Assessment of opaque tubing enrichment to reduce stereotypic behaviors and promote breeding efficiency in gerbils (*Meriones unguiculatus*)

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**Introduction**

Mitigation of stereotypic corner digging behaviors in gerbils (*Meriones unguiculatus*) has been described using permanent cage modification to create an opaque, angled entrance to a simulated burrow. We sought to identify a more cost effective strategy to reduce stereotypies using a straight or corner simulating opaque tube fitted to the animals’ preexisting opaque nesting box.

**Hypothesis:** The addition of an angled tube entrance to gerbils’ nest box would reduce the incidence or duration of stereotypic behaviors and/or increase breeding efficiency.

**Materials and Methods**

- 32 or 64 GB microSD cards (6 or 10-12 hours of continuous recording)
- PVC tubing: 6” straight segments, connectors with 2” internal diameter
- Free, open-source behavioral analysis software: Behavioral Observation Research Interactive Software (BORIS)4 [http://www.boris.unito.it](http://www.boris.unito.it)
- SQ11 Mini DV cameras (nanny cams with local recording capability)

**Conclusion**

Overall, stereotypic behaviors were not reduced long-term with the addition of any opaque tube configuration to the home cage. The T Tube was the only type associated with a decrease in stereotypic digging and jumping after 1 week in gerbil cages. Most configurations were initially associated with an increase in digging + jumping behavior. This effect decreased by week 4 of the study. The addition of new enrichment may have evoked neophobia, as has been reported for other species.

Breeding efficiency was not improved by the addition of opaque tubing. Nearby construction in the facility during part of the study period may have confounded comparison to other time periods. Other factors, like age and parity, could also have impacted measures of breeding success.

Alternative strategies to promote natural behaviors should be explored to reduce stereotypic behavior among gerbils in the colony.

**Acknowledgements and References**

Financial support for this project was provided by CU Denver | Anschutz Office of Laboratory Animal Resources. Thank you to Jazmen Higgins and Jasmine Shaw for coordination of gerbil husbandry, and Tim Mendoza for help with python and pandas for data analysis.

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