

Is the eye a window to the body's vascular health? Retinal vascular function in obese individuals before and after surgery induced weight-loss (bariatric surgery).
Supervisor Dr Doina Gherghel, AS: Dr Shahrads Taheri (MIDRU)

Obesity is now ranked as the fifth leading cause for global deaths, and in addition, a high proportion of known causes of morbidity and mortality are attributable to obesity. In addition to other changes, obesity is also associated with vascular constriction that can contribute to tissues ischaemia and a higher risk of developing cardiovascular disease. It has been demonstrated that the level of obesity-induced inflammation in bodily tissues and organs is reduced after surgery induced weight loss; therefore, bariatric surgery, through its effect on weight, could possibly improve the endothelial function and decrease the risk for cardiovascular disease in patients undergoing this procedure. This study aims to demonstrate that significant weight loss results in an improved vascular function detectable at both the retinal and systemic levels and, therefore, decreased risk for cardiovascular disease in obese patients. The study will be done at the Vascular Research Lab (<http://www1.aston.ac.uk/lhs/research/centres-facilities/vascular-imaging-and-research-laboratory/>) in collaboration with the Heartlands Biomedical Research Centre (HBMRC), the UK's number one centre for studying the effect of obesity on individual health.