

PREVENTATIVE ETHOLOGY IN KITTENS

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INTRODUCTION

Preventative ethology applies behavioural science to reduce the likelihood of future behavioural problems by shaping the early experiences of animals. In kittens, this involves understanding the biology of development, the environmental and social requirements for normal behaviour, and the owner and breeder practices that support behavioural health. Veterinary professionals play a crucial role in educating owners and breeders so that kittens are raised and managed in ways that promote adaptability, resilience, and positive social relationships.

BEHAVIOURAL PROBLEM INCIDENCE

Providing prospective owners with realistic expectations is an important aspect of prevention. Most epidemiological data on feline behavioural problems come from referral caseloads, which may over-represent more severe or complex conditions. A Spanish survey of non-referral practices (Fatjó et al., 2006) found that the most frequent feline behavioural complaints were indoor elimination, furniture scratching, and excessive vocalisation. In contrast, the most frequent canine complaints were destructiveness, aggression, and indoor elimination.

Notably, the leading feline problems are all normal species-typical behaviours expressed in a way that owners find unacceptable. This highlights the importance of owner education in adapting the environment to meet behavioural needs, rather than attempting to suppress these behaviours after they emerge.

Referral populations show a different picture: aggression is often the most frequent feline problem, most commonly between cats. Aggression towards people is frequently play-related or petting-related, and there is considerable overlap between these categories. Certain factors appear to increase risk, including sourcing kittens from pet shops, keeping cats indoors only, and housing multiple cats without sufficient space or resources. In multi-cat households, high density increases the likelihood of inter-cat aggression and urine marking.

SOCIALISATION AND EARLY REARING

The sensitive period for social development in cats occurs between two and seven weeks of age (Karsh & Turner, 1998). During this time, kittens learn to recognise and respond to members of their own species and to other species, including humans. The amount and variety of human handling during this period strongly influence adult sociability: kittens handled frequently and by multiple people are more likely to approach and less likely to avoid humans in adulthood (Karsh & Turner, 1998; Collard, 1967).

Enhanced socialisation programmes can extend beyond the sensitive period. Casey et al. (2008) studied kittens in a rescue centre given extra handling, manipulation, play, and short separations from the litter until nine weeks of age. Compared with controls, these kittens were less fearful of people and showed stronger emotional bonds with their owners one year later. Gentle handling during the first six weeks has also been linked to greater novelty-seeking and willingness to approach unfamiliar objects and people (Meier, 1961; Wilson et al., 1965).

While the sensitive period ends at around seven weeks, kittens continue to learn through positive associations. In Australia, "Kitten Kindy" classes have been developed for healthy kittens aged seven to fourteen weeks (Seksell, 2001), focusing on exposure to a variety of people, handling styles, and stimuli. In the absence of such classes, owners can replicate many elements at home.

Breeding practices affect socialisation opportunities. Pedigree kittens are often homed at thirteen weeks or later for disease control reasons, which increases the breeder's responsibility to provide enhanced social and environmental enrichment. Without this, late-homed kittens may adapt poorly, showing heightened anxiety or fearfulness.

From a behavioural standpoint, the optimal homing age is around eight weeks—when kittens are independent from their mother yet still within a developmental window for adaptation to new environments. Homing earlier risks developmental immaturity; homing later without enriched rearing risks poor adaptation.

ELIMINATION AND TOILET TRAINING

For the first three weeks, kittens lack voluntary control of elimination; urination and defecation are stimulated by maternal licking. By seven weeks, voluntary control is established. Kittens learn substrate and location preferences by observing their mother, favouring private, secure locations away from resting and feeding areas. If the mother has limited or unsuitable facilities, kittens may develop inappropriate preferences.

Preventative measures include providing multiple shallow trays with fine, mineral-based litter. Silica gel litter should be avoided in young kittens due to ingestion risk. When changing substrate, gradual mixing can aid acceptance. For outdoor access, creating a sheltered sand-filled toilet area, seeded with used litter, encourages appropriate use.

FEEDING AND WEANING

Maternal undernutrition during pregnancy and lactation can cause irreversible neurological changes, including underdevelopment of cerebral and cerebellar regions, leading to fearfulness, poor social behaviour, and delays in play and predation (Smith & Jansen, 1977; Simonson, 1979).

Weaning usually begins at around four weeks (Martin, 1986) and is influenced by maternal absences and the availability of solid food (Tan & Counsilman, 1985). Kittens develop food preferences through social learning from their mother (Wyrwicka, 1978).

Preventatively, kittens should be fed ad libitum to mimic the natural pattern of 10–20 small meals daily. Wet food should be offered alongside dry food to ensure adequate water intake and ease of eating. Activity feeders can provide enrichment but should not replace constant food availability during growth.

PLAY BEHAVIOUR AND DEVELOPMENT

Play in kittens supports motor skills, cognitive development, and social interaction, and has a low metabolic cost (Bradshaw, 1992). It falls into three broad categories: social play, object play, and locomotor play.

Social play begins around four weeks and peaks before declining at twelve to fourteen weeks (Voith, 1980). It features ritualised behaviours, role reversals, and communicative signals such as the “play face”. In single-kitten households, social play may be directed at adult pets, potentially causing stress. Housing kittens in same-sex pairs can provide more appropriate outlets.

Object play begins slightly later and peaks at around eight weeks (Barrett & Bateson, 1978). It is strongly motivated by novelty. Males typically spend more time in object play than females, and in mixed-sex litters, female play may be “masculinised”.

Locomotor play develops at seven to eight weeks (Martin & Bateson, 1985) and includes climbing and balancing, often modelled on the mother's behaviour. Owners should provide safe climbing opportunities; prevention is unrealistic.

Predatory skills develop partly through play, but also through limited adult observation. Even kittens deprived of object play achieve normal predatory ability by six months (Caro, 1980). Kittens raised with prey species may still hunt them later (Kuo, 1938). Suppressing predatory play is neither effective nor beneficial.

Owners should be advised never to encourage kittens to play with human hands or feet, as this redirects object play towards people and increases the risk of injury. Cat bites can easily lead to infection, abscess, or septicaemia.

DEVELOPMENTAL MILESTONES

Between nine and fourteen days, kittens' eyes and ears open, and they begin to walk. Vision continues to develop until twelve to sixteen weeks (Ikeda, 1979). Air-righting appears at around day thirty and is complete within two weeks; balance sufficient for walking along narrow surfaces develops by week eleven (Villablanca & Olmstead, 1979). Owners should avoid placing kittens in situations beyond their physical capabilities, such as high perches before balance is developed.

KITTEN SELECTION

There are no validated tests for predicting adult temperament. Selection should consider breed, parental temperament, rearing environment, and developmental stage at homing.

Breed differences in behaviour have been documented (Bamberger & Houpt, 2006; Marchei et al., 2009; Takeuchi & Mori, 2009). Certain pedigree breeds, such as Siamese, may show higher levels of aggression and compulsive behaviours, while domestic short-haired cats often display balanced temperaments and are more likely to have been reared in varied environments.

Maternal temperament is critical, influencing kittens through both genetics and modelling. Kittens from nervous or defensive mothers should be avoided. The rearing environment should mimic a domestic home, providing varied human interaction, enrichment, and opportunities for play. Homing should occur no earlier than eight weeks, and only when kittens are independently feeding, using the litter tray, exploring confidently, and showing no undue fear of strangers.

NEUTERING

In males, neutering reduces roaming, territorial aggression, and urine marking, with greatest effect if performed before one year. In females, neutering prevents oestrus behaviours, and there is no health benefit to allowing a litter. In the UK, neutering is typically carried out from four months of age.

PREPARING THE HOME

Kittens alternate between short bursts of activity and rest. At eight weeks, they are at peak demand for object and locomotor play. Owners should provide safe climbing structures, rotate toys to maintain novelty, and remove hazards, including toxic plants such as lilies and azaleas. The main living space should be the initial confinement area, with at least one litter tray.

OUTDOOR ACCESS

Outdoor access enables the performance of natural behaviours but increases risks, including infectious disease, road traffic accidents (RTAs), and injuries from other cats. With vaccination and antibiotic availability, most feline infectious diseases can be prevented or treated, except feline immunodeficiency virus (FIV).

RTA risk is 1.9 times higher in males and peaks between seven months and two years, particularly in high-traffic areas and at night (Rochlitz, 2003a, 2003b). Inter-cat injuries are linked to local cat density and frequency of visits by non-resident cats. In some areas, high neighbourhood cat density may make adding another cat inadvisable.

Kittens should not be allowed outside unsupervised until vaccination is complete and locomotor skills are mature. Supervised access should be given initially. To prevent home invasion by other cats, secure microchip-activated cat doors are recommended, and food should not be placed where it is detectable from outside.

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