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The Cat

CLINICAL MEDICINE and MANAGEMENT

Susan E. Little

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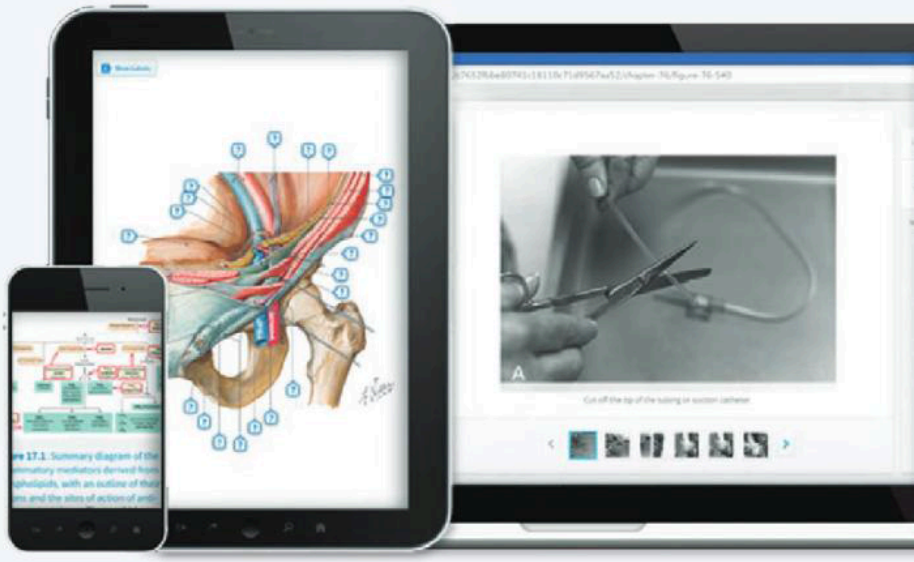

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The Cat

CLINICAL MEDICINE and MANAGEMENT

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CHAPTER

1

Understanding the Cat and Feline-Friendly Handling

Ilona Rodan

OUTLINE

Cats are not small dogs. ***(Dr. Barbara Stein)***
Cats are not small people. We need to allow cats to be cats! ***(Dr. Ilona Rodan)***

INTRODUCTION

Understanding the cat is the foundation of excellent patient care and feline welfare. Cats are fascinating creatures that are like no other domestic animal.[1] As the most popular pet in many countries and a beloved family member to many, it is essential that we understand the cat, its stressors, and how to best provide for its welfare both at home and in the veterinary practice. With continued advances in feline medicine, many cats now live into their late teens and early twenties, and more than one-fifth of cats seen by veterinarians in the United States are 11 years of age or older.[2] Awareness of feline stress—or a more appropriate term, distress—and its impact on disease and behavior provides the ability to address distress effectively, improving patient welfare both at home and in the veterinary practice.[3–6] Medical and behavioral management of serious and chronic conditions enhances feline longevity and the relationships cats share with people. Not only does this improve the lives of cats, but it indirectly enhances the physical and emotional health of the people who own them.[7–10] Despite the cat's popularity and advancements in feline medicine, at least one-half of companion cats do not visit the veterinary practice on an annual basis,[11,12] resulting in unrecognized pain, illness, and distress. Reasons for the lack of veterinary csare include the cat appearing healthy and owner's impression of the stress surrounding the veterinary experience.[12] The veterinary visit is not only distressing for cats and owners, but also for veterinary professionals! The goals of feline-friendly handling techniques are to prevent feline distress and the consequent negative emotions (e.g., fear) surrounding the veterinary visit, subsequently reducing human injury.[13]

An understanding of the cat, its stressors, and how we can improve experiences for both owner and cat in the veterinary practice and at home is crucial. This chapter will provide evidence-based information wherever possible to facilitate feline veterinary consultations based on an understanding of the cat—a species so different from dogs and humans.

WHO IS THE CAT?

A Solitary Survivor

An understanding of the cat and its ancestors helps us to better appreciate why the cat may react negatively at the veterinary practice. The earliest known ancestors of the

cat family, *Felidae*, date back 35 million years.[14] Of the 37 species of cats living today, the domestic cat is the only one that is not considered threatened or endangered by conservation organizations. All *Felidae* are hunters and carnivores. Except for the lion, they are solitary hunters that must sustain themselves solely on what they capture. This includes the so-called "domestic cat" surviving on the frequent small prey that they hunt and capture on their own. The cat is essentially a solitary survivor.

The adage of "a cat is not a small dog" holds true from the time of domestication of dogs and cats. The dog descended from the grey wolf 13,000 to 17,000 years ago, a time when humans were hunter-gatherers, and dogs first assisted with hunting, guarding, and other utilitarian activities. The domestic cat, whose scientific name is *Felis silvestris catus*, descended from the North African wildcat, *Felis silvestris libyca* (Fig. 1.1) in the Fertile Crescent about 10,000 years ago with the development of small settlements and the ability to store grains.[15] Grain storage attracted the house mouse, which subsequently attracted cats that were more tolerant of people, leading to a mutualistic relationship between cats and people that required no change to the cat's normal behavior.[16] Thus cats retain many aspects of their wild predecessors.

Whereas the grey wolf is a very social animal, *Felis silvestris lybica*, still existing today, is not social with other species or even with their own except during mating and the rearing of young kittens. To quote behaviorist John Bradshaw:

> The domestic cat has had to transform itself from a solitary, territorial species that regards all humans as enemies, to a (somewhat) gregarious species that can learn to form amicable relationships with people (and other cats). All of this in less time than it took for wolves to become dogs.[17]

There are those who think that the domestication of the cat is not yet complete, and that *Felis silvestris catus* is just a subspecies of *Felis silvestris lybica*.[15,18] Genetic analysis has demonstrated that the genotypes of the domestic cat are indistinguishable from that of *Felis silvestris lybica*,[14] and it is known that they can interbreed. *Felis silvestris catus* can continue to survive independently, as seen with feral cats that are not fed by humans.

Fig. 1.1 *Felis silvestris lybica*, also known as the African wildcat, is the predecessor of the domestic cat and still exists today. *Courtesy iStock.com.*

As solitary survivors, cats have amazing athletic abilities and keen senses to allow them to hunt successfully. They have also developed excellent protective mechanisms, including territoriality and the ability to sense and avoid danger. Their emotions and behavioral responses (e.g., their heightened fear response) function to protect them when threatened (see "How cats respond to stressors: the emotional response"). Like their wild ancestors, they hide illness and pain as a protective mechanism, which adds to the mistaken impression that cats are independent and require little or no care. Recognizing these traits aids in understanding how to work with cats within the veterinary hospital.

The Territorial Cat

As solitary hunters and survivors, safe territory is critical to the cat's survival and more important than relationships with other cats or anything else![17] Safe territory protects against predators and other dangers and provides the resources that the cat requires. Territory gives the cat a sense of control, security in familiarity and predictability, enhancing the cat's ability to cope.[19] Most cat communication, such as marking, is meant to protect territory without physical interactions and potential conflict with another cat. Leaving their territory or having unfamiliar people or events within their territory can be highly threatening to the cat, causing a loss of sense of control. The complexity of the territory is more important than size, and this can be simulated in the practice by providing a safe place (see "A place to hide"). Providing a safe place enhances the cat's ability to cope in the veterinary practice.

Cats Are Social, But Different

The cat is the youngest of the species to be domesticated and the only one whose social structure is derived from a solitary survivor rather than a pack animal.[1] In fact, the cat is the only domestic animal that is solitary in the wild but with the potential to be social with domestication.[1,20]

The cat's social structure is flexible, with free-living (e.g., feral) cats choosing to live in social groups or colonies only if sufficient food resources and territory exist.[21] The social organization of the colony is based on females, usually related, cooperatively nursing and rearing the young.[21]

Males leave the colony when mature, but females may remain in the colony if sufficient resources are present. Colonies are quite insular, and strangers are

generally not welcome and will be driven away. If a new cat persists in visiting the colony, it may eventually be integrated into the group, but the process often takes several weeks. As cats feel threatened by unfamiliar cats, introduction of a new cat into a household should be done gradually. Also, cats in the veterinary practice should not have exposure to unfamiliar cats.

Within a colony, cats may choose preferred associates or affiliates, which are usually related cats. These cats show affection toward each other through affiliative behavior, described under "Tactile communication."

Although social, cats are solitary hunters. They catch small prey and may need to eat as many as 20 times each day, with many of their hunting expeditions being unsuccessful. Because cats are solitary hunters, they need to maintain their physical health and avoid fights with other cats whenever possible. Much of feline communication is intended to prevent altercations over food and territory, and thus to avoid the risks of active fighting. Cats also communicate with people and if we recognize their communications, aggression can often be avoided.

HOW CATS PERCEIVE THE WORLD

Perception is everything, and we can improve interactions with the cat if we understand how it perceives the world. On a general level, a cat's perception is based on its senses, most of which are highly sensitive compared to ours. However, each cat is an individual whose perception is also based on the genetic influence of its parents (also known as temperament), as well as the individual's socialization, experiences, and memories.[22] Cats are also influenced by the response of their owners.[23] This means each feline patient must be assessed individually and treated differently based on its coping ability and how it perceives the world. These topics will be addressed in more detail in the next sections.

Sensory Perception

Smell and Pheromones

Cats have an excellent sense of smell, only slightly less acute than dogs. Consider how offensive certain odors are to us to appreciate how an animal with strong protective mechanisms and a sense of smell far superior to ours must feel when it smells unpleasant and unfamiliar odors at the veterinary practice. These include the scent of people and other animals, including cats. Chemical smells, perfumes, and other scents that we may take for granted can also be offensive and cause fear in this species.

On the other hand, knowing the importance of scent to cats can be used to help feline patients. Educate clients about the importance of familiarity, and to bring their cat to the practice along with some of its familiar and favored objects (e.g., bedding, treats, or toys) to help increase a sense of control and security. This is important for appointments, as well as when cats must stay at the hospital. If the cat is hospitalized or boarded, owners can be requested to bring the cat's food as well. Leaving a sweatshirt or similar clothing that contains the owner's scent can help comfort a cat that is "dropped off" or left at the practice without its owner. To help alleviate distress and conflict with other household cats upon return from the practice, cats should be reintroduced gradually, and scent can be exchanged by wiping an "at-home" cat first with a towel and then the returning cat. Synthetic pheromones can also be helpful.

As in most mammals, the cat's nasal cavity is also involved in the detection of pheromones, chemical messages used to communicate within the same species.[24] This will be covered in more detail later under chemical communication.

Hearing

Cats hear higher frequencies than most mammals, including people and dogs.[25] This broad range of frequencies includes ultrasound, allowing them to hear the ultrasonic calls or chattering of rodents. Their movable pinnae help localize sounds and their sound localization acuity is excellent,[26] aiding in finding prey and protecting themselves from their predators.

Because of their sensitive hearing, sources of acute distress at the veterinary clinic may include ringing telephones, paging systems, and our voices—even when we think we are talking in a normal tone. The noise from centrifuges, x-ray machines, blood pressure monitors, and other medical equipment can startle feline patients. The sounds of other cats and other animals, especially barking, whining, hissing, or shrieking are also potential sources of distress. Using shushing sounds to quiet or calm the cat should be avoided because they sound like the hiss of a cat, and do not calm the patient. Interestingly, the use of classical music in the surgery room lowers blood pessure as well as heart and respiratory rates, and may lead to lower levels of anesthesia needed.[27,28]

Vision

Cats see well in dim light and their eyes are very sensitive to movement, both enhancing the cat's hunting skills and ability to protect itself from predators. Consequently, rapid movements, especially if unanticipated, will likely heighten a cat's responses and can lead to a more reactive patient. When working with cats, therefore, "Slow is fast and fast is slow." Cats perceive an unfamiliar person staring or looking at it directly as a threat (see "Visual communication" for more information). Although its