

Laying the Foundations for Lifelong Health: The Critical Role of Colostrum in the First Days of Life

[Prof Valerie Verhasselt](#), MD, PhD. Director of [LRF Centre for Immunology and Breastfeeding](#) at UWA, and [The Kids Institute](#)
Valerie.verhasselt@uwa.edu.au; valerie.verhasselt@thekids.org.au
[LinkedIn \(myself\)](#) and [LRF CIBF centre page](#)

Context

Our work focuses on a game-changing window for intervention: **the first days of life**, one of the most critical yet underutilised opportunities for preventive health. The transition from fetus to newborn is the most complex adaptation in human life. At birth, the infant leaves a protected intrauterine environment and must rapidly adapt to breathing, external nutrition, microbial exposure, and independent immune and metabolic regulation. At the same time, the newborn must continue its developmental journey, prioritising growth, organ maturation, immune education, and neurodevelopment. This **highly programmed developmental window** where immune, metabolic, and neurocognitive systems follow ordered stages that build on one another. Intervening during this brief but transformative period may therefore have disproportionate long-term benefits for child health.

Our key finding: colostrum matters

Colostrum is the first milk produced by the mammary gland during the first 2–3 days of life. Although produced in very small amounts, it is uniquely rich in bioactive compounds, including growth factors, antimicrobial molecules, immune mediators, and microbiota-shaping factors. Its production coincides precisely with one of the most vulnerable and transformative periods in a newborn's life, suggesting that colostrum may play a critical role in supporting healthy development.

Despite World Health Organisation recommendations supporting exclusive breastfeeding from birth, at least 1 in 3 newborns worldwide is not exclusively colostrum-fed. Our data from the **Western Australian ORIGINS cohort**, which includes direct documentation of early feeding practices, reveal that **50% of newborns have compromised colostrum intake due to formula supplementation**, half of which is not medically indicated.

While the benefits of colostrum for newborn survival are well established in low- and middle-income countries, its long-term health benefits in high-income countries remain poorly documented. Our recent findings from ORIGINS show that colostrum feeding may have a major protective effect against food allergy development in the first year of life, particularly **peanut allergy**, which was reduced five-fold, and **multiple food allergies**, which were reduced ten-fold. Importantly, our data suggest that even when formula supplementation is medically required, increasing the number of colostrum feeds during the first hours and days of life may reduce allergy risk. Our ongoing analyses also indicate a beneficial association between colostrum feeding and reduced risk of neurodevelopmental delays. We are now expanding this work to other outcomes, including respiratory disease, infections, growth, metabolic health, and the biological pathways underlying colostrum's protective effects in both high-income and low- and middle-income settings.

The evidence we are building will help establish colostrum feeding as a recognised early-life health priority, protecting the first days of life and giving every child the healthiest possible start. It will also support the development of newborn supplements tailored to the unique developmental needs of early life, particularly for newborns at risk and for mothers who cannot or choose not to breastfeed.