

Research is in Medela's DNA

Medela is a research-based company that invests in basic and exploratory research with global key opinion leaders. This provides a scientific basis for product innovation and clinical practice. Through these activities, Medela brings research to life.

Fostering long-lasting collaborations

Basic, exploratory research is a long-term proposition, and we are in it for the duration. Over the years, Medela has developed long-standing relationships with leading researchers. These partnerships are a model for how industry and academia can work together.



Since 1996 Medela has fostered a rewarding research partnership with Prof. Peter Hartmann and Assoc. Prof. Donna Geddes of The University of Western Australia (UWA), Australia.

20 Full (7) or partial (13) PhD scholarships provided

96 peer reviewed journal articles

21 book chapters

20 review articles

200+ conference abstracts



Two decades of collaboration with Prof. Paula Meier of Rush University Medical Center (RUMC), Chicago, USA



A decade-long relationship with Prof. Katsumi Mizuno of Showa University School of Medicine, Tokyo, Japan

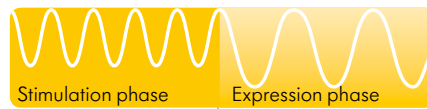


Continuous, targeted research collaborations around the world

Challenging fundamental principles

2-Phase Expression

Breakthrough research by UWA Prof. Hartmann led to the development of a pioneering pumping pattern, "2-Phase Expression technology", which mimics infant sucking behaviour¹⁻³ and is the first of many significant findings:



Breast anatomy

Assoc. Prof. Geddes of UWA questioned anatomical diagrams of the lactating breast. Her revolutionary results overturned 150 years of breast anatomy understanding and rewrote the textbooks.⁴



Maximum comfort vacuum

Dr Kent of UWA demonstrated that mothers pumping at their maximum comfort vacuum remove significantly more milk than when they pump at lower vacuums.⁹

Infant sucking

With the new breast anatomy impacting our understanding of infant sucking, Geddes determined that vacuum and tongue movement play key roles in how the infant removes milk from the breast.⁵



Double pumping

Double pumping is not just time-saving. UWA compared double pumping to sequential single pumping and found benefits of up to 18% more milk volume and an additional milk ejection.¹⁰

Vacuum-controlled feeding

A new paradigm for infant feeding. The key: The infant is required to generate a vacuum to remove milk.⁶⁻⁸ This research was conducted by members of UWA and Prof. Mizuno of Showa University School of Medicine, Tokyo, Japan.



Initiation technology

Prof. Meier of RUMC, Chicago, tested a specifically developed initiation pumping program. Mothers achieved 67% more milk output by day 7 compared to using the 2-Phase Expression program alone.¹¹

Continuing the journey of discovery



Human milk composition

In 2007 the UWA team discovered stem cells in human milk.¹² In 2009 they discovered 261 never before identified proteins,¹³ and in 2015, over 300 novel human milk microRNA molecules.¹⁴



The range of "normal" breastfeeding

In 2006¹⁶ and 2013,¹⁷ Dr Kent of UWA published on the milk intake of exclusively breastfeeding infants (1-6 mo). Infants fed from 4-13 times a day and their average daily milk intake ranged from 478-1356 ml.



Stem cells in human milk

Each day breastfed infants ingest millions of cells. Dr Kakulas (formerly Hassiotou) of UWA demonstrated in 2012 that stem cells in human milk can become bone, fat, liver and brain cells.¹⁵



Human milk pasteurisation

Human milk is temperature-sensitive. In 2013 Dr Christen of UWA published on the use of ultraviolet light as an alternative pasteurisation technique to preserve human milk's bioactivity.¹⁸

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