

Domestication and Behavior in Cats

Our topics for this week are:

- The history of domesticating cats
- Natural behavior of cats
- Safety measures for cat handlers
- Promoting safety for cats to be handled

DOMESTICATION OF CATS

The domestic cat (*Felis catus*) has been valued as guardian of grain stores and human dwellings against vermin (mice and rats) and small reptiles (snakes and lizards) at least 9,500 years. Humans began to grow and store grain which attracted vermin and reptiles, which are food for cats and brought cats into proximity with humans. Cat domestication about 3,500 years ago coincided with the practice of storing grains in the fertile areas of the Middle East.

The domestic cat is currently believed to have evolved from the African Wild Cat (*Felis silvestris libyca*). The first recorded domestication was with the Egyptians circa 3,500 BC, who worshiped and protected cats which were viewed as symbols of fertility and strength. By 1,500 BC, the penalty for killing an Egyptian cat was death. Phoenician trading ships brought cats to Europe around 900 BC. Cats subsequently became a symbol of liberty in Roman times. They were a valued form of pest control on farms until the Middle Ages when the Catholic Church associated them with Satan worship. Many cats, especially black cats, were killed which may have contributed to the spread of Black Death in Europe during the 14th century that killed more than 1/3 of the human population in Europe.

The domestic cat is not indigenous to the Americas. It was imported with European settlers. Cats were often carried aboard ships to control rats and mice. Now, it is the most numerous companion pet in the U.S., although fewer households have cats than dogs. Among all domestic animals, humans have done the least amount of selective breeding with cats. The domestic shorthair cat is remarkably free of genetic diseases, although recent specialty breeds are not.

Male cats are called *tomcats*. Female cats are *queens*, and young cats are *kittens*.

NATURAL BEHAVIOR OF CATS

Feral and domesticated cats are highly social, nocturnal, territorial, semi-arboreal, solitary predators. They prefer to sleep 16-18 hours a day. Females are more social than males, and are the organizers of the colonies. Males have much larger hunting territories than females. Cats will live in large groups (called *clowders*) if their food source is limited in number of availability sites but sufficient in quantity, as is often the case in urban environments. However, if they have sufficient natural prey (rodents) over a broad region, they prefer not to live in mixed groups. The basic social unit is a queen and her kittens. Tomcats may kill kittens that are not their own.

Cat to cat aggression is often carried out by each walking on their toes as they pass each

other while staring at their opponent. Suddenly, there will be an attempt by one or both to grab the other cat by the back of the neck. If successful, this hold protects the cat holding the other's neck against being bitten or raked with front claws. If grabbing the back of the neck is unsuccessful, both cats will lie belly to belly while attempting to claw and bite the other until one cat retreats. This type of aggression may be directed toward a handler when he tries to pet a cat's abdomen. Efforts to pet a strange cat's abdomen should be avoided even if the cat seems to be inviting it.

Cats are genetically highly accomplished predators. A bell should be attached to a collar of a cat that is aggressive against other cats or that could have the opportunity to kill songbirds or hummingbirds.

The core environmental needs of cats are to hunt, play, and scratch territorial objects.

Body Language

Cats use body language and vocalizations to communicate. A relaxed attitude is demonstrated by the cat lying on one side or sitting while its tail moves slowly. A cat's tail hangs down if walking with a relaxed attitude. *Kneading* of soft surfaces is a sign of contentment. Kneading is also one of the methods that cats mark their territory or possessions. When inquisitive or greeting an unthreatening animal or human, a cat's tail is carried up.

A cat on alert is characterized by assuming a frozen sitting or lying posture, rapid flicking of the tail, and dilated pupils. Walking tiptoe with head down is aggressive posture. Aggressive body language also includes slight piloerection on back and ears erect but swivelled to the side or back against the cat's neck.

Fear is exemplified by flattened ears, crouching, arching the back, salivation, and spitting, and dilated pupils.

Vocalizations

Purring is a sign of contentment. Cats will often chatter their teeth, also called chirrup, if they are excited by the sight of prey. Meows are to call the attention of other cats or their handler.

Marking Territory

Cats instinctively scratch objects in their territory to mark their territory and clean and sharpen their nails. Soft wood is preferred. Scratching of trees is a visual marker, but pheromones from the cat's paws also provide an olfactory marker.

Both males and females will mark territory by spraying urine. Males spray to mark territory; females spray while in heat to attract males. Urine spraying of territorial objects is intensified with the introduction of a rival cat, and territorial aggression is often triggered by another cat's odor. Clean (deodorized) cat handling jackets should be worn when handling an aggressive cat to avoid a territorial aggression response.

Cats rub with their cheeks (called *bunting*) when objects stimulate a gape (the equivalent of the flehmen response) or when a subordinate greets a dominant cat. Scent glands next to their mouths produce chemicals that are smeared on objects, and handlers, that the cat claims as its own by facial marking.

SAFETY FIRST

Handler Safety

Most domestic cats are inherently friendly. A few cats are always ill-tempered. If they are in good health, all are agile, extremely quick, and capable of causing serious injuries to handlers. Minimal restraint for the procedure to be done is the best means of handling cats. Domestic cats have a wide variety of temperaments, but most cats are docile if socialized early and handled gently with minimal restraint. The most frequent reported behavior problem of cats is aggression toward its owner. Most often, the cause is poor socialization of the cat as a kitten and poor handling techniques of owners, in particular, excessive restraint and rough play. Cat bites are more common in veterinarians and veterinary technicians than dog bites. Aggressively defensive cats do not pose a risk to human life; however, they can inflict serious injuries that may lead to impaired use of hands or loss of vision. Their first line of defense is their front claws. Besides causing painful injuries to arms and hands, cats will use their claws to strike at an opponent's eyes. Even superficial scratches can introduce bacteria, such as the bacteria for Cat Scratch Disease or a subcutaneous fungus called *Sporotrichum*. Lab or clinic coats with long sleeves should be worn when handling cats as a means of protecting against cat scratches. Back claws are a source of injury to handlers when holding a cat near the handler's body if the cat attempts to escape.

Cats bite very quickly and let go quickly. They then will bite quickly again if the threat does not retreat. The bites are deep penetrating wounds that can injure and infect joint capsules, tendon sheaths, and bones, particularly of the hands. Permanent disabilities of the hand can result from cat bites. The risk of infection from a cat bite is more than five times higher than from a dog bite. Socialization with humans involves handling and playing with cats but play should not involve using hands as simulated prey. "Fishing" play with cats using a rod, string, and feathered object is much safer.

Domestic cats are very independent, especially if threatened. Their first reaction to a threat is to run and hide with no regard to where other cats are running or to other potentially dangerous things going on in the same area. In other words, cats run first and think later. Once hidden as well as they can which may just be cowering in the back of a cage, they often will issue warnings (low rumbling growls, hisses, and rapid strike and retreat) to threats that continue to approach.

Cats telegraph their aggression more consistently than do dogs. A dominance aggressive cat may do little cowering or hissing before striking, but they will have a fixed stare toward their opponent, dilated eyes, and their ears will be pulled back. They will stand confidently. Their tail will move back and forth to the sides with a flicking movement at the end of the tail. Their hair on the back will be raised. Their whiskers are elevated to a position where they stick straight out to the sides. Fearful aggressive cats are more vocal and will flattened their ears and arch their back before striking usually from a crouching position. They do not stare directly at the opponent and may present their side to what they perceive as danger.

Cat Safety

Cats that are socialized to people have less resistance to being handled and restrained. As a result, they are safer from self-inflicted or inadvertent injury from attempted escapes when being

handled.

Kittens should be socialized to other animals and humans outside the immediate family during the sensitive period for cats of two to seven weeks of age. Brief daily handling exercises and being spoken to during this period are important, although periodic handling and other human interaction needs to continue occurring for the remainder of the cat's life. Inter-cat socialization is particularly important during 12 to 14 weeks of age. It is during this period that their focus shifts from social play to predatory hunting practice. Kittens should begin their routine vaccinations 10 days prior to beginning the first socialization event with other cats, and they should be tested negative for feline leukemia virus (FeLV) and feline immunodeficiency virus (FIV). If adopted from a shelter, the kitten should be kept in their new home for two weeks before socializing with other cats. Kittens should not socialize with other cats that are sneezing, coughing, vomiting, or having diarrhea.

Now, let's recap the key points to remember from today's episode:

- Despite a long history of domestication, the degree of selective breeding and behavior modification in cats is less than other domesticated animals
- Cats can be more successful at becoming feral than other domesticated small animals
- Most cats are better handled with minimal restraint
- Cat bites and scratches are a significant injury and source of infection for handlers

More information on animal handling is available in my book, *Animal Handling and Physical Restraint* published by CRC Press. It is also available on Amazon and from many other fine book supply sources.

Don't forget serious injury or death can result from handling and restraining some animals. Safe and effective handling and restraint requires experience and continual practice. Acquisition of the needed skills should be under the supervision of an experienced animal handler.