Effect of cage size on the behaviors of cats housed in an animal shelter.

Presented by:

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March 22, 2013
Does size matter?

- Housing environment has profound effects
  - Quality of life in a shelter
  - Risk of shelter-acquired illness
  - Self-maintenance: eating, drinking, eliminating
  - Human “housing” in a hospital affect treatment/outcome

- Very little published data

- Addressing this knowledge gap:
  - Document occurrence of “positive” vs “negative” behaviors
Materials & Methods

- Municipal shelter
- Strays or surrender
- Adult (1 yr or older)
- Healthy
- Randomly assigned cage
  - Small cage - 7
    - 22” x 28” x 22”
  - Large cage - 14
    - 48” x 28” x 30”
Small Cage

- Hiding Box
- Small litter box
- Food dish
- Water dish
Large Cage

- Double Compartment
- Two shelves
- Two pass through portals
- Hiding Box
- Small litter box
- Food dish
- Water dish
Video Equipment

- 1 video camera per cat / cage
- Videotaped continuously for 24 hours
- Infrared sensors
  - Night time videography
Materials & Methods

- Recorded 24 hour video
- Reviewed real-time
- 16 behaviors recorded
  - Time of onset
  - Survival Analysis
  - Kaplan Meier
  - Duration
  - Frequency
Results
Percent Time in Positive, Negative or Neutral Behaviors

Large Cage

- Positive
- Negative
- Neutral

Small Cage

- Positive
- Negative
- Neutral
**Lateral/Lateral Recumbent**

<table>
<thead>
<tr>
<th></th>
<th>Average % Time in Behavior</th>
<th>% Cats Behavior Exhibited</th>
<th>% Cats Behavior Not Exhibited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large Cage</td>
<td>5.4%</td>
<td>66.7%</td>
<td>33.3%</td>
</tr>
<tr>
<td>Small Cage</td>
<td>0.07%</td>
<td>14.3%</td>
<td>85.7%</td>
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## Sternal/Lateral Recumbent

<table>
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</thead>
<tbody>
<tr>
<td>Large Cage</td>
<td>18.3%</td>
<td>71.4%</td>
<td>28.6%</td>
</tr>
<tr>
<td>Small Cage</td>
<td>0.33%</td>
<td>28.6%</td>
<td>71.4%</td>
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### Sternal Recumbent

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<tbody>
<tr>
<td>Large Cage</td>
<td>47.7%</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>Small Cage</td>
<td>40.3%</td>
<td>100%</td>
<td>0%</td>
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</table>
Grooming and eating/drinking also more often absent or delayed in small cages.
Discussion

- Self-maintenance behaviors were more likely delayed or absent in small cages.
  1. Indicator of welfare
  2. Implications for health and monitoring in a shelter or veterinary setting
Discussion

- Cats in larger cages exhibited positive behaviors quicker, with more frequency, and with longer duration.
  - Positive behaviors correlate with low stress score.
  - Stress directly linked to risk of illness and euthanasia in shelter.
  - Behavior evaluation in first few days critical to outcome in many shelters.
Is this a socialized but frightened pet cat or an unsocialized cat?

- Socialized pet cat
- Unsocialized cat

http://www.aspcapro.org/blog/2010/10/is-that-cat-socialized%E2%80%A6-inside-the-%E2%80%98laboratory%E2%80%99/
Is this a socialized but frightened pet cat or an unsocialized cat?

- Socialized pet cat
- Unsocialized cat

Incorrect

That's incorrect. This cat is a socialized but frightened pet cat.
Clinical Importance

- Foundation for understanding effects of housing on cat behavior
- Housing recommendation
- Broad implication of this study for vet clinics, boarding facility, etc. or anywhere confinement cat housing is used.
Next Steps

- Limited time frame/limitations of this study
  - Interesting to see if activity levels increase with time
  - Scratch pads provided, but not used until day 2 or 3
  - Cats can adapt to a new environment
Acknowledgements

VERY BIG THANK YOU TO:

Dr. Denae Wagner
Dr. Kate Hurley
Dr. Phil Kass
Valerie Caceres
Sarah Donahue
Sharon Ostermann
Yolo County Animal Services
Morris Animal Foundation
Center for Companion Animal Health
Questions?