

Free Contact Training to Reduce Stress During a Sloth Bear Cub Exam

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Exams are regularly done in zoos to ensure the health of newborn animals, but these exams can cause stress for both mother and offspring. It is especially difficult to separate a sloth bear (*Melursus ursinus*) from her cubs since a female will carry cubs on her back for six-nine months after leaving the den (Joshi et al., 1999). Using a systematic training protocol, the animal care team at the National Zoo trained a voluntary separation of dam ("Hana") and cub ("Hank") that involved Hank walking away from Hana after separation and approaching staff on his own accord for tactile desensitization. We anticipated reduced stress for Hana if Hank walked away voluntarily as opposed to being handled by staff in front of her. We also anticipated reduced stress for Hank if he was used to tactile manipulation by staff in a free contact setting. After two and a half weeks of training, the animal care team conducted a stress-free exam. Female and cub were easily separated and Hank voluntarily participated in his exam, out of view of Hana who was also calmly engaged in a training session. There were no adverse behaviors resulting from the exam and both bears eagerly approached staff for interaction afterwards. Sloth bears are not a species that animal care staff typically works with in free contact but when done safely with young animals, this type of training can be hugely beneficial for reducing stress for both mother and offspring during an exam.

Figure 2



Figure 3



Step I: Separate

(Figure 1)

1. Recall both animals into chute.
2. Close mesh door to cub height.
3. Recall Hank to other side of mesh. (Figure 2)
4. Close mesh door all the way. (Figure 3)
(For safety, ask Hank to climb mesh so he is not near hydraulic door)

Goal: Both Hank and Hana will calmly accept being separated by a mesh door for varying durations.

Step II: Hank Voluntarily Walks Away From Hana

(Figure 4)

1. One keeper enters den with high-value reinforcer.
2. Keeper sits outside the den-chute door and calls Hank.
3. Hank receives reward for any movement towards keeper. (Figure 5)
4. Build up duration of time away from Hana.
5. Increase number of keepers in den.
6. Introduce vet exam tools (e.g., animal handling and latex gloves). (Figure 6)

Goals:

- ▶ Hank voluntarily walks away from Hana and towards keeper(s) in a free contact setting.
- ▶ Hank and Hana will calmly accept being separated and out of view from each other for varying durations.
- ▶ Hank will be exposed to tools typical of vet exams.

Figure 1



Figure 4

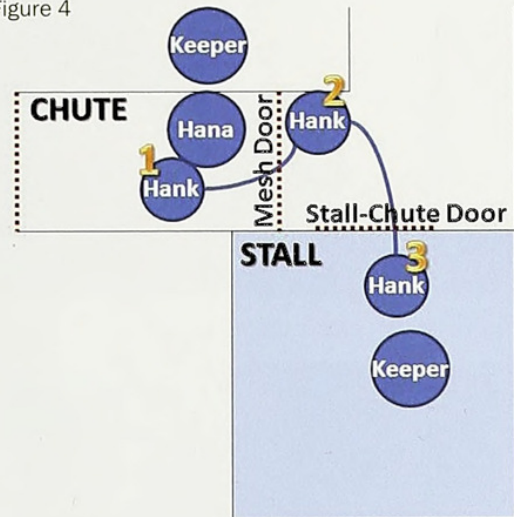


Figure 5

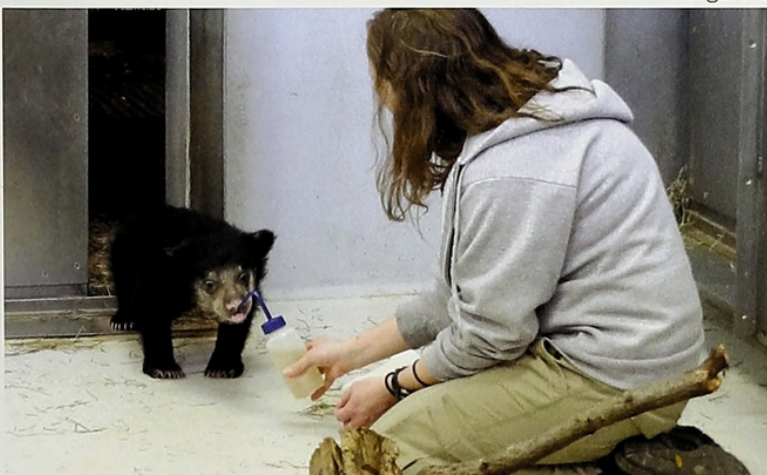


Figure 6



Figure 7



Figure 8



Figure 9



Reference: Joshi, A.R., Smith, J.L., and D.L. Garshelis. (1999). Sociobiology of the myrmecophagous sloth bear in Nepal. *Canadian Journal of Zoology* 77(11):1690-1704.

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Step III: Allow Tactile & Light Restraint

1. Keepers touch Hank. (Figure 7)
 - ▶ Reach towards Hank
 - ▶ Hand just over Hank (almost touching)
 - ▶ Light touch
 - ▶ Touch
 - ▶ Firm touch

Goal: Hank will calmly accept touch all over his body.

2. Keepers scruff Hank. (Figure 8)
 - ▶ Firm touch on scruff
 - ▶ "Pinch" of scruff
 - ▶ Light scruff with whole hand
 - ▶ Full scruff

Goal: Hank will be familiar with light restraint in case keepers have to restrain him during the exam.

3. Keepers pick up Hank. (Figure 9)
 - ▶ Scruff and gently pull up – Hank's feet still on the ground
 - ▶ Scruff and gently pull up – Hank's front feet lift off the ground
 - ▶ Scruff and pull up – Hank lifted completely off the ground
 - ▶ Keeper(s) experiment with different ways to hold and restrain Hank to see what makes him most comfortable

Goal: Keepers find comfortable position to hold Hank for the exam.

Tips

- ▶ **Reinforcers:** We used dilute peanut butter and honey water as reinforcers for both Hank and Hana. They did not receive these reinforcers any other time. Hana also received bone marrow – an extra rare and special treat – on the day of the exam.
- ▶ **Trainers:** We did not use primary trainers for the free contact sessions. We believe this helped prepare the bears for seeing multiple people on the day of the exam more quickly than introducing other trainers once the behaviors were learned. It also prepared Hank for seeing new faces regularly so on the day of the exam he was not frightened by the vets (who were unable to attend training sessions).
- ▶ **Ending:** Once our goal of a successful cub exam was achieved, free contact training sessions were discontinued. 🐻

“Initially our goal was to come up with a method of reducing the stress of the mother-cub separation thinking this would reduce risk of injury for the bears and start the procedure off on a calmer note. Our goal was to create a situation in which the cub and dam could choose to separate from each other and the cub could then be reinforced for approaching and being calm near keeper staff. This simple approach proved surprisingly successful both during training and when tested on the day of the actual neonatal exam. The results, in fact, were so successful that this process will be the new standard for sloth bear and other species management at the National Zoo.”

Tony Barthel, Curator

“The veterinary examination was more thorough and less stressful than exams performed on other bear cubs that had not had similar desensitization training. The cub was comfortable with minimal manual restraint, enabling close examination of eyes, ears, nose and mouth; quiet auscultation of heart and lungs without crying; and abdominal palpation and genital evaluation. The only aspect of the exam for which the cub displayed a brief amount of distress was when he was vaccinated. Additionally, the dam was separated for approximately 10 minutes from the cub and did not vocalize at all but remained calm, allowing the exam to proceed to completion rather than being stopped prematurely due to her stress.”

Katharine Hope, Veterinarian

“Often on exam day keepers, as well as their animals, feel stressed and anxious. However, having desensitized our cub – turning his fear response into interest, curiosity, and even play – we felt just as confident as he did when the vets arrived. Since Hank was given a choice to participate in each training session and in the exam, it was an enjoyable, easy experience for all involved. In addition to successfully completing the cub exam, keepers developed a trusting foundation for a relationship with the animal.”

Stacey Tabellario, Animal Keeper

BHC Comments by Jay Pratte:

The intent to reduce the stress animals may experience while interacting with humans is an admirable and easily attainable goal with any species we work with. It is very easy for us to unintentionally create situations where we are introducing unnecessary stress, so planning ahead with this in mind meets both the animal AND keeper's needs! As we know, it may only take one or two aversive situations to “teach” an animal that it is going to be stressful. My dog has been trained to allow veterinary examinations and will sit for voluntary blood draws, but the experience always causes him stress. But even though he's “good at it”, it is my responsibility to find the means of mitigating and reducing (or eliminating!) the stress altogether.

This article is a great demonstration of how the team reduced the stress of a procedure that we ALL experience at our institutions. The authors clearly thought through how to make it a reinforcing experience for both the mother and the cub. By using this approach, it allowed staff greater flexibility when they needed to gain access to the young animal. Instead of saying “we'll call you when we catch her away from her cub” you can now plan ahead, reducing stress for everyone, as well as making this an opportunity for the mother to be engaged in a reinforcing exercise while the cub is also engaged in receiving preferred treats during his experience.

Without using the described desensitization process, this situation would have involved restraint and stress for both the animals and staff. Because of his positive reinforcement history during these experiences this cub will understand the learning process, and have a huge head start on the protected contact training he will receive as he matures into adulthood. He will already trust his caregivers, and likely be less averse to novel or medically invasive stimuli. Great job to you all for thinking of the ANIMALS' needs and perspectives, while creating a thoughtful and, goal-oriented plan. Thank you for sharing your Training Tale!



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