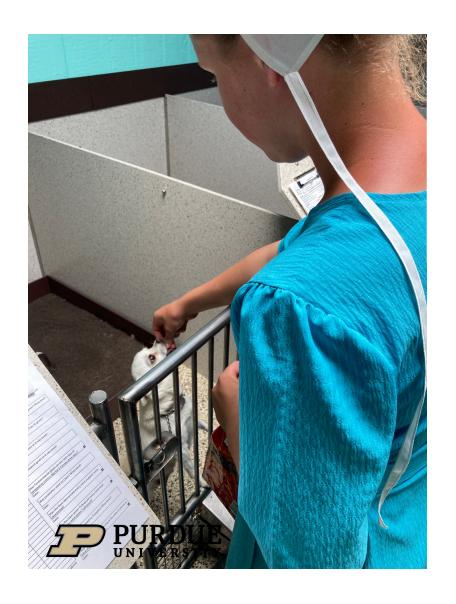




- Improves physical and behavioral health
- Minimizes stress





Kennel Design with Behavior & Welfare Considerations Benefits Caretakers!

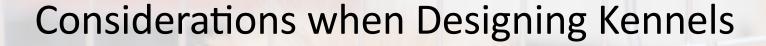
- Decreases health concerns in dogs
- Decreases undesirable behaviors in dogs
- Eases monitoring and cleaning
- Improves access for interaction and offering of enrichment items
- Improves safety

For safety, all kennels must meet state and federal requirements and be free from:

- Extreme noises
- Slippery surfaces
- Risks for injury
- Toxins
- Transmissible diseases







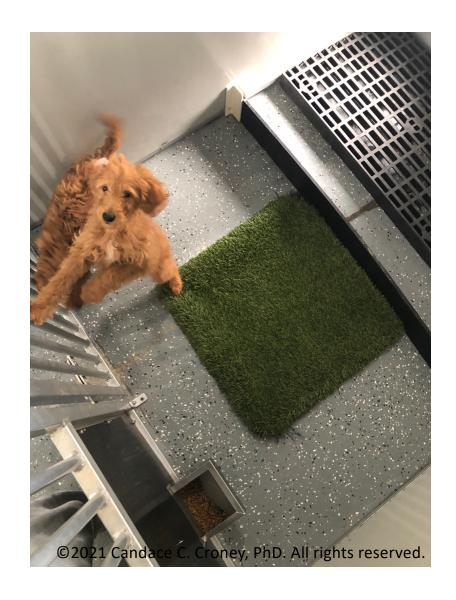
- 1. Breeds, breed-specific behaviors, individual dog preferences, dog sizes
- 2. Type of kennel indoor, outdoor, indoor/outdoor
- 3. Special needs and uses (e.g., exam rooms, quarantine areas, whelping areas)
- 4. Physical safety, design and materials in compliance with state and federal requirements



Improve environmental complexity and enrichment in home pens by including:

- Platforms, steps, ramps
- Easy delivery of enrichment items
- Multiple surfaces (e.g., grass, gravel, mats, cement, tile)
- Beds
- Solid barriers and areas of visual access







NOTE Social isolation and spatial restriction can both be harmful



Benefits of Larger Kennel Space

- Accommodate social housing with room for personal space
- Allow for physical exercise
- Enable a full range of body movements
- Offer a choice of location for dogs (e.g., out of view, up higher)

How can Group or Pair Housing Improve Welfare?



Benefits of Indoor and Outdoor Access

- Support for dogs' strong preference to eliminate, sleep, eat, and drink in separate areas
- Increased activity level
- Improved caretaker access to provide care safely, humanely, and efficiently
- Reduced risks for disease transmission

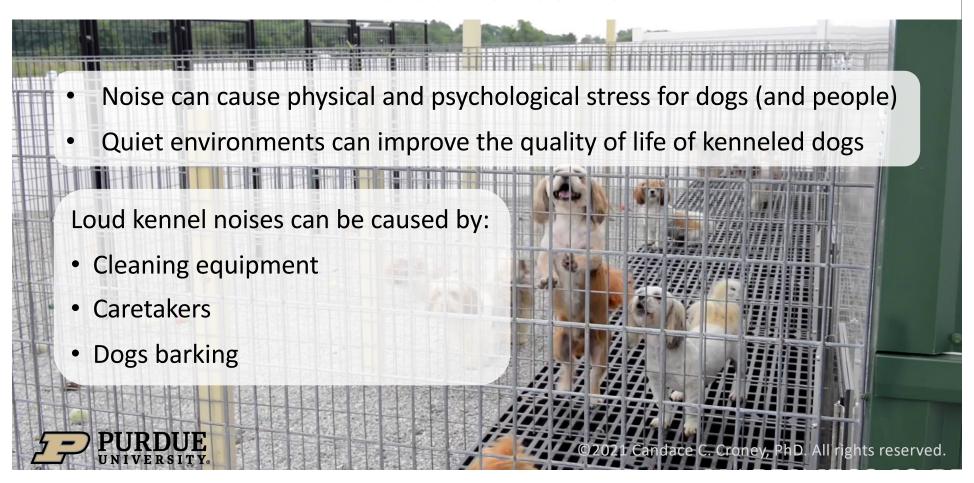


Perfecting Play Yards

- Provide large outdoor or indoor play yards
- Supply access to shade and cover to protect from the weather and give indoor/outdoor choice
- Offer a variety of safe substrates (e.g., sand, dirt, grass, gravel, concrete)
- Include slides, tunnels, climbing structures, ramps, stairs
- Promote the expression of rewarding natural behaviors by providing sandboxes for digging, shallow pools for splashing and temperature regulation, and opportunities to explore by sniffing



Noise Concerns





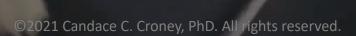
- Avoid building kennels where runs face one another
- Cover the bottom portion of kennel doors while moving dogs
- Separate high-traffic areas from quiet areas
- Place outdoor play yards out of view of home pens
- Select soft-close hardware on dog doors
- Incorporate noise mitigation and sound absorbing materials
- Reduce barking by providing enrichment and socialization

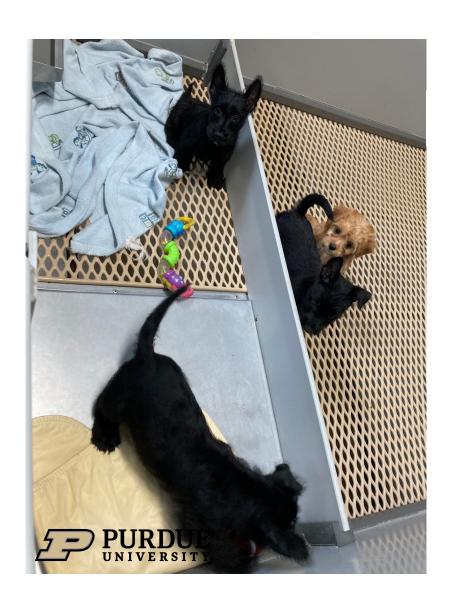


Flooring Matters!

- Appropriate management of flooring is critical for dog welfare
- Providing multiple flooring types (e.g., for standing, playing, eliminating/house training, and resting) benefits behavioral and physical health
- Multiple flooring types have been associated with cleanliness and foot and joint health

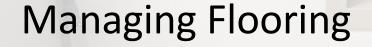


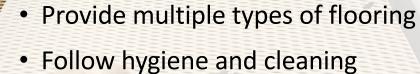




How Does Flooring Impact Welfare?

- Age, body condition score, and type of flooring are significant factors in the occurrence of interdigital cysts (furuncles)
- Substrate in whelping boxes can impact puppy growth
- Puppies develop preferences for substrates for elimination





guidance of all surfaces

 Ensure that flooring is clean, dry, and not saturated with feces or urine

Install grip as needed in regularly wet areas to minimize slipping



Designing Floorplans with Welfare in Mind

- 1. Create a floorplan with large kennels to accommodate group housing
- 2. Include outdoor access for home pens
- 3. Designate spaces for intended use (e.g., veterinary, exercise, whelping
- 4. Place quiet environments in the back with high traffic areas in front
- 5. Utilize gates and alleyways to promote efficiency and ease for handlers
- 6. Ensure that all spaces can be easily monitored and maintained
- 7. Consider the locations of drains for safety and hygiene
- 8. Install systems in the front of pens that support easy caretaker contact



What **Not** to Do:

- Offer only single-dog home pens
- Create main thoroughfares in front of the kennels
- Place high-visit areas in the back and low-visit areas in the front
- Provide one type of flooring that is not properly managed
- Block caretakers' view and access to kennels
- Fail to include built-in furnishings
- Place whelping pens and outdoor exercise yards in proximity to home pens





Examples of Retrofitting

- Combine single runs to allow enough space for group housing
- Expand runs to have outdoor components
- Deliberately designate spaces with use and traffic in mind
- Add specific fixtures and finishes (e.g., soft-close hardware, visual barriers, sound-absorbing materials)
- Integrate built-in furnishings (e.g., add a dog crate for resting and perching)
- Supply a variety of flooring materials (e.g., add a sturdy rubber mat to easily create additional solid surface)



Learn More:

- Quick Tips for Success: Kennel Design with Behavior & Welfare Considerations
- <u>Setting Puppies and Dogs Up for Success: Designing Kennels with Behavior and Welfare Considerations in Mind</u>
- Temperature Requirements for Dogs
- Auditory Stress: Implications for Kenneled Dog Welfare
- Promoting the Welfare of Kenneled Dogs: Environmental Considerations
- Effects of Flooring on Animal Health and Well-Being: Implications for Kenneled Dogs
- Promoting the Welfare of Kenneled Dogs: Space Allocations and Exercise



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