

# Exploring the Bond

## The role of veterinary practitioners in reducing dog and cat relinquishments and euthanasias

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Estimates vary regarding the number of dogs and cats euthanized each year in the United States.<sup>1,2</sup> Regardless of the source of the estimates, however, all agree that the numbers are in the millions. Even after removing animals that are unlikely to make good pets or those that are surrendered because of old age or illness, millions of healthy animals are euthanized because they are homeless. The problem has been called pet overpopulation, suggesting that if only feline and canine birthrates were further reduced, the problem would disappear. Many, including shelter veterinarians and managers, have disputed this, pointing out that puppies and often kittens are not the predominant age group being euthanized, but rather adolescent and older animals that have been in homes but are no longer wanted by their original owners.<sup>3,4</sup> They have emphasized that addressing pet fertility alone will not stop euthanasia of adoptable animals.<sup>3</sup>

Numerous authors and researchers in the veterinary and humane communities have emphasized the contributions that behavioral problems, ignorance of basic husbandry, and differential attitudes toward cats have on pet overpopulation. These reasons beg veterinary intervention, because veterinarians counsel pet owners on a daily basis and have what sociologists call Aesculapian authority, which is the authority that accompanies the knowledge to heal in human cultures.<sup>6</sup> Veterinarians have an opportunity to intervene, because people relinquishing pets to shelters are often veterinary clients. Seventy percent of dogs and 50% of cats (excluding litters) had been taken to veterinarians at least once during the year preceding their relinquishment to shelters.<sup>5</sup> The genesis and maintenance of a strong bond between humans and pets are of paramount importance to veterinarians for ethical and economic reasons and for mitigation of pet euthanasias for lack of sufficient homes.<sup>6,7</sup>

Recent studies underscore the complexity of the

issues and situations that lead people to relinquish pets and their litters to animal shelters.<sup>8-15</sup> Whereas the shelters represented in these studies are not scientifically representative of all animal shelters in the country, they provide badly needed quantitative estimates of the reasons for relinquishment and the risks associated with various factors. The results are consistent with and extend observations of many people working in companion animal welfare.<sup>16</sup> For example, data now confirm that most animals entering shelters nationwide are not puppies and kittens. Although puppies and kittens continue to be euthanized nationwide and veterinary efforts to promote neutering must continue, in a recent study<sup>12</sup> of 12 animal shelters across the country, puppies accounted for 29% and kittens for 47% of dog and cat relinquishments, respectively. Not surprisingly, these young animals are presented to shelters predominantly because the owners now perceive they have too many animals and have been unable to find homes for these offspring. Dogs and cats 6 to 24 months old accounted for the single largest percentage of dogs relinquished (31%) and the second largest percentage of cats relinquished (20%).<sup>12</sup> These data reemphasize the need for continuing efforts at neutering but also underscore the need for veterinarians to understand the characteristics of all surrendered animals and the reasons they were relinquished. Understanding the reasons leading to dissolution of the human-animal bond can lead to early identification and treatment of potential problems (before the decision to relinquish is made) and ultimately may lead to improved veterinary care, increased veterinary income, and fewer deaths from euthanasia. The purpose of this report is to identify specific activities and programs that practicing veterinarians can adopt that may strengthen the human-animal bond and reduce pet surplus in the United States. These recommendations are derived from the most current research findings related to this topic.

### Undesirable Behaviors

Counseling clients about pet behaviors perceived as problems by owners and continuing the emphasis on neutering are probably the most effective means by which veterinarians can influence the number of dogs and cats surrendered to animal shelters today. Behavioral problems are the leading cause of relin-

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quishment of dogs and the second most common reason for relinquishment of cats (excluding litters).<sup>11</sup> Forty percent of dogs and approximately 28% of cats were surrendered with 1 or more behavioral problems cited by owners among the 5 reasons they could provide for relinquishing their pet. These figures probably underestimate the importance of behavior as many owners may be reluctant to report behavioral problems for fear of pet euthanasia following surrender.<sup>11</sup>

Behavioral problems are best prevented. If that is not possible, then many can be successfully treated or modified. These recent data help focus attention on the leading behavioral causes for relinquishment and indicate those that should be of high priority for veterinarians working to establish and preserve the bond between client and pet.

**Inappropriate elimination**—Resolving the cause of inappropriate elimination is of highest priority for both dogs and cats, because this behavior leads the list of individual behavioral reasons for relinquishment of both species.<sup>11</sup> Not surprisingly, in studies comparing behaviors of animals relinquished with behaviors among animals retained in their homes, frequent inappropriate elimination substantially increased the risk for relinquishment for both dogs and cats.<sup>12-14</sup> Because definitions of frequency of the behavior vary, direct comparisons between studies are difficult, but dogs and cats urinating at least weekly in the home were approximately 2 to 4 times and 2 to 6 times, respectively, more likely to be relinquished to a shelter, compared with animals occasionally or never displaying these behaviors.<sup>12-14</sup> Also, owners who were aware that prescription drugs were available to modify inappropriate elimination were only half as likely to relinquish a cat as those unaware of such drugs.<sup>17</sup>

Veterinarians are trained to distinguish medical from behavioral causes of inappropriate elimination. Most medically related elimination problems are probably accurately diagnosed and successfully treated, but behavioral causes remain a challenge. Nonmedically related inappropriate elimination by animals has a wide variety of causes, and taking a careful history is essential to an accurate diagnosis and effective treatment.

Clients with new puppies must be given good information regarding house training, and their success must be monitored. In a study conducted in 12 animal shelters nationwide, 31.8% of people surrendering dogs believed that, "It is helpful to rub the dog's nose in its mess when it soils in the house," and an additional 11.4% were not sure.<sup>12</sup> Among people with veterinary contact within the past year, a slightly higher percentage were better informed, but there was much room for improvement. Veterinarians cannot assume that new pet owners (whether first-time or former owners) are knowledgeable about and capable of successful housebreaking. The fact that almost half of pet owners who relinquished their dogs believed or were unsure that dogs should have their noses rubbed in their excrement underscores the need for education among dog owners. During puppy and kitten vaccination series, veterinarians should inquire repeatedly about the success of house-training efforts. Problems

can be identified early and sound advice (eg, prepared handouts) provided to clients that may not seek assistance otherwise.

Urinating outside the litter box is more common among cats in multicat households than in single cat households.<sup>18</sup> When asked whether cats minded the presence of other cats in the household, 35.5% of people relinquishing cats did not know or were unaware that multiple cats could affect elimination behavior.<sup>12</sup> In light of the increasing percentage of multiple-cat households (up from 42.2 to 52.0% from 1991 to 1996)<sup>19</sup> and the lack of understanding regarding the potential effects of multiple cat ownership (particularly on elimination behaviors), making clients aware of the risks is important. Proactively inquiring about whether cat owners intend to acquire additional cats and providing good information to assist the decision-making process seem likely to prevent some relinquishments for this reason.

In a 1996 study of risk factors for relinquishment, dogs with inappropriate elimination on a weekly basis had a 7-fold lower risk of relinquishment if they had veterinary care at least 2 times yearly, compared with similar dogs receiving veterinary care less than once a year.<sup>13</sup> This was true after adjustment for neuter status, household income, dog's age, length of ownership, and owner's attachment to the pet. Presumably, veterinary contact included assistance with behavioral problems, as dogs receiving regular veterinary care were less likely to have behavioral problems. Despite this association between veterinary care and reduction in risk of surrender, only 25% of dog owners reported routine veterinary behavioral advice.<sup>13</sup> Clearly, veterinarians need to identify and successfully treat behavioral problems.

In contrast to dogs, the frequency of veterinary care and risk of relinquishment for inappropriate elimination in cats was not associated after controlling for neuter, indoor/outdoor and declaw status, cat's age, and length of ownership in the same study.<sup>14</sup> Given the importance of inappropriate elimination as a cause of the dissolution of the human-animal bond, the veterinary team (defined as practitioners, technicians, office staff, veterinary college faculty, and students) must become proficient at helping owners prevent and resolve this problem.

**Aggressive behaviors**—Excluding litters, approximately 10% of dogs were surrendered to 12 shelters in part because of aggressive behaviors toward people, and 8% were surrendered because of aggression toward other animals.<sup>8</sup> Among dogs surrendered for aggressive behaviors (growling, snarling, baring teeth, and biting), 69% had bitten at least 1 person.<sup>a</sup> Among surrendered cats, fewer cats (5%) than dogs were relinquished in part for aggression toward people, and about the same proportion of cats as dogs (7%) were relinquished for aggression toward other animals. Among cats surrendered for aggressive behaviors toward humans, 71% had bitten people.<sup>a</sup>

Previous estimates of the frequency of canine aggression have been restricted to dogs presented to veterinarians for behavior evaluation. Among these dogs, 40% were presented for aggression, and 54 to

67% of these cases involved aggression to humans.<sup>20</sup> Recent data from a national sample of more than 3,000 dog-owning households reported that approximately 16% of households had dogs that had growled, snapped, or attempted to bite people at least some of the time during the preceding month.<sup>12</sup> For 2 studies in which aggressive behaviors were compared between animals surrendered to shelters and those retained in their homes, dogs displaying aggression toward people on at least a weekly basis or “most of the time” were a minimum of 1.5 times more likely to be surrendered, compared with those lacking signs of aggression.<sup>12,13</sup> These data, coupled with dog bite statistics indicating that between 0.5 and 4.7 million people, mostly children, are bitten in the United States each year,<sup>21</sup> stress the importance of identifying and treating aggressive tendencies early.

Aggression toward people was somewhat less common among cat-owning households (13.2%) and was not associated with relinquishment in 1 study.<sup>12</sup> In contrast, Patronek et al<sup>14</sup> found that cats with daily aggressive behaviors toward people were almost 4 times more likely to be relinquished, whereas those with less frequent aggressive behaviors were not. Veterinary contact within the past year was associated with a dramatically reduced risk for relinquishment for dogs (but not cats) with aggression toward people.<sup>13,14</sup>

Dogs with daily signs of aggression toward other pets were 3 times more likely to be taken to a shelter in 1 study<sup>13</sup> but not in another.<sup>12</sup> Aggressive behavior in cats toward other animals was not associated with risk of relinquishment.<sup>14</sup> Veterinary contact similarly reduced risk of relinquishment of dogs with this behavior, but not of cats.<sup>13,14</sup>

**Other problem behaviors**—Other behaviors reported by people surrendering dogs (excluding litters) were destructiveness outdoors (5.5% of all dogs relinquished), escaping (5.5%), disobedience (4.4%), and being too active (3.8%).<sup>a</sup> Unwanted chewing or other destructiveness in the house on a daily basis or “most of the time” was consistently associated with enhanced likelihood of relinquishment (with risks being 2 to 3 times greater than those for dogs rarely or never exhibiting these behaviors). Similarly, overactive dogs were approximately 3 times more likely to be relinquished, compared with those rarely or never considered overactive.<sup>12,13</sup>

The top individual behavioral reasons not associated with aggression or inappropriate elimination for relinquishment of cats (excluding litters) were destructiveness in the house (3.3% of all cats relinquished), not being friendly (1.8%), disobedience (1.2%), demanding too much attention (1.1%), and being too active (1.1%).<sup>a</sup> When compared with animals retained in their homes, cats with inappropriate scratching or other destructive behavior on a daily basis were approximately 2 times more likely to be relinquished, compared to cats never exhibiting the behavior.<sup>12,14</sup> Cats perceived to be overactive by their owners most or all of the time were more than 2 times more likely to be relinquished.<sup>12</sup>

Providing appropriate guidance to owners regard-

ing the management of these behaviors, particularly before the decision to relinquish is made, will undoubtedly help some people retain their pets. In a recent survey of veterinarians nationwide regarding their attitudes toward and practices involving behavioral education and consultation, a small proportion of veterinarians routinely actively identified and treated behavioral problems.<sup>22</sup> Veterinarians were most likely to routinely discuss behavior during new puppy or kitten visits (52 to 65% discussed behavior), least likely to discuss it during annual check-ups (approx 15% discussed behavior), and moderately likely to discuss it during new adult pet visits (25% discussed behavior). Less than a third felt routinely confident of their ability to treat common behavioral problems. Perhaps even more disturbing, only 11.1% of veterinarians strongly agreed that it was the veterinarian's responsibility, rather than a client's, to initiate discussion about behavioral problems. These estimates leave much room for improvement. Many relinquishments are fraught with guilt and regret<sup>15</sup> or complicated by stressful life events,<sup>9</sup> and relinquishment is a last resort.<sup>15</sup> Often people simply do not know that or how behavioral problems can be modified or resolved. Asking specifically about problem behaviors may uncover behavioral problems that clients were reluctant to mention or that they may not realize can be modified; once identified, appropriate interventions can be recommended.

As explained previously, Patronek et al<sup>13</sup> found that dogs with 1 or more yearly veterinary visits were associated with lowered risk of relinquishment for many common behavioral problems, compared with dogs having < 1 annual visit. These data indicate that veterinarians can assist owners in resolving behavioral problems, strengthen human-animal bonds, and reduce the likelihood of relinquishment. The introduction of drugs to address behavioral problems (eg, submissive urination in dogs) holds promise for increasing the veterinarian's arsenal against behavioral problems. In contrast to dogs, the annual number of veterinary visits for cats was not associated with reduced risk of relinquishment.<sup>14</sup> The reasons for the lack of an association between veterinary visits and risk of relinquishment of cats are not clear. It may be that owners or veterinarians are less likely to mention or inquire about behavioral problems in cats, treatment attempts are less successful, or that there are other explanations. If veterinarians actively seek to prevent, identify, and treat objectionable behaviors in cats, it seems likely that risks for relinquishment could be reduced in cats as well.

Pet owners should turn first to veterinarians for health and behavioral problems in their pets. Humane groups are increasing efforts to help pet owners and reduce relinquishments for behavioral reasons. Some shelters already support behavior hotlines. Veterinarians must also be effective in dealing with these problems.

**Obedience training**—Obedience training was also strongly protective against relinquishment of dogs in the Patronek et al study,<sup>13</sup> and the data indicate, if

implemented more widely, training could reduce relinquishments. Only a small fraction (approximately 6.5%) of surrendered dogs had been to obedience classes or privately trained by a professional,<sup>a</sup> indicating that this is an area where substantial progress is possible if clients can be convinced of its importance and be directed to reputable trainers.

## Neutering

Although puppies (and often kittens) are no longer the primary age group being euthanatized in many shelters, neutering (spaying and castration) must continue to be a priority in reducing the number of young animals surrendered and euthanatized. The reductions in numbers of dogs and cats being euthanatized in shelters during the last 20 years<sup>1,3,23</sup> and the high proportion of veterinary clients with neutered pets<sup>24</sup> reflect the efforts of veterinarians and humane groups to persuade owners to neuter their pets. Yet enough animals remain intact to perpetuate euthanasia of adolescent and older animals that may be adopted if puppies and kittens were less available. Among those 5 months of age or older and owned at least 1 month (to allow for neutering), 49.5% of female and 39.1% of male dogs and 52.8% of female and 61.7% of male cats relinquished were neutered in the 12-shelter study.<sup>10,11</sup> Among those having seen a veterinarian at least once during the year preceding surrender, a substantially higher proportion were neutered (56% of female and 44% of male dogs and 72% of female and 76% of male cats).<sup>a</sup> Veterinarians clearly influence neutering decisions, but there is room for further improvement.

Neutered dogs and cats have one half to one third the risk of relinquishment, compared with sexually intact animals.<sup>13,14</sup> This is probably at least partially attributable to the reduction in management problems (eg, unwanted estrous cycles) and objectionable sex hormone-associated behaviors (eg, urine marking, aggression) in neutered animals. Clients must be told that neutering has many benefits including reducing undesirable behaviors, reducing risk of mammary and testicular cancers and prostatic disease, reducing numbers of unwanted puppies and kittens, and enhancing the ease of care of these animals.

Misinformation among dog and cat owners regarding estrous cycles and the desirability of having a litter before ovariohysterectomy is common. Approximately 37% of people relinquishing dogs did not know that dogs generally come into heat twice a year, and even more disturbing, almost 80% of cat relinquishers didn't know that cats were seasonally polyestrous. Between 50 and 60% of people giving up their dogs or cats believed or were unsure that female dogs or cats would be better off after having 1 litter before spaying. These percentages were almost identical among owners who had visited a veterinarian within the past year and those that had not.<sup>a</sup> Veterinarians cannot assume that pet owners are well informed about basic dog or cat husbandry and must actively combat myths surrounding reproduction in companion animals. Owners must be told that there is no evidence suggesting that females make better pets after experiencing a heat or having a litter, and similarly, practitioners must empha-

size the health and behavioral benefits of male castrations (especially in dogs) to get more males neutered. More research regarding cultural, religious, and other beliefs that influence decisions to castrate must be conducted to facilitate these recommendations.<sup>7</sup>

Neutering dogs and cats before the first estrous cycle promises to reduce the number of puppies and kittens and also reduce sex hormone-related behavioral problems among adult animals presented to shelters. An increasing number of shelters are neutering all dogs and cats before adoption, because traditional neutering contracts at adoption have low compliance.<sup>25</sup> A 1991<sup>26</sup> study of a small sample of pet owners in 3 Massachusetts towns revealed that the mean lifetime number of litters of neutered and intact dogs and cats was the same, indicating that neutered animals had litters before their surgery. Results of other surveys of owned cats indicate that although most owned cats are neutered (> 60%),<sup>12</sup> 15 to 20% have litters before being neutered.<sup>26</sup> This presents a powerful argument for prepubertal neutering of clients' animals. There are no scientific studies indicating that 6 months of age is optimal for neutering, and numerous studies document the safety of early-age neutering.<sup>27-32</sup> In light of this, veterinarians are beginning to schedule neutering at the end of puppy and kitten vaccination series (approx 4 to 4.5 months of age) when animals are fully immunized but before they reach puberty. This approach lessens the likelihood that clients forget or their pets escape and have litters before they are neutered and has good potential to reduce relinquishments.

## Other Factors Associated with Relinquishment

Recent studies also highlight other subgroups of people and animals associated with relinquishment. For example, mixed-breed dogs and cats and those acquired at no or low cost are at higher risk of relinquishment.<sup>12-14</sup> Despite this fact, approximately 30% of relinquished dogs (excluding litters) were purebred, and 7.2% had been acquired for \$200 or more.<sup>8</sup> Among cats the comparable figures were 6% purebred and 1.7% costing \$200 or more. Some of these animals are probably not truly purebred, but veterinarians should not assume that clients with purebred or expensive animals have established strong bonds with their animals. Similarly, educational achievement and income level have been associated with relinquishment. In one study, people with a high school education or greater were 1.4 to 1.9 times as likely to surrender their pets than people with less education,<sup>12</sup> whereas in a second study, people with less than a high school education were about twice as likely to surrender their pets, compared with people with a postgraduate degree.<sup>13,14</sup> Despite the conflicting results, a substantial proportion of individuals with high and low educational achievement relinquished pets in both studies.

Patronek et al<sup>13,14</sup> also examined income and found that risk of surrender increased with decreasing income. Yet, in this study and the study involving 12 shelters nationwide, almost a quarter or more of people bringing animals to shelters had annual incomes of \$40,000 or more.<sup>12-14</sup>

## Other Veterinary Efforts

Veterinarians must look for opportunities to influence the development and maintenance of strong bonds between people and their pets. Helping prospective new owners evaluate their lifestyle and circumstances carefully and evaluate whether and what type of pet they should select, for example, will enhance the likelihood that a lasting bond will be formed. Helping people choose a pet (eg, breed, age, gender, size) that is appropriate for their circumstances and lifestyle is an activity that will increase the likelihood of a happy and long-term client. Even the person who is persuaded to postpone pet ownership until after the birth of a child or until after they get their new job is likely to be a happier long-term client. Veterinarians can and have adopted creative approaches to address these needs. For example, practices can offer puppy socialization or obedience classes or sessions on how to select the best pet. This will extend the services offered by their clinics and may reduce needless euthanasia. These classes can and are being offered by staff members as well as veterinarians. These efforts help reduce pet relinquishments and potentially bring clients to, and keep clients at, the practice.

Similarly, educating breeders who are clients in the practice about adequately counseling prospective adopters who seek purebred dogs will enhance the probability that a good match will be made between people and their pets. In light of the high proportion of animals acquired from friends, providing advice to clients with pregnant animals and litters on how to counsel people adopting their puppies and kittens could be a productive investment in reducing pet euthanasias. Many other creative approaches that will enhance client attachment to their pets and reduce the probability of relinquishment are possible.

Length of ownership is a powerful determinant of whether a dog or cat will be relinquished. In studies<sup>12-14</sup> comparing relinquished with retained animals, both dogs and cats owned for < 1 year were at highest risk of relinquishment. In the New et al study,<sup>12</sup> where length of ownership was examined within the < 1 year category, the bond between owner and pet was most fragile among animals owned < 6 months. These data emphasize the importance of the initial veterinary exam for new pet owners (including juvenile and older animals). Spending time with clients during the first visit and discussing basic animal husbandry, techniques for house training, the importance of basic obedience training, and stressing veterinary availability for answering medical and behavioral problems can potentially prevent many misconceptions about pets and problems with pet behavior and can strengthen human-animal bonds. This personal attention does not have to be the exclusive domain of the veterinarian. Instead, such attention to prevention of behavior problems can be a duty of well-trained staff. Such duties can often add a dimension to their daily activities that many find rewarding and enjoyable and can lead to good clients for the practice.

The attitudes of some veterinarians toward animal shelters must change. Criticizing the local shelter, for

example, because shelter cats have a higher frequency of upper respiratory tract infections is unhelpful to the shelter, its animals, and to prospective owners who may acquire wonderful companions from the shelter. Respiratory disease in cats housed in shelters is impossible to eliminate, regardless of control efforts, because of the nature of the viruses involved. Instead of criticizing the shelter, veterinarians (either individually or collectively as a organization) can assist the shelter to minimize disease. Working with shelters, explaining the nature of these illnesses to clients, and treating these usually mild self-limiting infections will result in healthier pets and can save lives. Discouraging people from seeking animals from shelters condemns many healthy and mildly ill animals to death simply because there are not enough homes.

Not all relinquishments to shelters are the result of excess births or an unsuccessful bond. Some owners bring pets to shelters for euthanasia for reasons similar to those of animals presented to veterinarians for euthanasia. Owners of 24% of dogs and 17% of cats requested euthanasia at the time of surrender in 1 study.<sup>33</sup> Their reasons were predominantly old age and illness and, to a lesser extent, behavioral problems. Relinquishments to sources other than animal shelters have not been discussed in this report, because little data regarding them exist, and because many (eg, placement in a new home) are in the best interest of the animal. Presumably, many of the reasons leading to surrender to shelters also pertain to other relinquishments (eg, release near farms, along highways) that threaten an animal's welfare, but more research is needed in this area.

Enhanced training regarding the identification and treatment of behavioral problems, prepuberal neutering, shelter medicine, and strategies to address the problem of euthanasia of millions of healthy adoptable pets must be further incorporated into our veterinary curricula. Not all veterinary colleges, for example, have veterinary behaviorists, and fewer have incorporated behavioral training into their core curricula. Similarly, not all colleges provide instruction in prepuberal gonadectomy.<sup>34</sup> Veterinary students require this training to meet the needs of their clients and to preserve the health of the animals they take an oath to protect.

Veterinary practitioners and their staff can enhance the quality of the bond between clients and their pets and thereby can reduce the numbers of relinquishments and euthanasias of healthy adoptable dogs and cats at animal shelters. Recent data highlight the most common causes of surrender and suggest specific means by which veterinarians can further reduce relinquishments and euthanasias. More clients must recognize that veterinarians can help them with behavioral problems, and accurate diagnosis and treatment of causes of inappropriate elimination, aggression, and destructiveness promise to enhance the likelihood that owners and pets will remain together.

Continued emphasis on neutering of pets, with special emphasis on prepuberal animals, will reduce the number of litters that arise accidentally before owners bring their animals for neutering. Similarly, neutering before puberty can reduce undesirable sex

hormone-associated behaviors that frequently lead to relinquishment. Veterinarians and their staff must actively combat myths regarding dog and cat husbandry, such as those surrounding the desirability of having a litter before neutering or regarding house-breaking in dogs.

Encouraging the veterinary team to spend extra time with clients during initial visits and to actively identify problems can provide opportunities to prevent problems or modify behaviors before they become well established in the pet. Such activities create good clients, increase income, and reduce animal relinquishments and euthanasias.

<sup>a</sup>Scarlett JM, Salman MD, New JG, et al. Regional shelter study, College of Veterinary Medicine, Cornell University, Ithaca, NY, 1998.

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