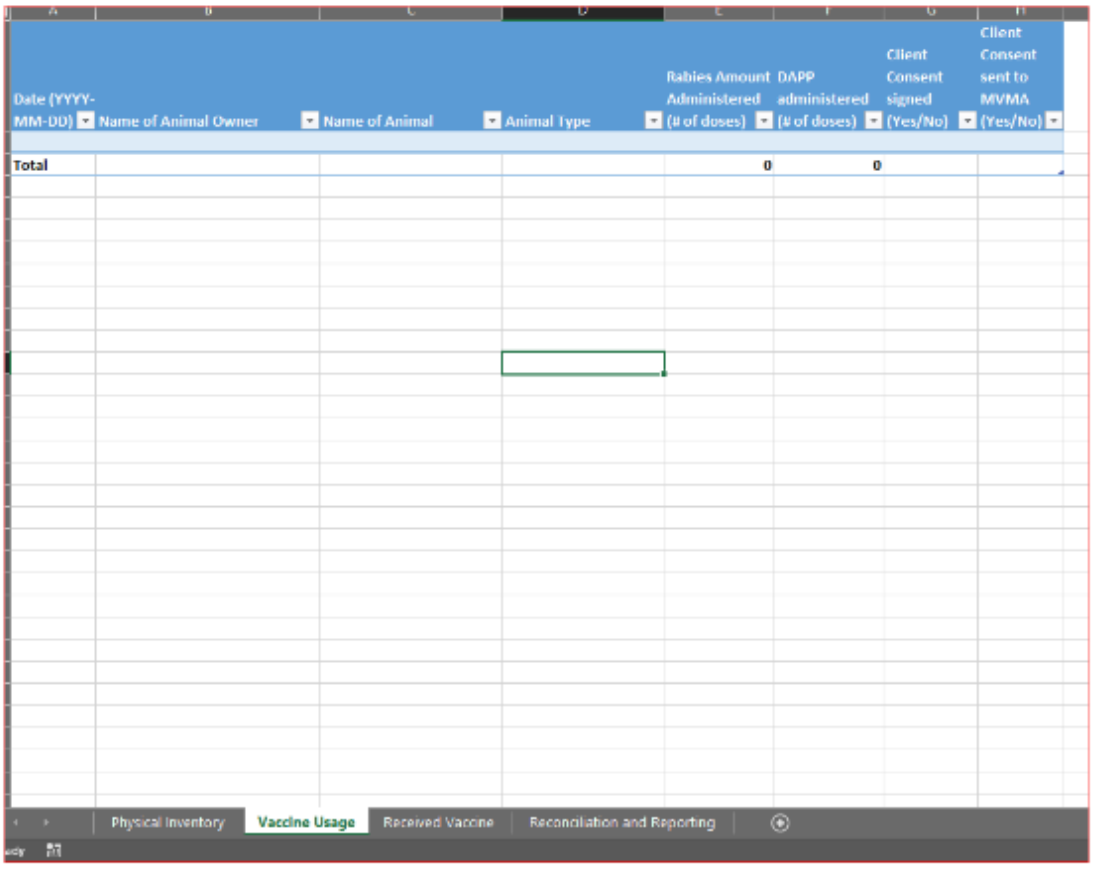
Vaccine Usage Tab

Record any vaccine usage in the "Vaccine Usage" tab.

This tab is where you should include expired or wasted vaccines. In the case of expired or wasted vaccines, under name of owner just record as "Waste" or "Expired Vaccine".

Make sure that the date follows the YYYY-MM-DD format, so that this information automatically transfers to the "Reconciliation and Reporting" sheet.

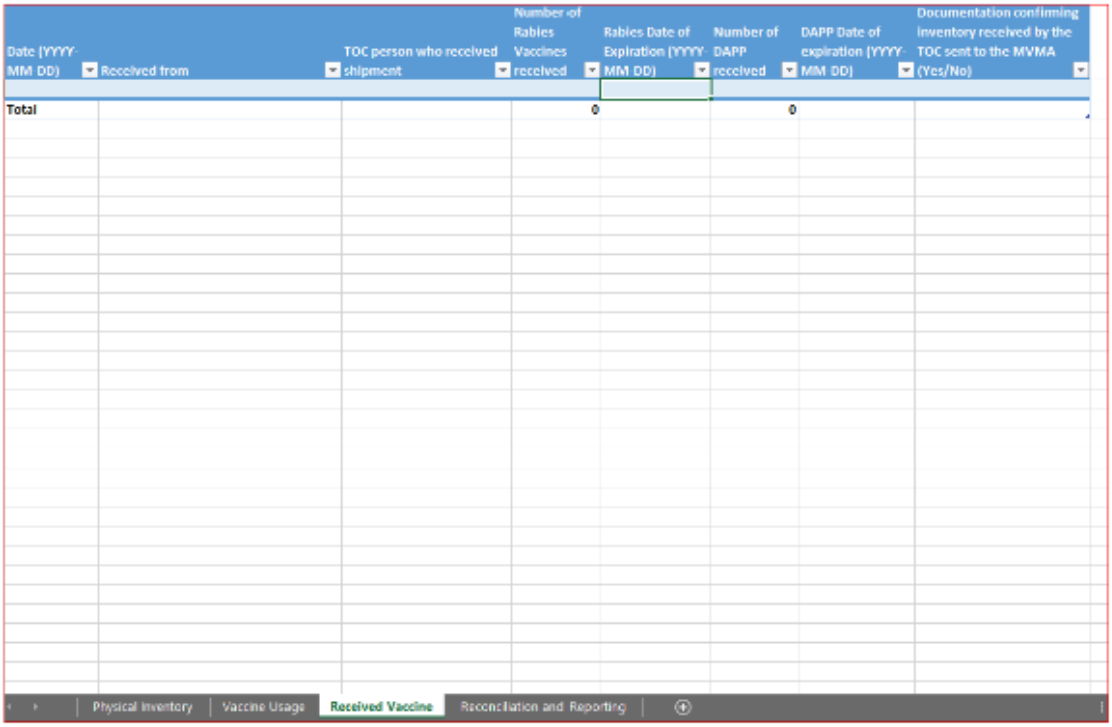
This is the information that is used to reconcile with the physical inventory at the end of each month.



Received Vaccine Tab

Any vaccine received into inventory should be tracked in the "Received Vaccine" tab. Do not include expired vaccines that are discarded into this sheet. Those should be recorded into the "Vaccine Usage Tab"

Make sure that the date follows the YYYY-MM-DD format, so that this information automatically transfers to the "Reconciliation and Reporting" sheet.



Date (YYYY-MM-DD)	Received from	TOC person who received shipment	Number of Rabies Vaccines received	Rabies Date of Expiration (YYYY-MM-DD)	Number of DAPP received	DAPP Date of expiration (YYYY-MM-DD)	Documentation confirming inventory received by the TOC sent to the MVMA (Yes/No)
Total			0		0		

Physical Inventory | Vaccine Usage | Received Vaccine | Reconciliation and Reporting

Reconciliation and Reporting Tab

Apart from the highlighted portion that you filled out when you first received this spreadsheet, the only portion on this tab that you should be filling out is the explanation if the physical inventory and usage do not reconcile under Part C, and Part D.

If the physical inventory and usage do not reconcile, the number in Part C reconciliation will highlight in red and you should then provide an explanation under Part C.

Part D is the detailed reporting.

Chapter 5: Designated Vaccinator Safety and Public Health

Getting Your Rabies Vaccine Series

Because the DV will be handling dogs and cats directly, it is important for the DV to also be protected against rabies. **Any individual participating as a designated vaccinator must receive a rabies series prior to hands on training**. The cost of this pre-exposure vaccine series is covered by Manitoba Public Health's Occupational Health Program. Vaccines can be administered in community through First Nations and Inuit Health Branch.

Contact your local public health nurse or FNIHB nursing station for more information.

Rabies Titers

In addition, the Designated Vaccinator should receive an **initial rabies titer** to confirm adequate immunity following their rabies vaccine series, and titers **every 2 years** for as long as they are involved in the program. This is the public health recommendation for any professional working directly and frequently with dogs and cats as the risk of bites and exposure to rabies increases in these roles. This can also be arranged through FNIHB or your family doctor.

Dog/Cat Bites

Remember, any dog or cat is capable of biting. Using the animal handling techniques from **Chapter 2** and paying attention to the body language of the animal (which can alert you to an impending bite) are extremely important. **Never vaccinate an animal you are uncomfortable handling or if the animal is showing advanced signs of aggression**. A designated vaccinator has the right to refuse administering vaccinations at any time. If there are even minor signs that an animal may bite, use a muzzle to keep everyone safe. It is better to use a muzzle than to get bitten or have an owner or holder bitten.

Even with these tools in place, there is still a risk that an animal may bite a designated vaccinator. In the event of a bite:

1) Stop what you are doing and remove yourself from the animal and owner.
    a. If a dog or cat is acting aggressively toward the owner or whoever is holding the animal, that person should also remove themselves from the situation.
2) Immediately wash your hands with antibacterial soap and warm water.
3) Seek medical attention if you experience:
    a. Any extensive bleeding or swelling.
        i. Bites on the hands and fingers should be assessed by a doctor. Limited space for swelling in these areas can lead to pain and/or infection.
        ii. Cat bites are particularly prone to causing infection because the teeth are very small and sharp, and bacteria becomes easily trapped in the puncture wound.
        iii. Some bites may require antibiotics from your doctor.

b. Any bites to the face should be assessed by a doctor immediately.

4) Inform the SV.

Needle Sticks

Care must also be taken when handling needles or other medical sharps. All needles must be placed in a biohazard sharps container after use. Needles cannot be thrown away in the regular garbage. Needles should never be re-capped as this is the most likely situation for a person to inadvertently "stick" themselves with the tip of the needle. Not only are needles very sharp and can cause injury, but they may have remnants of vaccine on them and are considered contaminated after they have been used on an animal.

Always remove the needle cap carefully prior to use. Do not point an uncapped needle towards yourself or towards another person. Uncapped needles should never be placed inside pockets or left on tables and other surfaces. Once the needle is ready to be discarded, remove the needle at its base from the syringe by using the top of the biohazard sharps container. There will be a small opening that allows you to insert the needle and twist so that the needle falls directly into the biohazard sharps container without touching the needle. If the needle does not come off the syringe easily, the needle can remain attached to the syringe and both the syringe and needle can be dropped into the biohazard sharps container. This is not recommended after every use as it will fill up your biohazard sharps container much faster.

If a designated vaccinator inadvertently suffers a needle stick, wash the affected area immediately with warm water and antibacterial soap.

Keeping a First Aid Kit

As a precaution, the DV should have a first aid kit on hand. This should include:

- Band-aids
- Antibacterial soap
- Antibacterial wipes
- Gauze
- Tape
- Small scissors
- Advil or Tylenol (for human use only!)
- Benadryl

Zoonoses and Working with Dogs and Cats

It is important for the DV to be aware that other animal diseases in addition to rabies can be transmitted from dogs and cats to people. Diseases that can be passed between animals and people

are known as “zoonoses”. This is why it is extremely important to wash your hands between animals and when you are finished all animal handling for the day. Never eat or drink in the same area you are handling animals and always wash your hands prior to eating or drinking anything.

Some diseases can be transmitted through the mouth (ex. the disease agent is on a person’s hands while handling and then eating food). Other diseases can be transmitted directly through the skin. Frequent handwashing is an appropriate tool to prevent these risks, however, if you notice an animal with any skin lesions (hair loss, scabs, bumps, etc.) medical gloves should be worn prior to touching and vaccinating the animal. If an animal has extensive skin issues, then vaccines should be withheld, and that animal should be assessed by the nearest veterinarian.

Chapter 6: Costs & Liability

Anticipated Costs to the Community

Any community that chooses to enroll in the Manitoba Community Vaccinator Program assumes the responsibility for the direct cost of the vaccines and any costs related to shipping, storage, and equipment needed for vaccine administration as well as any potential salary or wages provided to designated vaccinators. This should be established at the time of first contact with the Sponsoring Veterinarian. The community will also decide if community members who access DV services pay for the vaccines directly for their own animals, or if the cost of the vaccine is covered by the community (Band & Council, Chief & Council, etc.) for all community dogs and cats. These community costs help to maintain this as *community driven* programming with little outside oversight, sustain the program long term, and promote responsible animal ownership. Grants and other funding opportunities may also be available to the community.

Below are some of the ongoing costs[1] the community needs to be aware of:

Vaccine Related

1) Cost per vaccine
    a. Billed directly to the community from the Sponsoring Veterinarian
2) Shipping costs
    a. Billed directly from the Sponsoring Veterinarian.
3) Sterile syringes (3 mL/cc)
    a. Lure lock 3 mL/cc syringes + needle approximately $10-$12 for a box of 100 syringes.
4) Sterile 22- or 25-gauge needles
    a. 25G x 5/8 inches approximately $7 for a box of 100 needles.
5) Storage costs
    a. Ongoing cold chain refrigerator storage costs within the community
6) Costs for any lost or damaged vaccines (ex. compromised cold-chain storage)
7) Record keeping costs
    a. Paper, binders, pens, electronic equipment (where available), printing, etc.

Other Equipment Costs

Additional Supplies

1) Microchipping gun
    a. Community specific microchipping guns, ID implants, and scanner can be ordered online (ex. amazon.ca).
    b. Microchips/needle (gun): ~$1.50-$2.80 per microchip

[1] These are estimated costs as of May 22, 2024. These costs are likely to change over time. The Sponsoring Veterinarian will be able to provide more accurate figures for the time and context.

c. Microchip scanner/reader: ~$30-$50
d. Example:
    i. Smoostart 20 Pack Universal Standard Pet Microchip (20 pack, $56.61)

    ii. Smoostart Pet Microchip Scanner ($45.36)

2) Medical gloves
3) Slip leashes
4) Colored collars
5) Muzzles
    a. Dog muzzles, small and large size
    b. Cat muzzles
6) Towels
    a. Laundry
7) Non-slip mats
    a. Cut up foam yoga mats to various sizes for use on slippery surfaces (floors or tables) to assist with animal handling and vaccine administration.
8) Cat and dog treats
9) Small cooler
10) Ice packs (save ice packs from vaccine shipments to be reused)

Designated Vaccinator Compensation

The SV and community can work together to decide if the DV will earn an hourly wage, be paid per vaccine administered, or if the DV operates as a volunteer. This should be established at the time of community enrollment in the program, prior to any training.

Liability Considerations

As with any vaccination, administering vaccines to an animal assumes some risk, especially if an animal has an underlying and unknown health condition. While vaccine reactions are rare, it is important that an owner feels well informed prior to their animal being vaccinated and that they understand who is vaccinating their animal. A consent form also provides some assurances to the DV that an owner believes their animal is in good enough health to be receiving vaccinations. All owners or caregivers must sign a Vaccine Consent Form & Liability Waiver **prior** to their animal being vaccinated. Any owner or caregiver who does not sign the form will not be able to have their animal(s) vaccinated by the DV. If an owner has multiple animals receiving vaccines, each animal will require an individual consent form. The consent form remains with the DV as part of the animal's records.

Any animal that appears unfit or unhealthy should not be vaccinated. Additionally, if an animal is in poor health and the DV has reason to believe the animal is in **distress** and is concerned for the animal's welfare and wellbeing, **this concern should be reported to the Animal Care Line** (see "**Contact List"** in **Resource** section).

Copies of a Vaccine Consent Form & Liability Waiver can be found below, and in the **Resource** section of this manual. This form can be photocopied, printed out, or hard copies can be mailed to the DV. Copies will also be provided to the DV at the time of hands-on training.

[Insert Clinic Logo]

Veterinary Clinic	*Sample Clinic*
Telephone	*(204)555-5555*
Address	*123 Anwhere Street, Brandon, MB*
Veterinarian Supervisor	*Dr. Jane Doe*
Limited Access Vaccinator Name	*John Doe*
Contact Information	*204-555-5555, 123 Local Street*

In case of emergency, please **[Insert contact information/emergency protocol]** .

Consent Form

I,_____, the animal owner understand and consent to the following:

Owner Initial	
	Limited Access Service
	The Limited Access Vaccinator is not a veterinary professional. They are not licensed or registered with a professional regulatory body.
	The Limited Access Vaccinator, Sponsoring Veterinarian, Clinic, Working Group, community leadership and any other partners are not liable for injuries or adverse reactions that may occur after vaccination.
	No examination is being done to attest to the health of the animal, and so no health certificate will be produced.
	Adverse Reactions
	Potential adverse reactions may include but are not limited to: life-threatening allergic reaction, pain and/or swelling at site of injection, post-vaccine fever and lethargy, and/or rare injection-site cancers.
	Vaccination is being performed at a location that is not a veterinary office or animal hospital, and the limited access vaccinator administering the vaccination will not be able to perform any immediate medical treatments that my animal may require. Any medical concerns, conditions, or vaccine reactions should be discussed as is stated in the emergency protocol above.
	Vaccine Certificates
	Vaccine certificates are not intended for travel use and may not be accepted at international borders.

This document was created by the Limited Access Vaccinator working group. This document is not proscriptive. This document solely serves as an example of a compliant consent form to help ensure safe vaccination delivery.
Current as of March 28, 2024

	Animal Health
	An animal should be given vaccine when in good health. I make the following health declarations regarding my animal:
	My animal has been in good health for the preceding two weeks and has not shown any signs of illness, including but not limited to: reduced appetite, vomiting, diarrhea, coughing, sneezing, runny eyes or nose, depression, weight loss, pain, or problems with urination or defecation.
	My animal has no diagnosed allergies to vaccines of which I am aware.
	The limited access vaccinator has the right to refuse services if they believe the vaccination will cause harm to the animal or if the limited access vaccinator observes that the animal may be ill.
	Information Sharing
	Information on a dog's vaccination status may be used during dog-bite investigations done by Public Health and Manitoba Rabies Central
	De-identified information may be used for research and publications about the program

_____ _____

Owner Signature Date

This document was created by the Limited Access Vaccinator working group. This document is not proscriptive. This document solely serves as an example of a compliant consent form to help ensure safe vaccination delivery.
Current as of March 28, 2024

Chapter 7: Designated Vaccinator Training Program

The Sponsoring Veterinarian must ensure that each Designated Vaccinator that they supervise has:

1) Read and understood the written material within this Training Manual
    a) Any questions about the manual should be directed to the SV. Any questions regarding the manual by the SV should be directed to the MVMA.

2) Complete hands-on training with a Sponsoring Veterinarian
    b) Supervised vaccine injections by an adequate trainer (veterinarian or veterinary technologist)

Designated Vaccinator education must ensure that the Designated Vaccinator is able to safely

- Administer rabies and other preventative vaccines
- Store rabies and other preventative vaccines
- Report on vaccine administration, including adverse reactions, and inventory status
- Educate the public about rabies (including local prevalence, carriers and vectors), other preventative diseases, and the need for boosters.

The Sponsoring Veterinarian must keep a record of the Designated Vaccinators education and training and must provide same to the MVMA Registrar upon request.

A template follows on the next page which may be used by the Sponsoring Veterinarian to record the Designated Vaccinators education and training.

(Insert Clinic Logo)

Designated Vaccinator Training Program Record

Name of Designated Vaccinator: _____

Name of Sponsoring Veterinarian: _____

Community: _____

Activity	Date Completed	SV Initial
Read and understood the written material within this Training Manual		
Animal handling: the DV understands: - low stress handling techniques - fear-based aggression in dogs and cats - safe animal holds		
Vaccination: the DV understands: - rabies vaccine basics - rabies vaccine schedules and the DV and I have worked out a vaccine schedule. - how we will work together to maintain inventory of vaccines and related supplies - how to draw-up and administer vaccines - how to dispose of sharps - how to address vaccine reaction - the emergency plan for adverse reaction		
Record Keeping: the DV understands: - animal identification principles - the plan for animal identification in this community. - how medical records must be maintained - how to reconcile inventory - the requirement to have signed consent forms prior to providing service, and they these consent forms must be maintained.		
Designated Vaccinator Safety: the DV understands: - the necessity of being vaccinated for rabies and the need for titers.		
Complete hands-on training		
Hands on training on training conducted by _____ (RVT/Veterinarian) Description of supervised vaccine administrations:		

Chapter 8: Application and Renewal

Application- Sponsoring Veterinarian Each veterinarian that is licensed to practice in Manitoba is eligible to serve as a Sponsoring Veterinarian once they have completed the Education requirement (Link to policy). The Veterinarian must first apply to the MVMA.

Annual Renewal

The MVMA maintains an active list of all Sponsoring Veterinarians and Designated Vaccinators participating in the Manitoba Community Vaccinator Program. Each year, the Sponsoring Veterinarian must:

1) Complete a renewal application to maintain their Sponsoring Veterinarian status
2) Complete a renewal application for each Designated Vaccinator that they supervise.
3) Submit to the MVMA Registrar information about services provided through the program.

Each year at renewal, the Sponsoring Veterinarian must provide the following information for each vaccine administered from November 1st of the previous year to October 31st of the current year:

- Community where vaccine was administered
- Date vaccine(s) administered)
- Name of animal owner or Animal Owner ID
- Name of animal or animal ID
- Amount and type of vaccine administered

For convenience, the page entitled Vaccine Usage from the Sample Vaccination Inventory Tracking document (available for download on the MVMA Website) can be used to easily track and provide this information annually.

Withdrawing from the Program

The DV can withdraw from the program at any time but must provide written or verbal notice to the Sponsoring Veterinarian and the MVMA (mvmainfo@mvma.ca). Upon doing so the DV will no longer be eligible to participate in the program and their name will be removed from the program list.

As per the MVMA By-Law, the Sponsoring Veterinarian should have a reasonable plan to collect the vaccine and other vaccinator supplies that were supplied to the DV.

Chapter 9: Summary and Conclusion

There are many components that need to be considered when providing vaccinations to dogs and cats. The following key areas have been addressed in this training manual:

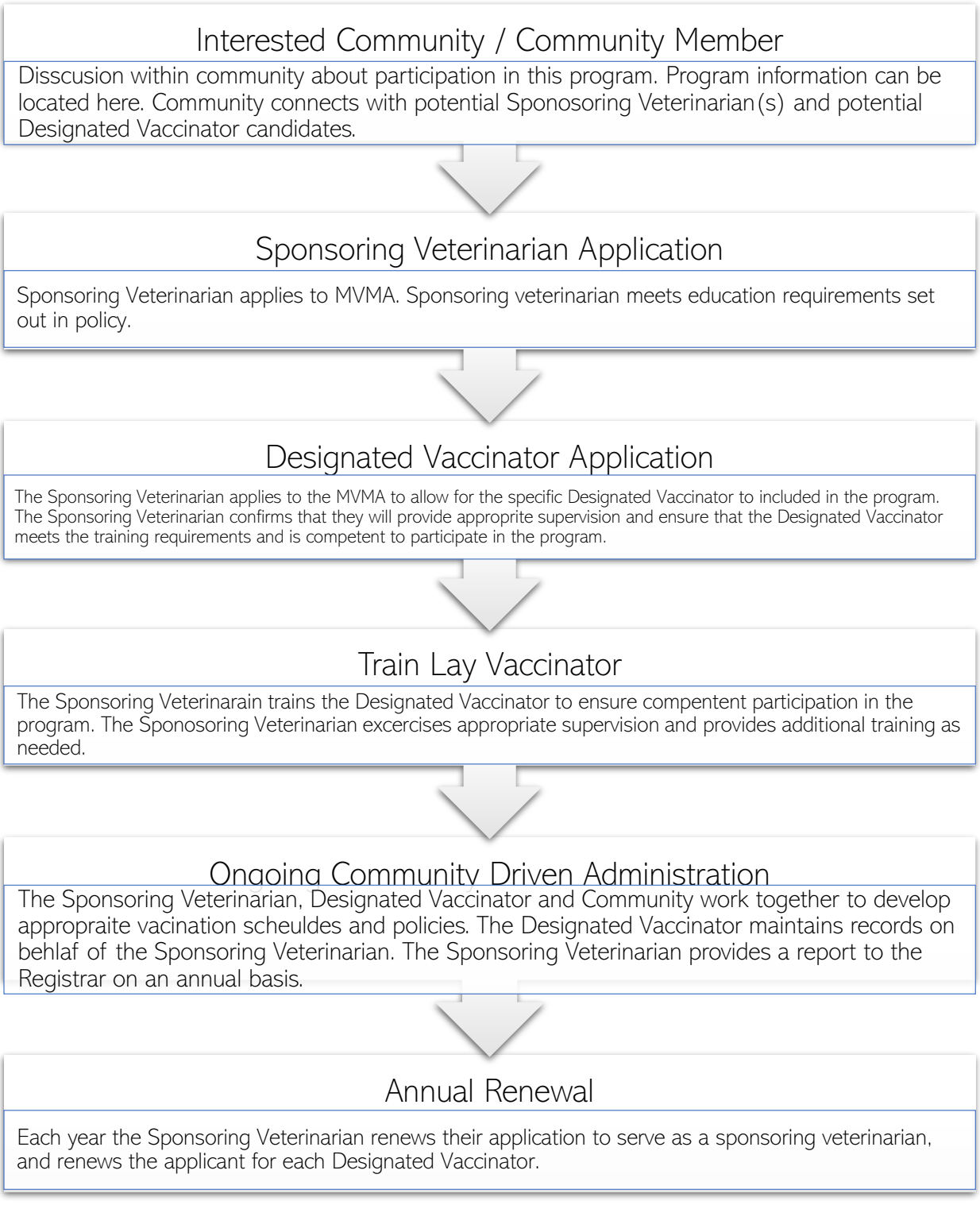
1. Animal handling
2. Vaccine shipping, storage, handling, and administration
3. Vaccine reactions
4. Record keeping and animal identification
5. Safety and public health considerations
6. Costs and liability

In addition, the objectives of the program, training, maintaining a high standard of care, and certification have also been discussed. A breakdown of the process within the program is included below **(Fig. 1).**

This manual can continue to be reviewed by the DV at any time. Please revisit any chapters as needed. A copy will remain with the DV for long term use and is a valuable resource. In addition, any questions regarding the training or program can be directed to your Sponsoring Veterinarian. :

Please refer to the **Resource** section at the end of this manual for contact lists, all necessary forms, and additional information and/or handouts at the DV's disposal.

Fig 1. Steps for community driven Manitoba Companion Animal Rabies Designated Vaccinator Programming.



Frequently Asked Questions

1. **Can a designated vaccinator vaccinate livestock?**
    a. A designated vaccinator can only vaccinate cats and dogs. Livestock require specialized handling and training not provided in the Manitoba Community Vaccinator Program
2. **Can a designated vaccinator train other community members to become designated vaccinators?**
    a. No. A Sponsoring Veterinarian must ensure proper training of a designated vaccinator. Anyone other than a trained designated vaccinator who administers a rabies vaccine is in violation of the federal *Health of Animals Regulations* and provincial *Manitoba Veterinary Medical Association Bylaws*.
3. **Where are the vaccines shipped to?**
    a. Whenever possible, vaccines will be shipped directly to the cold-chain storage facility in the community. This will likely be a nursing station, urgent care, doctor's office, or hospital, depending on the human health facilities within the community. A Memorandum of Understanding (written contract) between the Designated Vaccinator and cold-storage facility is recommended for vaccine cold chain storage and sharps disposal.
4. **Will rabies vaccination by a designated vaccinator be accepted for animals traveling internationally?**
    a. No. Rabies vaccination in accordance with export requirements means a licensed veterinarian must administer the vaccine and provide a signed rabies certificate to be valid. Additional export requirements including timing of rabies vaccines, rabies titers, dewormer, etc. may also be required depending on the importing country's federal requirements.
5. **What happens if a dog or cat who is vaccinated by a designated vaccinator bites an individual?**
    a. Medical Health Officers will perform a risk assessment in response to any biting incident. Dogs or cats who bite should be isolated and observed for symptoms of rabies.
    b. An animal that is clinical for rabies may need to be humanely euthanized and tested.
    c. Vaccine records must be available for review in the instance that a vaccinated animal bites.
6. **What happens if an animal has an adverse reaction to a rabies vaccine administered by a designated vaccinator?**
    a. Adverse events may occur following administration of any vaccination. This may include hypersensitivities (an exaggerated immune response to a vaccine) such as rashes, welts, swelling of the face, and local vaccine site reactions. Less common but more severe vaccine reactions may include systemic reactions (anaphylaxis, lethargy, fever, pain, gastrointestinal upset, inappetence, or behavioral changes), autoimmune disorders, and injection-site tumors (cats) (2). Refer to **Chapter 3, "Vaccine Reactions"** for more information on adverse vaccine reactions.

b. In the event of a more serious vaccine reaction the DV must follow the emergency plan in place with the Sponsoring Veterinarian.
c. Adverse rabies vaccine events should be reported to the Sponsoring Veterinarian and the Manufacturer.
    i. Zoetis Canada Inc.: **1-800-461-0917**
    ii. Boehringer-Ingelheim Animal Health: 1-800-263-5103 Ext. 87233

7. **What should a designated vaccinator do if an animal appears unwell prior to a vaccine?**
    a. **Any animal that appears unfit or unhealthy should not be vaccinated** and the DV has the right to refuse vaccinating an animal at any time. Additionally, if an animal is in poor health and the DV has reason to believe the animal is in **distress** and is concerned for the animal's welfare and wellbeing, **this concern should be reported to the Animal Care Line** at **204-945-8000** or toll free at: 1-888-945-8001. In the event of an animal distress emergency.
8. **What should a designated vaccinator do if an animal who presents for vaccinations appears highly dangerous?**
    a. The DV has the right to refuse vaccinating an animal at any time, including if they believe doing so would put themselves or others in harm's way and they cannot safely handle an animal, or doing so would cause severe animal distress.
9. **Will the designated vaccinator be compensated?**
    a. The community can decide if the DV will earn an hourly wage, be paid per vaccine administered, or if the DV operates as a volunteer. The community will also decide if community members who access DV services pay for the vaccines or if the cost of the vaccine is covered by community leadership.

Program Resources

Contact List

Manitoba Animal Care line *(Animal Welfare Concerns)*	**Toll Free: 1-888-945-8001** **animalcare@gov.mb.ca**
Manitoba Veterinary Medical Association	**1-204-832-1276** **mvmainfo@mvma.ca**
Indigenous Services Canada/FNIHB	613-957-7701
Department of Agriculture	Office of the Chief Veterinarian: **204-945-7663** **Agriculture Rabies Line** 204-470-1108 rabies@gov.mb.ca
Boehringer-Ingelheim Animal Health Canada (*Vaccine Reactions*)	1-800-263-5103 Ext. 87233
Zoetis Canada Inc. *(Vaccine Reactions)*	**1-800-461-0917**
Winnipeg Humane Society	**204-982-2021**, reception@winnipeghumanesociety.ca

Quick Guide for Designated Vaccinator: Storage, Administration, and Scheduling Guidance for Core Vaccinations of Cats and Dogs

Vaccine storage	• Refrigerated cold chain storage (2° to 8°C)
Supplies	• Vaccine(s), cooler, ice packs • 22 - 25-gauge needles • 3 mL syringes • Biohazard sharps container • Microchip, Microchip scanner • Muzzles, slip leashes, colored collar, first aid kit • treats, • Towels, • First Aid Kit • Benadryl + over the counter dosing charts
Forms	• Consent Form and Liability Waiver • Vaccine Certificate (Owner Copy) • Vaccine Certificate/Record for Individual Animal (Designated Vaccinator Copy) • Vaccine Reaction Client Info Sheet CAHI
Verify Records	• Based on age of animal and prior vaccine history (if they have one), determine appropriate vaccine schedule. • If the animal has been previously vaccinated by you, verify with vaccine records what vaccines the animal is due for.
Animal Identification	• Scan animal for evidence of microchip. • If animal previously microchipped, record # or verify # matches with your current records. • Microchip animal prior to vaccination if they do not already have a microchip. • Confirm microchip has been placed and # is correct by scanning animal.
Administration	1. Ensure liability and consent form are signed, and review prior to vaccination. 2. Draw up 1 mL of rabies vaccine (and/or any other vaccines the animal is due for) into a 3 mL syringe using a 25-gauge needle. 3. Replace needle with a new 25-gauge needle prior to vaccinating animal. 4. Any used or discarded needles must be safely placed in biohazard sharps container. 5. Using safe animal handling techniques, vaccinate the animal in the subcutaneous tissue. 6. Record all information on vaccine record certificates and update master administration log.
Other Record Keeping	• Master Log of Rabies Administration Records for the Community • Master Log of Rabies Vaccine Shipments & Inventory Tracking

Rabies Vaccine Schedule for Dogs and Cats

Species	Age at initial vaccine	Booster	Maintenance
Dogs	>12 weeks **(12-16 weeks** is ideal)	**1 year** after initial vaccine.	Every **3 years** following 1 year booster
Cats	>12 weeks **(12-16 weeks** is ideal)	**1 year** after initial vaccine.	Every **3 years** following 1 year booster

Core Vaccine Schedule for Dogs and Cats

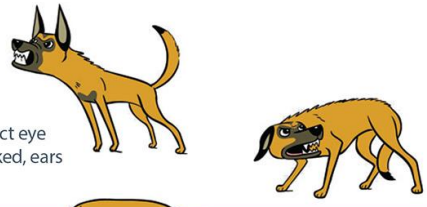
Species	Vaccine	Age at Initial Vaccine	Timing of Boosters	Maintenance
Dog	DAPP	8 weeks of age	2 **initial boosters** (3 vaccine series total): 12 weeks of age **AND** 16 weeks of age **1 year** booster: 1 year after 16 week shot.	Every **3 years** following 1 year booster
		≥ 12 weeks of age	1 **initial booster** 4 WEEKS after first shot. Booster again **1 year** after initial booster.	
Cat	FRCP	8 weeks of age	2 **initial boosters** (3 vaccine series total): 12 weeks of age **AND** 16 weeks of age **1 year** booster: 1 year after 16 week shot.	Every **3 years** following 1 year booster
		≥ 12 weeks of age	1 **initial booster** 4 WEEKS after first shot. Booster again **1 year** after initial booster.	

Canine Body Language and How to Assess Fear, Anxiety, and Stress

THE SPECTRUM OF FEAR, ANXIETY & STRESS

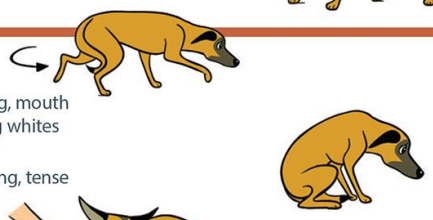
RED: SEVERE SIGNS - FIGHT/AGGRESSION (FAS 5)

- Offensive Aggression - lunging forward, ears forward, tail up, hair may be up on the shoulders, rump, and tail, showing only the front teeth, lip pucker - lips pulled forward, tongue tight and thin, pupils possibly dilated or constricted.
- Defensive Aggression - hair may be up on the back and rump, dilated pupils, direct eye contact, showing all teeth including molars, body crouched and retreating, tail tucked, ears back.



RED: SEVERE SIGNS - FLIGHT/FREEZE/FRET (FAS 4)

- Flight - ears back, tail tucked, actively trying to escape - slinking away or running, mouth closed or excessive panting - tongue tight instead of loose out of mouth, showing whites of eyes, brow furrowed, pupils dilated.
- Freeze/Fret - tonic immobility, pupils dilated, increased respiratory rate, trembling, tense closed mouth, ears back, tail tucked, body hunched.

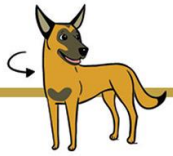


YELLOW: MODERATE SIGNS (FAS 3)

- Similar to FAS 2 but turning head away, may refuse treats for brief moments or take treats roughly, may be hesitant to interact but not completely avoiding interaction.

YELLOW: MODERATE SIGNS (FAS 2)

- Ears slightly back or to the side, tail down but not necessarily completely tucked, furrowed brow, slow movements or unable to settle, fidgeting, attention seeking to owner, panting with a tighter mouth, moderate pupil dilation.



GREEN: MILD/SUBTLE SIGNS (FAS 1)

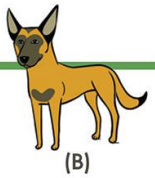
- Tail up higher, looking directly, mouth closed, eyes more intense, more pupil dilation, brow tense, hair may be just slightly up on the back and tail, may be expectant and excited or highly aroused.

GREEN: ALERT/EXCITED/ANXIOUS? (FAS 0-1)

- Looking directly but not intensely, tail up slightly, mouth open slightly but lips loose, ears perked forward, slight pupil dilation.

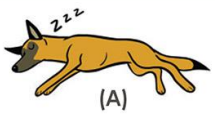
GREEN: PERKED/INTERESTED/ANXIOUS? (FAS 0-1)

- Looking directly but not intensely, tail up slightly, mouth open slightly but loose lips, ears perked forward, slight pupil dilation.



GREEN: RELAXED (FAS 0)

- **A:** Sleeping.
- **B:** Neutral - ears in neutral position, not perked forward, brow soft, eyes soft, mouth closed but lips relaxed, body loose, tail carriage neutral, pupils normal dilation.
- **C:** Friendly greeting - slow back and forth tail and butt wag, ears just slightly back, relaxed brow and eyes, may have mouth slightly open with relaxed lips and loose tongue.



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Feline Body Language and How to Assess Fear, Anxiety, and Stress

THE SPECTRUM OF FEAR, ANXIETY & STRESS

RED: SEVERE SIGNS - FIGHT/AGGRESSION (FAS 5)

- Offensive aggression - pupils constricted or dilated, cat leaning forward, ears forward, moving forward, whiskers forward, tail is an inverted L (first inch of tail is horizontal with ground then the tail drops down), rump raised higher than front (on tip toes), staring, may be growling.
- Defensive aggression - ears back, pupils dilated, hunkered down, tail tight or tucked or tail thrashing, whiskers back, hissing, lips pulled back, staring, furrowed brow, could be swatting.

RED: SEVERE SIGNS - FLIGHT/FREEZE/FRET (FAS 4)

- Flight - actively trying to escape, pupils dilated, ears back, whiskers back, tail down and bottle brushed, fleeing, turning to look at stimulus.
- Freeze/Fret - tonic immobility, dilated pupils, body flattened and tense, tail tucked, increased respiratory rate, ears back, staring, whiskers back.

YELLOW: MODERATE SIGNS (FAS 2-3)

- Ears further to the side, more pupil dilation but not completely dilated, increase in respiratory rate, brow furrowed, looking at stimulus instead of looking away, tail tight to body, possible tip of tail moving some, whiskers back, body crouched and leaning away.

GREEN: MILD/SUBTLE SIGNS (FAS 1)

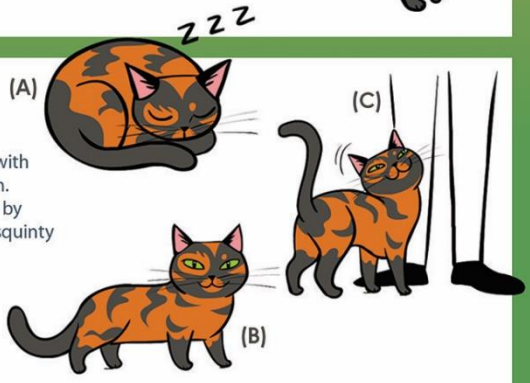
- Avoids eye contact, turns head away without moving away, partially dilated pupils, head held just slightly down, slight brow furrowing, whiskers slightly back, ears partially to the side, body shifted slightly away, tail closer to body with possibly some slight flicking.

GREEN: PERKED/INTERESTED/ANXIOUS? (FAS 0-1)

- Looking directly but not intensely, tail up and winding, mouth closed with loose lips, ears perked forward, whiskers forward, slight pupil dilation.

GREEN: RELAXED (FAS 0)

A: Sleeping
B: Neutral - ears in neutral position, brow soft, eyes soft, mouth closed with relaxed lips, body loose, tail carriage U-shaped, pupils normal dilation.
C: Friendly greeting - tail up and winding, may elevate rear end slightly by standing on toes, ears neutral, forward, or slightly back, might have squinty eyes, brow relaxed, might cheek mark or rub on person or object.



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Vaccine Reactions: Designated Vaccinator Guidance & Client Info Sheet from the Canadian Animal Health Institute (CAHI)

Vaccine Reaction Guidance for Designated Vaccinator

All adverse rabies vaccine reactions should be reported to Zoetis Canada Inc at **1-800-461-0917.**

Over the Counter Medication and Dosing: Benadryl and Gravol

1. **Benadryl:**
    a. Drug Name: Diphenhydramine (name brand is Benadryl)
    b. Intended Uses:
        a. To prevent allergic reactions to vaccines when given prior (known history of vaccine reaction).
            - Give 1 hour prior to vaccination.
        b. To treat minor allergic reactions that occur after a vaccine is given.
            - Minor reactions include scratching vaccine site, minor swelling at vaccine site, or mild hives/bumps.
            - **More serious reactions requiring a veterinarian include** swelling of the face, hives all over body, heavy breathing or respiratory distress, severe vomiting or diarrhea.
            - For more information on vaccine reactions see **Chapter 3, "Vaccine Reactions".**
        c. Can be used for mild sedation to reduce stress in the animal prior to animal handling and vaccination.
            - Give 1 hour prior to vaccination.
    c. Dose Based on Animal Weight: **give no more than once every 8 hours.**

Animal Weight in Pounds (lbs)	Dose Range	Number of Tablets of 25 mg Benadryl (Diphenhydramine)
< 5 lbs	3 mg to 6.25 mg	⅛ to ¼ tablet by mouth
5-10 lbs	6.25 mg to 12.5 mg	¼ to ½ tablet by mouth
10-25 lbs	12.5 mg to 25 mg	½ to 1 tablet by mouth
25-50 lbs	25 mg to 50 mg	1 to 2 tablets by mouth
50-75 lbs	50 mg to 75 mg	2 to 3 tablets by mouth
75-100 lbs	75 mg to 100 mg	3 to 4 tablets by mouth
>100 lbs	100 mg to 150 mg	4 to 5 tablets by mouth

    d. Side Effects:
        a. Drowsiness

****NOTE****: avoid Benadryl or Gravol that is mixed with other medication or children's formulations that may contain **xylitol** as this is **toxic** to dogs. Tylenol is extremely toxic to cats and can be fatal. In addition, give only one or the other. Do not give Gravol and Benadryl at the same time. If both medications are needed, they should be **given at least 8 hours apart**.

Your pet has just been vaccinated. What can you expect?

Client Info Sheet: The Canadian Animal Health Institute (CAHI)

Vaccination is the best way to protect your pet against disease. Vaccines are highly effective at stimulating your pet's immune system, thereby providing effective protection against serious infectious diseases.

Today's vaccination will stimulate your pet's immune system. This primes your pet's immune system to mount a protection against specific disease agents. The internal defense system continues to build and remains strong for a period of time, acting as a memory to protect your pet if he or she is exposed to these diseases later on.

The immunization process has an impact on the way some animals, and people for that matter, feel after receiving a vaccine. **Most animals display no symptoms at all** while others may appear fatigued, temporarily stop eating, have a slight fever (lasting 24–48 hours), or show mild pain (or swelling) at the vaccination site. These symptoms may be observed and could be managed with a little "TLC." However, if these symptoms persist for more than 48 hours (24 hours for overweight cats) or if you are concerned we recommend that you call your veterinarian.

Occasionally, serious allergic reactions can occur and will usually develop within the first 30 minutes to a few hours following vaccination. Your pet should be closely observed for a few hours after vaccination.

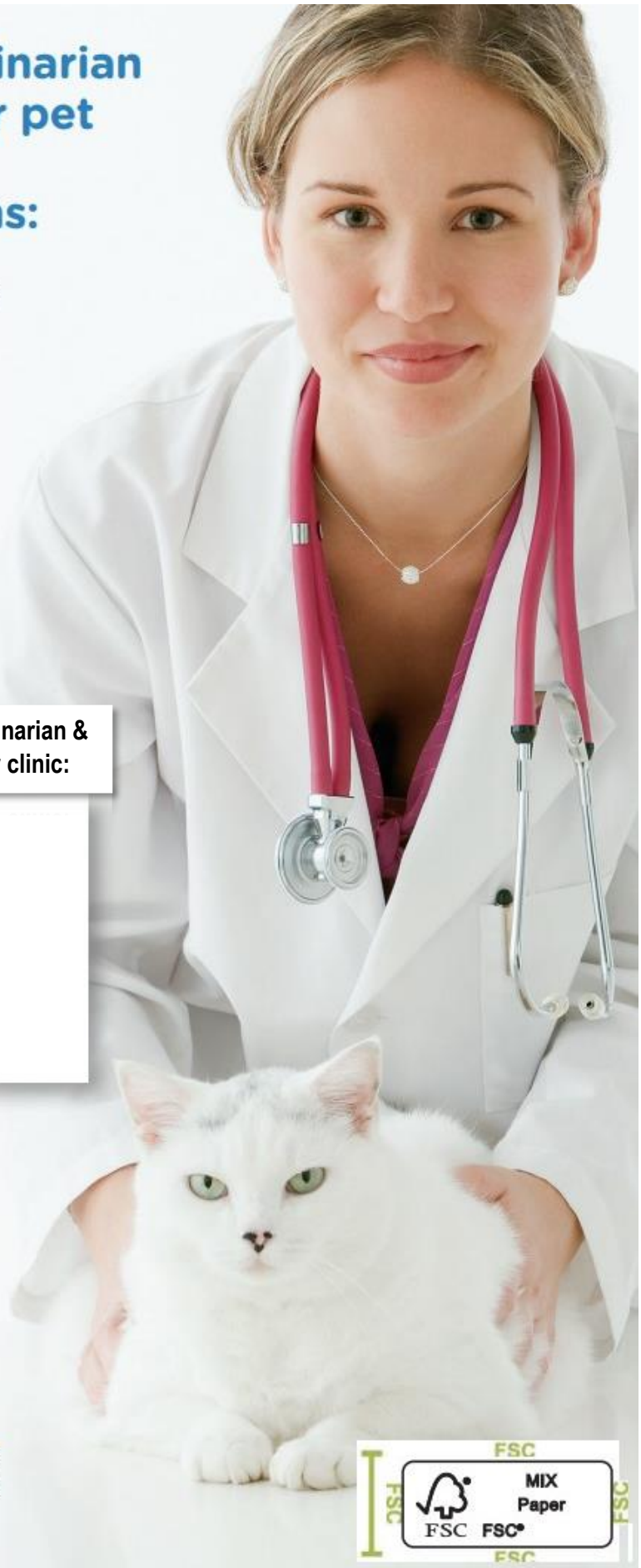
If you observe symptoms—such as difficulty breathing, vomiting, weakness, diarrhea, facial swelling, hives or excessive scratching—your veterinarian should be contacted immediately.

You can take comfort in knowing your pet has received the protection he or she needs to avoid harmful and possibly life-threatening diseases. Please follow your veterinarian's recommendations for further vaccinations.

Contact your veterinarian immediately if your pet shows any of the following symptoms:

- Difficulty breathing or standing
- Vomiting
- Diarrhea
- Facial swelling
- Hives
- Excessive scratching
- Anorexia for 48 hours (24 hours for overweight cats)
- Any other signs of concern

Contact information for Designated Veterinarian & contact information for nearest veterinary clinic:



cahi icsa
CANADIAN ANIMAL HEALTH INSTITUTE
INSTITUT CANADIEN DE LA SANTE ANIMALE

CANADIAN VETERINARY MEDICAL ASSOCIATION
L'ASSOCIATION CANADIENNE DES MÉDECINS VÉTÉRINAIRES

FSC MIX Paper FSC

5 tips

to prevent dog bites

Dogs can be your best friends, but sometimes when we are angry or scared we might bite. Let's learn to live together responsibly and safely to prevent being bitten.

1

Don't disturb me or frighten me, particularly when I am eating or tied up.

- Don't disturb me when I am with my toys, my puppies, in a car, behind a fence or when I am asleep or ill.

2

Keep away from me when I am angry or scared.

- When I am angry, I will show my teeth.
- When I am scared, my tail will be between my legs and I will try to run away.

3

Don't move if I approach you when I am not on a lead.

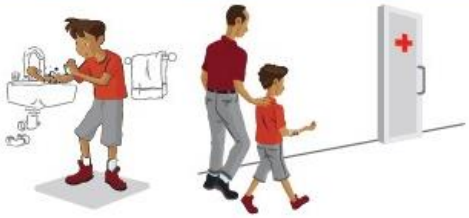
- Stand still like a tree trunk.
- If you fall over, curl up and stay as still and heavy as a rock.

4

Approach me slowly and quietly.

- Ask my owner or your parents/guardian's permission before you touch me. Let me sniff your hand before you touch me. When you stroke me, stroke my back first.

5



If a dog bites you act quickly. Wash the wound with soap and water and look for a first aid centre.

- Remember to tell your parents that you were bitten. Tell them which dog it was and where you were when it bit you.

Rabies is a disease that kills people and dogs. If a dog has rabies and it bites you it can give you the disease. If you are bitten remembering what the dog that bit you looked like and getting medical help can save your life. Don't disturb, mistreat or kill the dog.

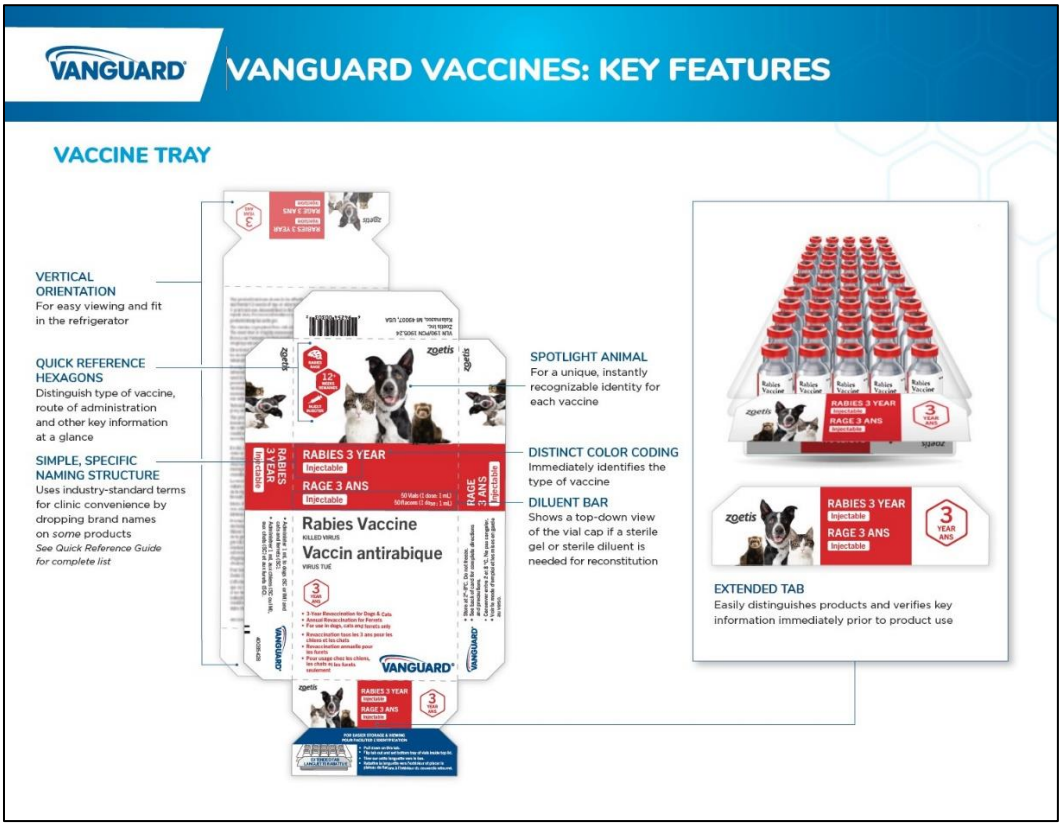
Remind your parents, teachers, friends and everyone you know that the best way to stop rabies is to make sure all dogs are vaccinated against it every year.

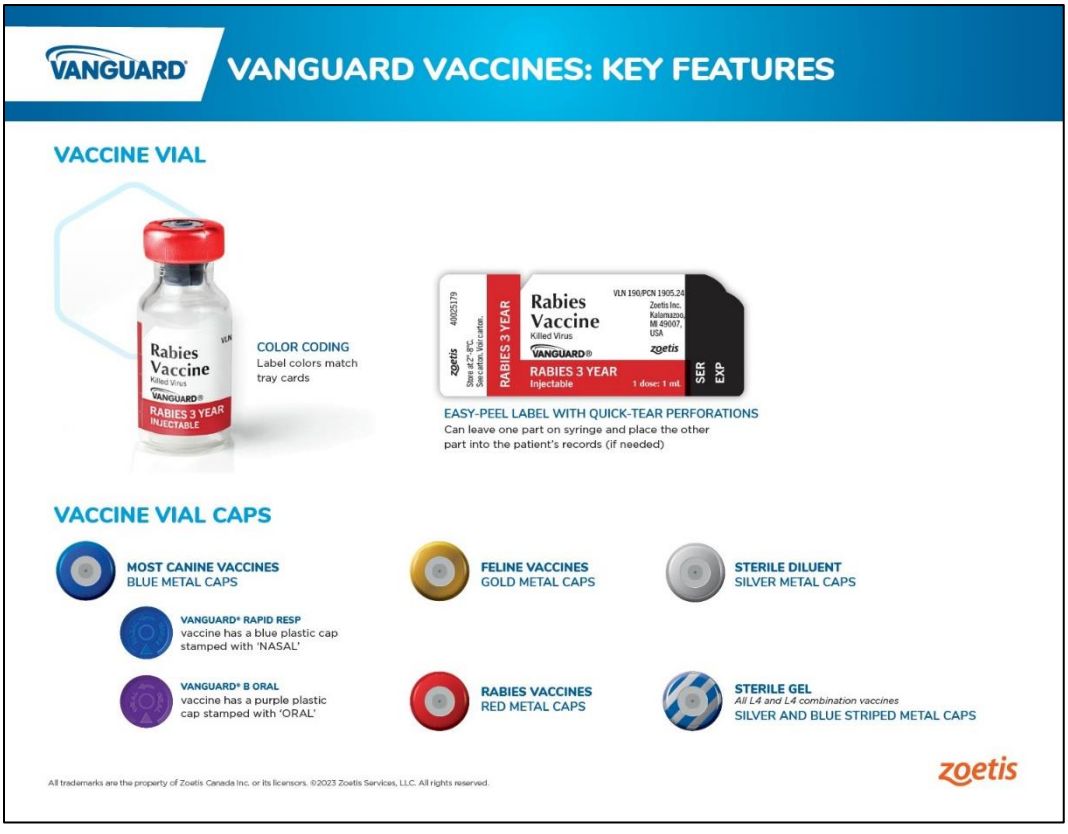
World Health Organization

GARC

WORLD ANIMAL PROTECTION

Vanguard Rabies Key Feature Card





SAFETY DATA SHEET

1. Identification

Product identifier	**Rabies Vaccine, Killed Virus**
Other means of identification	
Synonyms	DEFENSOR® 1 * DEFENSOR® 3 * Vanguard® Rabies 1 year * Vanguard® Rabies 3 year
Recommended use	Veterinary vaccine
Recommended restrictions	Not for human use
Manufacturer/Importer/Supplier/Distributor information	
Company Name (USA)	Zoetis Inc. 10 Sylvan Way Parsippany, New Jersey 07054 (USA)
Rocky Mountain Poison & Drug Safety	1-866-531-8896
Product Support/Technical Services	1-888-963-8471
Emergency telephone numbers	CHEMTREC (24 hours): 1-800-424-9300 International CHEMTREC (24 hours): +1-703-527-3887
Company Name (CA)	Zoetis Canada Inc. 16740 Trans-Canada Highway Kirkland, Quebec, H9H 4M7
Emergency telephone number	International CHEMTREC (24 hours): +1-703-527-3887
Contact E-Mail	productsupport@zoetis.com
Product Support	1-800-461-0917 All Safety Data Sheets are available via our Zoetis Canada website at https://www.zoetis.ca/sds/sds.aspx
Supplier	Not available.

2. Hazard identification

Physical hazards	Not classified.
Health hazards	Not classified.
Environmental hazards	Not classified.
Label elements	
Hazard symbol	None.
Signal word	None.
Hazard statement	The mixture does not meet the criteria for classification.
Precautionary statement	
Prevention	Observe good industrial hygiene practices.
Response	Wash hands after handling.
Storage	Store away from incompatible materials.
Disposal	Dispose of waste and residues in accordance with local authority requirements.
Supplemental information	Direct contact with eyes may cause temporary irritation. In the event of accidental injection, an allergic reaction may occur.
Other hazards	None known.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Aluminum hydroxide gel		21645-51-2	<10
Gentamicin		1403-66-3	##
Merthiolate (as mercury)		54-64-8	##
Rabies virus, killed		Not assigned	*

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Composition comments

Trace
* Non-hazardous Ingredients
The exact percentage composition of this mixture has been withheld as a trade secret.

4. First-aid measures

Inhalation

Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact

In the case of skin contact, immediately wash the skin with plenty of soap and water. In the event of accidental self injection or needle stick injury, wash the injury thoroughly with clean running water. Get medical attention immediately.

Eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Remove contact lenses, if present and easy to do.

Ingestion

Rinse mouth. Call a physician or poison control centre immediately. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconsious person.

Most important symptoms/effects, acute and delayed

Direct contact with eyes may cause temporary irritation. Exposure may cause temporary irritation, redness, or discomfort. In the event of accidental injection, an allergic reaction may occur. Signs and symptoms might include skin rash, itching, redness or swelling. Respiratory reactions may be characterized by rhinitis, sneezing, scratchy throat, oral mucosal edema, laryngeal mucosal edema, coughing, shortness of breath, wheezing, and chest pain. Asthma like reactions occur with acute exposures in sensitized patients.

Indication of immediate medical attention and special treatment needed

Treat symptomatically.

General information

For personal protection, see section 8 of the SDS. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media

Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical

During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions

Use water spray to cool unopened containers.

Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards

No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away.

Methods and materials for containment and cleaning up

Large Spills: Stop the flow of material, if this is without risk. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Clean surface thoroughly to remove residual contamination.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use.

Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling
Avoid contact with eyes, skin, and clothing. Avoid breathing mist or vapour. Avoid accidental injection. Wash thoroughly after handling. When using, do not eat, drink or smoke. Wear personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities
Store away from direct sunlight. @ 2 - 8°C (36 - 46°F). Do not freeze. Store in original tightly closed container. Keep away from heat, sparks and open flame.

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value
Merthiolate (as mercury) (CAS 54-64-8)	STEL	0.03 mg/m3

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value	Form
Aluminum hydroxide gel (CAS 21645-51-2)	TWA	3 mg/m3	Respirable particles.
		10 mg/m3	Total
Merthiolate (as mercury) (CAS 54-64-8)	STEL	0.03 mg/m3	

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value
Merthiolate (as mercury) (CAS 54-64-8)	Ceiling	0.1 mg/m3
	STEL	0.03 mg/m3

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

Components	Type	Value
Merthiolate (as mercury) (CAS 54-64-8)	STEL	0.03 mg/m3

Canada. New Brunswick OELs: Threshold Limit Values (TLVs) Based on the 1991 and 1997 ACGIH TLVs and BEIs Publication (New Brunswick Regulation 91-191)

Components	Type	Value	Form
Aluminum hydroxide gel (CAS 21645-51-2)	TWA	3 mg/m3	Respirable.
		10 mg/m3	Inhalable
Merthiolate (as mercury) (CAS 54-64-8)	STEL	0.03 mg/m3	

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value
Merthiolate (as mercury) (CAS 54-64-8)	STEL	0.03 mg/m3

Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety)

Components	Type	Value	Form
Aluminum hydroxide gel (CAS 21645-51-2)	TWA	10 mg/m3	Total dust.
Merthiolate (as mercury) (CAS 54-64-8)	STEL	0.03 mg/m3	

Biological limit values
No biological exposure limits noted for the ingredient(s).

Control banding approach
Gentamicin: Zoetis OEB 2 (control exposure to the range of 100ug/m3 to < 1000ug/m3)

Appropriate engineering controls
Keep air contamination levels below the exposure limits or within the OEB range listed above in this section. General ventilation normally adequate.

Individual protection measures, such as personal protective equipment	
Eye/face protection	If contact is likely, safety glasses with side shields are recommended.
Skin protection	
Hand protection	Wear impervious gloves if skin contact is possible.
Other	Wear suitable protective clothing. Use protective clothing (uniforms, lab coats, disposable coveralls, etc.) in both production and laboratory areas.
Respiratory protection	No personal respiratory protective equipment normally required. In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	Not applicable.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	Liquid Solution in multiple-dose vials
Physical state	Liquid.
Form	Liquid.
Colour	Not available.
Odour	Not available.
Odour threshold	Not available.
pH	> 6 - < 8
Melting point/freezing point	Not available.
Initial boiling point and boiling range	>100 °C (>212 °F)
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit – upper (%)	Not available.
Vapour pressure	Not available.
Vapour density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.
Specific gravity	> 0.8 - < 1.2

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials. Sunlight. High temperatures. Store at 2-8°C. Prolonged exposure to higher temperatures may adversely affect potency. Do not freeze.
Incompatible materials	Strong oxidising agents. This material can be denatured or inactivated by a variety of organic solvents, salts or heavy metals.

Hazardous decomposition products No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation Under normal conditions of intended use, this material is not expected to be an inhalation hazard.

Skin contact Prolonged skin contact may cause temporary irritation.

Eye contact Direct contact with eyes may cause temporary irritation.

Merthiolate (as mercury)	Species: Rabbit Severity: Mild
Gentamicin	Species: Rabbit Severity: Non-irritating

Ingestion May be harmful if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.

Symptoms related to the physical, chemical and toxicological characteristics Direct contact with eyes may cause temporary irritation. Exposure may cause temporary irritation, redness, or discomfort. In the event of accidental injection, an allergic reaction may occur. Signs and symptoms might include skin rash, itching, redness or swelling. Respiratory reactions may be characterized by rhinitis, sneezing, scratchy throat, oral mucosal edema, laryngeal mucosal edema, coughing, shortness of breath, wheezing, and chest pain. Asthma like reactions occur with acute exposures in sensitized patients.

Information on toxicological effects

Acute toxicity Expected to be a low hazard for usual industrial or commercial handling by trained personnel.

Components	Species	Test Results
Aluminum hydroxide gel (CAS 21645-51-2)		
Acute		
Oral		
LD50	Rat	> 5000 mg/kg
Gentamicin (CAS 1403-66-3)		
Acute		
Intramuscular		
LD50	Mouse	167 mg/kg
	Rat	463 mg/kg
Oral		
LD50	Rat	6600 mg/kg
Subcutaneous		
LD50	Rat	710 mg/kg
Merthiolate (as mercury) (CAS 54-64-8)		
Acute		
Oral		
LD50	Rat	75 mg/kg
Subcutaneous		
LD50	Rat	98 mg/kg

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.

Eye contact

Merthiolate (as mercury)	Species: Rabbit Severity: Mild
Gentamicin	Species: Rabbit Severity: Non-irritating

Respiratory or skin sensitisation

Canada - Alberta OELs: Irritant

Aluminum hydroxide gel (CAS 21645-51-2)	Irritant

Respiratory sensitisation	Based on available data, the classification criteria are not met. In the event of accidental injection, an allergic reaction may occur.
Skin sensitisation	Based on available data, the classification criteria are not met. In the event of accidental injection, an allergic reaction may occur.
Germ cell mutagenicity	Due to partial or complete lack of data the classification is not possible. No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Due to partial or complete lack of data the classification is not possible. This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

ACGIH Carcinogens

Aluminum hydroxide gel (CAS 21645-51-2)	A4 Not classifiable as a human carcinogen.

Canada - Manitoba OELs: carcinogenicity

Aluminum hydroxide gel (CAS 21645-51-2)	Not classifiable as a human carcinogen.

Reproductive toxicity	Based on available data, the classification criteria are not met. This product is not expected to cause reproductive or developmental effects.

Developmental effects

Gentamicin	75 mg/kg/day Embryo / Fetal Development, Developmental toxicity Result: LOAEL Species: Rat Organ: Intramuscular

Specific target organ toxicity - single exposure	Due to partial or complete lack of data the classification is not possible.
Specific target organ toxicity - repeated exposure	Due to partial or complete lack of data the classification is not possible.
Aspiration hazard	Not an aspiration hazard.
Further information	The antigens included in this product are non-infectious. All have been prepared from killed or inactivated preparations of microorganisms.

12. Ecological information

Ecotoxicity	Based on available data, the classification criteria are not met for hazardous to the aquatic environment. The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. Avoid release to the environment.
Persistence and degradability	No data available for this product.
Bioaccumulative potential	No data available for this product.
Mobility in soil	No data available for this product.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Avoid release to the environment. Do not discharge into drains, water courses or onto the ground. Do not contaminate ponds, waterways or ditches with chemical or used container. Considering the relevant known environmental and human health hazards of the material, review and implement appropriate technical and procedural waste water and waste disposal measures to prevent occupational exposure and environmental release. It is recommended that waste minimization be practiced. The best available technology should be utilized to prevent environmental releases. This may include destructive techniques for waste and wastewater. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	None known. This product contains trace quantities of mercury, releases to the environment should be avoided.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

TDG

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

15. Regulatory information

Canadian regulations This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.

Controlled Drugs and Substances Act

Not regulated.

Export Control List (CEPA 1999, Schedule 3)

Merthiolate (as mercury) (CAS 54-64-8) Substance subject to notification or consent.

Greenhouse Gases

Not listed.

Ontario. Toxic Substances. Toxic Reduction Act, 2009. Regulation 455/09 (July 1, 2011)

Merthiolate (as mercury) (CAS 54-64-8)

Precursor Control Regulations

Not regulated.

International regulations

Stockholm Convention

Not applicable.

Rotterdam Convention

Merthiolate (as mercury) (CAS 54-64-8) Pesticide

Kyoto Protocol

Not applicable.

Montreal Protocol

Not applicable.

Basel Convention

Not applicable.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information

Issue date 23-April-2017

Revision date	22-February-2023
Version No.	02
Disclaimer	Zoetis Inc. believes that the information contained in this Safety Data Sheet is accurate, and while it is provided in good faith, it is without warranty of any kind, expressed or implied. If data for a hazard are not included in this document there is no known information at this time. The information in the sheet was written based on the best knowledge and experience currently available.
Revision information	This document has undergone significant changes and should be reviewed in its entirety.

Summary of Studies Supporting USDA Product Licensure

Establishment Name	Zoetis Inc.
USDA Vet Biologics Establishment Number	190
Product Code	1905.24
True Name	Rabies Vaccine, Killed Virus
Tradename(s) / Distributor or Subsidiary (if different from manufacturer)	Defense 1 - Zoetis Industria de Produtos Defense 1 - No distributor specified Defense 1 - Zoetis Argentina Defense 1 - Zoetis Colombia S.A.S. Defense 1 - Zoetis Mexico Defense 3 - No distributor specified Defense 3 - SARL Biopharm Defense 3 - Zoetis (Thailand) Limited Defense 3 - Zoetis Kenya Co Ltda. Defense 3 - Zoetis Hayvan Sağlığı Ltd Defense 3 - Zoetis Korea Defense 3 - Zoetis Panama Defense 3 - Zoetis Russia Defense 3 - Zoetis Schweiz GmbH, Dulmont Defense 3 - Zoetis South Africa Ltd Defense 3 - Zoetis import Egypt Nobivac 1-Rabac - Intervet Inc. Nobivac 3 Rabac - Intervet Inc.
Date of Compilation Summary	February 25, 2021

Disclaimer: Do not use the following studies to compare one product to another. Slight differences in study design and execution can render the comparisons meaningless.

<table>
<tr><td>Study Type</td><td>Efficacy</td></tr>
<tr><td>Pertaining to</td><td>Rabies Virus (RV)</td></tr>
<tr><td>Study Purpose</td><td>To demonstrate effectiveness and 1 year duration of immunity against rabies disease</td></tr>
<tr><td>Product Administration</td><td>1 dose subcutaneously (SC)</td></tr>
<tr><td>Study Animals</td><td>Forty three ferrets 12 weeks of age, divided into 27 vaccinates and 16 controls</td></tr>
<tr><td>Challenge Description</td><td>Forty three animals (27 vaccinates; 16 controls) were challenged 373 days post-vaccination</td></tr>
<tr><td>Interval observed after challenge</td><td>All challenged animals were observed twice daily up to 90 days or until humane endpoints of clinical signs due to RV were observed</td></tr>
<tr><td>Results</td><td>An animal was classified as affected if it had one or more clinical signs of rabies disease post challenge and/or was positive by direct fluorescent antibody (dFA) in the brain stem tissue.

<u>Table 1. Number of Animals with Rabies Disease</u>

<table>
<tr><th rowspan="2">Treatment</th><th colspan="4">Disease</th><th rowspan="2">Total Animals Challenged Per Group</th></tr>
<tr><th colspan="2">YES</th><th colspan="2">NO</th></tr>
<tr><th></th><th>No. of Animals</th><th>%</th><th>No. of Animals</th><th>%</th><th></th></tr>
<tr><td>Controls</td><td>16</td><td>100</td><td>0</td><td>0</td><td>16</td></tr>
<tr><td>Vaccinates</td><td>0</td><td>0</td><td>27</td><td>100</td><td>27</td></tr>
</table>

The requirements of 9 CFR 113.209 were met.

The raw data for the control group is shown on the attached pages. There were no clinical signs of rabies disease or positive dFA test results for the vaccinate group.</td></tr>
<tr><td>USDA Approval Date</td><td>01 December 2015</td></tr>
</table>

Table 2: Individual Animal Daily Clinical Signs for Controls

Animal ID	Days post-challenge									
	0 DPC	1 DPC	2 DPC	3 DPC	4 DPC	5 DPC	6 DPC	7 DPC	8 DPC	9 DPC
9052	0	0	0	0	0	0	0	0	0	0
9054	0	0	0	0	0	0	0	0	0	0
9061	0	0	0	0	0	0	0	0	0	0
9062	0	0	0	0	0	0	0	0	0	0
9063	0	0	0	0	0	0	0	0	0	0
9065	0	0	0	0	0	0	0	0	0	0
9066	0	0	0	0	0	0	0	0	0	0
9069	0	0	0	0	0	0	0	0	0	0
9071	0	0	0	0	0	0	0	0	0	0
9080	0	0	0	0	0	0	0	0	0	0
9082	0	0	0	0	0	0	0	0	0	0
9083	0	0	0	0	0	0	0	0	0	0
9096	0	0	0	0	0	0	0	0	0	0
9098	0	0	0	0	0	0	0	0	0	0
9103	0	0	0	0	0	0	0	0	0	0
9104	0	0	0	0	0	0	0	0	0	0

Animal ID	Days post-challenge					dFA* positive Y/N
	10 DPC	11 DPC	12 DPC	13 DPC	14 DPC	Y
9052	0	0	NR, HY	PA, NR, DI, OT, ED, HY	-	Y
9054	0	0	NR	PA, NR, HY, DI, ED	-	Y
9061	0	SA, PA, NR, DE, ED	-	-	-	Y
9062	0	SA, PA, NR, HY, OT, ED	-	-	-	Y
9063	0	SA, PA, NR, HY, ED	-	-	-	Y
9065	0	0	DE	SA, PA, OT, NR, HY, DI, ED	-	Y
9066	0	0	-	-	SA, NR, HY, DI, ED	Y
9069	0	PA, DE, OT, ED	-	-	-	Y
9071	0	PA, NR, ED	-	-	-	Y
9080	0	SA, OT, HY, ED	-	-	-	Y
9082	0	0	0	PA, NR, HY, DI, DE, ED	-	Y
9083	0	PA, NR, HY, DE, ED	-	-	-	Y
9096	0	PA, OT, NR, HY, ED	-	-	-	Y
9098	0	PA, NR, DI, ED	-	-	-	Y
9103	0	SA, OT, NR, HY, ED	-	-	-	Y
9104	0	SA, PA, NR, HY, ED	-	-	-	Y

Clinical signs

0	Normal	SA	Salivation
DE	Depression	LB	Labored Breathing
NR	Nervousness / Restless	OT	Other
PA	Paresis	ED	Euthanasia / Death
HY	Hyperresponse		
DI	Disorientation		

***direct fluorescent antibody**

Study Type	Efficacy
Pertaining to	Rabies Virus
Study Purpose	To demonstrate effectiveness and 1 year duration of immunity and 3 year duration of immunity against rabies disease.
Product Administration	Dog: Subcutaneous (SC) Dog: Intramuscular (IM)
Study Animals	Dogs
Challenge Description	
Interval observed after challenge	
Results	Study data were evaluated by USDA-APHIS prior to product licensure and met regulatory standards for acceptance at the time of submission. No data are published because this study was submitted to USDA-APHIS prior to January 1, 2007, and APHIS only requires publication of data submitted after that date.
USDA Approval Date	15 October 1992

Study Type	Efficacy
Pertaining to	Rabies Virus
Study Purpose	To demonstrate effectiveness and 1 year duration of immunity and 3 year duration of immunity against rabies disease.
Product Administration	Cat: Subcutaneous (SC)
Study Animals	Cats
Challenge Description	
Interval observed after challenge	
Results	Study data were evaluated by USDA-APHIS prior to product licensure and met regulatory standards for acceptance at the time of submission. No data are published because this study was submitted to USDA-APHIS prior to January 1, 2007, and APHIS only requires publication of data submitted after that date.
USDA Approval Date	15 October 1992

References

1. **Government of Canada.** Rabies. [Online] 2018. [Cited: November 18, 2022.] https://www.canada.ca/en/public-health/services/diseases/rabies/causes.html.

2. **North Carolina Rabies Control Manual.** *Animal Rabies Vaccination: Certified Rabies Vaccinator (CRV) Program - Guidance for Local Health Directors.* April, 2022.

3. ***Climate Change in the North American Arctic: A One Health Perspective.*** Dudley, Joseph, et al. 2015, EcoHealth, Vol. 12, pp. 713-725.

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