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## **Effects of gentle interactions on the relationship with humans and on stress-related parameters in group-housed calves**

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### **Abstract**

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*Although the relationship between farm animals and humans has strong implications for animal welfare and productivity, there have been few experimental studies on the influence of gentle interactions in group-housed calves. In the present study, Austrian Simmental calves were housed in groups of four under standard management conditions. Fourteen calves experienced 40 min of additional gentle interactions in the form of stroking and gentle talking during the first four weeks of life, whereas the remaining eleven calves did not. The animals' fear of humans was measured by avoidance distance tests on 33 and 76 days of age and by an arena test that comprised three phases — isolation, presence of a human, isolation — at 34 days of age. The very low avoidance distances did not differ significantly between the groups. In the arena test, there was less behaviour indicative of stress in the presence of the experimenter compared with the isolation phases. Heart-rate measurements showed a corresponding pattern. Control calves showed more tail-flicking than stroked calves and had higher concentrations of salivary cortisol before and after the test. There were no other significant differences between the groups. The minor number of behavioural differences may result from the control animals' good relationship with humans, ie there is a ceiling effect. If the general contact between stockpeople and calves is gentle and negative experiences are minimised, it is possible to achieve a good calf-human relationship without additional efforts.*

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**Keywords:** animal welfare, avoidance distance, calves, cortisol, heart rate, human-animal relationship