

The introduction of horses into new groups: Social interactions and cortisol release

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Domestic horses are kept in so-called “fate societies” where they have to deal with frequent mixing. Several studies have evaluated and discussed the aggression level and injury risk during the introduction of horses into new groups, but nothing is known about the endocrine responses and thus if horses experience stress during introduction.

In this study we analysed the efficiency of four approved introduction techniques and evaluated the introduction of 30 horses into 11 different groups. Horses were introduced: 1) immediately, 2) after observing the new group for several days, 3) together with an “integration horse” after several days of observation, or 4) with a mixed strategy. Aggressive as well as positive social behaviour between the introduced horses and the group members were analysed the two hours following the introduction event. In addition, we focussed on the glucocorticoid production of the newcomer horses by measuring faecal cortisol metabolites (FCM) on the day of the introduction as well as the following three days.

For the four introduction techniques we found significant differences in the horses' aggressive and submissive behaviour as well as in their total interactions. The introduction together with an integration horse led to significantly lower levels of aggression and less total interactions than the immediate introduction of single horses.

Horses which were introduced immediately or after an observation period showed significantly elevated levels of FCM on the first, second and third day after the introduction. For horses introduced together with an integration horse FCM were already significantly higher on the day of the introduction, indicating a stressful event before the introduction itself. In contrast, FCM levels were always very low when using the mixed technique.

In sum, horses have the ability to deal with conflict when they are introduced to new group members.

The introduction event itself appears not to be as stressful as previously assumed. Standing together with an “integration horse” on a separate paddock and not being able to integrate immediately into a new group appears to be stressful for the newcomer. Based on the findings of our study we suggest to introduce new horses in group management together with a new group mate, a so-called “integration horse”. This would reduce the number of total social interactions as well as the aggression level. While this technique may be stressful for the newcomer, it lowers aggressive behaviour between the introduced horse and the group members and consequently reduces injury risks.

Keywords: Introduction technique; Aggression; Injury risk; Endocrine response; Stress; Integration horse

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