

## **Animal Research Review Panel**

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**Guideline 14, 1 March 1999**

# **Guidelines for the Care and Housing of Dogs in Scientific Institutions**

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## 1. Introduction

These guidelines are designed for everyone involved in the holding and care of dogs in scientific institutions. The guidelines are neither a complete manual on dog husbandry, nor a static document. They will be revised to take account of advances in the understanding of dog physiology and behaviour, technological changes, and changes in community attitudes and expectations about the welfare of animals.

There is a wide range in types of project protocols regarding these animals. For example, some major differences are:

1. The *use* of the animals, eg., recovery, or non-recovery surgery, evaluation of veterinary pharmaceuticals, purpose breeding etc.
2. The *length of time* the animals are kept, eg., from 14 days to the life of the animal.
3. The *numbers of animals housed*, ie., in groups or singly.
4. The *source* of the animals.

This wide range presents a dilemma in that a set of criteria may be appropriate for one protocol but not another. Nevertheless, these guidelines should provide an indication as to what conditions represent best practice, particularly for those who wish to work with dogs but need more experience in their care and housing.

The guidelines are based on a set of principles and concepts regarding the care and husbandry of dogs, which are stated in the document. In certain instances, minimum dimensions of the animal's living space are also provided. However, the dimensions are meant to be used in conjunction with the principles involved. If a minimum dimension in a certain protocol does not satisfy the requirement of a principle, then the dimension should be changed to meet the requirement.

**These guidelines must be used in conjunction with the National Health and Medical Research Council (NHMRC) policy: *The Care of Dogs Used for Scientific Purposes***

The following documents should also be referred to for additional information:

*Laboratory Animal Management: DOGS*

A publication of the National Research Council. 1994.

Published by: National Academy Press

ISBN: 0-309-04744-7

*The Domestic Dog: its Evolution, Behaviour and Interactions with People*

Edited by James A Serpell

Published by Cambridge University Press. 1995.

ISBN: 0-521-41529-2          hardback

0-521-42537-9          paperback

*The Home Office Codes of Practice.* Available at the UK Home Office Website  
[www.homeoffice.gov.uk/hcasp.htm](http://www.homeoffice.gov.uk/hcasp.htm)

*There are also a number of useful resources that may assist the reader in gaining a practical understanding of dog behaviour. These are listed at the end of this document.*

## **2. Responsibilities of the investigator**

- 2.1 The person in charge of the project (a project is a series of related studies or teaching activities that form a discrete piece of work) is defined in this document as the investigator.
- 2.2 The investigator has direct and ultimate responsibility for all matters related to the welfare of the animals under his/her control which includes their care, use and fate.
- 2.3 The investigator should ensure that the extent of personnel / staff supervision is compatible with the level of competence of each person and the responsibilities they are given.

## **3. Aspects of dog behaviour relevant to housing and husbandry**

### **3.1 Housing and behaviour**

There are several aspects of dog behaviour that must be taken into account in the care and housing of dogs. They are:

- 3.1.1 Dogs are social animals and are better housed in groups than individually<sup>1,2,3</sup>. Social isolation can be a severe stressor for dogs. If dogs are to be individually housed for a project, the animals should be given extra human interaction, care, attention and play activities, apart from normal husbandry procedures. Group interaction for individually housed dogs should occur whenever possible, by pairing dogs during play times or during lead walks.
- 3.1.2 The temperament of some dogs makes them unsuitable for housing, either singly or in groups. Careful observation of the dogs is necessary to identify those that should be excluded from a project.
- 3.1.3 Dogs housed in groups form a social structure<sup>4</sup>. Staff need to be experienced in animal behaviour and need to be able to understand and monitor this structure and make changes to the composition and size of the group as required (See Serpell 1995). The number of animals that can be kept in any group will depend upon age, sex, breed, reproductive status, prior socialisation, sibling relationships, facilities and capability of staff to manage the group.

3.1.4 Human socialising, apart from normal husbandry practices is extremely important for most dogs<sup>5</sup>. It is also essential in accustoming them to human handling procedures in experimental studies. Dogs that actively avoid or reject human socialisation should not be used.

## 3.2 Housing and social interaction

The design and construction of housing provided for dogs can significantly interfere with their normal social interactions. For example, eye contact between dogs can trigger agonistic (aggressive) behaviour. If the dog experiences difficulties in coping with the kennelling condition, he or she may show various behavioural abnormalities such as: excessive barking<sup>6</sup>, loss of appetite, withdrawal, displaced aggression and attack behaviour. Therefore, strategies to avoid these problems must be included in the design and construction of the facilities. The facilities must provide the dogs with opportunities for behavioural choice.

- Enclosures should provide privacy by the use of a semi-enclosed area or kennel. Kennels also meet the den needs of some animals. Kennels with flat tops also serve an extra function in providing a high viewing platform.
- The positioning of enclosures and the placement of dogs in them should be considered. For example, dominant dogs are best housed at the end of a row of enclosures rather than in the centre.
- There are distinct differences in behavioural interactions between purpose bred and random sourced animals. For example, purpose bred dogs have well developed social structures and may benefit from olfactory and tactile contact with other dogs through the use of mesh walls. Random sourced dogs that have not previously been together are more likely to require sight barriers that allow avoidance of direct contact with dogs in other enclosures.

## 4. Housing design

### 4.1 Principles

The design and management of the housing facility must meet the behavioural and physiological needs of dogs and be based on principles detailed in section 4 of the *Australian Code of Practice for the Care and Use of Animals Used for Scientific Purposes. 1997*. In particular, aspects of dog behaviour detailed in clause 3.1 of these guidelines must underpin the operation of the facility.

In all cases the design and management of any housing system for dogs should:

- Provide protection from extreme outside elements such as wind, cold, rain and solar radiation.
- Allow for adequate drainage and air movement such that interior surfaces are dry for a substantial part of the 24 hour cycle.

- Allow for above ground sunning areas in protocols which have the animals housed in outside or indoor / outdoor conditions.
- Provide as much environmental enrichment as possible such as chewing objects or balls, views of activities beyond the kennels sights and smells.
- Allow for contact and socialisation with other animals and people.
- Allow for a private semi-enclosed space.
- Allow for hygienic cleaning procedures.
- Allow for above ground sleeping arrangements and bedding.
- Allow for the daily provision of adequate food and water.
- Allow for exercise.

## 4.2 Definitions

**Enclosure:** A designated area which includes space for sleeping and eating, such as a pen. Enclosures may be entirely indoors or a combination of indoor and outdoor facilities. Where appropriate, these are dealt with separately in these guidelines.

**Kennel:** The equivalent to a domestic or backyard kennel, situated inside a permanent enclosure or pen with above ground sleeping arrangements and bed.

**Run:** An exercise yard separate to the enclosure.

**Cage:** A mesh or solid walled compartment within a building, designed for the temporary housing and restraint of dogs immediately prior to, or after, medical or surgical interventions.

## 4.3 Location

4.3.1 The housing site must have an adequate water supply and should be seweraged or be on a council approved waste disposal system.

4.3.2 The housing site should be located away from sources of excessive noise or pollution that could cause injury or stress to the animals.

4.3.3 The housing site should be located so as to prevent the possibility of noise affecting neighbouring premises.

## 4.4 Orientation

### **Indoor /outdoor enclosures**

It is preferable to have the front of the enclosures facing north in order to provide maximum sunshine in winter, yet avoid exposure to maximum sunshine in summer. Direct east and west orientation should be avoided.

## Indoor enclosures

Consideration can be given to the enclosure having a north facing wall. This can provide a warm wall in winter, which assists with overall temperature control.

### 4.5 Enclosure dimensions

**Principle:** The dimensions of the enclosure alone will not ensure that the dogs' behavioural and physiological needs are met, nor promote their well-being. Within the dogs' living space the opportunities for human socialisation, exercise, refuge (privacy), environmental enrichment and interaction with other dogs will significantly influence the well-being of the animals.

#### 4.5.1 Factors influencing kennel dimensions

The dimensions of any kennel are dependent upon a number of inter-related factors. These are:

1. The length of time an animal is held.
2. The nature of the project protocol.
3. The size of the animal.
4. The temperament of the animal.
5. The degree of exercising the animal receives outside the kennel.
6. Whether an animal is single-housed or group-housed.
7. The type of bed used in the kennel.

#### 4.5.2 Short-term accommodation

Cages or crates are unsuitable for the long term housing of dogs but may be used as short term overnight accommodation, to facilitate medical treatment or recovery from surgery. The size of the cage provided for a dog must not adversely affect its physiological and behavioural well-being, and must provide an adequate area for the animal to stretch out and a clean, dry, resting area. As a guide, for dogs held overnight or in immediate post-operative periods, the recommendations of the Canadian Council on Animal Care can be used for minimum cage sizes.

**They are:**

<12 kg single housed:	1.0 square metre floor area
12-30 kg single housed:	1.20 square metres floor area
> 30 kg single housed:	2.23 square metres floor area

From: *Guide to the Care and Use of Experimental Animals*. Canadian Council on Animal Welfare. 1993.

### 4.5.3 Long-term accommodation

If dogs are to be housed in an enclosure for longer periods, the following floor areas are recommended. Note that these dimensions are recommended only if animals also receive access to outside runs and/or daily exercise. See sections 6 and 9.3 for further information.

Space is not the only criterion determining the adequacy of the living area. The space must offer the opportunity for behavioural choice and inclusion of enrichment devices.

<5 kg:	4.5 square metres for an individual or pair. If more than 2 dogs are housed together, add 1 square metre for each extra dog.
5 - 10 kg	4.5 square metres for an individual or pair. If more than 2 dogs are housed together, add 1.9 square metres for each extra dog.
10 - 25 kg	4.5 square metres for an individual or pair. If more than 2 dogs are housed together, add 2.25 square metres for each extra dog.
25 - 35 kg	6.5 square metres for an individual or pair. If more than 2 dogs are housed together, add 3.25 square metres for each extra dog.
>35 kg	8.0 square metres for an individual or pair. If more than 2 dogs are housed together, add 4.0 square metres for each extra dog.

The height of these enclosures should be sufficient to allow the dogs to stand on their hind legs without touching the roof.

From: *Code of Practice for the Housing and Care of Animals used in Scientific Procedures. Her Majesty's Stationery Office: London, 1989.*

## 5. Enclosure construction

### 5.1 Floor and drainage

- 5.1.1 Floors need to be easily cleaned and yet provide a stable footing for the animals.
- 5.1.2 The floors can drain either to a common outlet or to individual drains. In those circumstances where cross contamination is a particular

problem, individual drainage is recommended to minimise contact with potentially infectious material. Drainage should be away from the sleeping area.

5.1.3 All drainage outlets must be “p” trapped or equivalent to prevent sewerage odours.

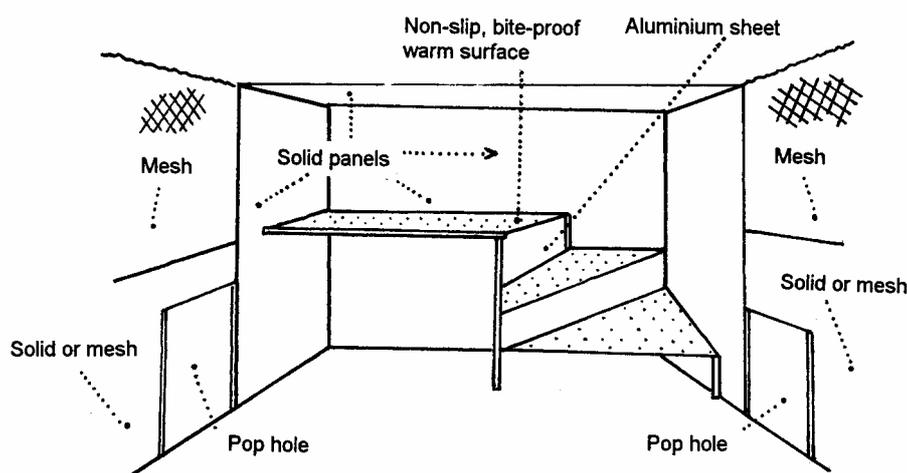
5.1.4 Heating should be provided where necessary to enhance the animals’ comfort.

## 5.2 Enclosure Frame

The frame of the enclosure must be constructed from materials which meet normal building specifications, but can be cleaned and disinfected adequately.

5.2.1 Enclosed sections: indoor/outdoor enclosures only.

**Principle:** This section of the pen is a refuge or sleeping area. It should protect the animals from weather extremes and provide a degree of privacy from outside stimuli. This section can represent approximately one quarter to one third of the pen. It should have solid walls and ceiling. It should provide a partial visual screen from the open end of the pen. Beds should be provided in the sheltered area or within the kennels if they are used. The construction material should meet the requirements for cleaning, disinfection, noise absorption and climatic conditions.



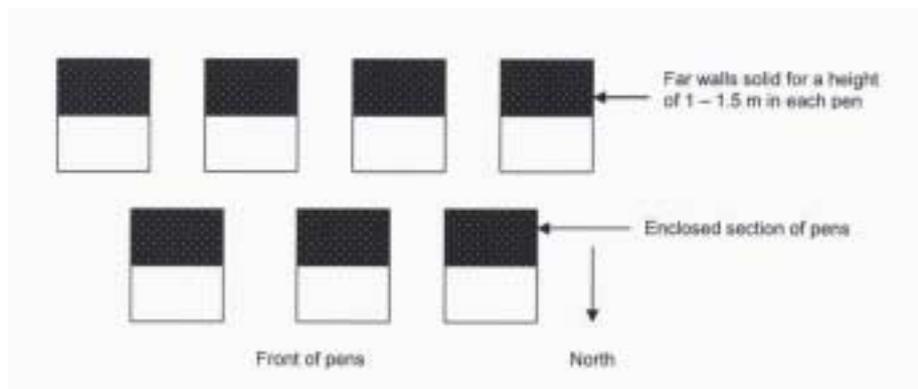
A design for laboratory dog housing incorporating a high platform accessible by steps (after Serpell, 1995).

## 5.3 Walls, front and ceiling: indoor/outdoor enclosures only

5.3.1 The walls and ceiling of the remainder of the pen should be constructed with respect to weather conditions and the breed of dog. For example,

short coated animals in a cold location would require solid walls, whereas thick coated, long haired animals in hot locations would benefit from mesh walls. The pens should provide adequate ventilation, shade and sunshine.

- 5.3.2 The enclosures should offer a view of the outside environment yet care should be taken regarding the front or open end of the kennel directly facing the front of other kennels due to the potential for aggressive interaction between dogs.



#### 5.4 Enclosure Doors

Enclosure doors should be secure, lockable and unable to be opened by animals.

#### 5.5 Common walls: indoor/outdoor enclosures only

If the housing is constructed as a set of pens with common walls between them, then the use of chain mesh as a wall material can cause problems with dogs fighting through the mesh. A solid partition rising 1 metre from the base of the chain mesh common walls can mitigate this. This arrangement still allows the dogs in adjacent pens to have tactile contact, but to a lesser degree.

#### 5.6 Sunning areas: indoor/outdoor enclosures only

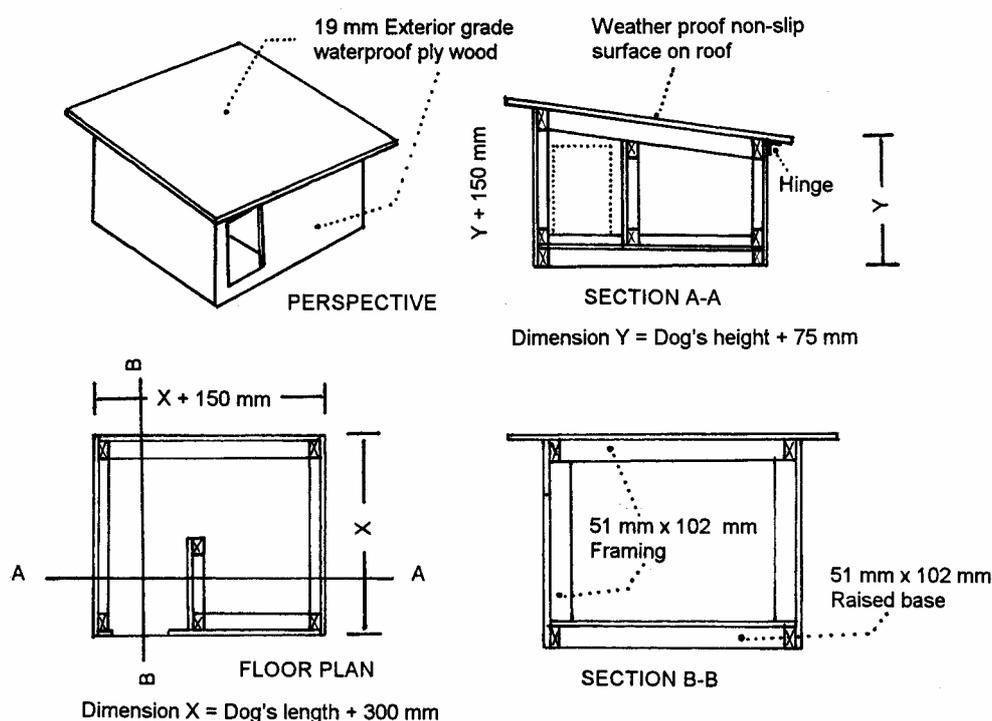
- 5.6.1 Part of the perimeter of one wall should be provided with an above ground sunning platform. The width of the platform is dependent upon the size of the animals. The height above ground should be such that a subordinate dog cannot be trapped underneath by a dominant animal, yet allow for cleaning and disinfecting.
- 5.6.2 The platform should be constructed from material which can be cleaned and disinfected adequately. Materials which cause damage to an animal's coat are to be avoided.

## 5.7 Kennels: indoor/outdoor enclosures

**Principle:** Kennels can provide privacy and escape for subordinate individuals from dominant ones. If the semi-enclosed rear of the pens does not fulfil this function then the provision of kennels should be considered.

5.7.1 The underside of the kennel should be solid floored to provide a comfortable surface to lie on but must be of a material which can be adequately cleaned and disinfected.

5.7.2 The size of the kennel is dependent upon the size of the animals. For example:



Design reproduced with kind permission of the Humane Society of the United States.

Individual kennels can be placed along the perimeter of the rear section of the pen. The tops of the kennels may be flat and continuous, to form a communal sleeping bench in cold weather. It should be recognised that some dominant dogs might view a kennel as a resource worth guarding and so prevent access by subordinate dogs. Careful observation and matching of compatible animals in group situations should be undertaken to prevent this. There must be enough kennels available to provide a refuge for subordinate animals. Ideally, the aim is to design an environment in which the most nervous dog in the group can live without being unduly stressed.

## 5.8 Sleeping areas: indoor/outdoor enclosures

Sleeping areas should be above the floor. The area should be warm and dry. Loose sleeping material that can be moved by dogs should not be used (dogs have been reported to fight over loose bedding). Rough or abrasive materials which cause damage to the dog's coat should not be used.

Designs that have been used successfully are:

1. Hessian sacks sprung on steel frames. The sacks are disposable and replaced regularly.
2. Commercial dog trampolines.
3. Hardwood benches set on steel frames or flap down bed boards.  
However, dogs must be checked regularly for development of pressure sores which indicate that additional padding is needed.

## 6. Housing: exercise pen

Regular exercise allows for dogs to increase their range of behaviours and in particular, to use their sense of smell. Dogs housed in groups should be exercised in those groups.

### 6.1 Size and wall construction

The orientation and size of the exercise run are dependent upon the same factors mentioned in sections 4.4 and 4.5, respectively. One other factor is the degree of human input into the exercise regime. The run should be big enough to allow for trotting and running. A rectangular shape provides better opportunity for running than a square design. One design has an area of 30 metres by 40 metres for 6 foxhounds. The area is enclosed by a Cyclone mesh fence 2 metres in height.

Some dogs will attempt to tunnel under walls. Therefore measures should be taken to prevent this, eg., laying a concrete apron at the base of the walls, or extending the walls some distance into the ground. Also, some dogs will climb over high fences. Dogs should be monitored on entry to identify "fence climbers". These dogs should not be used in research projects.

### 6.2 Substrate

The substrate of the exercise yard can vary according to the climate conditions and the needs of the project. Grass and gravel may be unsuitable when wet seasonal conditions prevail. If dogs are given access to grass, attention must be given to careful management to effectively control parasitism. Animals that are required to be free from internal and external parasites are best kept off grass and run on concrete. Dogs that are to be kept for extended periods on concrete need access to different surfaces. Controlled access should be given by means of lead walks.

### 6.3 Enrichment devices

Enrichment devices or activities must be practical and provide an observable benefit for the dogs. The aim is to provide the dogs with an opportunity to express a range of normal behaviours and experience sights, sounds, smells and tastes so as to minimise the development of inappropriate behaviours and create an environment which meets their behavioural and physiological needs.

Dogs will make extensive use of toys or chews and provision of such objects can reduce destructive behaviour. Dogs may need to be taught to use these devices. Devices which could be used include swimming facilities, digging pits, ramps, clean chemical barrels opened up and stabilised, boxes and solid plastic exercise balls, rawhide chews, kongs and other fetch toys, suspended toys, bones and ropes. All of these have been found to be successful in stimulating the activity of the animals whilst in the exercise yard. Teaching dogs to retrieve and having them work for treats are also important sources of enrichment. Enrichment devices should be changed regularly and a variety should be provided to maintain novelty and complexity. There should be more toys available than there are dogs. Ideally the items should be packed away at the end of the play period, to be reintroduced the next day to maintain interest.

## 7. Housing: isolation area

An isolation kennel separate from any project treatment areas should be available for animals suspected of having contracted an infectious disease. This facility should provide adequate warmth, cooling, lighting and privacy. Isolated animals require extra care and attention. The design should be such that the entire facility can be cleaned and disinfected.

If there is a requirement for dogs to be housed in Genetic Manipulation Advisory Committee (GMAC) designated physical containment facilities (PC2 to PC4), these dogs should be maintained under conditions that meet the spirit of these guidelines and should be rotated whenever possible into semi-enclosed housing with exercise yards.

## 8. Housing environment for dogs and puppies

### 8.1 Climate control

Temperature and humidity should be managed so that an environment is provided which maintains the dogs in their thermo-neutral comfort zone. For adult animals this will be in the range of 15 to 30 °C

8.1.1 The planting of deciduous shade trees near the kennels facilitates maximum sunshine in winter and provides shade in summer. Additional shading of outside pens, by the use of shade cloth for example, is also desirable.

8.1.2 In hot weather the installation of water sprinklers on the roof can aid in reducing high temperatures and fans can enhance air movement and

facilitate evaporative cooling. High humidity should be avoided as it increases discomfort associated with high temperature. High humidity can result from the use of large amounts of water during cleaning and adequate ventilation is essential to counteract this.

- 8.1.3 Air conditioning is recommended for indoor enclosures. Indoor facilities must be adequately ventilated to maintain an appropriate range of temperature and humidity, to minimise dampness and odours and ensure the comfort of the dogs<sup>7</sup>. For dogs housed indoors a temperature range of 18 to 29 °C should be maintained.

## 8.2 Lighting

- 8.2.1 Adequate lighting is required in order to facilitate thorough examinations of the animals and for performing the project.
- 8.2.2 If the pens are placed in an open location then natural lighting may be adequate. Skylights in ceilings can improve natural lighting. However, supplementary lighting may be required such as fluorescent lighting that should be reduced to provide darkness in sleeping areas at night.

## 8.3 Noise / vibration

Excessive, chronic barking can result in noise levels that have been reported as stressful to humans and possibly stressful to dogs<sup>8</sup>. Therefore the kennel design should incorporate features including sound absorption, appropriate to the numbers of dogs housed, privacy and the degree of outside stimuli leading to barking. Providing background radio music is a useful strategy for reducing the stressful effects of sudden loud noises.

## 8.4 Whelping area

If breeding is to be a part of the project then a separate whelping area is required. This can be a separate kennel that is provided with whelping boxes. There are a number of suitable designs available for these<sup>9</sup>. The principles are that the bitch should be provided with privacy and security, but be accessible for observation and veterinary intervention if needed. Newborn puppies do not thermo-regulate and therefore require additional warmth (heating lamp or pad), bedding and protection from draughts. Shredded paper or sawdust as a bedding material is useful for puppies that are not toilet trained.

## 9. Husbandry

### 9.1 Drinking and feeding

- 9.1.1 Early feeding is preferable so the animals can be observed for any possible gastric dilation or bloat during the day. Provision of a variety of alternative foods including bones on a regular basis adds to environmental enrichment. An excess of resources must be provided over the number of dogs. Protection of resources and fighting are likely to occur where dogs perceive a shortage.
- 9.1.2 If dogs are fed from bowls, then each dog should have its own bowl. Staff should be aware of the hierarchical structure in group housed dogs and reinforce this to avoid fighting. Individual stainless steel food bowls are preferable as they are easier to clean and sterilise.
- 9.1.3 Automatic drinkers have an advantage over water bowls in that they do not spill onto the pen surface. They should be positioned at such a height that they are not easily fouled, and cannot be used as baths. Staff should ensure that newly arrived dogs are taught to use the drinkers. Correct operation of the drinkers should be checked daily.

### 9.2 Cleaning

- 9.2.1 Waste must be removed daily.
- 9.2.2 Enclosures must be cleaned daily and disinfected once a week. Dogs should be removed during hosing out and kennels should be allowed to dry before they are returned. Disinfection should also occur before new dogs or puppies are introduced and after an outbreak of infectious disease.
- 9.2.3 Manufacturers instructions should be followed with cleaning products. Disinfectants that are active against parvovirus should be used when this disease occurs or is suspected.
- 9.2.4 Enclosures should be dried with the use of a mop or a squeegee after cleaning, if necessary. Disinfectants should be allowed to dry on the treated surfaces.

### 9.3 Exercising, contact with humans apart from normal husbandry procedures

- Principle:** Human socialising with dogs (apart from normal husbandry practices) is an extremely important feature of their existence. Institutions must recognise that this is an important part of the work of animal carers and must allow time for these interactions

to occur. If an institution cannot provide this interaction then it should not consider holding dogs on its establishment.

- 9.3.1 Staff training is crucial. Staff should be proficient in basic handling techniques. Care staff should know how to approach the dog steadily and quietly make confident contact. They should frequently reward the dog by petting and talking quietly to him/her. The staff's demeanour while with the animals should always be calm confident and quiet. The aim is to establish a bond of trust with the dog so the handling is a positive rather than a negative experience for all involved.
- 9.3.2 The ideal time for social interaction is during the exercise period. This period should be either in the morning or afternoon (preferably both) because dogs are active during these periods and tend to sleep through the middle of the day. The minimum exercise period should be 30 minutes for healthy dogs. There should be scope for alternative forms of interaction with dogs that are sick or in a post-operative recovery period.
- 9.3.3 Group-housed dogs should be exercised as a group. An experienced handler should monitor dogs during exercise so that they can intervene quickly if fighting occurs. Different groups of dogs should not be allowed to mix. Except in breeding colonies, males and females should not usually be grouped together unless they are de-sexed. Pairing of de-sexed males and females for exercise is the combination least likely to generate challenges between animals.
- 9.3.4 If dogs are not actively exercised by a human the normal sequence of events is for the dogs to investigate the exercise area for a few minutes and then lie down. Therefore it is important to get them to participate in chasing balls, etc. It seems as if an element of leadership is required to get them into adequate exercise routines.

Social interaction of this kind, including games, is vital for the mental health of the dogs involved. When dogs are purpose bred it is important to devote additional time to human socialisation and training of puppies during the key socialisation periods<sup>10,11</sup>. This should involve puppies being handled from birth and more frequently at 6 to 10 weeks and lead training at 10 to 14 weeks. It is important to select breeding bitches that allow puppies to be handled.

- 9.3.5 The period in the exercise yard can also be a good time for each animal to be individually groomed. This practice has two valuable functions; it conditions the animal to human handling, a desirable situation if the animals are handled in the project, and it enables a daily examination of the condition and health status of the animal ie, new wounds, cuts, flea infestations, reaction to experimental treatment, self-mutilation and pressure sores etc. The mental well being of the animal also appears to

be enhanced by this practice. Grooming time should be additional to exercise time.

#### 9.4 Movement of animals from existing groups

- 9.4.1 Animals showing frequent aggression or those that are regularly attacked should be removed and transferred to a group that may be more compatible. Subordinate animals should be observed for signs of distress. Aggressive dogs should be excluded from breeding programs.
- 9.4.2 Animals which are being introduced to the facility should be quarantined and screened thoroughly for presence of infectious, parasitic or other diseases, pregnancy or stage of seasonal cycle and temperament before being introduced.
- 9.4.3 Puppies bred in the facility should be placed in groups that are based on size with similar sized pups grouped together or with older dogs of suitable temperament.
- 9.4.4 Time is needed to acclimatise the animals to a group. It is best to introduce 1 dog at a time to the group on neutral territory and observe the interactions for several days before bringing in the next dog. A separate communal exercise area is ideal for introductions.

#### 9.5 Health management

An effective protocol should be developed for management of the health of animals in the facility, including:

- Arrangements for quarantine and veterinary examination of introduced dogs
- Vaccination program
- Internal parasite control program
- External parasite control program
- First aid
- Arrangements for veterinary treatment of illnesses or injuries

### 10. Monitoring dog behaviour

- 10.1 It is important to have staff trained in recognising dog behavioural cues, health problems and social needs. Misinterpretation of certain behaviours can lead to an animal's welfare being compromised (some brief introductory information on canine behaviour is presented in section 11 ).

Staff need to become familiar with individual dogs and their habits. Notes on these should be kept to assist new staff.

Tail wagging is an ambiguous cue. It can indicate that the animal is happy, but it is also associated at times with submission or aggression. For example, a dog wagging its tail as it comes up to a staff member can be suffering from stress and wagging its tail in a submissive manner. Misinterpretation of this cue can have consequences in terms of early identification and treatment of the cause of the animal's reduced welfare.

- 10.2 Staff associated with the housing of dogs in research institutions should attempt to improve their understanding of dog behaviour by attending courses and familiarising themselves with texts on dog behaviour, eg. "The Domestic Dog" edited by James Serpell, referenced on page 2. Assistance may also be sought from a qualified animal behaviourist.
- 10.3 The understanding of the social structure of group-housed dogs is extremely important. Groups of dogs adopt a ranked structure which minimises hostility in dog to dog interactions. Staff need to be aware that the structure changes with intrinsic and extrinsic factors. Close supervision and monitoring of the dogs can facilitate this understanding. It is important for staff to be able to identify the dominant animal and treat it accordingly. Although the middle of the hierarchy can be transient and dynamic, there appears to always be an animal at the very bottom of the hierarchy. Special treatment of this dog can at times result in dominant animals becoming competitive and administering retribution.
- 10.4 Constant physiological and behavioural monitoring of the animals is required while they are under any project process such as bleeding, biopsy, surgery, sample collection, etc.
- 10.5 It is useful to monitor aggression at feeding time when aggressive behaviour is commonly exhibited.

## **11. Signs of pain and distress**

The following notes on canine behaviour are provided as a brief introduction to this subject.

Dogs in pain generally appear quieter and less alert with stiff body movements and an unwillingness to move. In severe pain the dog may lie still or adopt an abnormal posture to minimise its discomfort. In less severe states it may appear restless and the immediate response to acute, but low intensity pain may be an increased alertness. There may be inappetence and shivering and increased respirations with panting. Vocalisation is likely; the dog may whimper, howl or bark, especially if unattended, and may growl without apparent provocation.

A dog may bite or scratch at painful regions. It may be abnormally apprehensive or aggressive toward people or other dogs when approached or handled.

From: *Guidelines to the Recognition and Assessment of Pain in Animals*

## **12. Record keeping**

### **12.1 Pen Labels**

Pens should have labels attached to them that provide the following information:

- Dog identification
- Name, location and contact numbers of researcher
- Name, location and contact numbers of staff associated with housing and care of the animals
- Protocol numbers
- Age (Date of birth)
- Date of entry to pen

The label should be held in a protective cover that is resistant to water.

The above details plus the following should also be kept in a separate permanent record that can be easily accessed and updated:

### **12.2 Husbandry Records**

Husbandry records for each individual dog should be made and should include the following:

- Detailed description including any distinguishing marks, photograph, tag number and microchip code.
- Daily husbandry comments regarding appearances of lesions, behavioural changes (withdrawn, increased fighting behaviour, etc).
- Daily health record (May be based on a Checklist)
- Weight record
- Previous treatments - for gastrointestinal worms, heartworm and external parasites (fleas and ticks), vaccinations
- Treatment instructions
- Feeding instructions
- Results of checks by a veterinarian
- Results of physical examinations
- Breeding details if applicable
- Bleeding details if applicable, eg., bleeding intervals, locations (eg. jugular vein), and amount taken
- Results of post mortems.

## **13. Fate of animals**

### 13.1 Culling of animals

The decision regarding the culling of dogs from research trials or experimental breeding colonies should be made on the basis of consultation with a veterinary surgeon and include consideration of factors such as suitability to rehoming, the effects and results of the project protocol, age and general debilitation. Some signs of the latter are the loss of teeth, development of arthritis and chronic non-responsive ear infections, pressure sores, non-healing wounds, loss of appetite, weight loss, withdrawn behaviour.

### 13.2 Keeping animals

The termination of a project requires a decision as to whether the animals should be kept, re-homed or euthanased. If the dogs are to be kept, there must be a commitment to support them for life.

### 13.3 Re-homing of animals

If it is intended that the dogs are to be re-homed then, from the outset, attention to their management and handling must be directed towards socialisation and acquisition of non-threatening life experiences.

A number of steps must be taken to ensure that the potential stress of the transition is not too harmful. The new owner may make contact with the animal before the end of the trial and exercise the dog in a street environment before it is relocated. House training, socialising, de-sexing and microchipping may be required. Non-coercive obedience training may be used as a means by which communication between the new owner and the dog may begin.

Re-homing may be done by advertising directly to the public, staff or students or through an animal welfare organisation with financial support provided to assist it to re-home the dog. Re-homing is the preferable option, but requires a significant commitment on the part of prospective new owners, who need to be fully aware of the issues involved.

### 13.4 Euthanasia

Euthanasia should only be considered if the impact of the experimental protocol prevents the animal being returned to a normal life, or if the dog cannot be satisfactorily socialised.

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Staff of the Sydney office of the Animal Welfare Unit may be contacted to provide assistance in obtaining copies of the journal references listed above.

Telephone 02 92649533  
Fax 02 92649632  
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## Some enrichment devices enjoyed by dogs

- Rawhide chews of various shapes and sizes.
- Nylabones, Nylarings, Plaque attackers and Gummabones.
- Kong toys of various sizes (can be stuffed with a mixture of water and canned dog food and then frozen in summer or sealed with peanut butter in winter).
- Balls: tennis balls, boomer balls, basket balls, rubber balls, fly balls.
- Fetch toys of various shapes.
- Jump boards.
- Carpets or Borg fleeces.
- Suspended tyres.
- Clean chemical barrels cut at each end and stabilised.
- Dog biscuits, rawhide chips, pigs ears, bones.
- Rubber mats.
- “Pupsicles” made from bouillon frozen in dog bowls.
- Ramps.
- Suspended bones, Booda bones.
- Frisbees.
- Rope for tugging tied to door or wall of enclosure.
- Paid or volunteer dog walkers.