



IAABC Position Statement on LIMA

What Is LIMA?

“LIMA” is an acronym for the phrase “least intrusive, minimally aversive.” LIMA describes a trainer or behavior consultant who uses the least intrusive, minimally aversive strategy out of a set of humane and effective tactics likely to succeed in achieving a training or behavior change objective. LIMA adherence also requires consultants to be adequately educated and skilled in order to ensure that the least intrusive and aversive procedure is used. ¹

LIMA does not justify the use of punishment in lieu of other effective interventions and strategies. In the vast majority of cases, desired behavior change can be affected by focusing on the animal's environment, physical well-being, and operant and classical interventions such as differential reinforcement of an alternative behavior, desensitization, and counter-conditioning.

LIMA Is Competence-Based

LIMA requires trainers/consultants to work to increase the use of positive reinforcement and eliminate the use of punishment when working with animal and human clients. In order to ensure best practices, consultants should pursue and maintain competence in animal behavior consulting and training through continuing education, and hands-on experience. Trainers/consultants should not advise on problems outside the recognized boundaries of their competencies and experience. ²

Positive Reinforcement and Understanding the Learner

Positive reinforcement should be the first line of teaching, training, and behavior change program considered, and should be applied consistently. Positive reinforcement is associated with the lowest incidence of aggression, attention seeking, avoidance, and fear in learners. ³

Only the learner determines what may be reinforcing. It is crucial that the trainer/consultant understands and has the ability to appropriately apply this principle. This fact may mean that the trainer/consultant assesses any handling, petting, food, tool, and environment each time the learner experiences them. Personal bias must not determine the learner's experience. The measure of each stimulus is whether the learner's target behavior is strengthening or weakening, not the trainer/consultant's intent or preference.

Systematic Problem Solving and Strategies

The trainer/consultant is responsible for ensuring learner success through a consistent, systematic approach that identifies a specific target behavior, the purpose of that behavior, and the consequences that maintain the behavior.

A variety of learning and behavior change strategies may come into play during a case. Ethical use of this variety always depends on the trainer/consultant's ability to adequately problem solve and to understand the impact of each action on the learner, as well as sensitivity toward the learner's experience.

Preventing Abuse

We seek to prevent the abuses and potential repercussions of inappropriate, poorly applied, and inhumane uses of punishment and of overly-restrictive management and confinement strategies. The potential effects of punishment can include aggression or counter-aggression; suppressed behavior (preventing the trainer/consultant from adequately reading the animal); increased anxiety and fear; physical harm; a negative association with the owner or handler; increased unwanted behavior; and, new, unwanted behaviors. ⁴

Choice and Control for the Learner

LIMA guidelines require that trainer/consultants always offer the learner as much control and choice as possible. Trainer/consultants must treat each individual of any species with respect and awareness of the learner's individual nature, preferences, abilities, and needs. ⁵

What Do You Want the Animal to do?

We focus on reinforcing desired behaviors, and always ask the question, "What do you want the animal to do?" Relying on punishment in training does not answer this question, and therefore offers no acceptable behavior for the animal to learn to replace the unwanted behavior. These LIMA guidelines do not justify the use of aversive methods and tools including, but not limited to, the use of electronic, choke or prong collars in lieu of other effective positive reinforcement interventions and strategies.

When making training and behavior modification decisions, trainers/consultants should understand and follow the *Humane Hierarchy of Behavior Change – Procedures for Humane and Effective Practices*, outlined in the document attached. ⁶

For these reasons, we, strongly support the humane and thoughtful application of LIMA protocols, and we applaud those individuals and organizations working with animals and humans within LIMA guidelines.

Hierarchy of Procedures for Humane and Effective Practice

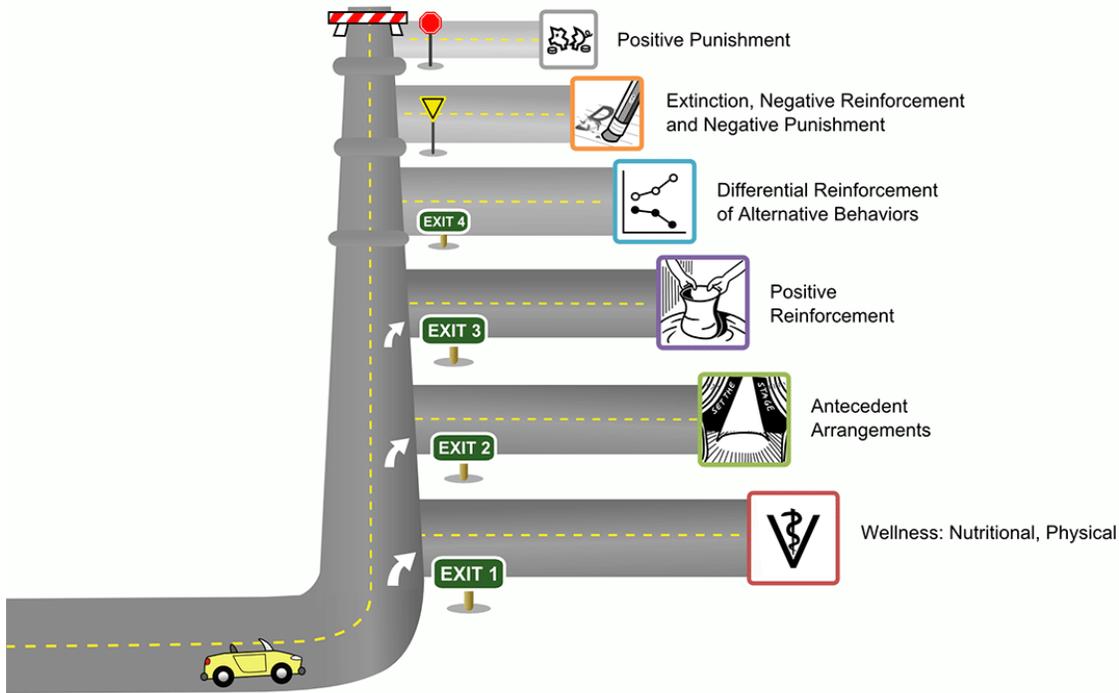
Purpose

The Humane Hierarchy serves to guide professionals in their decision-making process during training and behavior modification. Additionally, it assists owners and animal care professionals in understanding the standard of care to be applied in determining training practices and methodologies and the order of implementation for applying those training practices and methodologies.

Hierarchy of Procedures for Humane and Effective Practice

1. **Health, nutritional, and physical factors:** Ensure that any indicators for possible medical, nutritional, or health factors are addressed by a licensed veterinarian. The consultant should also address potential factors in the physical environment.
2. **Antecedents:** Redesign setting events, change motivations, and add or remove discriminative stimuli (cues) for the problem behavior.
3. **Positive Reinforcement:** Employ approaches that contingently deliver a consequence to increase the probability that the desired behavior will occur.
4. **Differential Reinforcement of Alternative Behavior:** Reinforce an acceptable replacement behavior and remove the maintaining reinforcer for the problem behavior.
5. **Negative Punishment, Negative Reinforcement, or Extinction (these are not listed in any order of preference):**
 - a. Negative Punishment - Contingently withdraw a positive reinforcer to reduce the probability that the problem behavior will occur.
 - b. Negative Reinforcement - Contingently withdraw an aversive antecedent stimulus to increase the probability that the right behavior will occur.
 - c. Extinction - Permanently remove the maintaining reinforcer to suppress the behavior or reduce it to baseline levels.
6. **Positive Punishment:** Contingently deliver an aversive consequence to reduce the probability that the problem behavior will occur.

Hierarchy of Behavior-Change Procedures Most Positive, Least Intrusive Effective Intervention



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Useful Terms

* Intrusiveness refers to the degree to which the learner has counter control. The goal of LIMA is for its trainers/consultants to determine and use the least intrusive effective intervention which will effectively address the target behavior. In the course of an experienced trainer/consultant's practice, he or she may identify a situation in which a relatively more intrusive procedure is necessary for an effective outcome. In such a case, a procedure that reduces the learner's control may be the least intrusive, effective choice. Additionally, wellness is at the top of the hierarchy to ensure that a trainer/consultant does not implement a learning solution for behavior problems due to pain or illness. The hierarchy is a cautionary tool to reduce both dogmatic rule following and practice by familiarity or convenience. It offers an ethical checkpoint for consultants to carefully consider the process by which effective outcomes can be most humanely achieved on a case-by-case basis. Rationale like, "It worked with the last case!" is not appropriate. The evaluation and behavior change program of every animal should be a study of the individual (i.e., individual animal, setting, caregiver, etc.). Changing behavior is best understood as a study of one.

What's Wrong With This Picture?

Effectiveness Is Not Enough

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***As to diseases, make a habit of two things – to help, or at least to do no harm.
Hippocrates***

Of the many important facets expressed in Hippocrates' simple ideal, surely one of the most important is its universality. Indeed, this ethical principle is as applicable to caregivers as it is to physicians; to behavior problems as to diseases; and to animals as to people. However, as straightforward as the dichotomy between helping and harming may first appear, it can be a complicated subject regarding the procedures used to change an animal's behavior.

What's Wrong with this Picture?

Unfortunately, it is not unheard of for dogs to be hung from leashes, or other animals to be shocked or deprived of food and social interaction in response to problem behaviors. Thankfully, most people have no problem judging these strategies as inappropriate to the point of being physically abusive. However, consider the following suggestions for solving common behavior problems with dogs:

- When a dog responds aggressively to skateboards, restrain them while kids skate around the animal.
- When a dog avoids walking on linoleum, carry it to the center of the kitchen and walk away.
- When a dog struggles to escape a comb held close to its face, restrain it while brushing
- When a dog vocalizes incessantly, spray it with water or bang pan with a
- When a dog chews non-food items, push its head back until it

It may be harder to judge the inappropriateness of these strategies because they have been suggested to caregivers so often for so long. The people who continue to advocate them do so on the grounds that these strategies can be effective for reducing problem behaviors. They say with a shrug, "As long as it works!" Inarguably, these approaches do work *some of the time*. (Indeed, the fact that these strategies are only effective some of the time explains the persistent use of them, in the same way intermittent jackpots account for persistent gambling.) However, underlying the issue of effectiveness is a much larger problem: The lack of appropriate criteria on which to judge, and select, the procedures we use to reduce problem behaviors. Effectiveness is one criterion, but effectiveness alone is not enough.

Intrusiveness and Social Acceptability

The lack of a standard to help us select behavior reduction procedures is a crucial matter. Without such a standard, we are likely to intervene on the basis of effectiveness alone, without due consideration of humaneness. To be maximally humane, our interventions

should be as unintrusive for the learner as possible and still be effective. Carter and Wheeler¹ define intrusiveness according to two important criteria: 1) the level of social acceptability of an intervention, and 2) the degree to which the learner maintains control while the intervention is in effect.

The social acceptability of a behavior-change procedure is a personal judgment about what is appropriate and reasonable for a specific problem and animal. Research on the acceptability of behavioral interventions has consistently shown that teachers, psychologists, parents and children rate positive reinforcement-based procedures as more acceptable than punishment-based procedures.^{2,3} The known side effects of punishment-based procedures further support this judgment. These side effects include increased aggression, generalized fear, apathy, and escape/avoidance behaviors, all of which are frequently observed in companion & non-companion animals. When we see these behaviors displayed by animals in our care, it may be an indication that they experience life among humans as

punishing, in spite of our best intentions. There are additional problems with punishment-based procedures to consider carefully, as well:

- Punishment doesn't teach learners what *to do* instead of the problem behavior.
- Punishment doesn't teach caregivers how to teach alternative
- Punishment is really two aversive events – the onset of a punishing stimulus and the forfeiture of the reinforcer that has maintained the problem behavior in the
- Punishment requires an increase in aversive stimulation to maintain initial levels of behavior reduction.
- Effective punishment reinforces the punisher, who is therefore more likely to punish again in the future, even when antecedent arrangements and positive reinforcement would be equally, or more,

Intrusiveness and Learner Control

The second of Carter and Wheeler's criteria, the degree to which a behavior reduction procedure preserves learner control, is essential to developing a standard of humane, effective practice.

Research demonstrates that to the greatest extent possible all learners should be empowered to use their behavior to control significant events in their lives, i.e., to use their behavior *effectively* to accomplish a desired outcome. Indeed, that is what behavior has evolved to do. When an animal's attempts to escape aversive events are blocked they tend to give up trying even when their power to escape is restored. This phenomenon, called learned helplessness, has been replicated with a wide variety of animal species (e.g., dogs, cats, monkeys, cockroaches, children, adult humans⁴).

Response blocking is associated with additional pathological effects such as depression, learning deficits, emotional problems⁴ and suppressed immune system activity⁵.

A learner's functional behavior is made ineffective whenever we ignore their fears, force them to go where they resist going, and coerce them to do things against their will. Even

locking a dog in its crate with a fear-eliciting toy, based on the rationale that “he’ll get used to it,” renders the dog unnecessarily powerless to escape. When a lack of control becomes a life-style, it may result in the aberrant behaviors animals do such as excessive vocalization, repetitive licking, and phobic behavior.

A Hierarchy of Intrusions

Within the field of applied behavior analysis, there is a 40-year-old standard that promotes the most positive, least intrusive behavior reduction procedures (also known as the least restrictive behavior intervention, LRBI). This standard is upheld in public federal law protecting children (IDEA, 1997), and the Guidelines for Responsible Conduct for Behavior Analysts (Behavior Analyst Certification Board, 2004). According to this federal and professional standard, procedures with aversive stimuli are more intrusive and would be recommended only after less intrusive procedures have been tried.

To assist in making these judgments, Alberto and Troutman⁶ described a hierarchy of procedural alternatives for behavior reduction. At the top of their hierarchy are Level 1 procedures (variations of differential reinforcement of alternative behaviors) that are considered most socially acceptable and maintain the highest degree of control for the learner. At the bottom of their hierarchy are Level 5 procedures that are considered least socially acceptable and maintain the least amount of control for the learner (positive punishment procedures).

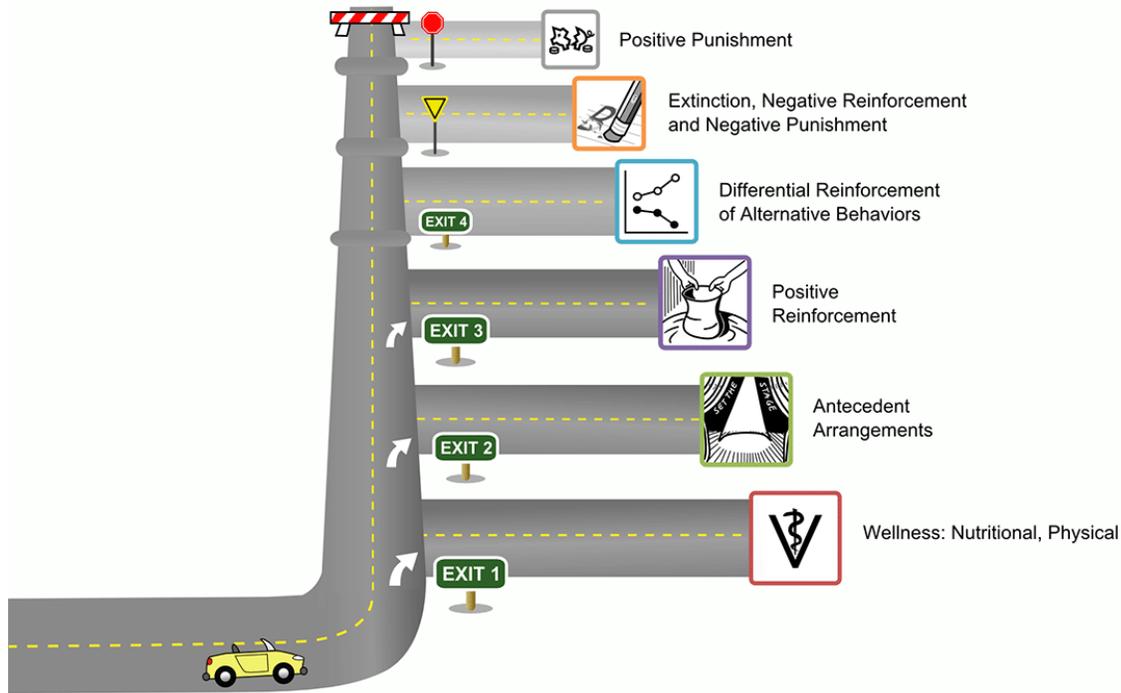
As to the question, “Is effectiveness enough?” the answer is a resounding “NO!” when it comes to selecting behavior interventions for children. Surely a similar intervention hierarchy, both ethical and feasible to implement, would be in the best interest of learners, their caregivers and the professionals working with them to solve behavior problems. By selecting the least intrusive, effective procedures (i.e., positive reinforcement-based and empowering) we increase the humaneness of our interventions without compromising our learning objectives.

A Proposed Hierarchy of Intervention Strategies

Expanding on Alberto and Troutman’s hierarchy for teachers, Figures 1 and 2 below show the proposed hierarchy of intervention strategies that takes into account distant and immediate antecedent

arrangements. The overwhelming majority of behavior problems can be prevented or resolved with one or more strategies represented in Levels 1 - 4 (i.e., arranging distant and immediate antecedents, positive reinforcement and differential reinforcement of alternative behaviors). Level 5 (i.e., extinction, negative reinforcement, and negative punishment, in no particular order) may occasionally be the ethical, effective choice under certain circumstances. Level 6, positive punishment (i.e., the application of aversive stimuli that reduces the probability of the behavior occurring again), is rarely necessary (or suggested by standards of best practice) when one has the requisite knowledge of behavior change and teaching skills.

Hierarchy of Behavior-Change Procedures
Most Positive, Least Intrusive Effective Intervention



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Figure 1. A proposed hierarchy of behavior change procedures using the most positive, least intrusive, effective criteria (Level 1 most recommended - Level 6 least recommended; Level 5 is in no particular order).

A Note for Professionals Consulting on Behavior

What makes behavior analysis unique according to Bailey and Burch⁷, is also relevant to professionals working with animal behavior: Both behavior analysts and animal behavior consultants supervise others who carry out the behavior intervention plans, such as paraprofessionals and caregivers. The interventions are usually implemented where the behavior problem actually occurs, rather than the consultant’s office. The participants are often very vulnerable and unable to protect themselves from harm. These similarities, and others listed below, suggest that the ethical standards established for behavior analysts has widespread relevance to behavior consultants working with any species of animal. For example, the following behavior analysts’ standards appear desirable for all behavior-related professions:

- Protect the participants’ welfare at all
- Use interventions that are custom-tailored for each
- Design interventions on the basis of a functional assessment of the problem
- Use only procedures for which there is a scientific basis (evidence-based treatment).

- Use scientific methods to implement and evaluate interventions (e.g., collect pre-intervention baseline data and ongoing treatment data until the intervention is terminated).

Conclusion

Effectiveness is not enough when it comes to choosing and applying behavior-change interventions. Borrowing from the field of applied behavior analysis with human learners, an expanded hierarchy of procedures is proposed that adds a second criterion to effectiveness: relative intrusiveness. Without this ethical standard, interventions are likely to be selected on the basis of convenience, familiarity, speed, or blind authority, and may inadvertently produce the detrimental side effects of punishment and learned helplessness in our animals. The commitment to using the most positive, least intrusive, effective interventions allows us to think before we act, so that we make choices about the *means* by which we accomplish our behavior goals. In this way, we can be both effective and humane. This is the minimum standard of care we should stretch to meet on behalf of the welfare of learners and caregivers alike.

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