



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.



Milk-replacer
(Zoologic® 30/55
Milk Matrix)
7.4 cal/g (DM basis)



Fish formula
6.9 cal/g (DM basis)

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.***

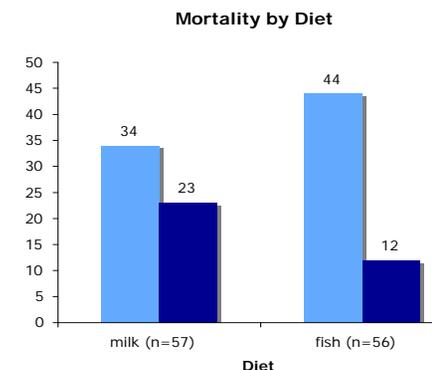


Figure 1.