

A sheep's early life experiences can shape behavior in later life

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Suffolks are a medium wool, black-faced breed of meat sheep that make up 60% of the sheep population in the U.S. Credit: Jacquie Wingate/Wikipedia/CC BY-SA 1.0

New research has found that a sheep's experiences soon after birth can shape its later behaviour and also that of its offspring.

The study led by academics from the University of Bristol's School of Veterinary Sciences and published in the Royal Society journal *Biology Letters* investigated whether early-life experiences can alter behavioural responses to a naturally painful event in adulthood – giving birth – and also affect behaviour of the next generation.

The period following birth can be a challenging time for young lambs. They are usually tail-docked without analgesia as a preventative measure to reduce the chances of flies laying eggs on dirty tails, and they may also experience bacterial infections such as 'joint ill' or 'navel ill'. However, the long-term consequences of these early life challenges are not well understood.

The research team found that female sheep that had their tails docked or experienced a mild simulated infection shortly after they were born, showed more pain-related behaviour when giving birth to their own first lambs than did females who had not had these early-life experiences.

Furthermore, the lambs of those mothers who had experienced a mild infection in early life were less sensitive to pain during the first few days of their lives than were other lambs.

The study's findings highlight the impact that events during the period after birth can have on an animal in later life and the researchers suggest that variations in the management of [early life](#) health and husbandry conditions can have important long-term implications for [animal health](#) and welfare.

Mike Mendl, Professor of Animal Behaviour and Welfare in the School of Veterinary Sciences, said: "Our study suggests that infection and tail-docking during the first few days of life may have long-term effects on an individual's development and behaviour, and on that of her own [offspring](#)."

"Further work is needed to establish the robustness of these findings, to identify potential underlying mechanisms, and to help inform husbandry practices to enhance animal health and welfare."

More information: Long-term and trans-generational effects of neonatal experience on sheep behaviour, Corinna Clark, Joanna Murrell, Mia Fernyhough, Treasa O'Rourke and Michael Mendl, *Biology Letters*, 2 July 2014. [rsbl.royalsocietypublishing.org1098/rsbl.2014.0273](https://rsbl.royalsocietypublishing.org/doi/10.1098/rsbl.2014.0273)

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