



EAZA Animal Training Working Group

“Addressing Undesired Repetitive Behavior”

Problem solving workshop, EAZA conference

Belfast Sept 2016

Definition of a Stereotypy:

Turner (1999) defines behavior as stereotypic when it involves repetition, rigidity and invariance as well as tendency to be inappropriate. In zoological settings, it is often defined as repetitive body movement invariance that serves no function. A true stereotypy can arise from environments that do not meet the behavioral needs of an animal. However not all repetitive movement is stereotypic. Repetitive movement can also result in reinforcing consequences which serve to maintain the behavior. It is important to evaluate each presentation of repetitive movement for antecedents and consequences that may be influencing behavior. These antecedents and consequences have the potential to be changed and the animal can be reinforced for alternative behaviors under the triggering circumstances to reduce and/or eliminate repetitive movements.

When Repetitive Behavior is Observed – Ask Yourself:

The following questions are good starting points for caregivers looking to evaluate repetitive movements to determine whether the behavior is reinforced and therefore does serve a function for the animal or truly meets the definition of stereotypic.

- Are there identifiable triggers/antecedents for the behavior?
- Can you identify reinforcers for the behaviors?
- Is there body language that correlates to anticipation of delivery of desired consequences? (access to preferred conspecifics or opportunities to mate, etc.)
- Is there body language that correlate to vigilance or anticipation of undesired consequences? (fear responses-anticipation of undesired consequences, anticipation of desired consequences-
- Is the behavior on an intermittent schedule of reinforcement?
- Is there variance in the patterns of the behavior?
- Is there body language indicative of pain?
- Has the animal been evaluated for pain/health issues?
- Could the pain/health issues be intermittent? Cyclical? Related to reproductive states?
- Does the animal have the opportunity to express a full range of species typical movement/energy expenditure in a 24-hour period? Is this energy expenditure opportunity age appropriate?
- Is the repetitive behavior considered undesired due to human’s perception of what the animal should be doing?
- Could the behavior be learned from a neighboring animal?
- Is there a genetic predisposition for repetitive behavior?
- Does the animal have a history of early weaning followed by social isolation?

Addressing Reinforced Repetitive Movements:

The following steps can be used to help reduce or eliminate undesired repetitive behaviors that have been reinforced

- Put the behavior on extinction. In other words, withhold reinforcers for undesired repetitive movements
 - It's very important to never reinforce. Occasionally reinforcing the behavior can potentially increase motivation by keeping the behavior on an intermittent schedule
- Avoid triggers for undesired behavior if at all possible
- Train/reinforce desired response under less triggering conditions
- Gradually raise criteria (difficulty) so the animal is able to give the correct response (which is reinforced) under those conditions
- Work up to the most challenging conditions and beyond (generalize the behavior) if possible
- Put desired response on an intermittent schedule of reinforcement to maintain it

Addressing a True Stereotypy

If repetitive behavior cannot be shown to have identifiable triggers or reinforcers maintaining it, caregivers will want to evaluate the natural history of the species and the habitat provided. A higher investment of environmental enrichment that meets the ethological needs of the species in question may be required to address the problem. When delivering enrichment, it is important to offer it prior to presentation of the undesired behavior and not at the moment the animal is exhibiting the behavior to avoid reinforcing the behavior.

Commonly Used Strategies that Can Cause Additional Problems or Non Resolution

Response Blocking – only prevents the animal from doing the behavior. Doesn't actually address the underlying motivation. (For example: An e-collar may prevent an animal from chewing on itchy spot, but it does not remove the itch)

Antecedent Arrangement – changing the environment (so the animal cannot present the behavior.) While this may stop the behavior momentarily the animal may attempt the behavior in the other locations which can then cause it to become generalized to other locations.

Turner M. Annotation: Repetitive behavior in autism: A review of psychological research. *Journal of Child Psychology and Psychiatry*. 1999; 40:839–849