

Guidelines for Housing Multiple Species of Large Laboratory Animals

I. General

Animals should not be housed with or near another species of animal that might compromise the health or welfare of either species.

The *Guide for the Care and Use of Laboratory Animals* states "Physical separation of animals by species is recommended to prevent interspecies disease transmission and

- eliminate anxiety and possible physiologic and
- behavioral changes due to interspecies conflict."

Animals must have an appropriate level of separation during quarantine/conditioning periods. The following recommendations refer to quarantined or conditioned animals which are considered free of transmissible diseases, unless otherwise specified.

II. Carnivores

Dogs

Dogs should be housed in separate wings of a building from other species or in quarters designed to provide visual and auditory separation from other species.

Dogs should be transported separately from other species because of the disturbance created by their barking. Ideally, compartmentalized areas should be provided for dogs held in close proximity by necessity during short term restraint, e.g., pre- and post-surgical holding. Interspecies conflict in these situations should be minimized by the use of physical barriers, chemical restraint, visual separation, assignment of different species to different locations, etc.

Cats

Cats should be housed in separate rooms from all other species except ferrets. These two species have been found to do well in the same room provided a visual barrier is present to decrease possible anxiety.

Cats can be transported with compatible species i.e., ferrets, equidae and ruminants as long as they are held in a compartmentalized area where a physical barrier is present to prevent direct contact or contact with body fluids or wastes. Cats should not be transported with dogs. Requirements for cats in during short term restraint are the same as for dogs.

Ferrets - The policy for housing and transporting ferrets is similar to that for cats.

III. Farm Animals

Background

Historically, different species of farm animals have been housed in the same pastures and in the same barn but usually in separate pens. Goats are frequently used as companion animals for horses, burros are housed with sheep to keep out predators, and it has been shown that pastures are more efficiently utilized when sheep and cattle are together. A precedent has therefore been established for housing different species together. Facilities for housing farm animals used in biomedical research range from farm-type operations to laboratory animal facilities. Separation of species varies according to the

facility. The following is from the *Guide for the Care and Use of Agricultural Animals in Agricultural Research and Teaching* and applies to the use of farm animals in biomedical research; "Animals should ordinarily be separated into different pens according to species to reduce anxiety due to interspecies conflict and to meet experimental and instructional requirements". It is recommended that mixing of different species of farm animals used in biomedical research be kept to a minimum.

Guidelines

The housing of swine in the same pen with any other species is not acceptable. In a farm-type operation, swine may be housed in pens or pastures adjacent to other species. Measures should be taken to reduce nose-to-nose interspecies contact by use of a double fence or solid wall separation.

All domesticated ungulates except pigs may be housed in the same pasture.

All domesticated ungulates may be housed in adjacent indoor/outdoor pens provided animals are free of transmissible disease. The same applies to box stalls.

When pigs and other ungulates are housed in adjacent kennels, solid physical barriers such as concrete or block construction should separate them.

Farm animals should not be housed in runs next to dogs. Dogs and farm animals should be separated by a solid physical barrier, in order to achieve, visual segregation, and to reduce the passage of sounds, odors, potential infections, and to minimize anxiety/excitement in either species.

Poultry should be housed in an area separate from all other animals.

Cats must be housed separately from sheep and prevented from having direct contact with them. A physical barrier is necessary to prevent contact with body fluids and waste.

Farm animals undergoing quarantine must be separated from animals of the same or different species that are not in quarantine to prevent disease transmission until health status is known.

When possible, farm animals should be housed with a companion of the same species.

Different species of farm animals may be shipped in the same truck, but must be in separate shipping containers.

IV. Nonhuman Primates

General

Primates should be housed in separate rooms from non-primate species (rodents, carnivores, farm animals, etc.).

Prosimians, simians, and apes should be housed separately by group.

New World primates should be housed separately from Old World primates.

The tables below indicate those primates which can and cannot be housed together for disease transmission considerations.

It is recommended that when animals of different species are mixed in the same room, they be clustered to provide conspecific visualization for behavioral considerations.

Short Term Holding (one to ten days)

For short term housing or restraint and pre- and post-surgical areas and in transportation, it is necessary to separate primates from non-primate species and to maintain separation of primates by genus as required for disease prevention (see attached tables).

Isolator caging, moveable barriers, separate holding areas in corridors, and air flow patterns can be utilized on a temporary basis to prevent disease transmission during short term restraint and pre- and post surgery areas.

Tables – NHP Housing Comparison, from: Bennett, T.; Abee, C; Henrickson R. Nonhuman Primates in Biomedical Research. Academic Press, 1995.

V. Exceptions

Any exceptions to these recommendations must be reviewed and approved by the appropriate Institute/Center Animal Care and Use Committee.

Animals of different species may be housed in proximity or in the same room for short term holding (1 to 10 days) if specialized containment or isolation equipment is utilized or if practices and procedures provide adequate segregation. Housing multiple species in one room for the purpose of post-op monitoring, medical care and emergency treatment can occur at the discretion of the IC veterinarian and Institute policies. The administration of care in this circumstance is based on current standards of best veterinary practice taking account species specific behavior, and infectious disease control.

VI. References

Guide for the Care and Use of Agricultural Animals in Agricultural Research and Teaching, Federation of Animal Science Societies, 2009

Guide for the Care and Use of Laboratory Animals, NRC, 1996.

NIH Transportation Guidelines, 2010.

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NHP HOUSING COMPARISON TABLE

New World	Aotus spp	Ateles spp	Callicebus spp	Callithrix spp	Cebuella spp	Cebus spp	Lagothrix spp	Saguinus spp	Saimiri spp
Aotus spp	+	o		o		o	o	o	o
Ateles spp	o	+		o				o	o
Callicebus spp			+						+
Callithrix spp	o	o		+		o	o	+	o
Cebuella spp					+				
Cebus spp	o			o		+		o	o +
Lagothrix spp	o			o			+		o
Saguinus spp	o	o		+		o	o	+	o
Saimiri spp*	o	o	+	o		o +	o	o	+

⊕ - Safe to house together in the same room.

o - Do not house together in the same room.

Blanks - There is not enough information available. It is recommended not housing together unless other information can be found showing safety in housing together.

**Saimiri spp* can be housed with *Callicebus spp*, but it may not be safe to house *Callicebus spp* with *Cebus spp*. These three species should not be housed together in the same room.

Old World	Asian macaques	Chlorocebus aethiops	Erythrocebus patas	Papio spp
Asian Macaques	+	o	o	o
Chlorocebus aethiops	o	+	/	o +
Erythrocebus patas	o	/	+	/
Papio spp	o	o +	/	+

⊕ - Safe to house in the same room.

o - Do not house in the same room.

/ - *Erythrocebus patas* may carry SHF virus, *Papio spp* and *Cercopithecus spp* may develop mild disease from SHF virus or may also become carriers.