

Study confirms that breast is best for premature babies' hearts

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Image: Wikipedia.

Breastfeeding premature babies improves long-term heart structure and function, an Oxford University study has found.

The hearts of babies born early often develop abnormally. Dr Adam Lewandowski and colleagues at the Oxford Cardiovascular Clinical Research Facility, directed by Professor Paul Leeson, have previously shown that, in adult life, the hearts of people who were born very preterm have smaller chambers, thicker walls and reduced function.

The changes in the heart are thought to emerge in the first few months

after birth and therefore the team wanted to explore whether the way the baby was fed during this time might be able to alter how the heart develops. Dr Lewandowski, who led the research, explained: 'We already had data on more than 900 individuals who were followed since birth as part of an earlier study, which started in 1982, on the effects of different feeding regimes in [preterm infants](#). We invited individuals who had been followed up throughout life to come to Oxford for a detailed cardiovascular study and used this information to investigate how different feeding regimes could affect the development of the heart in the long term.'

From the original group, now in their early- to mid-twenties, 102 people were able to visit Oxford and take part in the study. A further 102 people of similar age who had not been born prematurely were also recruited.

The study published in *Pediatrics* showed that while those who had been born early had reduced heart volumes and function compared to those born at term, the reduction was considerably less in people who had been exclusively fed on breastmilk compared to those fed only on formula milk. Furthermore, in those fed a combination of breastmilk and formula, the more breastmilk consumed in the diet as babies the better their heart structure and function as adults.

After analysing the results to take into account other factors that might have affected heart volume and function, breastfeeding and the amount of breastmilk in the diet was still clearly associated with better heart volume and [function](#) when compared to formula feeding.

Dr Lewandowski said: 'Even the best baby formula lacks some of the growth factors, enzymes and antibodies that breastmilk provides to developing babies. These results show that even in people whose premature birth has inevitably affected their development, breastfeeding

may be able to improve [heart](#) development.'

More information: Breast milk consumption in preterm neonates and cardiac shape in adulthood, *Pediatrics*, DOI: [10.1542/peds.2016-0050](https://doi.org/10.1542/peds.2016-0050)

Provided by University of Oxford

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