

BEYOND THE CLINIC

What Is Animal Welfare and Why Does It Matter to Veterinarians?

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Veterinarians have long been recognized as the authorities for ensuring that animals have good welfare; however, as the interpretation of animal welfare broadens, the profession is facing the prospect that others will become the go-to authorities. In such a situation, others would educate the public according to their views of welfare, promote changes that emphasize their views of animal care, and may or may not advocate for research in areas of animal welfare yet to be understood. If we are to remain at the forefront, our profession must become increasingly knowledgeable about all aspects of animal welfare.

AN ANIMAL WELFARE FRAMEWORK

Animal welfare is complex, and several models or frameworks have been developed to describe it. In simple terms, however, animal welfare can be thought of as having 3 parts,^{1,2} commonly diagrammed as overlapping circles called the 3 Orientations or 3 Circles framework (**FIGURE 1**).

The first circle represents the animal's *body*, relating to features such as health, production, growth, and physiologic parameters. This first circle is the domain in which veterinarians and animal scientists usually work, but it does not tell the whole story of an animal's welfare.

The second circle represents the animal's *nature*, sometimes called natural living, with variables such as behavior, personality, and temperament. Veterinary medicine has increasingly come to recognize the importance of animal behavior, particularly as it relates to preventing, diagnosing, and correcting behavior problems.

The third circle, the animal's *mind*, has remained more elusive, but it has significant effects on the other 2 aspects of animal welfare. The mind component includes the animal's affective state (e.g., fear, anxiety, boredom), thoughts, preferences, and perspectives. It is the most difficult of the 3 components to evaluate, but for the animal, it is the most significant.

Consideration of the body, nature, and mind is not limited to the 3 Orientations framework. All 3 are major components of other frameworks that have been developed to describe the breadth and complexities of animal welfare (e.g., 5 Domains, 5 Freedoms), and they are included within various definitions of animal welfare. As an example, the World Organisation for Animal Health (WOAH) addresses animal welfare in its Terrestrial Animal Health Code. The WOAH defines animal welfare as “the physical and mental state of an animal in relation to the conditions in which it lives and dies”³—in other words, how an animal copes with the conditions in which it lives.^{4,5} The WOAH then goes on to explain that “an animal experiences good welfare if the animal is healthy; comfortable; well nourished; safe; is not suffering from unpleasant states such as pain, fear and distress; and is able to express behaviors that are important for its physical and mental state.”³

When evaluating the 3 components associated with animal welfare, people commonly weigh each part in favor of areas best known to them.²

BODY

Veterinary medicine has traditionally addressed the physical components of animal welfare, particularly by preventing or mitigating negative welfare associated with disease. In addition, animal welfare findings relative to production are important to large animal practitioners. As a result, veterinarians have emphasized these things that affect the body most heavily when assessing an animal's welfare status.

NATURE

More recently, the profession has recognized the negative welfare implications of behavior problems. While such problems are only a single aspect of the nature component, welfare evaluations should include broader aspects of behavior and their relation to positive welfare—particularly since animals are now recognized as having sentience and cognition. The importance of sentience (i.e., the ability to feel pain and experience emotions) has been receiving increased attention as neurologic similarities between humans and animals are better understood. The ability to feel pain has also been demonstrated in species thought to

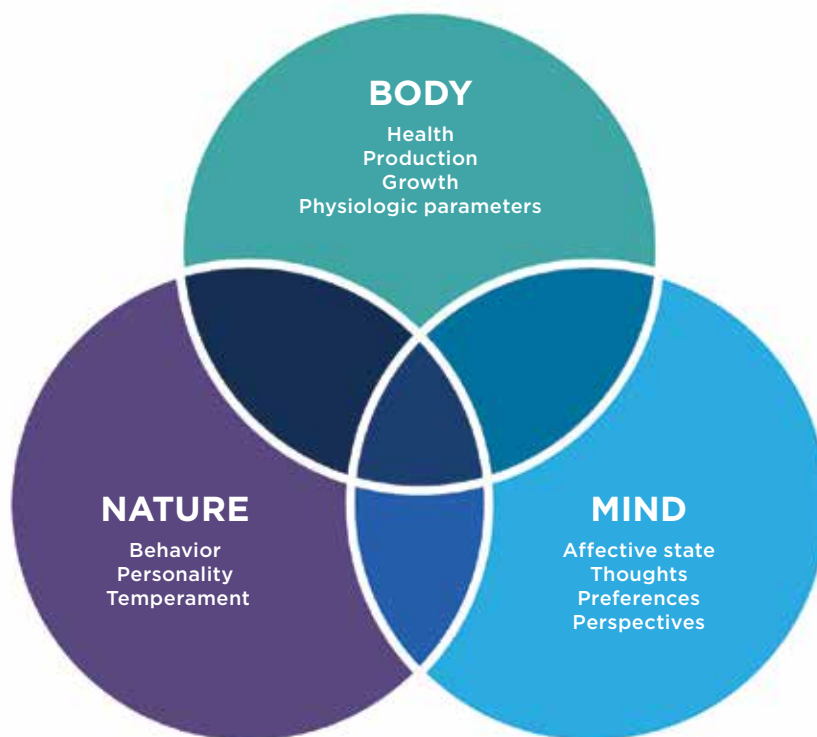


FIGURE 1. The 3 Circles framework for animal welfare.

Animals can think, feel pain, and experience emotions, even if their perception might be different from that of humans.¹¹

have very basic neurologic systems, such as the octopus.⁶ Mitigation of pain and distress is being emphasized for all species,⁷ and techniques are being designed to reduce animal patient fear and stress within the veterinary setting.⁸ Fascinating studies of animal cognition show that animals from a wide range of species can solve complex mental challenges.^{9,10} The bottom line then is that animals can think, feel pain, and experience emotions, even if their perception might be different from that of humans.¹¹

MIND

It is scientifically challenging to understand an animal's mind and subjective feelings, but it is important to do so for a complete picture of its welfare.^{5,12} Techniques have been developed to determine what the animal might consider important, 3 of which will be mentioned.

The first technique is *preference testing*, which is letting an animal choose between 2 closely related objects to identify which they prefer. Horses, for example, have shown preferences for bedding of wood shavings over straw.¹³ Pigs show preferences for rooting in earth-like materials over wood shavings,¹⁴ and they prefer dimmed lighting over bright lighting.^{15,16} Evaluation of the relevance of such choices and closeness of the choices is important. As an example, most dogs will choose a piece of chicken over a piece of broccoli. This might show a preference, but the comparison is too far apart to be significant. Instead, a comparison between chicken and steak, or between broccoli and zucchini, is more meaningful.

A second technique to evaluate subjective feelings is by *strength of value*, which is how hard the animal is willing to work to get something. As an example, an animal is taught to press a knob to access something such as food or social interaction. Then they must push the knob an increasing number of times to reach the

goal, and the number of times they are willing to do that determines the strength of the goal's value. In tests using this technique, horses show a strong preference for food over going from a stall to a paddock,¹⁷ and horses that crib will push the knob as often for a chance to crib as they will to reach high-value food.¹⁸

A third technique uses the concepts of learning to *teach the animal a way to communicate its wants*. As an example, horses can learn to touch neutral symbols to indicate whether they wanted a blanket on or off.¹⁹

THE EVOLUTION OF ANIMAL WELFARE

Because scientific evaluation of animal welfare is thought of as being more difficult than other sciences, particularly the mental component, people tend to shift toward anthropomorphism and subjective evaluations. Subconsciously, people know what they want or expect to see, but that does not tell them what the animal thinks about it. How the veterinarian was raised and techniques that were learned in the past are often thought of as “state of the art.” As an example, it took many years before anesthetic ring blocks were advocated for dehorning and disbudding cattle²⁰ because physical restraint without anesthesia was the technique passed down through the generations. Tail docking and dew claw amputations on days-old puppies were accepted practices “because they wouldn't remember the temporary pain.” Now we know that pain in neonates has a long-lasting, negative impact in multiple species.²¹

As science continues to improve our understanding of animal health and behavior, the veterinary profession also needs to increasingly focus on what can be learned about the animal's mind. Western philosopher Jeremy Bentham's statement poignantly expresses why: “The question is not ‘Can they reason?’ nor ‘Can they talk?’ but ‘Can they suffer?’”²² As a profession, veterinarians must embrace all 3 components of animal welfare—body, nature, and mind—to maintain our authority in this evolving arena. **TVP**

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