

# THE FIRST ADVANCE RESULTS ARE OUT!



## OUR FIRST SCIENTIFIC PAPER GETS PUBLISHED

We are glad to share with you that the first results from the ADVANCE Study are now out! We have analysed all the cardiovascular data from your ADVANCE baseline visits, and the findings have been published in Heart, a scientific journal that focuses on cardiovascular research. As always, we want to say a huge (huge!) thankyou to all ADVANCE participants. Without you ADVANCE wouldn't exist, and it is thanks to you we have been able to build such an impressive and significant study. You can read more about the cardiovascular findings on the next page, where you will also find a link to a video message from ADVANCE Chief Investigator Alex Bennett.

These first ADVANCE results were recently presented at the American Heart Association's annual conference, so the word about ADVANCE is spreading! Look out for e-mails from us about an upcoming webinar on the findings.

## IN OTHER NEWS...

We have recently received additional funding from the Headley Court Charity to analyse the blood samples from your baseline visits. This is to look at blood markers that could give us clues about injury and injury progression. Scroll down to read more about this research.

In this newsletter, we also talk about the mental health aspects we investigate within ADVANCE. In addition, we recently interviewed ADVANCE participant James Girvan who talked about what he's been up to since he left active service and his experiences of the ADVANCE Study.

## SAFETY FIRST!

As always, keeping our participants and staff safe is a main priority. We have all the necessary health and safety measures in place to ensure we follow government guidelines and that visits to ADVANCE are safe. As a new safety measure, we now require anyone who comes to Stanford Hall to show a negative COVID-19 lateral flow test. For further details please check the [COVID-19 page](#) on our website.

Find us on  
social media!



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# CARDIOVASCULAR RISK IN THE ADVANCE COHORT

The first results from the ADVANCE Study have now been published in the scientific journal Heart. This is a big milestone for the Study, and many more papers on further ADVANCE results will be published over the coming years! The first published findings relate to cardiovascular risk in the ADVANCE cohort.

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 their cardiovascular risk, e.g. risk of heart attack or stroke. Two factors related to cardiovascular risk were looked at: **metabolic syndrome** and **arterial stiffness**.

**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.

During your ADVANCE visits we also 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.

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. 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.



## Summary of the results

- 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 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.

In this video Gp Capt Alex Bennett (left) explains the cardiovascular risk findings from the ADVANCE baseline data analysis.

## 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 health 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.



## Have your contact details changed?

Let us know by contacting us directly or by completing our online Contact Form via this QR code:





# PARTICIPANT VIEW: James Girvan

Age: 35

**When and where were you deployed?** I was in Iraq in 2005, Afghanistan in 2006 and again in Afghanistan in 2010.

**Why did you choose to take part in ADVANCE?** Really just to help the next generation going forward, so hopefully they can deal with the effects of service better.

**How did you find your ADVANCE visit?** It was very relaxed and very organised. We flew over from Northern Ireland, and they had everything organised from my car parking at Belfast to the taxi and the train service. Since my ADVANCE visit, I've been getting stuck into my fitness. The detailed information from the tests encouraged me to start moving more and get fitter.

**Is there anything more you would like to see from the Study?** No, not really! I thought all the tests were very good, and the detail of the scans and everything was great. After my first ADVANCE visit I would have liked to see a bit more detail on my blood test results, but I've now had my second visit and received full details of all my tests, including bloods, so that was a nice improvement.

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*I did 8 years of service and left to spend more time with my family. But I enjoyed my time in the army and have no regrets!*

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**What have you been up to since you left active service?** To be honest I haven't stopped since I left - that's probably a good thing! I had one child when I was still in service and now I have three. I work with my brothers on vehicle CCTV systems. I did 8 years of service and left to spend more time with my family. But I enjoyed my time in the army and have no regrets!

**Can you tell me about your 5 km charity challenge?** I'm running 5 km every day in November for a charity called Beyond the Battlefield. They support veterans with issues like PTSD and also help veterans' families. Sadly, I've lost friends to suicide, and Beyond the Battlefield offers support to families who have experienced such awful loss. It's good to be helping them and to give back.

**Have you got any words of wisdom for your fellow ADVANCE participants?** The main thing I would say is: look at your results from your ADVANCE visit, and if you see something that you need to improve on then do it - because it's your own health after all!

**Watch the full interview with James [here](#).**



## The ADVANCE Charity

As the ADVANCE Study grew over the Study's first few years, a need arose for a separate body to manage and raise funds and to advise on the direction of the Study. To meet these needs, the ADVANCE Charity was set up in late 2018. Admiral of the Fleet the Lord Michael Boyce chairs the Trustees' Board. The other trustees include representatives from military, research and charity backgrounds.

The ADVANCE Charity manages the funds donated by our generous funders and distributes these funds to the various researchers and institutions who do ADVANCE research. The Board of Trustees of the Charity meet three times a year, and the trustees are in regular contact with the ADVANCE Project Board.

You can read more about the Charity [here](#), where you will also find links to the Charity's annual reports.



### The ADVANCE Charity Board of Trustees

- Admiral of the Fleet the Lord Michael Boyce KG GCB OBE DL
- Dr David Henson
- Dr Emily Mayhew
- Professor Sir Anthony Newman Taylor
- Mr Robert Robson OBE (Treasurer)
- Professor Sir Simon Wessely
- Brigadier Duncan Wilson QHP
- Air Vice-Marshal Rich Withnall QHS

# MEET THE TEAM - ELEANOR MILLER

**What is your role within ADVANCE?** I'm the Senior Data Manager, so have oversight of the ADVANCE data (there's a lot of it!). I mainly work with the Data Team to further develop tools for data cleaning and quality checks, as well as ensuring the safe storage of the data.

**What jobs have you had before joining ADVANCE?** My last job was working as a postdoctoral researcher in the Evolutionary Ecology Group at Cambridge University. I've had all sorts of odd jobs over the years though. The local fish and chip shop was a highlight as a teenager - job perks included free food at the end of the night... an easy way to my heart!

**What do you enjoy most about your job?** It has to be the team! Everyone is so lovely and were so welcoming when I started earlier this year. It makes a world of difference.

**What are the biggest challenges of your job?** I think the biggest challenge in this role is just the sheer scale of the dataset! That and the diversity of data types we handle. It's a lot to wrap your head around.

**If you could see all our participants together, what would you say to them?** I think I'd have to say a huge thank you. Their time and continued contribution to the study really is so important and so appreciated, I'd just want to reiterate that.

**What was no. 1 in the UK charts on the day you were born?** Seems to have been *'That's the way love goes'* by Janet Jackson.

**What's the last book you read?** *'My Child and Other Mistakes'* by Ellie Taylor - very funny.

**What do you enjoy doing in your spare time?** In the last year or so I've got really into road cycling, so whenever I can I like jumping on my bike and escaping out of the city for a bit.



Eleanor on a staycation in the UK earlier this year.

**What's the weirdest habit you developed during lockdown?** Zooming my friends every Friday to work out from home together, even now. It would have seemed SO strange a couple of years ago, but it just made sense in lockdown. We weren't going to stick to any routine on our own after all, and it was a good excuse to catch up regularly.

**What's your favourite meal?** Something 'big batch' I can cook up for a crowd. I love having people over for dinner and the like, especially after the isolation of the last year or so.

**What's your favourite drink?** Coffee - probably to an unhealthy degree!

**What three words would your friends or partner use to describe you?** Loyal, reliable, sarcastic.

## Hello and goodbye

This summer we said goodbye to ADVANCE data manager David Pernet. Huge thanks to David who helped with all things data over the years! We will miss him, but he will hopefully be too busy enjoying his well deserved break to miss ADVANCE too much!

Yet again, the ADVANCE team is growing. Welcome to Grace Blissitt, Rabeea Maqsood and Vlad Pop who have joined recently. Grace is working as a research assistant in the ADVANCE traumatic brain injury (TBI) study, whereas Vlad is a research assistant working mainly on recruitment and participant admin. Rabeea is a PhD student whose project focuses on looking at the influence of combat related traumatic injury on heart rate variability and its link to cardiovascular disease risk.



## Let us know how we did!

We recently informed you of the first published ADVANCE findings on cardiovascular risk via e-mail, and have included a story and a video in this newsletter. Please let us know how you think we did in delivering the news to you! Would you have preferred to hear the news any other way? You can get in touch via the contact details on the first page of the newsletter. Your feedback is hugely important to us!





# YOUR ADVANCE DAY EXPLAINED:

## Mental health and wellbeing

### Why do we look at mental health?

You might remember that long questionnaire we asked you to fill out at your ADVANCE visit. We collect a lot of information through that questionnaire, including aspects of your mental health.

Mental health is as important as physical health when it comes to having a good quality of life. Figuring out why some UK Armed Forces personnel are at greater risk of poor mental health than others is something we are looking at within ADVANCE. We are also looking to see if having a combat injury is associated with poorer mental health outcomes.

### What mental health conditions do we look at?

**Depression** is one of the mental health difficulties we investigate. Depression can include symptoms of low mood, tiredness, feeling apathetic and not enjoying the things or activities you used to enjoy. Many people experiencing depression also have symptoms of anxiety.

**Anxiety** is a feeling of worry or fear. Feeling a little anxious is normal. However, some people have a hard time controlling their anxiety and it affects their daily life, for example, in forming and maintaining relationships, enjoying their leisure time or achieving their goals and in holding down a job. Anxiety is the main symptom of several other mental health difficulties, including post-traumatic stress disorder (PTSD).

**PTSD** is a mental health condition which can develop after a stressful, frightening or distressing event or a prolonged traumatic experience. Individuals with PTSD may experience vivid flashbacks, intrusive thoughts and nightmares or disturbed sleep. In addition, some people with PTSD feel alert and on edge, irritable, aggressive, or cannot feel their feelings at all. People experiencing PTSD may also experience physical symptoms such as chest pains, headaches, dizziness and stomach aches.

Some people who experience these traumas report that, over time, their experience of life can become more meaningful, something that is known as post-traumatic growth.

**Post-traumatic growth (PTG)** refers to a positive psychological change that arises as a result of dealing with highly challenging and stressful circumstances. For various reasons, people who experience PTG have the resources within themselves to experience shifts in their thinking and thus experience positive personal change despite, and perhaps because of, the traumatic event. As a result, people who experience PTG may find new meaning and possibilities in life, feel like they can relate to other people more, undergo spiritual development and thrive in the world.

### Signposting Booklet

### Further support

ADVANCE is not designed to provide you with any clinical diagnoses, and filling out a questionnaire is not a substitute for an assessment with a mental health professional. If you feel that you are having problems that affect your daily mental health and wellbeing, please follow the link in the box for our signposting booklet. In the booklet you will find details for services supporting people with mental and physical health conditions.



## Confidentiality

It's important that you know that all the information you share with us about your mental and physical health is stored securely in accordance with the Data Protection Act 2018 and UK General Data Protection Regulation 2018. We use 'pseudonymised data', meaning that we strip away any identifiers, such as name and date of birth, and replace it with a unique study code. This means you cannot be identified by anyone looking at the data.



# ANALYSING BIOMARKERS IN THE ADVANCE PARTICIPANTS' BLOODS

Earlier this year ADVANCE received a new grant from the Headley Court Charity for analysing ADVANCE participants' blood samples. This work is led by Prof Marc Dumas from Imperial College London. His team will be looking at biochemical markers - such as proteins and metabolites - in the blood samples that we have collected from ADVANCE participants.

One of the aims of this work is to find clues in the blood samples for predicting long-term impact of injury. For example, as a result of this work we hope to be able to predict cardiovascular and osteoarthritis risk in ADVANCE participants. Another aim is to be able to predict potential complications from injury by analysing the blood samples.



As with all ADVANCE research, we will compare the blood analysis results between the injured and uninjured groups. This will tell us if the amounts of circulating proteins and metabolites in blood are different between these two groups. The blood analysis results will then be compared to physical and psychosocial outcomes - such as blood pressure, body fat, arthritis, PTSD, anxiety and depression.

Prof Dumas said: 'We are very grateful to the Headley Court Charity and the ADVANCE Charity for awarding funding for this exciting project. We now have a rare opportunity to generate and analyse huge amounts of data from the participants' bloods. This offers a unique window into the biochemistry of the participants and could help us identify molecular signatures from injury and catch early signs of their potential negative effects.'



## HEADLEY COURT CHARITY



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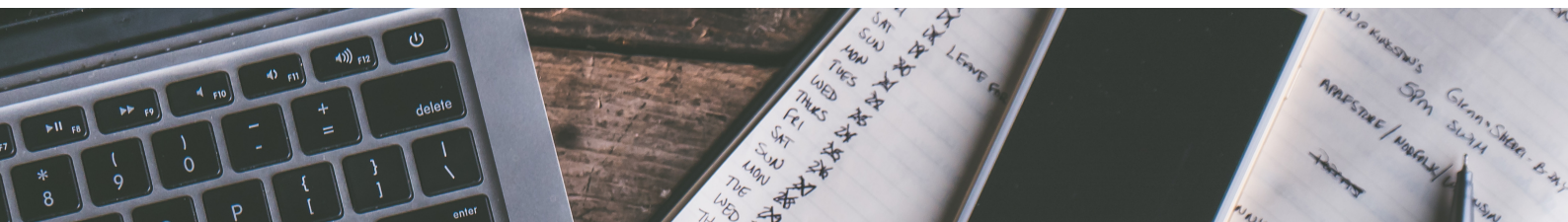
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## HEADLEY COURT CHARITY

## We look forward to speaking to you soon!



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