

Carotid artery – Professor Paul Lesson

Hello, my name is Paul Lesson and I am a Consultant Cardiologist and Professor of Cardiovascular Medicine at the University of Oxford. I divide my time between seeing patients and carrying out heart research.

Taking scans of the two carotid arteries, those that run up each side of our necks, will provide scientists with a wonderful opportunity to better understand a number of serious and life-threatening illnesses.

Atherosclerosis, for example, is a serious health problem whereby the major arteries, and in this case those to the brain, begin to furr up with a substance called plaque. This makes it harder for the blood to pass through the arteries to deliver oxygen and nutrients to the body's organs. Eventually arteries can block, with serious consequences such as strokes and heart attacks. It is also an underlying cause of angina and problems with blood circulation to the legs and hands.

Participants in the imaging study will have their left and right carotid arteries scanned. This will take about 15-25 minutes. It is a painless procedure and uses an ultrasound device, much like that used to listen to a baby's heart beat during pregnancy. The carotid artery scans will provide researches with information on the thickness of the artery walls and the amount of plague.

Amassing this sort of important information on 100,000 people would provide a simple and powerful way to obtain very good data about the furring up of arteries, both before and after it becomes a clinical problem.

Combining the information on the carotid artery with images of the brain, heart, body and bone would provide an unprecedentedly deep and broad resource for investigating what causes atherosclerosis and how it affects other organs in the body.



It would also be possible to investigate whether differences in, say, blood flow to the brain area influences brain structure and function, which may be relevant to illnesses like depression and degenerative diseases like dementia.

Thank you for your support. UK Biobank has already achieved a great deal in terms of creating a resource that will help health research for many years to come and by providing this extra information you will be able to help us achieve much more.