Serum lipemia and stomach content as rapidly obtainable field indicators of weaning status in harbor seal pups

Shawna A. Karpovich, shawna.karpovich@alaska.gov, State of Alaska
Gail M. Blundell, gail.blundell@alaska.gov, State of Alaska

Harbor seal pups rarely separate from their mothers during the 3-6 week nursing period. While capturing animals when dependent pups may be present, we strive to minimize the duration of separations between mothers and unweaned pups. We tested stomach content and serum lipemia as methods to quickly determine weaning status of pups in the field. Stomach content was assessed by passing a tube into the pup's stomach and applying negative pressure. Serum lipemia was determined visually after drawing and centrifuging blood. In Tracy and Endicott Arms of Southeast Alaska, we captured 39 harbor seal pups (18F,21M); n=14 in 2008 and n=25 in 2009, during late June and early July, at the time we believed pups were being weaned. Thirteen pups were identified as unweaned because they were captured with their mother or were seen hauled out in close contact with an adult female immediately prior to capture, the remaining 26 were of undetermined weaning status. We drew blood from all 39 pups. We assessed stomach content for 31 pups; 5 unweaned and 26 with unknown weaning status. Of these, 10 contained milk and 21 did not. Of the 10 with milk, 8 were lipemic, and of the 21 with empty stomachs, 4 were lipemic. Therefore, serum lipemia correctly predicted presence/absence of milk 81% of the time (25/31 pups). Presence of milk in the stomach predicted unweaned status 60% of the time (3/5 unweaned pups contained milk). Serum lipemia predicted unweaned status 69% of the time (9/13 unweaned pups were lipemic). We conclude that serum lipemia is not a good indicator of stomach content; and when considered alone, neither serum lipemia nor stomach content is a good indicator of weaning status. However, when combined, serum lipemia and stomach content correctly predicted weaning status 90% of the time (4/5 unweaned pups contained milk and/or were lipemic). Therefore, serum lipemia and stomach content, when considered together, may be a good field predictor for weaning status. These results are preliminary due to the small sample size for unweaned pups with both stomach content and lipemia assessment (n=5), and more research is necessary.

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