A comparison of two commonly fed diets for hand-reared neonatal harbour seals (*Phoca vitulina*)
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**Background**

- Hundreds of orphaned and injured neonatal harbour seals (*Phoca vitulina*) are brought to wildlife rescue centres every summer.
- Mortality rates for these animals are high.
- Diets for orphaned seal pups typically include artificial milk-replacers and diets based on macerated fish.
- Pups are typically fed 4-5 times per day via gavage.
- Despite extensive use of such diets, there has been no scientific evaluation of their effects.
- Currently, there is a dearth of information on the specific nutritional requirements of orphaned neonatal seals.

**Objectives**

1. To evaluate the standard practices used when feeding orphaned seal pups including diet and feeding frequency.
2. To put forth science-based recommendations for improved feeding practices of orphaned seal pups.

**Method**

- Pups (n=113) were paired according to estimated age and body condition score and randomly assigned either a fish or a milk-replacer diet.
- Pups were fed assigned diet until weaning at roughly 20 days of age.
- Pups were fed ~8% DM of their body weight via gavage 4 times per day.
- Daily weight gain and mortality were compared.

**Results**

- Mortality rate of formula-fed pups in 2007 was 69%.
- Pups gained little weight on either diet (on average <0.18 kg from admittance to weaning).
- Survival rate before weaning was twice as high with the artificial milk formula (40%) compared to the fish formula (21%; \(P<0.05\) by chi-squared analysis. Figure 1).
- The increased survival rates may be attributed to the 20% higher caloric intake provided by the milk replacer compared to the macerated herring diet.

**Conclusion**

- **Pups fed the milk-replacer were twice as likely to survive but these results should be viewed with caution as mortality rates were still high.**
- **Work is now underway to investigate the effects of increasing the number of feedings to 5 times per day in both treatment groups.**

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