



Supplementary resources for members of local ethical review processes

Guinea pigs: Good practice for housing and care



Research Animals Department, RSPCA
3rd edition - April 2011



Before using these guidance notes, please read the introductory sheet that accompanies this series:
Supplementary resources for lay members: an introduction

Natural history

Wild guinea pigs or cavies, *Cavia sp.* are herbivorous rodents found throughout South America in a range of habitats including grasslands, swamps, rocky areas and forest fringes. They are highly social animals living in small family 'harem' groups of one male and one or a few females with their unweaned offspring. They actively seek physical contact with each other and frequently call to one another. Aggression is uncommon, although males will fight for access to females in oestrus.

The territory of guinea pigs in the wild can cover 1,500 square metres and they mark these - and one another - with urine and scents from sebaceous glands. They are a prey species, so are easily alarmed and when distressed can freeze for anything up to 30 minutes or, if startled, may leap and run wildly around.

The typical habitat contains an area of dense, high vegetation for cover which they tunnel through and hide in, and a more open foraging area. They do not burrow, although they often use burrows created by other animals.

What guinea pigs need

The following list of requirements has been defined by researching the literature on guinea pig behaviour and welfare. More information on guinea pig welfare, housing and care can be found in the references listed at the end of this document.

- **Social housing**

The guinea pig is a social animal and should never be housed singly without compelling veterinary or scientific justification. Animals can be kept in mixed sex pairs, harem groups or single sex groups depending on whether breeding is required. Female groups can be quite large, but males are best kept in pairs after they reach 3 to 4 months of age, when they become more aggressive to each other. They will become highly aggressive if they can smell a female in oestrus, so groups of males should be housed so that they cannot smell females.

Groups should be kept as stable as possible and provided with a sufficient number of refuges or hiding places to enable individuals to get away from each other and to reduce the risk of aggressive encounters.

If there is genuine scientific justification for single housing, the animals should always be able to see, hear and smell other animals of the same sex.





- **Plenty of space**

There should be enough space to provide enrichment and to permit a range of behaviours, including exercise, foraging, and appropriate social behaviour. Space allowances set out in regulatory guidelines, such as the UK Home Office Codes of Practice, are the *minimum* standards required by law - these can and should be improved upon. Ideally, guinea pigs should be housed in large floor pens, with plenty of enrichment. Juvenile animals are especially playful and need lots of space. A height of around 30cm should be sufficient to allow young animals to perform their 'frisky hop' play behaviour [see 1].

If cages are really unavoidable the largest possible size should be purchased and each guinea pig allowed plenty of space within it. Shared exercise areas can also be provided for cage-housed animals and can easily be constructed from a spare pen or a rigid, plastic children's paddling pool. Cages with entirely solid, opaque sides should be avoided as the animals cannot see out and are more likely to be startled when staff approach.

- **Solid floor with appropriate litter material**

Guinea pigs should always be housed on solid floors with a good depth of litter. Grid floors should not be used as they do not allow litter to be provided and can also lead to the development of pressure sores and pododermatitis (a foot infection known as bumblefoot). The best litter is dry, dust-free, absorbent wood shavings supplemented with hay to allow animals to tunnel and hide - wood wool is also good for hiding in and guinea pigs will rush into it when startled if enough is provided. If there is a genuine scientific justification for housing on grid floors, a solid resting area should be provided - this could be a refuge with a solid floor.

- **Something to gnaw**

Guinea pig incisor teeth grow continually so they should be provided with something to gnaw, such as wooden chew blocks or sticks, to wear the teeth down.

- **Dietary enrichment and the ability to forage**

Standard laboratory diets are bland and boring, so dietary enrichment such as meadow hay, forage mix, fruit and vegetables should be provided. Sliced cucumber is a particular favourite and cabbage and kale are good sources of vitamin C. Forage mix can be scattered within the substrate to encourage foraging, as can chew sticks and hard food pellets, which will encourage gnawing and help to occupy the animals.

- **Protected refuge areas**

Guinea pigs are particularly susceptible to stress when startled and it is good practice to minimise disturbance, for example by maintaining a quiet environment and ensuring that there are plenty of refuges to run to. Guinea pigs feel vulnerable in unprotected open spaces and like to stay in contact with solid surfaces (thigmotaxis). In the laboratory, PVC tubing, rectangular cardboard boxes or commercially available 'houses' are used to provide a refuge for resting alongside, hiding, sleeping and giving birth. Refuges can also help to relieve stress and anxiety and reduce any aggression when groups





are first formed. However, when using tubing, make sure sections are not too long - if more than two animals can enter, then the one in the middle may become asphyxiated.

- **Cleaning protocols that do not cause too much disturbance**

Cage cleaning is stressful for some rodents, and may also be a stressor for guinea pigs. It is important to give them the benefit of the doubt and strike a balance between cleaning often enough to ensure good health, hygiene and habituation to human handling, yet not so often that the animals are caused excessive stress and disturbance.

- **Gentle, firm and empathetic handling**

The guinea pig should quickly become accustomed to gentle but firm handling (although they may still squeal when handled). Many of their natural predators are birds, so they are easily alarmed when approached from above. They should always be approached from the front, and at a low level, to avoid frightening them. They should be handled with one hand supporting the hindquarters and the other grasping around the shoulders (for young animals) or chest (for adults).

Potential husbandry related welfare problems and how to resolve them

Overgrown teeth or claws can develop if guinea pigs are not provided with gnawing items, or if flooring is inadequate to wear the claws down. A veterinarian can trim teeth and claws but prevention is most important, so husbandry should be reviewed if either problem occurs.

Stress and panic can occur if guinea pigs are repeatedly exposed to frightening stimuli from which they cannot hide. Providing sufficient refuges, entering the room and approaching the animals with due regard to their 'startle reflex', and giving extra food treats to help them associate humans with a positive experience, will all help to keep them calm.



Guinea pig housing and care: ERP aide-memoire

- ❖ **Social housing in stable groups or pairs appropriate to the age and sex of animals**
- ❖ **Plenty of space (preferably in floor pens) to allow enrichment to be included and a variety of normal behaviours**
- ❖ **Solid floor with appropriate litter such as dust-free wood shavings and hay**
- ❖ **Something to gnaw**
- ❖ **Dietary enrichment and the ability to forage**
- ❖ **A quiet environment with plenty of refuges**
- ❖ **Gentle, firm and empathetic handling**
- ❖ **Sympathetic cleaning protocols (frequent enough to maintain hygiene, but without overly disturbing the animals)**

Notes:



Recommended references

1. Kaiser S., Kruger C. & Sachser N. (2010) The guinea-pig. Chapter 27 in: *The UFAW Handbook on the Care and Management of Laboratory and Other Research Animals*, 8th edn, pp 380-398. Wiley-Blackwell.
2. Sachser N, Künzer C & Kaiser S (2004) The welfare of laboratory guinea pigs. Ch. 9 in: *The Welfare of Laboratory Animals* (E Kaliste ed.), pp 181-209. Dordrecht, The Netherlands: Kluwer.
3. Animal Research Review Panel (2006) ARRP Guideline 21: *Guidelines for the Housing of Guinea Pigs in Scientific Institutions*. Orange NSW, Australia: Animal Welfare Branch NSW Department of Primary Industries, <http://tinyurl.com/65cttuy>
4. FELASA (2007) *Euroguide on the Accommodation and Care of Animals Used for Experimental and Other Scientific Purposes: Based on the Revised Appendix A of the European Convention ETS123*. London: FELASA. Available for purchase at www.rsmppress.co.uk/bkfelasa.htm
5. Reinhardt V (2002) Comfortable quarters for guinea pigs in research institutions. In: *Comfortable Quarters for Laboratory Animals*, 9th edn (V & A Reinhardt eds), pp 38-42. Washington DC: Animal Welfare Institute, www.awionline.org
NOTE: the 10th edition of *Comfortable Quarters* is under production at the time of writing.



... feedback please!

How useful did you find this document?
Feedback would be greatly appreciated - please contact erp-laymembers@rspca.org.uk

Image credits: Photodisc; Newcastle University; Novo Nordisk



RSPCA, Research Animals Department
Wilberforce Way, Southwater, Horsham, West Sussex RH13 9RS
www.rspca.org.uk/researchanimals



Helping animals through welfare science

