

## Health and Behavior

Our topics for this week are:

- Psychologic health and stereotypic behavior
- Nutraceuticals
- Animal behavior specialists

### HEALTH AND BEHAVIOR

Illness or injury can markedly alter the animal's tolerance to handling. Handlers should always observe the animal's overall appearance (body condition, hair coat condition), locomotion, interactivity with other animals, consciousness of the environment, evidence of food and water consumption, presence of fecal matter, appropriateness of the character of feces relative to the animal's own species, and appearance and quantity of voided urine. It is natural for predator animals to become defensively aggressive if ill or in pain. Common maladies are injury, arthritis, skin sores, and febrile infections.

Conversely, prey animals tend to attempt to hide their illnesses. Some will fake eating and minimize lameness. They will become more social so they do not stick out from the herd. True behavior of sick or injured animals, particularly prey animals, often requires containment in familiar surroundings and monitoring behavior unobserved with hidden video cameras.

### STEREOTYPIC BEHAVIOR AND ENVIRONMENTAL ENRICHMENT

The determination of psychological stress in animals is qualitative. This tempts some people to anthropomorphize that certain situations are mentally stressful to animals, which may or may not be the case. Efforts at quantitative measures have traditionally relied on the measure of cortisol levels and heart rates, both measures of parameters that change within minutes and are affected by multiple stimuli. Meta-analysis of salivary cortisol studies in animals has indicated that cortisol as a single parameter and without context of duration of possible stress, gender, and other effectors of cortisol concentrations is unreliable as an indicator of stress or welfare.

Visible reactions of animals to situations that induce apprehension, fear, trust, respect, and pain are very similar to observable human reactions. Recognition of these similarities is not anthropomorphism. It is pragmatism. Experienced animal handlers can recognize these primitive basic feelings in animals as well as any human can recognize the visible signs of fear, pain, and other basic reactions in another human.

Failure to appropriately thrive and repetitive alternations in normal behavior are reliable indicators of stress in animals. *Stereotypic behavior* is dysfunctional behavior, usually induced by stress and influenced by genetics. The stresses are often excessive confinement; barren, boring environments; or isolation from their own species. Stereotypic behaviors are characterized by repetitive actions having no obvious purpose.

Common types are usually forms of pacing or oral behaviors.

Example stereotypic behaviors include:

- Circling and pacing in mice
- Feather pulling in caged birds
- Cribbing and weaving in horses
- Tongue rolling in cattle
- Bar biting in sows; belly nosing and tail and ear biting in pigs
- Wool eating in sheep

The percentage of confined animals that show stereotypic behaviors can be an indication of the degree of stress from excessive confinement.

Stereotypic behaviors are most common in stabled horses without turnouts, caged birds without cage enrichments or time out of their cage, crate-confined hogs and pen-confined hogs without environmental enrichments, and chickens confined to battery cages.

Observed stereotypic behaviors may relate to current environment or past environment. Once the behavior has been established, it may be permanent due to alterations in primitive brain locations. These behaviors are not seen in wild animals or those with relative freedom and adequate stimuli for mental exercises.

Still, the lack of stereotypic behavior does not provide evidence of good current or past handling, or good confinement. Animals raised in a barren environment during their socialization period are more prone to stereotypic behaviors.

## **NUTRACEUTICALS AND BEHAVIOR**

Nutraceuticals are over-the-counter food substances administered orally with the intention to improve health or have medicinal benefits. They are not considered pharmaceuticals and therefore not regulated the same as drugs. Often, the efficacy to achieve the proposed effect has not been proven.

Some nutraceuticals have been claimed to have beneficial effects on animal behavior.

### **L-Tryptophan**

Tryptophan is a large amino acid that is a precursor to serotonin. Tryptophan dietary supplements are administered with the expectation that serotonin levels in the brain will increase, improving mood and behavior. However, the clinical benefits in humans are insignificant and behavior improvement in treated dogs has not been scientifically validated.

### **Melatonin**

Melatonin is a hormone produced by the pineal gland in the brain and also by plants. Oral melatonin administration is proposed to treat insomnia in people and modulate fear in dogs, but proof of efficacy is currently insufficient.

### **Alpha-Casozepine**

Alpha-casozepine is a trypsin hydrolysate of the mammalian milk protein, casein. It has been associated with a decrease in signs of anxiety in dogs and cats, but the evidence is weak and more studies on clinical efficacy are needed.

### **L-Theanine**

Theanine is an amino acid found in tea leaves. Reduction of anxiety in dogs and cats has been attributed to the oral administration of theanine, but more studies are needed to confirm these claims. Health claims in humans were not substantiated by the European Food Safety Authority. The European Union now prohibits L-theanine health claims for humans.

## **ANIMAL BEHAVIOR SPECIALISTS**

Knowing basic animal behavior is essential for anyone to become a good animal handler. Animal behaviorists and animal handlers are not synonymous however. To be a good animal handler also requires an ability to interpret animal actions and the reflexes to respond in a timely metered fashion, appropriate to the situation, including the humane use of physical restraints. Some excellent animal handlers may only be able to describe normal animal behavior in colloquial language while some excellent animal behaviorists may be less than average animal handlers.

An animal behaviorist is trained in the investigation of how and why animals behave as they do. A certified animal behaviorist who is a veterinarian is the best source of information on how to diagnose abnormal behavior and what corrective measures to prescribe.

There are no state or federal regulations for people to claim to be an animal behaviorist or trainer. However, two governing bodies exist with requirements for formal education and evidence of acquired knowledge and skills for veterinarians: the American College of Veterinary Behaviorists (ACVB) and the Animal Behavior Society. There is also a Society of Veterinary Behavior Technicians and an Academy of Veterinary Behavior Technicians (AVBT) that certifies veterinary technician specialists in animal behavior. For help with abnormal behavior in animals, contact the ACVB or AVBT.

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

- Behavioral problems can be caused by health problems.
- Stereotypic behaviors do not occur in nature, but often occur in animals kept in stressful environments.
- Nutraceuticals are not considered drugs and do not undergo governmental scrutiny. Unbias scientific proof that they help with behavior problems is often non-existent.

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.

Additional information is available at [www.betteranimalhandling.com](http://www.betteranimalhandling.com)

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.