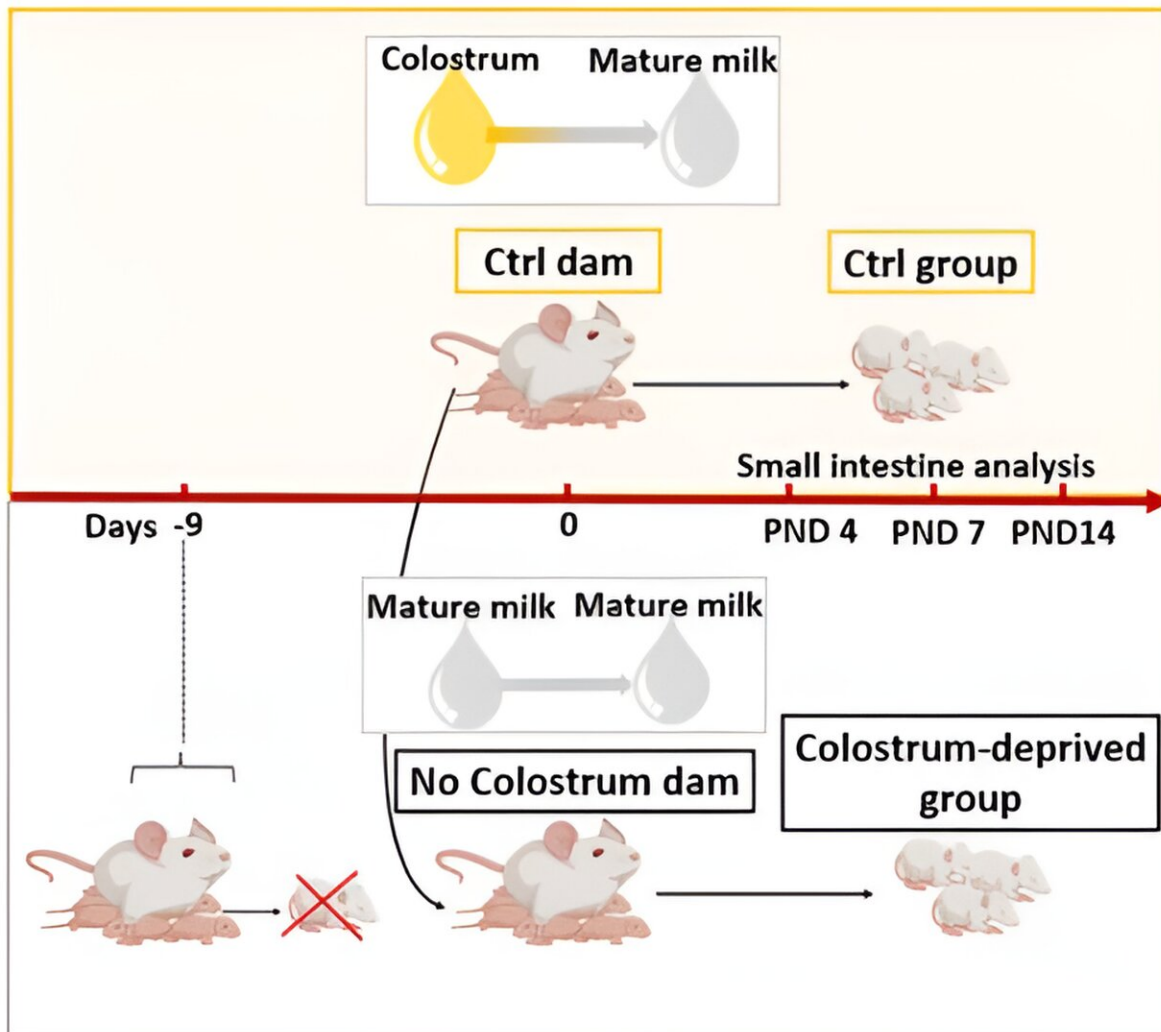


# Colostrum provides long-lasting immunity boost for babies, finds study

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Mouse model of colostrum deprivation. Colostrum-deprived pups were cross-fostered at birth by dams that were no longer providing colostrum ((postnatal day (PND) = 9); no colostrum dam, orange). Control groups were cross-fostered at

birth by dams that just delivered (Day 0) (Ctrl dam, black). Credit: *Allergy* (2024). DOI: 10.1111/all.16054

The first form of mother's milk a baby receives after birth, known as colostrum, can dramatically alter its susceptibility to worm infections months to years later, according to an international study [published](#) in *Allergy*.

The study, conducted across both animal models and newborns in Uganda, found colostrum played a pivotal role in controlling worm infections.

It also demonstrated that consumption of colostrum at birth led, weeks later, to a significant expansion of key immune cells in the gut, called type 2 innate lymphoid cells (ILC2s), which protect against parasitic worms.

Study lead author Professor Valerie Verhasselt, Director of the Larsson-Rosenquist Foundation Center for Immunology and Breastfeeding at The University of Western Australia and Head of Immunology and Breastfeeding research at Telethon Kids Institute, said that, notably, this occurred independently of gut bacteria.

"Colostrum is the first form of milk produced by the mammary glands of humans and other mammals immediately following delivery of a newborn and is uniquely rich in [bioactive compounds](#)," Professor Verhasselt said.

"While long regarded as nature's first gift, with major impact on [neonatal mortality](#) in poor hygiene settings, colostrum's long-term health benefits have remained largely unknown; a gap we wanted to address by

looking at how colostrum deprivation impacted the development of gut immunity.

"We found that colostrum is a lifelong investment in immune health."

Professor Verhasselt said despite guidelines from the World Health Organization, at least 1 in 3 newborns globally was failing to receive the full dose of colostrum, meaning the findings had significant impact.

"Whether because of delayed breastfeeding, a prelacteal feed such as formula given to infants or other reasons, many newborns miss out on the benefits of colostrum with implications on gut immunity development and long-term health," she said.

"Additionally, there are more than 1.5 billion people worldwide who are afflicted by soil-transmitted helminths, [parasitic worms](#) that infect humans through contact with contaminated soil, which can have a dramatic life long impact on child health.

"The potential to mitigate a serious burden of disease through colostrum intervention is immense.

"Our study underscores the importance of shifting attention beyond microbiota interventions to embrace the holistic impact of colostrum on [child health](#) outcomes, with research now under way looking at the importance of [colostrum](#) on the prevention of COVID-19, growth failure and allergies."

**More information:** Akila Rekima et al, Colostrum is required for the postnatal ontogeny of small intestine innate lymphoid type 2 cells and successful anti-helminth defences, *Allergy* (2024). [DOI: 10.1111/all.16054](#)

Provided by University of Western Australia

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