

Women urged to give up alcohol before conceiving

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Women who consume alcohol around the time of conception could be putting their sons at greater risk of obesity in later life. Credit: University of Queensland

Women who consume alcohol around the time of conception could be putting their male offspring at greater risk of obesity in later life.

Researchers from The University of Queensland's Child Health Research Centre investigated how [alcohol exposure](#) affected the just-fertilised egg, in one of the first studies to look at alcohol in preconception rather than during pregnancy.

Centre director Professor Karen Moritz said PhD student Emily Dorey's research using animal models found that exposure to alcohol around [conception](#) made male offspring more likely to seek a [high fat diet](#) more often as they aged.

"We found that exposure to alcohol resulted in male offspring having a sustained preference for high-fat food, which indicated the reward pathway in the brain was altered by alcohol exposure around conception," she said.

"Surprisingly we found alcohol exposure at this time had no effect on alcohol preference in offspring of either sex later in life."

Professor Moritz said rats involved in the study consumed the equivalent of four standard drinks each day from four days before mating to four days after mating.

In a related study, Centre researchers found [male offspring](#) exposed to alcohol at conception had five per cent more body fat than those whose mothers had not consumed alcohol.

It found males exposed to alcohol were also more likely to have higher abdominal fat mass, which could lead to health problems such as type 2 diabetes, heart disease and some cancers.

Professor Moritz said the study also found both male and female offspring were more likely to suffer from fatty liver when exposed to [alcohol](#) at conception.

"Our results highlight that [alcohol consumption](#), even prior to a fertilised egg implanting in the uterus, can have lifelong consequences for the metabolic health of offspring," she said.

The research is published in the *Journal of Developmental Origins of Health and Disease* and the *American Journal of Physiology*.

More information: The effects of periconceptional maternal alcohol intake and a postnatal high-fat diet on obesity and liver disease in male and female rat offspring. *American Journal of Physiology - Endocrinology and Metabolism* DOI: [10.1152/ajpendo.00251.2017](https://doi.org/10.1152/ajpendo.00251.2017)

Provided by University of Queensland

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