

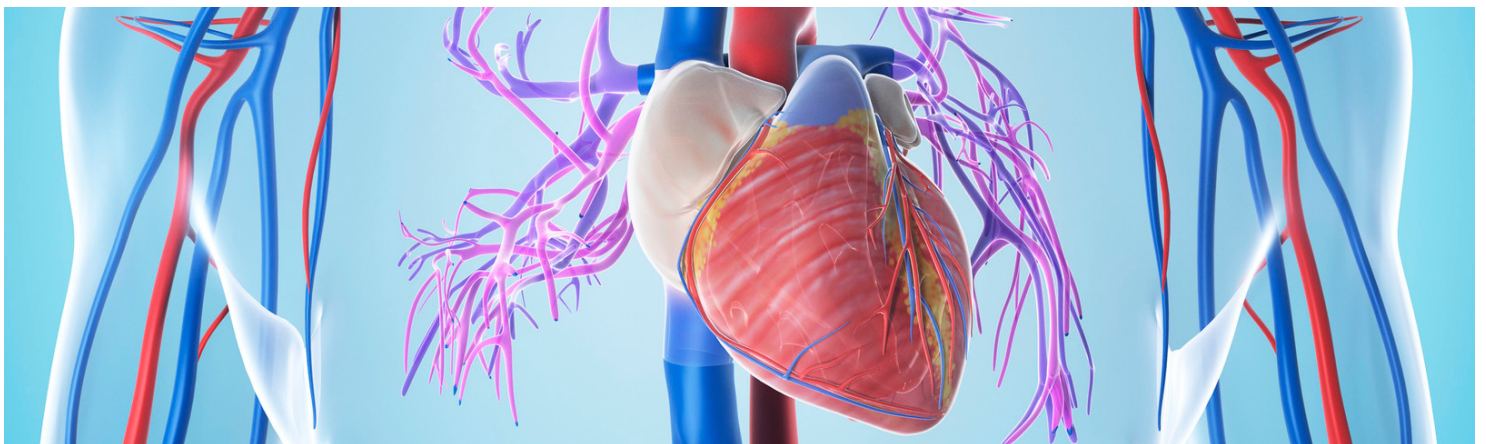
The first ADVANCE results are now out!



Association between combat-related traumatic injury and cardiovascular risk

We are glad to inform you that the first results from the ADVANCE Study have been accepted for publication in the scientific journal *Heart*. It is important to us that we keep you informed of our findings from analysing the data we have obtained from you. As always, a huge thankyou to all of you for making the Study possible – without the participants there would be no ADVANCE.

Below, we provide some of our initial findings on cardiovascular risk and explain what these findings mean. We are also planning some webinars and Q&A sheets in the coming weeks and months.



Until now, the relationship between combat-related traumatic injury and the future risk of developing cardiovascular disease, such as heart attack and stroke, has been uncertain. ADVANCE is the first study to look at this relationship on a relatively large scale and over a long period of time. The main findings from the ADVANCE baseline data analysis are shown in the box below, but let's look at some background information first.

Background

You may remember that at your baseline visit we collected some information from you which relates to cardiovascular disease. We used a Vicorder device to measure your blood pressure and how 'stiff' your arteries are, measured your waist circumference, took blood samples, used a DEXA scan to look at your body composition in more detail, and collected your family medical history, among other things. All of these provide us with a picture of potential risk of developing cardiovascular disease in the future.

The first ADVANCE scientific publication looks at the relationship between combat-related traumatic injury and two indicators of cardiovascular risk: **metabolic syndrome (MetS)** and **arterial stiffness**. The title of the publication is '*Association between Combat-related Traumatic Injury and Cardiovascular Risk*'.

The aim of this piece of ADVANCE research was to find out whether the injured group (who have suffered combat-related traumatic injury) and the uninjured comparison group have differences in terms of metabolic syndrome and arterial stiffness.

Let's explain what we mean by the terms 'metabolic syndrome' and 'arterial stiffness'...

What is metabolic syndrome?

Metabolic syndrome is a cluster of conditions such as increased blood pressure, excess body fat around internal organs such as the liver (visceral fat), high blood sugar, low levels of HDL (good cholesterol), and abnormal blood fats and triglyceride levels. If you have a combination of these conditions, it increases your risk of developing type 2 diabetes and cardiovascular disease.

What is arterial stiffness?

Using the Vicorder device we obtain an indication on how 'stiff' your main arteries are. As we get older our arteries can become less elastic and more rigid. An increase in arterial stiffness is linked to increased risk of cardiovascular disease.



The results

In short, the results show us that the occurrence of metabolic syndrome and arterial stiffness was higher in the injured group compared to the non-injured. This wasn't explained by differences in age or service rank between the two groups. These differences are not great enough to warrant any medical treatment at this stage but knowing this is very helpful as we will monitor these factors in all participants over the course of the study.

The results show us that:

- The notable differences between the injured and non-injured were higher waist circumference, higher triglycerides and lower HDL cholesterol in the injured group.
- There were no differences between the injured and uninjured groups in blood sugar or blood pressure.
- Arterial augmentation index – which is one of the main measures of arterial stiffness – was marginally, but not significantly, greater in the injured group compared to the uninjured group. However, another measure of arterial stiffness, known as pulse wave velocity, was no different in the two groups.
- Worse injury severity, lower age and lower socioeconomic status were also shown to be associated with higher incidence of metabolic syndrome and arterial stiffness.

What does this mean to me as an individual?

Although our research demonstrates some evidence that our injured group are showing early signs of being at an increased risk of cardiovascular disease compared to the uninjured group, it doesn't mean this will inevitably happen at an individual level. We review all your test results, and if anything unusual or worrying comes up we inform you and your GP/MO. It is also important to stress that these current findings are markers of cardiovascular **risk** and not indicators of actual cardiovascular disease or diabetes.

At an individual level, lifestyle changes such as eating a healthy balanced diet, maintaining a healthy weight and keeping moderately active can delay or even prevent the development of serious health problems.

The impact of combat-related traumatic injury on cardiovascular events will be studied throughout the 20 years of ADVANCE, and it should be stressed that the results in this first publication are from the baseline visits only. The long-term impact of these early findings for the ADVANCE cohort are still unknown and will be of major research interest over the course of the ADVANCE Study.



As soon as the actual scientific publication describing these early ADVANCE findings is available, we will share the publication with you. The findings will also be presented at the American Heart Association Annual Scientific Congress on 13th November 2021.

Get in touch

If you have any questions or would like to talk to the ADVANCE team, you can get in touch with us via e-mail at dmrc-advancestudyteam@mod.gov.uk or call us on +44 (0)1509 251 500 extension 3408.



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