



# Effects of age and milk allowance on responses to abrupt weaning in dairy calves

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## INTRODUCTION

Dairy calves are provided less milk and weaned at a much younger age than would occur naturally. Ad libitum feeding of milk promotes faster growth, and early weaning may be economically desirable. However, the effects of these factors on weaning distress are not well understood. The objective of this research was to determine the effects of weaning age and amount of milk fed on responses to abrupt weaning.

## METHODS

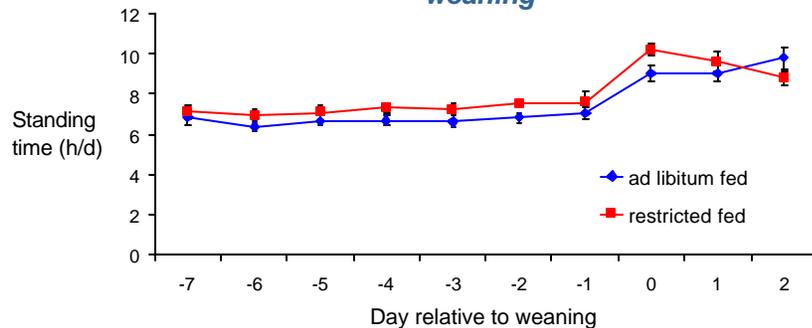
Holstein calves ( $n = 36$ ) were fed either ad libitum or restricted (10% BW) milk, and were weaned at either 4 or 8 wks of age. Time standing and number of visits to the milk feeder were electronically monitored from 1 wk before weaning until 2 d after weaning. Body weight was recorded each time calves visited the feeder. Averages of the pre-weaning values were used as a baseline to compare responses post-weaning.



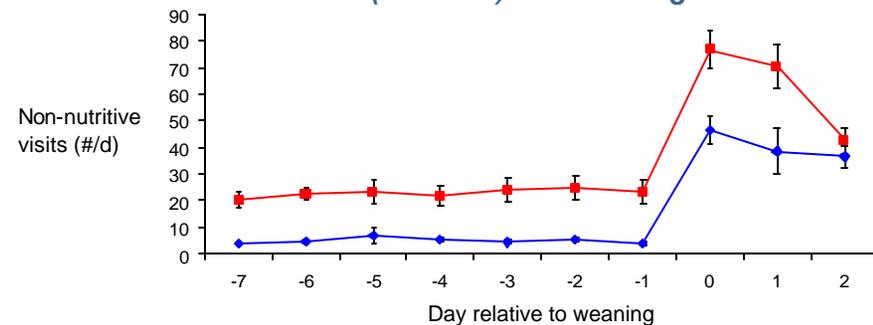
## RESULTS

*All calves showed strong behavioral responses during the 24 h after weaning*

**Daily standing time increased 37% ( $P < 0.001$ ) after weaning**



**Non-nutritive visits to the milk feeder increased 350% ( $P < 0.001$ ) after weaning**



*Restricted-fed calves tended ( $P < 0.1$ ) to return to baseline values for both behaviors faster than the ad libitum-fed calves*

All calves fed ad libitum and those weaned at 4 wks had a growth-check: growth rate decreased ( $P < 0.05$ ) from  $0.82 \pm 0.08$  to  $0.18 \pm 0.09$  kg/d during the week after weaning. Calves weaned at 8 wks from the restricted diet tended ( $P < 0.06$ ) to have higher growth rates during the week after weaning versus before weaning ( $1.12 \pm 0.15$  vs.  $0.74 \pm 0.23$  kg/d, respectively).

## CONCLUSIONS

All calves experience signs of distress due to abrupt weaning, but early weaning and high milk allowance tend to increase these responses. Further research is needed to develop alternative weaning practices.