

Study looks at pain relief for piglets from medicated mother's milk

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Pain relief for nursing piglets undergoing certain procedures is the focus of a study by Kansas State University researchers. Credit: Kansas State University

New findings by researchers at the Kansas State University College of Veterinary Medicine suggest potential pain relief for piglets by administering medicine through the act of nursing.

The scientific methodology is formally referred to as "transmammary delivery." The basic concept involves injecting a sow with pain-relieving [medicine](#) that can be ingested by the sow's [piglets](#) through the milk.

Hans Coetzee, head of the anatomy and physiology department in the College of Veterinary Medicine, and his collaborator are the principal investigators of a multi-institutional research team.

"In the swine industry, piglets regularly undergo painful procedures such as tail docking and castration, which have become an emerging [animal welfare](#) concern," Coetzee said. "We hypothesized that transmammary delivery of a nonsteroidal anti-inflammatory drug, or NSAID—in this case, firocoxib—would reduce pain associated with processing in piglets. Our findings indicated this technique may safely reduce processing-induced stress and enhance production by increasing weaning weights."

Coetzee's team consisted of researchers from Kansas State University's Institute of Computational Comparative Medicine and Department of Mathematics, Iowa State University and Midwest Veterinary Services Inc., the latter of which is operated by Kelly Lechtenberg, a 1987 alumnus of the College of Veterinary Medicine. His research was funded by the National Pork Board, grant No. 16-118.

In addition to [pain-relief](#) benefits for the piglets, Coetzee contemplates a potential benefit for the mothers.

"Additional large-scale studies could focus on changes in feed intake, [body weight](#) and milk composition of sows medicated with firocoxib," Coetzee said. "By doing so, we could determine whether the NSAID

improves the welfare of the sows in addition to impacting the welfare of the nursing piglets."

The study was published in the *Journal of Animal Science*, "Transmammary delivery of firocoxib to piglets reduces stress and improves average daily gain after castration, [tail docking](#), and teeth clipping."

More information: Johann F Coetzee et al. Transmammary delivery of firocoxib to piglets reduces stress and improves average daily gain after castration, tail docking, and teeth clipping¹, *Journal of Animal Science* (2019). [DOI: 10.1093/jas/skz143](https://doi.org/10.1093/jas/skz143)

Provided by Kansas State University

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