

# Assessing the Welfare of Cats Housed In Cages

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## Introduction

Statistics indicate that large numbers of cats in the US will be confined in cages each year. Domestic cats are the nation's most numerous companion animal; current estimates suggest that there are 95 million pet cats. Many are housed at veterinary hospitals for medical treatment. Annually, 3 million to 4 million cats enter American shelters, and an additional 13,000 are used in biomedical research. Because caretakers have an ethical obligation to provide an appropriate housing environment that promotes animal welfare, it's important to understand how to assess the well-being of cats kept even temporarily in cages.

Cat welfare is most accurately gauged by evaluating physiology (e.g. heart rate, respiratory rate, and stress-related hormones) and behaviors (e.g. body posture, grooming, and hiding.) However, in situations where behavior is the only available metric that can be measured, individual cat welfare can still be accurately assessed (Rochlitz, 2013). Reliable behavioral indicators of caged domestic cat welfare include sickness behaviors, social behavior, general activity, and cage condition, and are described in this paper.

## Sickness behaviors

Sickness behaviors refer to physiological and behavioral responses to infection (Broom, 2006). When a cat contracts an infection, it typically will exhibit a decrease in activity or appear lethargic, hide more than usual, have a decrease in food intake, and stop grooming. This is an adaptive response to conserve the body's resources to fight disease and promote recovery from infection (Dantzer et al, 2008). These same behaviors have also been shown in response to environmental events and psychological stressors.

Reduced food intake, lack of elimination (e.g. no urination or defecation in 24 hours), vomiting, diarrhea,

and urinating or defecating out of the litter pan are the most common sickness behaviors exhibited by cats in response to stressors related to confinement (Stella et al, 2011, 2013, 2014) and in homes (Heidenberger, 1997). For cats, environmental stressors include sudden movements, unknown or loud noises, novel and unfamiliar places and objects, and the approach of strangers. These stressors are likely to occur during routine husbandry and medical care in shelters, veterinary hospitals, and research institutions and may result in sickness behavior and diminished welfare. Therefore, recording food intake, eliminations, vomiting and diarrhea each day prior to routine husbandry can help determine if cats are engaging in these behaviors. A card or tag on each cage to record the amount and type of food offered and any evidence of sickness behaviors will help with daily monitoring, as it can be difficult to catch cats engaging in these behaviors in cages.

## Social behavior and activity

Friendly approach and interaction with people are desired behaviors for cats in cages, as these behaviors are likely to improve adoption rates, decrease risk of injury to caretakers during handling, and improve veterinary and research outcomes. These behaviors can also indicate good welfare, since cats are less likely to show these behavior patterns if they are not coping well. The environment can affect how cats respond to human approach. Fearful or anxious cats are less likely to approach people and may exhibit freezing behavior, which indicates fear. Cats in unenriched environments or those they perceive as threatening show more freezing behavior and less exploratory behavior than those housed in enriched and less threatening environments (Carlstead et al., 1993; Stella, 2014). Other behaviors seen in confinement that indicate distress include "resting" in the litter pan, aggressive behavior, or a sudden change in behavior (Carlstead et al., 1993).



These behaviors may indicate that cats need assistance in coping. In such instances, providing an opportunity to hide, or other resources that enable them to feel more secure, may help. For example, provision of a cardboard box or a cat carrier works well. If the cage is too small to add a box, or for hospitalized cats that need to be monitored closely, covering the cage door with a towel can reduce the perception of threat.

Cats who have the opportunity to hide or perch when housed in challenging environments, such as a veterinary hospital or shelter, are often observed either on the perch or in the hide box (Gourkow and Fraser, 2006; Kry and Casey, 2007; Stella, 2014). Additionally, as cats adapt to a new environment, they spend less time hiding and more time perching (Stella, 2014). Providing places to hide and perch may help cats cope with the cage environment.

Behaviors that indicate a cat is experiencing good welfare are also important to assess. Cats should be engaging in normal behaviors, such as play, scratching, and grooming. A study of daily time budgets of a group of laboratory-housed cats reported that cats spent 36% of their time engaging in maintenance behaviors (e.g. resting, sitting, drinking, eating, eliminating), 30% in comfort behaviors and 24.5% in active behaviors (e.g. play) (Podberscek et al., 1991). Another study found that grooming behavior consumed about 4% of the time budget (Eckstein and Hart, 2000). Failure to see behaviors that indicate positive welfare suggests that interventions, such as modifications to the environment, may be needed. By providing toys in cages, allowing time out of the cage to explore and exercise, and adding hide boxes, perches, and items to scratch, caretakers give cats opportunities to engage in a wider variety of normal behaviors.



Figure 1. Cat in cage displaying no use (top) and disuse (bottom).



### Cage condition

Observing how cats use their cages — especially overnight, when undisturbed by daily activities and unfamiliar people — is also useful in assessing their welfare. A lack of cage use (the cage appears to be unused, or it is not obvious that a cat was even in the cage) or a cage in disarray (food and water is spilled, litter pan overturned) indicate difficulty in coping (Figure 1). Both domestic cats in cages and wild cats in captivity show decreased exploratory behavior and increased attempts to hide (Carlstead et al., 1993), particularly when the environment is unenriched or unpredictable. It is thought that a lack of cage use indicates a decrease in overall activity, probably due to fear (Rochlitz,

2013; Stella, 2014). In contrast, cats with no opportunity to hide or perch were more likely to disrupt their cages than those provided such forms of enrichment (Stella, 2014). Cage disruption may therefore relate to available resources and environmental factors as well as fearfulness. If either cage disuse or disruption are observed, environmental modifications may be necessary, as the cat may be experiencing anxiety, fear, or frustration.

### Conclusion

As caretakers, we have an ethical obligation to provide the best possible housing environment for the cats in our care. Observations of cats in cages can be invaluable in gauging their welfare in such environments. Records of food intake, eliminations, social and active behaviors, and cage condition will provide caretakers with valuable information. Deviations from normal behavior and changes in behavior may help identify cats who are not adapting well. However, it is important to remember that each cat is an individual, and as individuals, their

responses to the environment are likely to be highly variable. Thus, recommendations for enhancing the environment must be tailored to match each cat's needs and preferences.

### References

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