Design for Health: Building Welfare into Shelter Construction
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THANKS!

TO THE ASPCA FOR THE PARTNERSHIP WITH UC DAVIS THAT MADE MY POSITION AT UC DAVIS POSSIBLE SINCE 2009
Natural Behavior
Natural Behavior
Abnormal Behavior

Red Flags
URI and Housing
What really matters?

- Appearances
- Space quantity
- Space quality
- Separation for rest, food, elimination
- Enrichment
- Hiding places
- Elevation
- Limits on stressors
- Light
- Light cycles
- Predator / prey relationships

- Flexibility of space
- Cleaning
- Isolation / separation for sick animals
- Temperature
- Air quality
- Fresh air
- Noise
- Activity
- Safety
The Five Freedoms

- **Freedom from Hunger and Thirst** - by ready access to fresh water and diet to maintain health and vigor.

- **Freedom from Discomfort** - by providing an appropriate environment including shelter and a comfortable resting area.

- **Freedom from Pain, Injury or Disease** - by prevention or rapid diagnosis and treatment.

- **Freedom to Express Normal Behavior** - by providing sufficient space, proper facilities and company of the animal's own kind.

- **Freedom from Fear and Distress** - by ensuring conditions and treatment which avoid mental suffering.
The Shelter Standards Project

Guidelines for Standards of Care in Animal Shelters

The Association of Shelter Veterinarians • 2010

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Virtual Consultant

Together we can save lives and stomp out disease!

The UC DAVIS Koret Shelter Medicine Program Virtual Consultant helps animal shelters to easily assess their everyday practices to protect animal health, support animal welfare, and save animals’ lives.

EASY TO USE
• Surveys by topic
• User friendly vocabulary
• Go at your own pace
• Save and come back later
• Personalized reports give resources to help make positive change
• Private: only you can see your responses

FREE TO USE
• 100% free access for everyone
• Available to shelter staff and volunteers
• Available to shelter veterinarians and consultants
• Accessible 24/7
• Even when live consultants are trying to sleep

Get Started »

http://virtualconsultant.sheltermedicine.com/
Check Out our Pinterest Site

http://www.pinterest.com/sheltermedicine/
“Room for Recovery”

http://www.oprah.com/health/Hospital-Room-Design-Better-Hospitals-Hospital-Room-Recovery_1
Poll Question – Answer in the Chat

What gets in the way of dream housing in your shelter?

A. Not enough money
B. Not enough space
C. Worries about infectious disease
D. A and B
E. Other
Balancing Capacity Requirements With Space for Enough Animals

Capacity Requirements (Need for numbers)

Individual animal space quality

Resources
Length of Stay Matters

Acclimation is faster
Adoption is faster
Care is better

When the number of animals present each day fits your Capacity for Care (C4C)
Enclosures that Reduce Stress and Meet Animal Needs
Setting Up for Daily Care
Low Stress “SPOT” Cleaning

• Plan for SPOT cleaning
• Set up housing so cleaning can happen with minimal disruption
• Allows environmental familiarity
• Minimize exposure /transmission
• Saves time
• Thorough disinfection between animals
Spot Cleaning

• Goal is to keep space pleasant for the animal with minimal disruption

• Commonly confused
• No spraying
• Leave bedding and other items in place whenever possible
• Special considerations for cats in small cages
Spot Cleaning for Dogs
Programmatic Effects

- Walking programs
- Marker training
- Tricks training
- Feeding programs
- Reading
- Play and enrichment programs

Karen Pryor clicker training
http://www.clickertraining.com/node/1776
Space Quantity
Space Quantity

Freedom to Express Normal Behavior - by providing sufficient space, proper facilities and company of the animal's own kind.

Freedom from Fear and Distress - by ensuring conditions and treatment which avoid mental suffering.
Primary Enclosure: Size

Normal postural adjustments

- Turn freely
- Stand easily
- Sit
- Stretch and extend their limbs
- Move their head, sit, and stand without ears touching the top of the enclosure
- Hold tail erect
- Posture comfortably for eating, drinking, urination, and defecation
Outcomes Based Assessment
Environmental and Group Health Risk Factors for Feline Respiratory Disease in Animal Shelters

49 questions including cage size, material and number, hiding place, handling, infectious disease control, vaccination, feeding, timing of S/N, air quality, natural light, dog exposure
After all that, what mattered most?

Greater than 9 square feet of floor space but not 6-8 compared to < 6

Limited movement in first 7 days

All large cages were compartmentalized
Poll Question – Answer in Chat

Do you feel like your housing units are big enough?

A. Way too small
B. Almost big enough
C. Luxurious
D. Some yes / some no
Space Quality
Allow Human Interaction

No hermetically sealed cats, please!
Don’t fear the adopters!

• Think infectious dose

• Who is really the biggest risk for transmission?
Primary Enclosure: Layout
Elimination, Feeding and Resting Areas
Separation

- What we love
- Two room sized compartments
- Bedroom bathroom suite
- Wheels to move for cleaning or rearranging
Some Cat Housing Unit Options on the Market

Shor-line.com
Custom Housing Units
Runs for Cats

Masonco.com
Housing Affects Other Space and Care Needs
Surprised?

Kennel Elimination Preferences:
171 shelter dogs in double sided (bed on one side) indoor kennels in shelters with daily walking programs
(961 observations of elimination in kennel (398 days recorded with no elimination in kennel))
What’s wrong with this picture?
Opportunities for Visual Concealment

“Hiding was negatively correlated with cortisol concentration and...may be an important behavior for coping with uncontrollable and unpredictable captive environments.”

Hiding Places
Expanded Opportunities
Hiding Boxes
Visual Barriers
Poll Question – Answer in Chat

Do you provide hiding spots for cats?

• No
• Sometimes
• Most of the time
• Always
Poll Question – Answer in Chat

Do you provide hiding spots for dogs?

- No
- Sometimes
- Most of the time
- Always
Comfortable Resting Area

You can make these yourself!  [www.sheltermedicine.com](http://www.sheltermedicine.com)
Group Housing

**Freedom from Pain, Injury or Disease** - by prevention or rapid diagnosis and treatment.

**Freedom to Express Normal Behavior** - by providing sufficient space, proper facilities and company of the animal's own kind.
Friends with Benefits

Always balance risks of exposure with benefits of socialization

Monitoring considerations
Exposure Risk
Play Areas
Balance the Risks

Long stay

Enrichment

Short stay

Exposure Risk
Separation / Isolation

• What kind of separation?
• Transmission type?
• Species differences
• How is transmission reduced?
• Separation alone is worth doing even if isolation cannot be achieved
Space Flexibility

Holding

Adoption
Temperature

- Monitor individually to ensure comfort
- Ensure they can adequately maintain their body temperature
- Special considerations for babies
- Necessary measures must be taken to ensure animal comfort and safety
Air Quality

• Minimize irritants
  • Spot clean, no spraying
  • Reduce dust and debris in the air

• Use fans after cleaning
• Open doors and windows
• Utilize outdoor space whenever possible

• Ventilate!
• Don’t hang your hopes on air filters
Ventilation

Ventilation for Sick Animal Areas

- CATS: 5-6 feet
- DOGS: 20 feet

Droplets
Fresh Air

Indoor / outdoor housing units
Elevation – Remember This?
Elevation
Elevation
Light and Light Cycles

Helps with monitoring

Normal cycles of light and dark

Daylight / Sunlight
Appearances?

Matters to adopters and funders
So…
Matters to animals
Double points if beautiful appearances can also be functional
Limits on Stressors
Avoid exposure to dogs

- “cats with high dog exposure had significantly higher urine cortisol...than cats with low dog exposure.”

Barking Isn’t Even Good for the Dogs

The ASV Guidelines in Real Life
Part Two: Serving Up Enrichment to the Dogs at the Austin Humane Society
BY SANDRA NEWBURY, D.V.M.

Clicking for Quiet
http://www.clickertraining.com/node/4114
Reduce Noise

- Banging
- Water spraying
- Music
- Equipment
Cage Moves

• “[herpes] virus re-excretion [was stimulated] in over 50% of...cats by the ‘stress’ situation of a change in housing.”

• Gaskell RM, Povey RC. Experimental induction of feline viral rhinotracheitis virus re-excretion in FVR-recovered cats. *Vet Rec.* 1977;100(7):128-133
Irregular Caregiving

• Creates stress
• Missed expectations
• May cause increased exposure
General Considerations

• Double compartments  
  [see 10/21/14 ASPCA Double Compartments webinar]

• Open air / interactive fronts

• Adequate size to stretch

• Partial width only for guillotines

• Partial (not complete) visual barriers

• Adequately sized litter box cubbies

• Cat cages elevated off the floor
What can you do tomorrow?

• Provide concealment
• Provide enrichment
• Provide bedding
• Train the dogs to keep quiet
• Switch over to spot cleaning
• Improve efficiency and drop LOS to decrease stay and increase “space”
• Make a plan for housing improvements!
Thanks for all you do!

Any questions?

Special thanks to the ASPCA for the partnership with UC-Davis that made my position possible!