The physiological impact of wool-harvesting procedures in vicunas (*Vicugna vicugna*)
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Abstract:

A current programme of wildlife utilisation in the Andean region involves the capture of wild vicunas, their shearing, transport and, in some cases, captive farming. The effects of these interventions on the physiology, and thus welfare, of wild vicunas are unknown. As a first step to quantifying and thus mitigating any adverse welfare consequences of this harvest, we measured the immediate and longer-term physical and physiological effects of capture, shearing and transport. A sample of juvenile male vicunas was captured. Six were shorn at the capture site, six after two weeks in captivity, and the remaining seven animals were kept as controls for 39 days. In general, vicunas showed changes in blood glucose, packed cell volume, cortisol, and neutrophil:lymphocyte ratios within 4–6 h following capture. Creatine kinase was also affected by capture and transport, showing a peak plasma level 24 h after capture, which was followed by a peak plasma level of aspartate aminotransferase four days after capture and transport. After 12 days in captivity, all of the vicunas showed physiological parameters close to expected baseline values for the species. We could detect no differences in physiological parameters between animals that were captured, sheared and transported and those that were only captured and transported. Similarly, we could detect no differences in most responses of vicunas between those sheared after 12 days in captivity and a control group held under similar conditions but from which blood was sampled without shearing. A further comparison between animals sheared immediately after capture and animals sheared after 12 days in captivity revealed that creatine kinase levels were higher in the former group. During transport prior to release back into the wild, only minor injuries (lip bleeding and limb contusions) and a significant increase in rectal temperature were observed. Our results provide a basis for recommendations to improve the welfare of vicunas during the wool harvest, and provide baseline and stress-response data to serve as reference points for further studies of vicuna welfare.
References: 29 references open in new window

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