

Peer Reviewed

What Cat Owners Can Learn About Captivity

I've heard about environmental enrichment for cats—what exactly is this?

Environmental enrichment can be defined as enhancing the health and welfare of captive animals by modifying their environment.¹ While cats are not commonly considered to be captive animals, many cats (and dogs) in North America are housed exclusively indoors, effectively living in captivity much like zoo animals.

Zoo animal health and welfare have improved dramatically through environmental enrichment, which can be applied successfully to the care of indoor cats. Environmental enrichment lowers the incidence of what are called *sickness behaviors* in laboratory and clinical trials of healthy cats and in cats with feline idiopathic cystitis.^{2,3}

Sickness behaviors result from a change in an animal's motivation from normal interaction with the environment to one that inhibits metabolically expensive activities (eg, foraging) in favor of behaviors that promote recovery. These are well-documented physiologic and behavioral responses to infection found in all animal species studied and also occur in response to aversive environmental events.⁶ Psychological stressors—threats to perception of control and predictability—have recently been linked to immune activation and proinflammatory cytokine release, as well as to changes in mood and pathologic pain.⁷⁻⁹

CONTINUES

What are Sickness Behaviors?

Sickness behaviors refer to a group of nonspecific clinical and behavioral signs that include varying combinations of^{4,5}:

- Vomiting
- Diarrhea
- Anorexia or decreased food and water intake
- Elimination outside the litter box
- Fever
- Lethargy
- Somnolence
- Enhanced pain-like behavior
- Decreased general and body care activities (grooming)
- Decreased social interactions

Thus, sickness behaviors can result from both peripheral and central pathways. In contrast to more commonly recognized structural abnormalities, functional problems like sickness behaviors tend to wax and wane in response to changes in environmental circumstances.

Basic Resources

Although comprehensive recommendations for environmental enrichment for indoor cats have been published, the basic approach is straightforward.¹⁰⁻¹³ Ensure that all cats in the household have unrestricted access to basic resources and as much control and predictability of the environment as possible. Basic resources include:

- Provision of a food container (bowl or foraging device), water source, and litter box in a safe, low-traffic area
- Accessible materials that can be scratched and climbed on (cats are the most 3-dimensional mammal humans commonly interact with)
- Uninterrupted rest areas
- Opportunities to play and interact with other animals, including humans, on the cat's terms

In multiple-cat households, pay special attention to the prevention of resource guarding (by ensuring plenty of everything) and to the quality of interactions between cats, which is essential to the health and welfare of all concerned.¹⁴

GO to page 58 for the client handout "Household Resource Checklist."

THE 6 ENRICHMENT CATEGORIES

1. Basic Resources—Food, Water, Elimination

Factors to consider for the 3 basic resources include location, type of resource, and how changes to each resource are made. Cats are prey as well as predator, so they feel most vulnerable and are most likely to become frightened while eating, drinking, or eliminating. To avoid this reaction, basic resources should be placed away from machinery that can start up unexpectedly or locations where cats may be startled or feel trapped. The type of basic resource can vary—dry versus canned food, still versus running water, features of the litter box, and type of litter all are worthy of consideration.

When considering changes in basic resources, the guiding principle is, "First ask the owner, then ask the cat." Implementing an idea that owners do not like or approve can risk damaging their

relationship with the cat or affecting the cat's quality of life. After the owners have agreed with the idea, then "ask the cat" by offering the new resource next to the familiar resource and letting the cat demonstrate its preference.

2. Structural Features

Structural features are environmental elements that permit a cat to scratch, climb, and rest in approved areas as well as enjoy places where it can hide without risking forced removal by another animal or person. Once owners understand that scratching and climbing are natural, species-typical feline behaviors that can occur without damaging the owner's cherished possessions and that cats prefer to interact with others in their environment on their own terms, structural features that meet the needs of pet and owner can be provided (for examples, see checklist on page 58).

3. Social Interactions

The social structure of cats differs from that of humans and most other animals with which we come in regular contact in that cats can be reticent to permit others to join their group. As a consequence, intercat aggression reportedly is the most common form of feline aggression in multiple-cat homes. Although beyond the scope of this article, recommendations for this problem are available.^{12,14}

4. Human Interactions

Structured interactions with the owner, such as departure and return rituals, play interactions, and grooming, can help an anxious cat overcome owner absences by imitating brief rituals of interactions (eg, petting, treats) that signal the owner's departure and return.

Play interactions can be based on the prey preferences of individual cats, such as toys that simulate birds (feather on a wand), insects (piece of dry food or laser pointer), or small rodents (many choices available). Some cats prefer to be petted and groomed rather than participate in play activities, which can be enriching as long as the activity begins and ends on the cat's schedule.

Why Enrichment?

Enrichment should be discussed with clients and implemented at the earliest age possible. The goal of early introduction is to shape the attitudes and behaviors of the client toward understanding the importance of addressing the cat's needs to ensure the pet's best possible welfare and health. Additional discussions with cat owners before they introduce new elements into the environment may help avoid changes in the perception of control as well as predictability that inevitably attends change.

5. Audio-Visual Enrichment

Audio-visual enrichment can include ambient sounds associated with the owner's presence, such as a radio being played, and access to windows (maybe with a bird feeder in view), television, or a fish tank, depending on the cat's preference.

6. Olfactory Stimulation

Olfactory stimulation can include herbs, such as valerian or catnip, or synthetic feline pheromones (feliway.com).

CLIENT EDUCATION

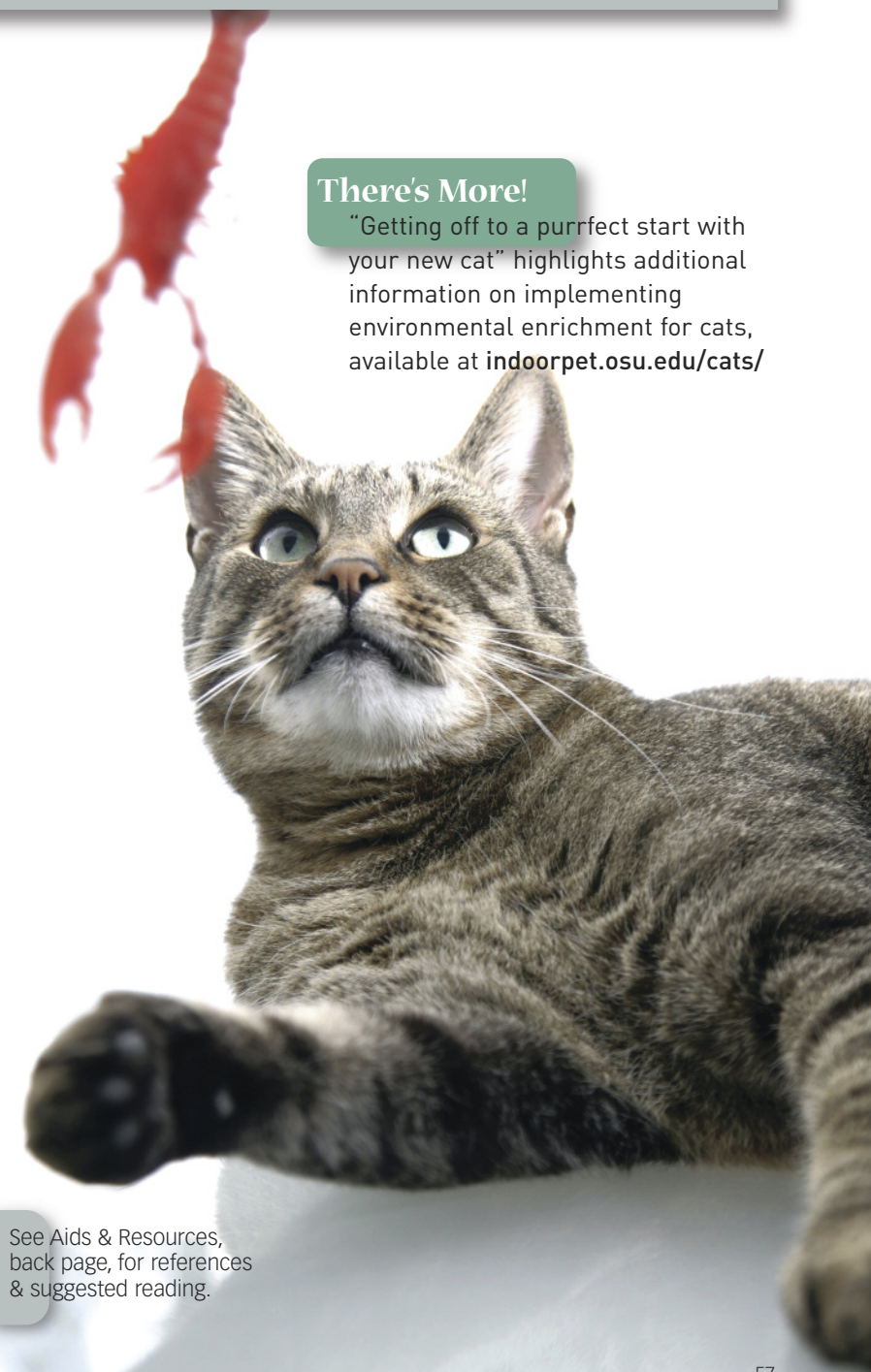
With new clients, I review the 6 enrichment categories, taking every opportunity to praise the client about the current situation as often as possible. If gaps are found, I offer alternate enrichment approaches that have worked for other owners and may also work for them or may stimulate their thinking about variations that might be more appropriate for their cat.

I try to create a setting where owners choose the forms of enrichment they want to implement; they are more likely than I am to be familiar with what will and will not work in their particular situation, and they will have to expend the time, money, and effort to implement the recommendation. Once the choice is made, more specific suggestions can be made based on experience.

Owners sometimes receive enrichment recommendations defensively, particularly when they believe they already are "good owners." In these situations, empathically exploring the owners' concerns, clarifying one's agreement that they are acting in good faith, and asking for their ideas about what might help are generally useful.

There's More!

"Getting off to a purrfect start with your new cat" highlights additional information on implementing environmental enrichment for cats, available at indoorpet.osu.edu/cats/



See Aids & Resources, back page, for references & suggested reading.

Household Resource Checklist



Basic Resources

Yes No

Are basics provided in a convenient location that provides safety and some privacy during use (ie, away from appliances or machinery that could start unexpectedly)?	<input type="checkbox"/>	<input type="checkbox"/>
Does each cat have its own food bowl?	<input type="checkbox"/>	<input type="checkbox"/>
Does each cat have its own water bowl?	<input type="checkbox"/>	<input type="checkbox"/>
Does each cat have its own litter box in a well-ventilated location (1 litter box per cat + 1)?	<input type="checkbox"/>	<input type="checkbox"/>
Is the litter kept clean and scooped as soon as possible after use or at least daily?	<input type="checkbox"/>	<input type="checkbox"/>
Is unscented clumping litter used?	<input type="checkbox"/>	<input type="checkbox"/>
Are containers washed weekly with plain water or a mild, unscented detergent, such as dishwashing liquid?	<input type="checkbox"/>	<input type="checkbox"/>
If a new resource is provided, is it placed next to the familiar one so the cat can choose whether or not to use it?	<input type="checkbox"/>	<input type="checkbox"/>

Structural Features

Can each cat move about freely, exploring, climbing, stretching, and playing when (if) it chooses?	<input type="checkbox"/>	<input type="checkbox"/>
Are climbing structures or opportunities provided?	<input type="checkbox"/>	<input type="checkbox"/>
Does each cat have its own scratching post?	<input type="checkbox"/>	<input type="checkbox"/>
Does each cat have its own resting area?	<input type="checkbox"/>	<input type="checkbox"/>
Does each cat have a "perch" so it can look down on its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>
Is a radio or television on when the cat is home alone?	<input type="checkbox"/>	<input type="checkbox"/>

Social Contact

Does each cat have the opportunity to engage in play with other animals or the owner if it chooses on a daily basis?	<input type="checkbox"/>	<input type="checkbox"/>
Do you spend individual time petting each cat? (If so, for how many minutes?)	<input type="checkbox"/>	<input type="checkbox"/>
Do you spend individual time playing with each cat? (If so, for how long?)	<input type="checkbox"/>	<input type="checkbox"/>

Body Care & Activity

Does each cat have toys that mimic quickly moving prey?	<input type="checkbox"/>	<input type="checkbox"/>
Does each cat have toys that can be picked up, carried, and tossed in the air?	<input type="checkbox"/>	<input type="checkbox"/>
Are toys rotated on a regular basis (at least weekly) to provide novelty?	<input type="checkbox"/>	<input type="checkbox"/>

This handout can be downloaded at cliniciansbrief.com/journal and printed for use in your clinic.