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The effect of providing a greater freedom of movement through periodic exercise on the welfare and stress physiology of stall-housed gestating sows and on piglet behaviour

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Abstract

In Canada, the 2014 Code of Practice for the Care and Handling of Pigs proposed the continued operation of existing stall barns after 2024 on condition that bred sows be given access to periodic exercise. Therefore, this study evaluated the effects of periodic exercise on sow welfare. Sows (n = 180) were assigned to one of three treatments: stall-housed (Control: C); stall-housed and exercised weekly for 10 min (Exercise: E); and group-housed (Group: G). Sow postures and stereotypies were recorded once per week in early, mid and late gestation before (AM) and after (PM) exercise. Female piglets (n = 168 from C, E and G sows) underwent isolation and novel object tests at 19–22 days of age. Postures differed by treatment in AM with G sows lying more and sitting less than C and E sows, which did not differ. In PM, E sows sat more than G sows, with C sows being intermediate. In early gestation, G sows performed fewer stereotypies than E sows, with C sows being intermediate. In mid gestation, G sows performed fewer stereotypies than C and E sows, which did not differ. Piglets from C sows were more active in the novel object test than E and G piglets, which did not differ. Group housing improved sow comfort (indicated by postures) and reduced sow stress (indicated by stereotypies), but periodic exercise did not. Decreased activity level in piglets from sows given greater freedom of movement indicates that gestation housing can influence the behaviour of offspring.

Keywords: *animal welfare, gestation stall, hair cortisol, periodic movement, pig, prenatal stress*