Animal Welfare Aspects

Rabies Elimination Project

KwaZulu-Natal

Rabies Elimination Project KZN

Animal Welfare

Aspects of Animal Welfare to be considered during the Project:

1. Animal Handling:
    a. Control Pole
    b. Nets
    c. Leashes
    d. Muzzles
    e. Blanket
    f. Cage
2. Vaccinations:
    a. Parenteral inoculation
        i. Inoculation site
        ii. Aseptic
    b. Pole Syringes
    c. Bait Vaccine
    d. Darting
3. Euthanasia:
    a. Chemical euthanasia
    b. Shooting
    c. Trapping
4. Sterilization:
    a. Animal Handling see above
    b. Vaccinations (see above)
    c. Surgical procedures
        i. Aseptic conditions
        ii. Procedures
5. Primary Health
    a. Deworming
    b. Contraception
    c. Topical treatments

DRAFT

SOP PRIMARY HEALTH CARE CLINIC
(Canine Sterilization)

Primary health Care is borne out of the basic needs of the population to continue in health and happiness. And although this translates into avenues of Rabies control it should always be entered into in a true spirit of humanity and no other organization embraces this like the SPCA, and so the partnership is absolutely critical in the process as it not only gives merit to our efforts that all is being tackled in the best spirit of kindness to the animals.
State service should always consider the SPCA's mandate when tackling this sort of a project.

Select suitable sites

According to the SAVA sterilization clinics must be conducted in a closed solid room with a roof. Despite this following a request the SAVC they have given their support to this type of clinic even when it is conducted in the tents. Therefore this type of clinic can be conducted just about any where. Following are important:

1. Area must justify expense and so should be able to produce 100 dogs a day.
2. Community halls are ideal, and should be first option, however a flat piece a well mowed ground (not dusty) is suitable for the tent surgery(see picture above).
3. Dogs should be reasonably close to avoid long waits for dogs arriving and returning.

4. Local Authorities should buy into exercise.

Mobile Sterilization Unit Costs and Equipment

The cost below are for a mobile sterilization unit that can, be set any where in a communal area or other and conduct a five day clinic with the possibility of sterilizing 500 dogs.

Summary of Costs:

Costs/Capatal & disposables	Total	Cost per dog
Surgical Disposable	R3360-00	R6-72
Drugs	R19122.44	R38.24
Hiring Vets/ Depending on No. State Vets		R50-00
Total using State Vets		**R44-96**
Total with Pvt Vets		**R94-96**
Surgery Equipment	R30 000-00	
Equip for Superstructure	R63 500-00	
Total once off Lay out	**R93 500-00**	

Drugs and Surgical Equip for Sterilization Unit

Surgical Disposable:

Item	No.	Price	Amount needed (500)
Sterile gauze swabs	1000	R 0.16 each	160-00
Suture material		R 600.00/ catgut roll	600-00
Suture needles		R 3.00 each	120-00
Hibitane			100-00
Roller towels tidy wipe		R 150.00 each	150-00
Cotton wool		R 50.00/ roll	50-00
Micropore		R 5.00	25-00
Paper towel on stand	1	240-00	240-00
Soap dishes	4		On hand
Sharps containers	6		On hand
Gloves latex Sterile	100		200-00
Needles (size ??)	1000	R 0.50 each	On Hand
Syringes (size ??)	500	R 1.50 each	On Hand
Butterfly	500	R 3.43/ dog	1 715-00

Total			**R3360-00**
			R6-72

Drugs:

Item	No.	Price	Amount needed (500)
Ivomec	500ml	R 622.44/ 500ml	622-44
Lentrax	500ml	R 93.76/ 100ml	500-00
Phenylbut	500ml	R 1.00/ 15kg dog	500-00
Euthenase	20	R 80.39/ 100ml	Onhand
Vaccine (5 in 1)	500	R 15.00/ shot	7500-00
Thiopintone 6A		R 158.89/ 100ml	10 000-00
Adrenalin			SPCA
Total			**R19122.44**
Cost per dog			R38.24

Surgery Equipment:

Spay Cradles	4	R600-00	2400-00
Spay packs	8	1300-00	10400-00
Hair Clippers	1	1000-00	1000-00
Scissors Curved	2	50-00	100-00
Scissors Strait	2	50-00	100-00
Anisthetic machine	1	16 000-00	16 000-00
			R30 000-00

Equipment for Mobile Sterilization Clinic

Equipment marked RP or RR is already on hand from the **R**abies **P**roject or the **R**apid **R**esponse team stores.

Item	No.	Cost	Total	Availability
10 berth Dog Trailer	1	30000	30000-00	Purchase
Trailer for equipment 8ft etc Closed ???	1	8000	8000-00	Purchase
Perimeter Screens	6	300	1800-00	Purchase
Pegs	50		300-00	Purchase

Gazebos with sides	6	400	2400-00	Purchase
Dog Cages	10			On Hand
Cat cages	10			On Hand
Tables reception Normal	3			On Hand
Extra Rope				On Hand
Catch Poles for teams and clinic	8			On Hand
Lights Florecent + Stands	3		3000-00	Purchase
Tables raised for spays	4	1500	6000-00	Purchase
Ground sheets	6			On Hand
Generator	1			On Hand
Fuel container	1			On Hand
Cables 30 Metre	4			On Hand
Storage boxes large	5			On Hand
Fridge gas	1		5000-00	Purchase
Water containers	5			On Hand
Gas bottles	2			On Hand
Back pack Sprayers	1			On Hand
Washing sink	5		1000-00	Purchase
Basins			400-00	Purchase
Towels	10			On Hand
Chairs	4			On Hand
Recovery Cages	1			On Hand
Blankets dog	30		600-00	Purchase
Collars & Tags	1000		2000-00	Purchase
Leashes	20		500-00	Purchase
Muzzels	4			On Hand
Handling Gloves	4			On Hand
Rubbish bins	5		200-00	Purchase
Plastic Bags	100			RP
Scale	1		100-00	Purchase
Plastic Aprons			200-00	Purchase
Cooler boxes	4		2000-00	On Hand
Ice bricks	40			On Hand
Total			**63500-00**	

10 dog trailer for waiting dogs

1. **Reception** – This is the most important point of the operation as flow of animals is regulated, records kept, recovering animals are observed and dispatched. Requires a very competent person.

   a. Collars(pink – female/ blue – male) – Each dog received is collared with id tags attached, number is recorded against owners details. One ticket is given to owner, another is removed by vet and placed in a box with his/her name on it to record work done, and the third stays on the dog.

   b. Clean
   c. Shave
   d. Weigh
6. Receptionist (Need good communications Zulu)
   a. Receive and mark dogs
   b. Record owners information
   c. Premed
   d. Maintain flow of dogs to the clinic.
   e.
7. Advertising staff
   a. Zulu speaking members to visit schools advertise etc
   b. Rabies vaccinations requested in the field
8. Surveillance staff
   a. Population dynamics surveys to be conducted

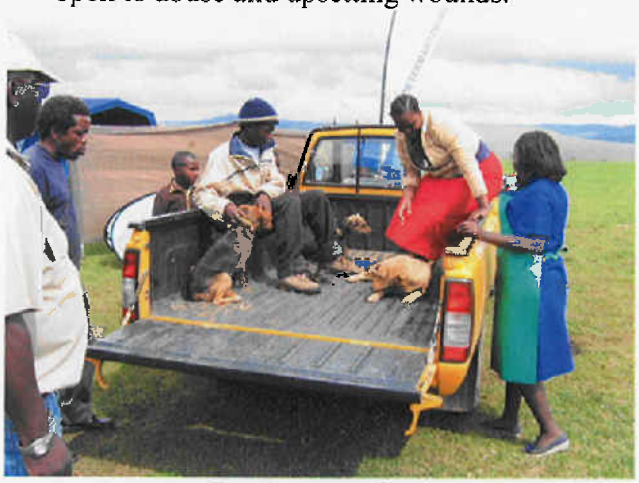
Clinic as a training opportunity: This must be approached carefully as through put is critical and there is no time for practicing, as comebacks can seriously affect sustainability of these clinics. It is essential to allow vets to brush up skills at an SPCA clinic prior to using them in field clinics.

CAMPAIGN PREPARATION

1. Select area according to need, with specific reference to Rabies outbreaks and reports of problem animals.
2. Study records of the area i.e. rabies vaccination totals previously.
3. [Send in team to do vaccination campaign, if desire to test efficacy of teams] Recent successes have shown that doing a campaign at the same time as the clinic can yield significant improvements in numbers.
4. Establish communications with the local authorities in order to get preliminary permission for the project.
5. Once obtained, locate a suitable site
   a. Flat
   b. Accessible
   c. Building would be preferable – Although state and cleanliness of roof is NB as dust falling from dirty roof could contaminate operations.
   d. Central to village if possible
   e. Person to open if locked
6. Rough estimate of number of dogs [1 dog per household – 35% could respond therefore extrapolate numbers – 3 vets in a well run clinic could do 80- 100 dogs a day]
7. Approximately R120-00 per dog after purchase of the equipment.
8. Designate one person to procure, and control drugs (see list)
9. Delegate person to check Equipment is ready and serviceable
10. Person to prepare survey:

a. Ariel Photos obtain
b. Mark of homogenous blocks and number
c. Randomly select number
d. Count house on recent AP's
e. Prepare questionnaires
f. Obtain staff
g. Train staff
h. Supervise according to survey plan
i. Collate data and analyze

11. Person to prepare Support team
    a. Advertising team (see advertising education plan)
    b. Collection and return teams are needed to assist in bring and returning dog home. Especially on the homeward trip animals are often drowsy and are open to abuse and upsetting wounds.



12. Procurements according to prescribed systems. Equipment and procurement must be checked early as often there are problems in getting all equip together.
13. Letters of invitation and notice of times and meeting points
14. Accommodation for visiting staff.
15. Security at site: This has proved a challenge in certain areas especially when children arrive to see what is going on after school. There site should be cordoned off with barriers (see below)

Practicalities:

1. Organizing an even flow of animals through the clinic is possibly the most difficult task. State Vet personnel must advertise and collect animals, but avoid swamping the clinic as this can create friction when people are turned away. OTM is the key person here and needs to take firm control of this aspect.
2. Start early and ensure many hands available to set up clinic.

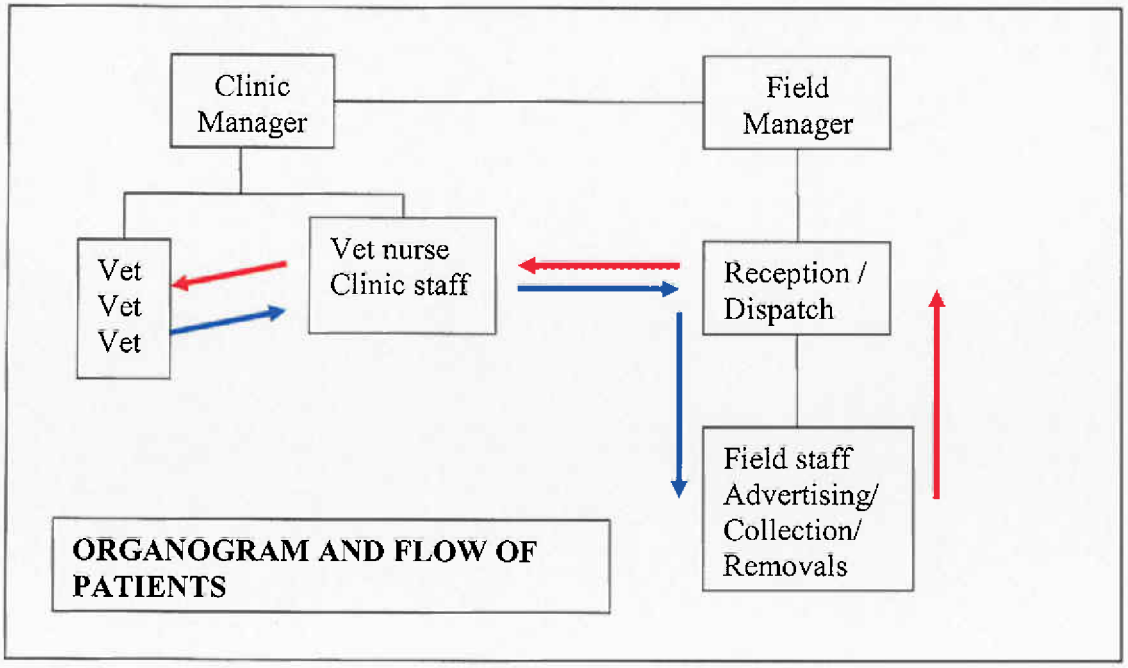
Crowd control:
This an important aspect as the public become very interested in this type of operation and can easily swamp the clinic. It is there fore important to firstly set up the clinic in a way as to restrict access.(see diagram)

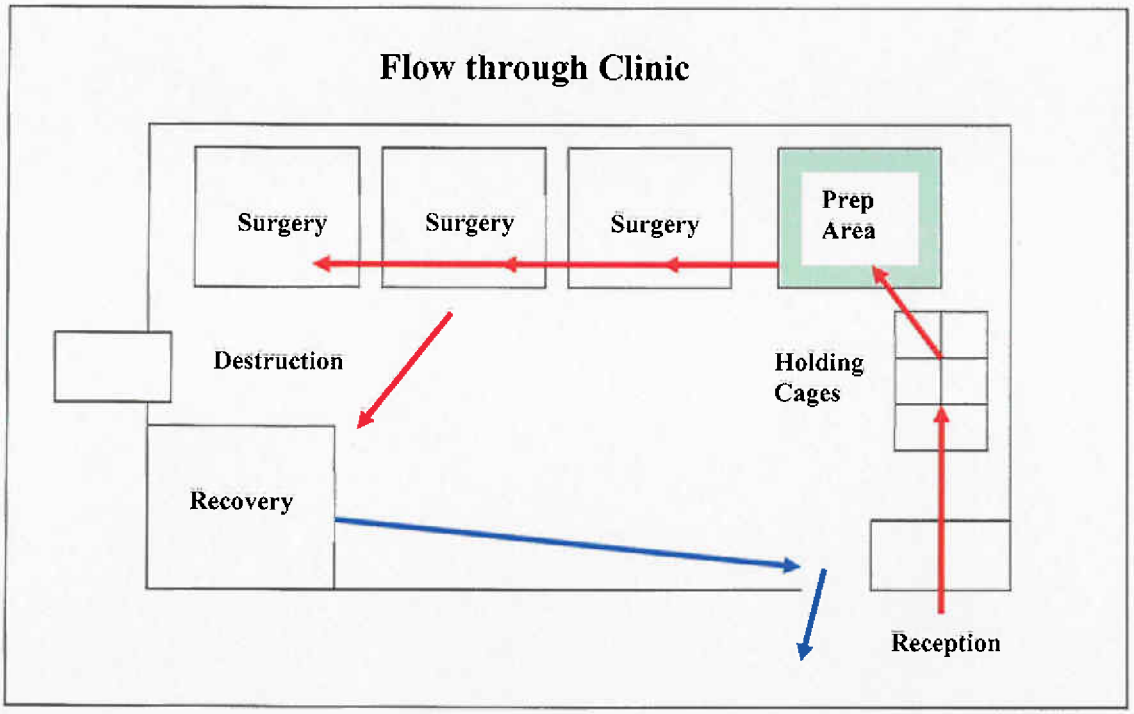
PROTOCOLS

1. Sterilization
2. Survey
3. Advertise

Annexure

1. Certificates vaccination
2. Certificates sterilization
3. Reception records
4. Survey forms
5. Poster
6. Pamphlets
7. Training manuals (Animal handling)
8. Letters of invite
9. Specs for building trailer
10. Specs for spay cradle & table
11. letters of request


Clinic Manager
Field Manager
Vet
Vet
Vet
Vet nurse
Clinic staff
Reception / Dispatch
Field staff
Advertising/
Collection/
Removals
ORGANOGRAM AND FLOW OF PATIENTS


Flow through Clinic
Surgery
Surgery
Surgery
Prep Area
Destruction
Holding Cages
Recovery
Reception

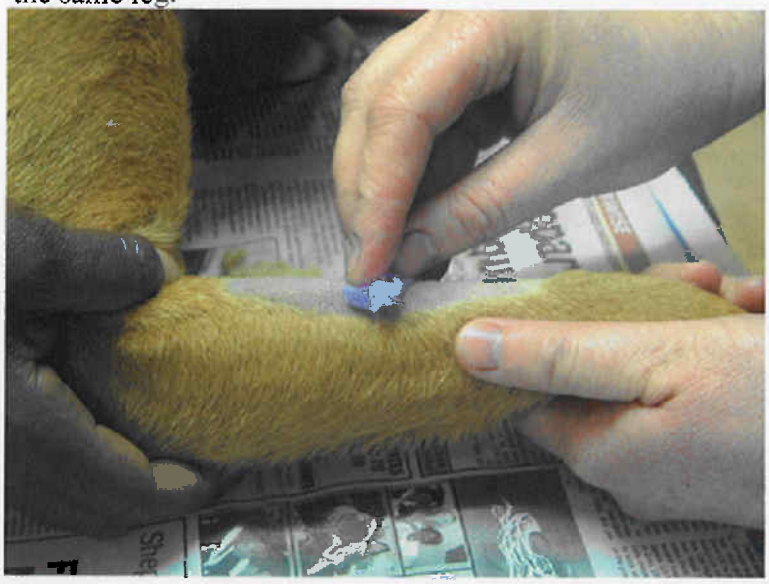
Manual for Animal Health Technician
"Euthanasia and Dog handling"

Euthanasia of dogs is an important skill that should be acquired by all AHT's as there are many situations that might require its application. Not only are there the occasions where a suspect rabid dog must be put down, but now increasingly is the need for problem dog n control. Many dogs are being presented as unwanted, sick or problem and the opportunity to remove these could be very valuable to our greater cause.

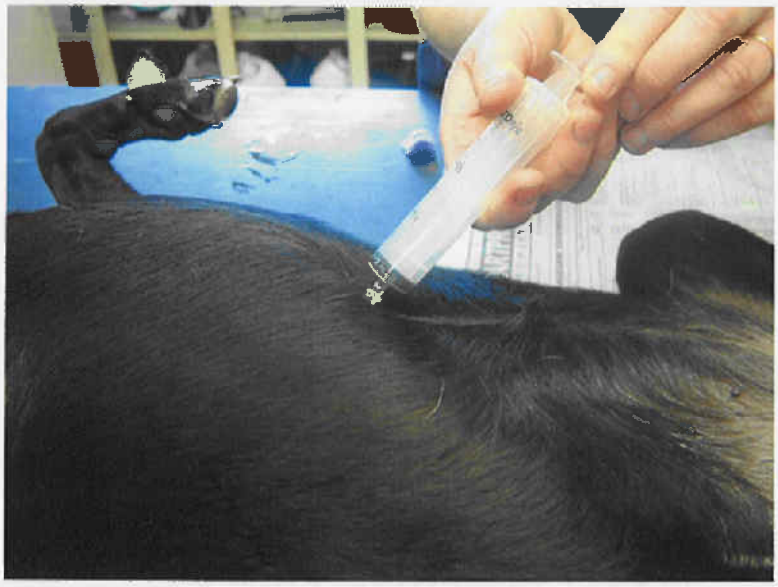
1. **Drug specifications**
    a. **Classification** – C.2.2. Sedative hypnotics.
    b. **Pharmacological action** – Sodium Pentobarbitone causes circulatory collapse, respiratory arrest and cerebral death.
    c. **Dangers** – Do not inject your self .
    d. Warnings
        i. Not for anesthetic purposes.
        ii. Non sterile (not absolutely necessary to use sterile equipment)
        iii. Carcasses of animals euthanized should not be fed to other animals.
    e. **Records** – Used by non veterinarian only under supervision of a veterinarian. Records to be kept with the drugs and all usage and quantities recorded.
    f. **Storage** – must be stored under lock and key. Store below 25 degrees. Keep out of reach of children and uniformed persons.
    g. **Dosage** – 1-2ml per kg body mass administered rapidly intravenously.
2. **Preparing vein /Administration– Once the animals has been safely and humanely restrained (see below) and the leg is presented the following procedures can be followed:**

    a. **Shave** – (the dorsal area of the Siphalic vein) area can be prepared by removing hair from the area of the this can be done best by a pair of curved scissors and the better the area is prepared the better the view of the vein(this is however dependant on the control of the animals and the proficiency of the Technician.)

b. **Block blood** - Correct restriction of the flow of blood to raise the vein ensure a clear view (see handling animals) this can either be achieve by applying pressure with a thumb or by stretching an elastic band around the leg (Tourniquet) that can be held in place by pair of artery forceps or by an assistant. This preparation is critical and can also be stimulated by lightly patting the area which can stimulate the vein. If available applying some methalated spirits or surgical spirits to the areas can enhance visibility of the vein. It may happen that you blow the vein on a arm this will normally be seen as a bulge of euthanase form when you start administering. Immediately stop and try the other leg or try higher up on the same leg.

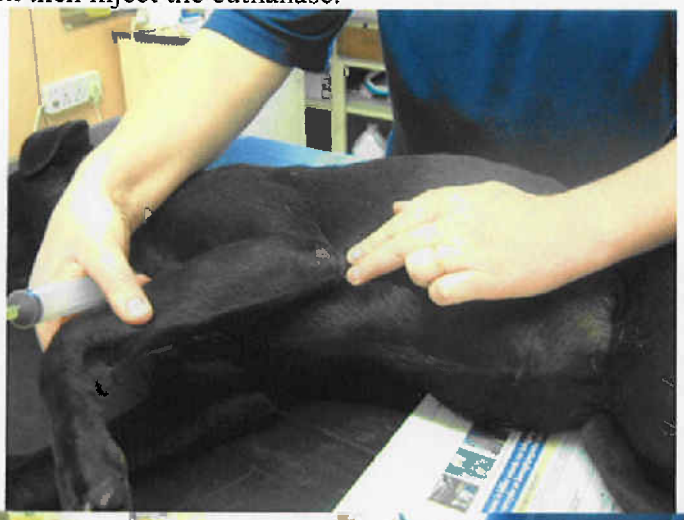


iii. ***Intra Hepatic*** – Euthanase is injected into the liver, absorption rate is faster than IP but requires anatomical knowledge. Dog should be turned on its back (therefore the difficulty and seldom use of this)and the needle inserted as in picture, just be hid the ribs and in a cranial direction.



iv. ***Intra Cardiac*** – (see below) Very effective and quick method, although can be painful and is frowned upon in veterinary circles. It should be avoided but can be a useful tool in special circumstances i.e. recumbent dogs where a vein cannot be found, or animals that have been sedated with an IP injection or where there are no other options. Firstly draw back the leg as in first

picture to where it meets the rib cage. Release the leg and maintain the site. Insert the needle and draw back on the plunger until blood is seen then inject the euthanase.



d. Equipment

i. Forceps
ii. Elastic
iii. Needle type (21gauge 1inch is the most versatile)
iv. Syringe size (10-20ml)
v. Sharps disposal (safety)
vi. Methatlated spirits in a bottle.(optional)
vii. Lockable box
viii. Plastic bags
ix. Catch pole

x. Muzzles
xi. Leashes
xii. Cages

3. **Handling of the animals** – Possibly the most important aspect during euthanasia is the handling of the patient. Situations vary greatly and although not all situations can be dealt with in the scope of this manual, the following will serve as basic guidelines. It must also be understood that an animal that is about to be euthanased has rights and must be treated with dignity and in a humane manner.
    a. Normal conditions (Placid or sick animal no danger to handler)
        i. How to hold dog – It is sometimes preferable to have the owners present as the animals will trust person, and in theses cases the owners can simply be instructed on how to holds the animal, this is however not common as people prefer not to be present. Firstly the people working with the dog should be calm and reassure the animal. One should work deliberately but not in a rushed panicky way as the dog will sense it. Dogs should be held firmly but not suffocated.

        ii. How to check if the dog is dead – Optic Reflex; touch eye, if the eye reacts – pulse or check with stethoscope.

b. Aggressive dog – Could use catch pole or leash to restrain the dog
    i. Muzzle – Stand behind the dog keep movements slow as not to stress the dog. Try keep the dog calm all the time.
    ii. Muzzle with leash see pictures – Leashes can be very useful as a muzzle but must be used correctly. Leash is firstly tied around the neck, the long end is then wrapped around the muzzle and back around the neck where it is held in place, and the dog is effectively muzzled. Caution must be taken and practice need to perfect this technique. The dog in most cases can then be euthanased or sedated effectively
        1. How (see pictures below)
        2. Equip (proper muzzle or leash)

iii. Eutha IV

c. Very aggressive dog - cannot be muzzled. These dogs generally have to be handled with a catch pole and sometimes two. In most cases normal euthanasia is impossible as the dog is to active and aggressive. In these case an alternative method such as IP or IH injection is advocated to either calm or kill the dog.

i. Catch poles
    1. How to operate (see attached instruction manual)
    2. How to maintain (see attached instruction manual)
ii. IP dose to calm dog – what is the dose??? Is it to kill or sedate.
iii. Other sedatives (ACP)

d. Carcass disposal
    i. Once dogs have been euthanased, carcasses should be placed in a strong plastic bag or container of sorts. This is firstly to prevent mess, as often there is a release of bodily fluids. Secondly it is best to keep the carcasses out of sight of members of the public esp. children and sensitive people.
    ii. Cleanliness – AHT's should be equipped with disinfectant soaps and water in order to clean up afterward as many of these dogs are in poor state and could harbor hazardous pathogens.
    iii. Incineration – Arrangements should be made before hand to have an incineration facility available for the disposal of the carcasses. This can be an expensive exercise up to R120-00 per dog.

iv. Humane sensitive behavior toward dead – Animals and their owners must be respected and the dead no matter what or where they come from must be treated with dignity and respect.

4. Humane aspects of Euthanasia
    a. Why do we do this – In the name of rabies control and rendering an essential service to the community.
    b. When to euthanase – Very sick animals / unwanted animals that do not have a chance to find a new home./ Potential problem animal/possible rabies/
    c. Other options
    d.
5. Practical
    a. SPCA to help with lectures and practical's
    b. Dr Angus Pringle(evaluator foe SAVC) for questions if there are any he will have!
    c. Smallish groups
    d. SPCA will give lecture on welfare aspects.

INNOCULATION TECHNIQUES FOR DOGS/CATS

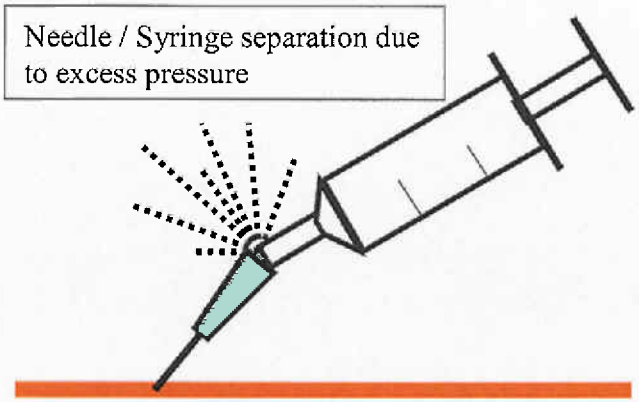
Introduction
The correct introduction of a vaccine into an animal's body is a key component in the control of a disease like Rabies. This topic is often neglected or never probably taught. What follows is a simple guideline of the correct methods of injecting a vaccine into animal most importantly the domestic dog but also the cat.

Equipment
Having the correct equipment could mean a lot in terms of time and quality. The following basic requirements and practical hints are important.

Syringes:
It is often found in the State Vet profession that multiple animals are inoculated with the same syringe and only needles changed between dogs, which saves costs.

1. A 2-3ml syringe is sufficient for the job, practical tips are:
    a. Must fit the hand comfortably
    b. Should be good quality as poor quality not only can leak past the plunger but have a very limited life as a good syringe could be used for many inoculations.
    c. A needle locking tip is useful and can prevent embarrassing blow back (see picture)
    d. Poor quality syringes also lose their markings quickly and accuracy suffers.
2. Sterility is important and syringes whose packets are wet or broken should not be used.

Needles:
1. It is generally accepted that a 21 gauge needle is the correct size for a dog, this could however vary according to personal preference. Thinner needles increase the pressure and so time needed to expel the vaccine into the dog, this is generally not an issue until a massed campaign is undertaken where speed is important and at this point a thinner needles can slow things and often lead to blow back(where pressure exerted on the plunger exceeds the speed at which the vaccine passes through the needle thus the needle and syringes separate and you get a blow back or blow up and the vaccine sprays out...see below)
    a. This can also be caused by intradermal placement of the needle instead of subcut,
    b. Long needles also increase pressure.
    c. Needles not secured properly, can be avoided by securing the needle properly, injecting slower or using a thicker OR SHORTER needle.



2. The best length of vaccinating dogs under campaign situations is a short 16mm needle, this length often removes many of the problems experienced by inexperienced vaccinators ie. Blow Back.
3. Obviously the ideal is one sterile needle per dog, however in practice this seldom happens on a large massed campaign, due to time constraints etc. It is however recognized that other disease can spread this way and so caution is always advised. The following methods can be deployed and are left to the relevant supervisors of such campaign.
    a. Stericaps – A stericap is simply a cap that fits on top of the vaccine container and the needle inserted through the cap that contains a special sterilizing media that both removes dirt and sterilizes the needle as it pass through. One stericap can be used for approximately 200 dogs and can considerably reduce the number of needles required. They are not cheap or easy to come by but are an excellent alternative.
    b. Using one needle per house hold group, considering that the major viral disease that dogs contract will possibly have circulated amongst the dogs of a household vaccinating them all with the same needle should not greatly increasing the chance of spread amongst these dogs.
    c. 5-10 dogs per needle especially if they all come from the same small area.

Restraint of Dogs

Restraint of the patient is a very important, but often neglected topic in terms of training of technicians. The following tips could be helpful:

1. **Small Dogs:**
    a. It is seldom possible to find a raised surface on which to put the dogs for vaccinations in a rural campaign and bending down has its draw backs as the dog could have traction on the ground which will allow it to move. The best is for the owner to pick the dog up for vaccination(see below). Dog is secure and cannot turn and bite the vaccinator.

Best method of restraining a small dog

1. Dog feels safe in owners arms
2. Dog is secure
3. Neck exposed.
4. Cannot turn and bite vaccinator.
5. No traction so movement is limited.

2. Large Dogs:

Restraint of large Dogs

1. Not ideal but common
2. Can work with calm dogs
3. Often dogs react to being touched by someone they cannot see

Straddling the Dog

1. Used in problem dogs
2. Not that successful as dog often feels trapped and fights.
3. Vacc sight can be obscured by persons leg.

Using a leash as a muzzle

1. Leash should be a standard item for all people working with dogs, as the animals can be caught restrained and rendered secure if used properly.
2. Leash 1st placed around neck as per normal.
3. Wrap around muzzle once or twice, while holding with other hand at neck.
4. Bring back around the back of neck and hold.

Control Poles

1. Very useful tool which in the right hands can produce more dogs as well as safely vaccinating unruly dogs.
2. Needs to be used correctly as can be harmful to the dog. (Training necessary)

Restraining Large dogs

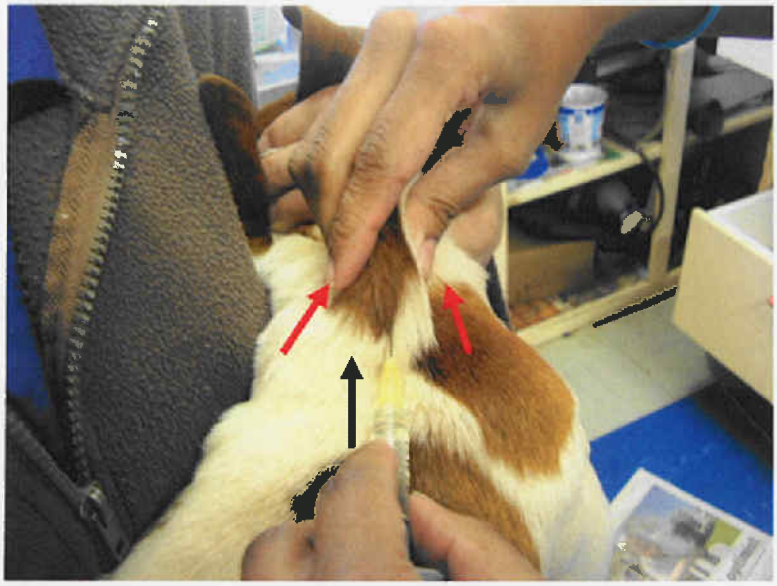
1. Dog should be made to feel secure.
2. Pull dog against body.
3. Hold head firmly but not restrictively.
4. Neck is exposed.
5. Dog mostly unaware of vaccinator.
6. Dog cannot turn and bite.

Restraining a Cat

1. ***Very, Very, Very, NB !!!!***
2. Cats often scratch owners before reaching the vaccination point, and then in turn can easily scratch the vaccinator, which becomes a potential disease threat to the vaccinator (HIV) care must be taken!!!
3. Cats can be notoriously difficult to handle.
4. Pillow case (or the likes) works well if the cat is placed in the bag which allows for easy restraint without harm to the cat. (Do not vaccinate through the bag.)
5. This method is the only way to handle cats!!
    a. Scruff (firm grip)
    b. Hold back legs for complete immobilization, and support.

Injecting the dog

The skin needs to be held in preparation for penetration of the needle, and although this will depend on the individual preferences of the vaccinator, the following might be helpful:



Correct Method

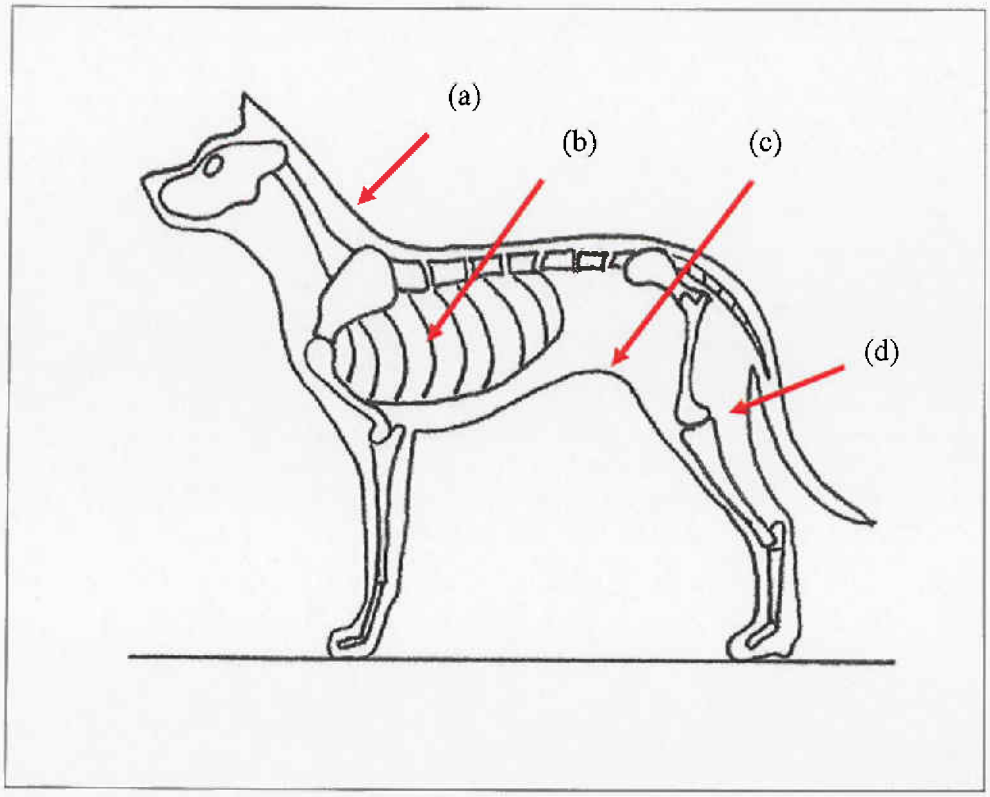
1. Lift skin on neck
2. Inject as shown parallel to the skin fold.

There are different opinions on the exact area where the vaccine must be placed on the neck, whether it should be along the midline above the vertebra or to the left or right, generally it is accepted doing it to either side of the mid line.

Incorrect Method

1. If the needle is inserted at right angles to the skin fold it is easy to push the needle through both sides.

Injection Sites



a) Neck – This area is the recommended site as the skin is loose and easy to lift. The site is well supplied by blood vessels and one should draw back on plunger to check that the vaccine is not introduced IV.
b) Ribs – This is often the most convenient and safest area in the campaign scenario.
c) Skin flap on the flank – This is an alternative site due to the loose skin.
d) Hind leg – Common site for an intra muscular injection – Commonly used as a "JAB" sight which can be very valuable for problem dogs. Dangers are the Ishiatic nerve, and leg bones which can be damaged during injection – Recommendations are the use of a short needle and by experienced injectors only.

Cold Chain

Another neglected subject is the subject of the cold chain, in the field technicians often work in difficult conditions, and opening and closing cooler boxes rapidly increases the temperature inside the box. These effects need to be limited, the following tips can be useful:

1. Good quality Cooler boxes maintain temperatures better– Polystyrene or good quality foam fill plastic boxes, are the best.
2. Ice brick quality can also affect the maintenance of temperature.

3. Freezer quality and freezing temperature is important, and should be -20 for overnight freezing.
4. Restrict number of times the cooler box is opened and closed, by:
    a. Have one box for bulk storage and one for small quantities.
    b. Vaccine can be kept out of a box for short periods while in use, as it is common for it to be used at body temp, as long as it is not exposed to direct sunlight.
5. Keep a supply of ice bricks separate to supplement melting bricks through the day.