



Literature Review on the Welfare Implications of
Elephant Training
(April 14, 2008)

THE ISSUE

Between five and six hundred elephants are kept in North America,^{1,2} more than 280 of them in *Association of Zoos and Aquariums* (AZA)-accredited zoos and the rest by non-accredited zoos, sanctuaries, circuses, other entertainment providers, or private individuals.

Because of their large size, intelligence, and social needs, elephants can be challenging to keep in a way that is safe for humans and satisfactory for animal welfare. Both Asian and African elephant species are dangerous to work with due to their size and variable temperament. Males are currently less commonly maintained in captivity in the United States as they enter a periodic reproductive state called *musth* during which they may become excitable and intractable.³ However current breeding strategies aim to produce equal numbers of males and females to be maintained in the future.⁴

Asian elephants have a long history, in many countries, of being intensively trained for purposes⁵ including warfare, religious ceremonies, timber harvest⁶ and circus performances.⁷ Training can assist in assuring human safety when working with elephants, reducing the need for chemical restraint. For their own health and welfare, elephants must be able to calmly tolerate routine husbandry procedures such as foot care,⁸ checks of reproductive status,⁹ and tuberculosis testing.² Training also provides elephants with intellectual challenge and exercise,¹⁰ and can encourage positive relationships with handlers. The use of training to provide care is becoming more widespread in zoos. The two main training approaches currently used for elephants are ‘free contact’ and ‘protected contact.’

TRAINING TRADITIONS

Free Contact—During free contact the elephant and handler interact directly. Handlers typically carry a guide, a staff with a tapered metal hook used to cue the elephant’s behavior which is then reinforced (with food, praise and social contact). In most cases verbal commands replace physical cues over time, unless new behaviors are being taught. Free-contact training strives for 100% compliance from the elephant to allow safe interaction with handlers and other staff as required. Direct elephant-handler interaction can be risky for the handler and injuries and mortalities have been reported.³ Free contact advocates point to the benefits of a highly tractable animal that can be easily moved, exercised, examined and take part in intensive healthcare and veterinary research without the need for chemical or involuntary physical restraint. Not all elephants are suitable for free contact training, this is especially true for mature bulls, and in these cases protected contact is preferred.

Protected Contact—Protected contact was defined in 1989 at the San Diego Wild Animal Park.³ The elephant and handler interact through a barrier. The elephant is trained to respond and change positions through the use of targets and reinforcements such as food treats and social contact.^{3,11,12} Correct behavior is indicated with a whistle, clicker or verbal cue acting as a bridge between the behavior and the reinforcement being delivered.³ Protected contact arises from a desire to protect handlers^{3,7} and to abolish physical forms of punishment^{3,10} although it does not avoid all chance of

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injury—the trainer must understand demeanor and reach of the elephant and limitations of the barrier. The protected contact approach is associated with an emphasis on the use of rewards (‘positive reinforcement’)^{3,13,14} partly in response to diminishing public acceptance of physical punishment.³

All circuses and approximately half of zoos use free contact,^{12,15} and both systems may be in use at the same facility particularly if they hold breeding groups and mature bulls. There is a lack of empirical data comparing these two systems related to actual animal compliance, degree of access, elephant wellbeing, handler safety and the need for extreme measures such as injurious physical contact with elephants or chemical restraint.

PUNISHMENT

Training generally relies on providing different outcomes for animals based on their response to cues and verbal commands. There is disagreement as to how to best respond to animals that do not perform as requested. Formerly, some training^{6,16} included physical punishment that was sometimes severe. Over time, the use of punishment has been greatly reduced. As with the training of other animals like horses and dogs there has been a concerted movement away from the use of physical punishment and an appreciation that its use can cause anxiety and problem behaviors in animals.¹⁶ Today, most trainers agree that, if physical punishment is to be used, it should be infrequent and non-injurious.¹⁸ Most training systems no longer include physical punishment to correct behavior, but instead rely on negative reinforcement (where a mildly unpleasant stimulus is withdrawn only when the correct behavior is performed) or negative punishment (where a satisfying or pleasant resource is withdrawn when an incorrect behavior is performed). For example in a free contact setting a trainer may touch a specific area on the elephant’s body (e.g., behind the knee) with the guide until the desired action (raising the leg) is performed, and then the contact is removed (negative reinforcement). In a typical protected contact situation, if a correct behavior is reinforced (e.g., with a food treat or tactile contact) then incorrect behaviors result in this reward not being provided (negative punishment). This may take the form of a ‘time out’ when the trainer leaves the area or ignores the elephant for a period of time.

THE GUIDE / ANKUS

As previously indicated, the guide is a shaft with a tapered metal hook attached, and it sometimes has a blunt metal point at the end. It is also sometime referred to as the ankus, (bull)hook or goad. The guide extends a handler’s reach so s/he may touch, push, or pull various parts of the elephant’s body. Sometimes contact with specific areas of the body is sought, which will elicit an avoidance movement by the elephant; this movement is paired with verbal commands and reinforcement such as food or praise to reduce or eliminate the need for further physical contact.¹⁷ Thus, the guide is intended to produce a light physical contact in which the elephant finds mildly unpleasant, thus it acts as a ‘negative reinforcement.’^{11,18,19} followed by positive reinforcement for the correct response. Its use may later be replaced by verbal commands. A guide is used in all free contact programs in the United States, and may also be used in conjunction with protected contact.

On rare occasions the guide may be used for physical punishment (striking rather than touching) after a highly dangerous behavior is performed.¹⁸ When a handler’s safety is threatened (e.g., by being pushed and potentially crushed against a wall), the handler may also use the guide as a means of self-protection.^{19,20} However use of the guide, during routine training, in a manner that causes physical harm to the elephant is not considered acceptable.²¹

Unfortunately, on a few occasions the guide has been abused and implicated in widely publicized investigations into abusive handling allegations.^{e.g.22,23} It is perhaps for this reason that some groups are lobbying for the use of the guide to be prohibited.

RESTRAINT METHODS

Elephants may be restrained with tethers attached to one front and one rear limb (diagonally positioned) and during transport all four legs may be tethered. Tethers can be made from chain-links, rope or nylon.¹⁸ Tethering is used to restrict the elephant’s movement during husbandry and veterinary

procedures such as skin care, foot care, blood sampling, and collection of cells from the trunk for tuberculosis testing. Tethers can also be used during the birth process and during transport on a crate or trailer.¹⁸ Elephants need to be trained to accept tethering calmly, preferably from an early age.¹⁷

Another restraint method that may be used is a chute or an elephant restraint device (ERD). The chute or ERD needs to restrict the elephant's mobility, but even then, access to the elephant's body may be somewhat limited and tethers may still be required. An ERD must be designed to allow access to all four feet, tusks, trunk, face, ears, both sides and hindquarters by moving the elephant or parts of the ERD. The ERD must also be able to comfortably contain an elephant for extended periods should the procedure require it, and open easily and quickly to free the elephant. Elephants have been trained to allow blood collection and trunk washing under protected contact conditions without the use of tethers.¹⁵ Whether tethered or restrained using an ERD, it is important that the elephant be trained to accept confinement calmly, including during the period any manipulations are performed.

Tethering for the duration of a procedure should be distinguished from use of routine chaining, also called picketing, as a housing method. Picketed elephants may show repetitive, functionless behaviors, called stereotypies, which are thought to indicate impaired welfare. Researchers have observed that picketed elephants may spend as much as 17 to 55% of their time engaged in repetitive side-to-side weaving,^{24,25} with higher percentages observed for elephants that spend more time picketed. Replacing or supplementing picketing with fencing was shown to significantly reduce stereotypies;^{24,26} however, stereotypies may not always be related to picketing as they are also seen when elephants are housed in enclosures,²⁷ and particularly in anticipation of scheduled events such as moving between enclosures and feeding²⁸ and once these behaviors have become established they may persist even under greatly improved conditions.²⁹

POLICIES

American Association of Zoo Veterinarians Statement on the Use of Guides and Tethers for Elephant Management (5 October, 2007)

Excerpt: *The AAZV supports the training and management of elephants under human care and the responsible use of elephants for purposes conducted for the benefit of both humans and animals and consistent with the Veterinarian's Oath. The AAZV supports the husbandry practices and humane application of training methods, including the use of the guide and tethers, in accordance with current industry standards as outlined in the Guidelines for Elephant Management and Care (Elephant Manager's Association) which facilitate optimal health care for the elephant and safeguard providers of that care.*

Guidelines for Elephant Management and Care. Buffalo, New York, Elephant Managers Association. (2006)

Excerpts:

There are many tools that are used in the care and management of elephants. It should be noted that any tool can be misused and every keeper should be taught the proper application of each tool.

A 'guide,' 'ankus,' or 'elephant hook' is a traditional tool used for directing elephants' behavior. It is used on specific points on the elephant's body to cue a desired behavior.

... Chaining is an acceptable method of temporary restraint. However facilities should limit the time elephants spend tethered unless necessary for veterinary treatment or transport.

SUMMARY

Because relatively few elephants are kept in the United States, and they are potentially dangerous animals, husbandry expertise tends to develop through experience at facilities that house them and, until recently, predominantly verbally transmitted.³ There are multiple, competing perspectives on whether, and how, elephants should be trained.^{7,30,31} However, most facilities now maintain written protocols and manuals and elephant husbandry research is beginning to become available.

Free and protected contact are the largest general training categories, although these are modified in application at various sites depending on the needs of the elephant, facilities available, and

the keepers' goals. The best method and extent of training depends largely on context and no approach developed to date can be considered universally optimal.^{18,32} Some practices meet with wide disapproval, including use of an electric prod except in emergencies, physical punishment that is frequent or causes injury,²¹ and chaining as routine housing.^{18,33,21}

The guide and tether are training and management tools that personnel may choose to employ depending upon the needs of the animals and policies of the institution. Free contact techniques, including use of the guide and tether, are necessary to allow animals to be controlled outside of their enclosure or in the absence of equipment such as an ERD. Free contact methods may also help elephants cope with otherwise under-stimulating conditions or be necessary during intensive procedures associated with treating chronic illnesses or during assisted breeding. Protected contact may be preferred for elephants that are potentially dangerous, do not need to perform, or have negligible need for human intervention.

Free contact methods are sometimes aligned with the concept of elephants as semi-domesticated animals with close human-animal bonds, whereas protected contact may be more consistent with their display as wild animals supported primarily by their conspecific social group. Qualified elephant managers currently have a wide range of tools and training methods available to them. Elephant management systems are actively evolving and will continue to do so in response to new research, new technologies and public concerns.

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