Canine Catch-Neuter-Return (CNR) Good Practice Guides

Planning a Catch Neuter Return programme

Learning Outcomes:
1. Discuss the planning considerations for improving dog welfare during CNR
2. Evaluate the methods of dog identification and why identification is required

The main aim of catch neuter return (CNR) is to better control the population of dogs, to reduce their number and create a healthier population. A lot of planning is required to ensure the funding for the project is spent appropriately and that the focus remains on both the number of dogs neutered each day and on the individual dog's welfare experience.

1. Selecting which dogs to be neutered

There are different groups of dogs which can be targeted for CNR, for example females only, males only, both males and females, or puppies. There must be a prior understanding of dog density, reproductive rate, migration rate, and the available resources and funding, in order to plan which groups of dogs to target to ensure the rate of neutering is equal to or higher than the rate of reproduction and the resources are used effectively.

Females:

- Females generally reach sexual maturity around 6-12 months of age although it is usually later for large breeds. The oestrus cycle lasts between 2-4 weeks and a bitch comes into season usually every 6 months. However, a study in Jaipur found that Indian street dogs only cycle once per year. Females in season will exhibit a swollen vulva, small amounts of bloody vaginal discharge, along with signs of frequent urination and restlessness.
- Risk of pyometra if unneutered, which is when there is an infection in the uterus. It often occurs about 7 weeks after the bitch's season if not mated. Pyometra is more common in older bitches. It will either be 'open', where bloody discharge or pus can be seen coming from the vulva, or 'closed', where the pus remains in the uterus. Pyometra is a life-threatening condition during which animals often become very ill and must be treated quickly and monitored very closely to prevent septicaemia, uterine rupture and death. The only effective treatment is to perform ovariohysterectomy surgery to neuter the bitch. Pyometra is 100% preventable by neutering reproductively active females early.
- Neutered females are better able to maintain body condition on a limited food source as they are not supporting pregnancy or lactation. Body condition score is used as a welfare indicator, meaning neutering could improve welfare in female dogs.
- Lactating females often have increased aggression to other dogs and the public. Neutering could therefore have a positive impact on the dogs by reducing dog fight injuries and reducing the risk of dog bites to the public.

Males:

- Increased dog-dog aggression between entire males when there are fewer reproductively active females in the area which can lead to injuries in the males and potentially increase the risk of dog bites to the public. If there are fewer entire males through neutering then there will be less competition between males, thereby improving dog welfare through reduced injuries caused by dog fights and potentially reducing the risk of dog bites to the public.

Both reproductively active Females and Males:

- Risk of transmissible venereal tumours (TVT). These occur in male and female dogs as a result of mating with a dog which already has a tumour. The tumour often looks like a red cauliflower in the vagina or around the penis. These tumours can become infected, may

bleed, and can become full of maggots, which is painful and could be life-threatening to the dog. The only treatment option is chemotherapy injections, which must be handled with extreme care by staff, and given every 3-4weeks to manage the cancer. Surgery to remove the tumours will not prevent recurrence of the tumours. Reducing the risk of these tumours will improve dog welfare.

Puppies:

- It is widely accepted that neutering of puppies within a CNR programme is generally safe from approximately 16 weeks of age or around 2-3kg of bodyweight.
- Puppies are easier to catch, smaller to transport and house and will require less resources peri-operatively, for example, lower drug volumes.
- Neutered prior to becoming reproductively active, so efficiency is maximised.
- Increased risk of hypoglycaemia and hypothermia during neuter surgery, due to their higher metabolic rate compared to adults and higher surface area to volume ratio from which to lose heat.
- Evidence shows that neutering male and female dogs before one year of age has shown an increased risk of debilitating joint disorders, such as hip dysplasia, and some cancers, such as lymphoma.
- Evidence shows that neutering young males reduces their exposure to gonadal hormones which can result in increased risk of fearful and aggressive behaviours in the adult dog.
- If resources are limited and all the dogs cannot be neutered, then targeting reproductively active females and puppies is the most efficient strategy to reduce the rate of reproduction within an area. Less reproductively active females in heat will also reduce the number of entire males migrating into new areas to mate.

2. Vaccination and parasite treatment

Incorporating vaccinations, namely rabies and DHPPi(L), although potentially expensive, will have a positive impact on the welfare of the dog being vaccinated as well as on the public, livestock and wildlife. As well as vaccination, medication and treatment of skin parasites and gastrointestinal parasites should be administered to the dogs during this time.

3. Standard operating protocols (SOP)

The use of written standard operating procedures or protocols can be very helpful to train staff and for all staff to refer to so that there is consistency and support in what to do in any situation that may arise. For example, protocols on how to handle and catch dogs, or how to administer medications. These SOPs can enable consistent staff training on all aspects of the CNR process including dog behaviour and handling and this will positively impact on individual dog welfare and staff safety.

4. First-aid

Consider whether the CNR clinic is capable of providing first-aid to the street dogs. Should injured dogs be caught? There needs to be a written protocol on what first-aid veterinary treatment the clinic is able to provide to the dogs, depending on the aims and funding of the CNR project. It might be that the CNR clinic and staff are able to provide some emergency first-aid to a dog but unable to provide continued treatment in a kennel environment. For example, medication and treatment of wounds and transmissible venereal tumours (TVT). A partnership with a local veterinary hospital may be required in order to refer the injured dogs for veterinary care beyond the capabilities of the CNR clinic.

5. Euthanasia

There are differences in cultural and religious beliefs regarding euthanasia, and euthanasia often presents ethical and moral issues for veterinarians and other CNR staff. But if performed correctly it is quick, painless and humane. If the CNR clinic is unable to provide good welfare to an individual dog and the dog is suffering from physical, behavioural and/or psychological problems or will unavoidably suffer if no action is taken, then there should be a euthanasia protocol for all veterinary staff to refer to. It is recommended to also have a suspected rabid dog protocol for veterinary staff to use in the clinic and when out catching dogs, with clear instructions about isolating these dogs and euthanasia in order to ensure staff safety at all times. The International Companion Animal Coalition has developed guidance on this, called 'The welfare basis for euthanasia of dogs and cats and policy development'. This guidance should be used to aid the development of a euthanasia policy in a CNR programme.

6. Pregnant females

Canine pregnancy typically lasts for 63 days (60-70) with an average litter size of 4-8 puppies. The puppies are totally dependent on their mother for warmth, protection, and milk. They are born with their eyes and ear canals closed, which will normally open after 5-14 days. The mother will feed the puppies with her own milk exclusively until they are able to start trying soft foods at around 4-6 weeks of age. Pet dog puppies will usually be fully weaned and ready to go to new homes by around 8 weeks of age, but free roaming puppies will stay with their mothers for much longer, trying to feed off her for as long as she will tolerate.

Effective CNR programmes will often operate continually year-round if the weather permits, which means pregnant females are likely to be caught. There may be personal, cultural or religious beliefs which may divide staff as to whether or not the clinic should spay a female when pregnant and euthanise the foetuses. A protocol must be created which is agreed by the staff as to whether pregnant females are to be neutered, and if so how to humanely euthanise the foetuses following the neuter surgery.

7. Dog identification

All dogs must be identifiable in some way prior to being returned to the community so that the public know if the dog has been rabies vaccinated and so that the dog does not experience unnecessary stress or harm at being caught again by the CNR staff or by other organisations neutering dogs in the area. Dogs should be marked when adequately anaesthetised after neuter surgery, not before in case a surgery is unsuccessful for any reason. An ear tip or notch, a tattoo, microchip, ear-tag or collar can be used. Collars should be selected carefully to ensure that young dogs have space for growth.

Notching must be clear to avoid confusion between ear injuries and ear notching (left ear in photo).

8. Public education

We have already discussed in previous sections that dog population management must be comprehensive and include public education. This must also be considered when planning CNR to explain why the CNR project is required and what it does as well as teaching about dog welfare and responsible pet ownership. This can be done by giving talks in schools, talking to the communities while surveying or catching, and also handing out leaflets. As well as the written or verbal education, all CNR staff should lead by example, demonstrating safe and compassionate handling of dogs where

it is safe to do so when out in the community. The CNR programme will not be successful if it does not have the support and understanding of the community.

9. Record keeping

Keeping records of the data collected from the surveying and questionnaires is crucial, but also each dog should have a patient record. Ideally patient records should contain information on dog identification number, weight, age, sex, catch location, dog behaviour and handling.

Any health concerns for example, wounds or TVT (as shown in the photo), should also be included.

Drug dosages and times of administration, any preparation complications such as shaving injuries, anaesthetic monitoring such as heart rate and respiratory rate and temperature, surgical notes such as pregnancy, pyometra, bleeding, and post-operative wound and pain assessment, also need to be recorded This document will be updated daily and remain with the dog until it is returned to the streets. These patient records can then be used to evaluate mortality or injury rates and to check if the written protocols are working effectively.

Checklist:

- ✓ Promote good dog welfare by incorporating vaccinations, parasite treatment, wound care and other medical conditions such as TVT
- ✓ Must have a euthanasia protocol
- ✓ Incorporate public education throughout the CNR process
- ✓ All dogs must be identifiable with an ear tip, ear notch, tattoo, microchip, ear-tag or collar
- ✓ Prepare standard operating procedures/protocols to train and support staff
- ✓ Record keeping is crucial – record as much information as possible

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