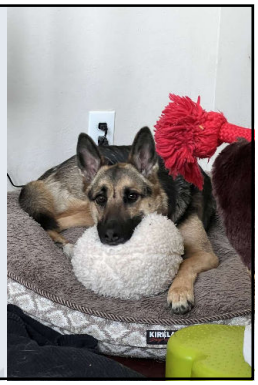
Using Enrichment Protocols to Reduce Fear, Anxiety, and Stress (FAS)

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Joybound People & Pets

Strategic environmental enrichment provides sensory stimulation, cognitive agency, and social support to reduce systemic cortisol levels and maladaptive stress behaviors.



What is Enrichment?

- Enrichment is the concept of providing strategic enhancements to improve the lives of our companion animals.
- Enrichment address our pet's physical and mental needs.
- Strategic engagement of our pets' olfactory, auditory, gustatory and visual senses.
- Strategic environmental enrichment provides sensory stimulation, cognitive agency, and social support to reduce systemic cortisol levels and maladaptive stress behaviors.

Enrichment

Enrichment is used to encourage our pets to exhibit species-typical behaviors

- which can result in decreased displays of undesirable behaviors
- increased coping mechanism for handling various forms of stress

Enrichment provides mental and physical engagement

- reduce negative emotional states

What is Fear and Anxiety?

FEAR

An emotional reaction of apprehension and fright due to the actual presence of the very thing the animal is afraid of

ANXIETY

An emotional reaction of apprehension or uneasiness to an anticipated danger or threat

What is Stress?

Stress is the sum of the body and mind's reactions to anything that disrupts our normal baseline state of functioning.

THE BODY'S RESPONSE

To return both the body and mind back to their normal state.



Understanding Stress & Cortisol Dynamics

PHYSIOLOGICAL & BEHAVIORAL INDICATORS

Confinement and social isolation elevate cortisol levels and trigger acute stress markers like vocalizing, pacing, wall-bouncing, lip-licking, and stereotypic behaviors.

THE ROLE OF ENRICHMENT

Enrichment modifies the environment to increase biological relevance, promoting positive affective states, low arousal, and long-term behavioral resilience.

CORE MECHANISMS

FAS reduction is driven by information acquisition, natural behavior expression (sniffing, chewing, foraging), and environmental predictability.

Environmental Management & Predictability

CONTROLLING THE MACRO-ENVIRONMENT

Room-level noise, sudden disruptions, and unpredictable schedules affect feline stress.

DECREASING SICKNESS BEHAVIORS

A calm, predictable routine reduces stress-induced sickness behaviors (anorexia, vomiting, elimination suppression) and shortens latency to approach caretakers.

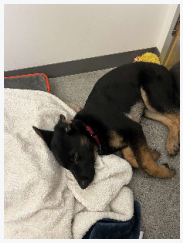
Environmental Enrichment



THE FIVE SENSES

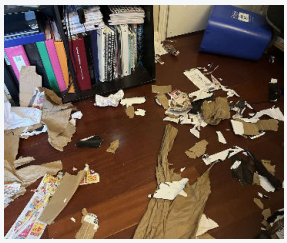
01 Tactile
02 Olfactory
03 Visual
04 Auditory
05 Gustatory

Tactile Enrichment





Tactile Enrichment



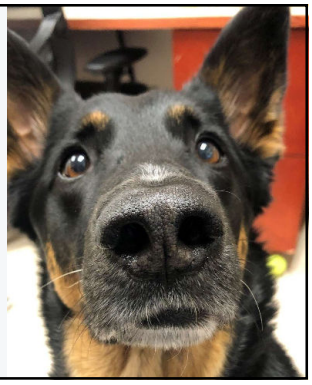

Tactile Enrichment




Olfactory Enrichment

Stuff cardboard tubes or boxes with:

- Sheep's wool
- Horse hair
- Brushed rabbit's fur



Olfactory Enrichment

CALMING ESSENTIAL OILS

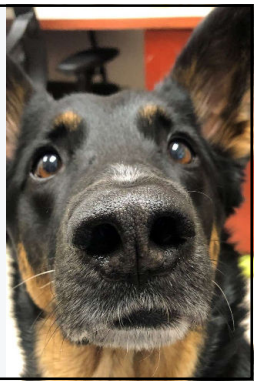
Ambient exposure to **lavender and chamomile** decreases movement and excessive barking while promoting rest and sleep in kenneled dogs.

CAREGIVER ODOR

Items infused with a familiar caregiver's scent significantly lower salivary cortisol concentrations during separation events.

SCENTED TOYS & HABITUATION REVERSAL

Applying preferred scents (duck, hotdog, vanilla) to toys increases interaction time, boosting engagement by **up to 13.7 times** on hard or less-preferred items.



Cognitive Agency & Olfactory Foraging

NOSEWORK & OPTIMISM

Daily structured olfaction searches (nosework) induce a **positive judgment bias ("optimism")** on cognitive bias tasks.

SNUFFLE MATS & CONTRAFREELOADING

Pet dogs demonstrate a strong willingness to engage with snuffle mats and work for food even when free food is available.

FOSTERING AUTONOMY

Providing independent problem-solving challenges gives dogs control over their environment, mitigating learned helplessness and fear.



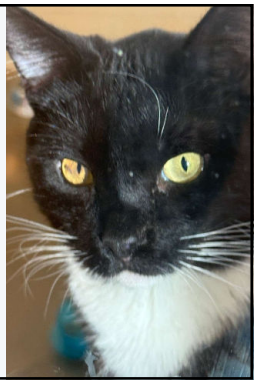
Olfactory Enrichment

OLFACTORY STIMULATION

Dried **silver vine** or **catnip** promotes play, head-rubbing, and exploration without addiction, stress, or organ toxicity. Scenting stationary toys increases active play.

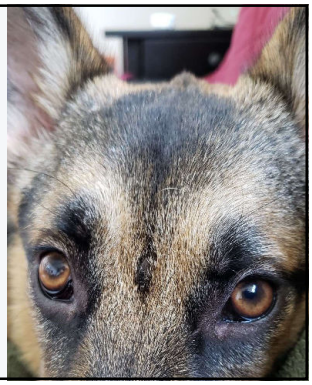
SCENT PRESERVATION

Spot cleaning instead of daily disinfectant scrubbing preserves familiar scent and facial pheromone deposits, helping cats feel secure.



Visual Enrichment

- window overlooking the garden or a city
- street.
- Television channels or YouTube videos that provide visual stimulation.



Environmental Controls

VISUAL CONTROLS

Provide visual covers

- blinds, curtains or window films
- elevated resting platforms
- crates/hides

Hiding Provisions & Concealment Structures

ACCELERATED STRESS RECOVERY

Hiding boxes or enclosed refuges let cats exercise behavioral control. Cat Stress Scores stabilize around **Day 3**, compared to **5 to 14 days** for un-enriched cats.

PREVENTING "REPLACEMENT HIDING"

Without hiding options, stressed cats crouch behind litter pans or bedding, indicating an unfulfilled drive for concealment.

PERSONALITY-SPECIFIC COPING

Anxious, shy, or fearful cats use hiding structures most heavily as a primary self-soothing mechanism.

Vertical Space & 3D Complexity

ELEVATED VANTAGE POINTS

Wall-mounted shelves, cat trees, hammocks, or elevated perches allow cats to monitor their surroundings from a position of security.

CONFLICT & SOCIAL STRESS REDUCTION

Vertical space expands usable living area, letting cats in multi-cat or group housing maintain visual separation and personal distance. This significantly decreases agonistic encounters and territorial tension.

Auditory Enrichment

- Classical music
  - Through a Dog's/Cat's Ear
- Reggae music
- Audiobooks

Measure noise levels: Science with a Smartphone: Decibel Meter. Scientific American

SPECIES-SPECIFIC MUSIC

Music composed for feline hearing, with tempos and frequencies modeled on purring and affiliative vocalizations, lowers stress scores and handling resistance during veterinary exams.

Auditory Environmental Controls

ACOUSTIC CONTROLS

Mitigate ambient noise:

- White, brown or green background noise
- Access to insulated space
  - Interior closet
  - Basement
  - Crate/hide – covered with a heavy blanket or sound dampening cover

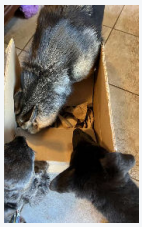
Gustatory Enrichment

- Different flavors
- Different textures
- Different foraging items
  - Hard plastic
  - Soft plastic
  - Cardboard
  - Rice paper

Measure noise levels: Science with a Smartphone: Decibel Meter, Scientific American

Enrichment – Puzzle Box






Food & Chew-Based Stress Relief

LONG-LASTING CHEWS

Chewing serves as an effective self-soothing activity during isolation, yielding the lowest **Stressed/Anxious** behavioral scores and promoting calm emotional valence.

INTERACTIVE PUZZLE TOYS

Replacing traditional bowl feeding with natural rubber puzzle feeders reduces excitability, wall-bouncing, and excessive barking while decreasing cortisol.

AVOIDING REWARD OMISSION

Ensuring food toys do not jam or become inaccessible prevents reward omission frustration and unwanted arousal.



Feeding & Foraging Enrichment - FELINE

PUZZLE FEEDERS & MULTIPLE SMALL MEALS

Replacing static bowls with foraging puzzles or slow feeders engages the natural predatory sequence, reducing boredom, inactivity, and chronic stress.

RESOURCE SPACING IN MULTI-CAT HOMES

Separate feeding stations with clear visual barriers prevent competitive anxiety and the stress of forced proximity during meals.

Different Types of Social Enrichment

PEOPLE INTERACTIONS

- Walks/hikes
- Play
- Physical contact and attention
- Training

DOG-DOG INTERACTIONS

- Group/Parallel walks
- Play group

Sniff Walk



Out door time for Cats

- Strollers
- Harnessed walks
- Catio



PLAY WITH TOY PROTOCOL

- Toy the dog prefers
- Leave leash on if not reliable with recall
- Structured interactions prior to play
- Reward with treats, praise and more toy play
- Exchange toys using trade for treats
  - Do not pull toy out of their mouths



Human-dog play



Important factors in Dog Play

Play can be a good outlet for energy release

- –Mutual agreement
- –Equal match
  - •Play style
  - •Energy level
- –Only helps if the dog learns to calm down/de-escalate

Social Walks



Dog Play



Social Enrichment - Human Interaction

SOCIAL BUFFERING

Human presence acts as a physiological buffer against acute stressors (e.g., veterinary exams, novelty exposure).

CONSPECIFIC PLAYGROUPS

Supervised multidog playgroups alleviate the stress of solitary housing, significantly reducing reactivity toward other dogs.

SHELTERS - STRUCTURED VOLUNTEER CURRICULA

Standardized volunteer handling programs reduce kennel stress, decrease length of stay, and boost adoption rates.

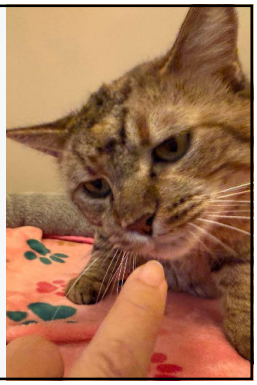


Structured Human Interactions

6–10 minutes of gentle stroking of the head, cheeks, and chin with soft, reassuring vocalizations, **1–4 times daily**. Reduces anxiety and frustration and accelerates the transition to contentment.

AUTONOMY & CHOICE

Interactions should ideally be cat-initiated or predictable. Forcing interaction or ignoring subtle avoidance cues can trigger petting-induced aggression.



Aging Pets with Impaired Senses

Enrichment should be adapted to older pets to stimulate their existing senses.

- Offer items that make noises, are brightly colored, have flashing lights
- Items with a strong-smelling treat or a scent
- Move toys around more slowly to accommodate pets with mobility issues.
  - Add an odor so pet can track with their nose
- Items that make sounds within their hearing range

Enrichment Considerations for Senior Dogs

- Opportunity to allow them to lie in the grass outside and sniff scents carried on the wind
- Provide scented bubbles
- Provide a snuffle mat or a rolled-up towel with hidden treats or enticing smells
- Take senior pets on a ride around the block in a padded garden cart or pet stroller

Enrichment considerations for Senior Cats

- Provide a window box to observe the outside world
- Play sounds within their hearing frequency
- Provide scented bubbles that can be blown in their direction.
- Provide a snuffle mat or a rolled-up towel with hidden treats or enticing smells
- Being pushed around the neighborhood in a pet stroller for former outdoor cats
- Provide cat grass for the cat to smell and/or eat

How to assess if enrichment strategies are enriching

- The pet spending part of the day being active and engaged in the owner's absence and part of the day resting quietly
- A decrease in signs relating to negative emotional states (e.g. cats with a history of feline interstitial cystitis (FIC) can have decreased or no further incidents of FIC in response to effective enrichment (Ellis, 2009)
- An increase in signs relating to positive emotional states
- Increased engagement in species-typical behaviors
- Increased problem solving abilities

Summary

Enrichment is Standard Medical Care that provides:

Species-typical behavior: Give the pet outlets for natural behaviors.

Exercise: Offer several kinds of physical activity.

Social interaction: Make time for positive contact with people and other animals.

Cognitive engagement: Give the pet mental challenges and problems to solve.

Choice and control: Let the pet join in or step away when it wants.

Enrichment improves quality of life for pets and their owners and also decreases fear, anxiety and stress.

Thanks!

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