GROWTH RATES OF HARBOR SEAL (*Phoca vitulina*) PUPS IN REHABILITATION

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ABSTRACT

In many parts of the United States, stranded harbor seal (*Phoca vitulina*) pups are found on beaches, taken to facilities and rehabilitated under the guidelines of the National Marine Fisheries Service. The challenges rehabilitation facilities face in treating emaciated, injured and diseased pups relate to their energy expenditure, energy consumption, lactation duration, feed composition and health status. In the wild, harbor seal pups nurse for 4-6 weeks, during which time they double their birth weight and are weaned to be left on their own. This rapid weight gain permits them to survive as they learn to independently forage. Growth rates of wild-raised harbor seal pups vary based on the region and range from 0.40-0.70 kilograms per day.1,3,4,7,9 In rehabilitation, pup weight gain is considerably lower, ranging from 0.04-0.55 kilograms per day.9,15 Identifying growth rates at individual rehabilitation centers is the first step in evaluating milk replacer efficacy and can lead to improvements in rehabilitated harbor seal pup protocols. Historical data from Wolf Hollow Wildlife Rehabilitation Center in Washington State is used to evaluate growth rate data of harbor seal pups based on weights, approximate birth dates, and the number of days in treatment from 1997 through 2010. The average weight of a harbor seal pup admitted into Wolf Hollow was 8.1 kilograms. Total weight upon release from rehabilitation averaged 25.4 kilograms. An average of 80 days was spent in rehabilitation with an average total weight gain of 17.4 kilograms. Weight gain was plotted for linear growth of harbor seal pups between the ages 0 and 75 days and a slope-intercept form equation was used to determine that the average pup gained 0.21 kilograms per day. When compared to local free-ranging seals (Cottrell et al.) the artificial milk replacer formula and feeding protocol at Wolf Hollow only produces approximately 50% of the wild seal weight gain. Improving the milk replacer formula and feeding protocols would increase average daily weight gain in rehabilitated pups, permit earlier release, and more closely mimic wild conditions. This comparative study will provide rehabilitation facilities with pertinent information necessary to evaluate their current methods of harbor seal recovery.
Fig 1. Average body mass (kg) of harbor seal pups (n=248) by age from 0 to 75 days at Wolf Hollow Wildlife Rehabilitation Center between 1997 through 2010. Growth rate generated by the slope of the trendline.

ACKNOWLEDGEMENTS

The author would like to thank the support from Dr. Joe Gaydos of The University of California Davis Wildlife Health Center’s SeaDoc Society - College of Veterinary Medicine, Dr. Rob Bildfell of Oregon State University – College of Veterinary Medicine for being advisors, from Penny Harner of Wolf Hollow Wildlife Rehabilitation Center – San Juan Island for data and information gathering.

LITERATURE CITED


