

Study shows link between high birth weight and heart disease

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(Medical Xpress)—Babies born with high birth weight may be at increased risk of cardiovascular disease in adulthood, according to a University of Sydney study.

The research, published recently in the Arteriosclerosis, Thrombosis, and Vascular Biology journal, was led by Dr Michael Skilton, from the University's Boden Institute of Obesity, Nutrition, Exercise and Eating Disorders.

Dr Skilton said the results demonstrate that [young adults](#) who were born large for gestational age (LGA) are more likely to be overweight and obese, with increased waist circumference and greater [arterial wall](#) thickness.

"They are therefore more likely to have an [increased risk](#) of developing cardiovascular disease," he said.

"Young adults born with high [birth weight](#) are more likely to be obese, yet have an otherwise healthy [cardiovascular risk](#) profile. Nonetheless, they have increased carotid intima-media thickness (IMT), a marker of subclinical atherosclerosis, consistent with an increased risk of cardiovascular disease."

Large birth weight is considered as those born above the 90th percentile, and occurs in approximately 10 per cent of all live births.

"These findings identify a sizeable group of people at risk of obesity and arterial wall thickening, independent of established [cardiovascular risk factors](#)," Dr Skilton said.

"The research also found that people born LGA had higher body mass index throughout childhood, adolescence, and as young adults, and double the risk of becoming obese.

"There is an extensive body of evidence linking [low birth weight](#) with cardiovascular disease. We have previously demonstrated that people born with low birth weight have extensive modifications to their cardiovascular risk profile, and poor vascular health.

"At the other end of the birth weight spectrum, people born with high birth weight may also be at risk of [cardiovascular disease](#)," he said.

The study specifically focused on one key structural measure of vascular health (carotid IMT) and a key measure of arterial function (brachial flow-mediated dilatation), as per Dr Skilton's previous study in people born with fetal growth restriction.

The strengths of this study include the relatively large sample, early recruitment during childhood and adolescence, and the long duration of follow-up.

"Our results suggest that weight maintenance in childhood and adulthood, while valuable from the perspective of potentially reducing the impact of obesity, would not appear to be a likely strategy to specifically limit the impact of LGA.

"One alternative however, is that maternal interventions may be possible in the sub-group of those born LGA who are identified prior to birth," Dr Skilton said.

More information: "High Birth Weight Is Associated With Obesity and Increased Carotid Wall Thickness in Young Adults: The Cardiovascular Risk in Young Finns Study." Michael R. Skilton, Niina Siitonen, Peter Würtz, Jorma S.A. Viikari, Markus Juonala, Ilkka Seppälä, Tomi Laitinen, Terho Lehtimäki, Leena Taittonen, Mika Kähönen, David S. Celermajer, and Olli T. Raitakari, *Arterioscler Thromb Vasc Biol.* 2014;ATVBAHA.113.302934published online before print March 13 2014, [DOI: 10.1161/ATVBAHA.113.302934](https://doi.org/10.1161/ATVBAHA.113.302934)

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