

MEDIA AND CELEBRITY ROUND-UP

We were thrilled to have Dame Emma Thompson and Greg Wise pay a visit to the clinic in August and even take part in PREDICT.

We also welcomed renowned chef Yotam Ottolenghi, who appeared to enjoy the PREDICT staple of blue muffins!

Did you catch us on ITV's Long Lost Family? Audrey and Grace are identical twins who were separated at birth and adopted by different US families. They paid us a visit at the Department of Twin Research in St Thomas' Hospital for a day of twin tests to find out how similar they really are.



CDRF LEGACY GIFTS AND DONATIONS

Charitable donations help to fund our health research. Choosing to make a donation or leaving a gift in your Will are important decisions that can have a positive impact while supporting our work. If you would like to fund research directly at the Department of Twin Research, please visit www.twinsuk.ac.uk/twinzone/support-us for more information or contact info@cdrf.org.uk.



CHANGE OF DETAILS?

Do let us know if you have a new email or postal address. To update your details, please contact twinsuk@kcl.ac.uk with your full name and study number or call 020 7188 5555

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Department of Twin Research & Genetic Epidemiology (DTR)



2020 Newsletter



WHAT HAPPENS IN A YEAR AT TWINSUK? IN 2019, WE:

Saw 663 twins in the clinic



Received 8,035 completed online questionnaires



Published 61 research papers



Collected 103 litres of blood



Registered 336 new twins
(168 pairs) to TwinsUK



Collected over 1 litre of saliva



Processed 2,249 stool samples



Extracted DNA from 3,010 samples



Collected 27 litres of urine



Featured in more than 200 news articles, TV/radio shows and podcasts



WELCOME!

A very happy new year to you all.



Welcome to the annual TwinsUK newsletter.

We had a busy year in 2019 as we worked on many different studies, looking at everything from genes behind certain conditions to how food affects our metabolism. We have a full programme of studies for 2020, so we look forward to seeing you at St Thomas' soon.

May I take this opportunity to thank each and every one of you for taking part in TwinsUK. I hope you enjoy reading about the health research that your participation made possible.



Best wishes,
Professor Tim Spector

If you haven't been for a visit for four years and would like to arrange one, please contact us

020 7188 5555

twinsuk@kcl.ac.uk

PREDICT

We are continuing to run our personalised nutrition study, PREDICT. This requires coming into the clinic for a full day of tests and checks, and then logging everything you eat for two weeks. We are now also offering a one-day version of PREDICT for twins unable to carry on with two weeks at home. The day also includes lots of your regular twin visit tests.



CHROMOSOME X

Females have two X chromosomes while males only have one. This means that in females, one chromosome X is randomly switched off in every cell. We have started a small sub-study to understand how the activity of the genes on chromosome X change with age. The team will be in touch with more information if you are eligible.

We aim to see you every 4 years. If you would like to take part in any of these studies, or you haven't been to see us for your usual twin visit in 4 years, please get in touch with our team on 020 7188 5555 or twinsuk@kcl.ac.uk and we will book you in for a visit.

MRI STUDY

We are organising an exciting new study with another team at King's College London that features a full-body MRI scan. We will be in touch later this year with more information about the study and how to sign up if you are interested in taking part.



DATA LINKAGE

We aim to start an innovative project this year linking up your official health, education and environmental records for health research purposes. This is a great way to ensure we have accurate, complete data, so that we can carry out better health research for everyone. We hope to send out later this year a booklet with more information about the project and a decision form for you to complete about taking part.

KEEPING TOGETHER

We completed the pilot of our project for long-standing participants who are no longer able to visit us in the clinic. 165 twins took part in Keeping Together, where they answered questionnaires, collected samples and performed physical tests at home before sending everything back to us for analysis. We are now expanding the project to reach more people who want to continue participating in TwinsUK from home. We are very grateful to our twins for sticking with TwinsUK for so long.



INITIAL PREDICT RESULTS

In 2019 we completed the first phase of PREDICT, our personalised nutrition study. We found that no two people's responses to individual foods are the same - even between identical twins. This demonstrates that one-size-fits-all dietary guidelines are too simplistic, and a personalised approach to nutrition is likely to provide better long-term health benefits. Our study and its initial results were widely covered in the media over the summer. We will be in touch when the full results are published.

HOPE FOR HEARING LOSS

TwinsUK's Professor Frances Williams and her team identified 44 new genes linked to age-related hearing loss, in a study of over 250,000 volunteers which included TwinsUK participants. A third of people are affected by some degree of hearing loss by the age of 65, which can lead to social isolation and disability. Hearing aids however are the only treatment available and not much is known about the genes behind the condition.



These findings will help researchers understand how hearing loss develops and so help us find ways to treat and prevent the condition. Professor Frances Williams explained:

"We now know that very many genes are involved in the loss of hearing ability as we age. This study has identified genes that we know already cause deafness in children, but it has also revealed lots of additional genes which point to new biological pathways."

WINE BEFORE NINE, YOU'LL BE FINE



Drinking red wine is linked with an increase in gut bacteria diversity, according to our latest research.

White wine had a similar although much smaller effect, while researchers found no association between other types of alcohol and gut bacteria variety. In addition, twins who drank more red wine than their co-twin had more diverse gut bacteria. Previous research suggests that a more varied community of bacteria in your gut leads to a healthier gut.

TwinsUK researcher Dr Caroline Le Roy, explained:

"We've known for some time that red wine has some health benefits, which likely come from certain molecules called polyphenols. At this time however we cannot say that drinking red wine directly causes an increase in gut bacteria diversity - we need more research first."

CAN BACTERIA BEAT THE BELLY FAT?

A study led by Dr Jordana Bell of TwinsUK has found that gut bacteria play an important role in the accumulation of fat around the midriff. This makes gut bacteria a prime target for developing effective weight-management strategies.

The team wanted to find out the role of gut bacteria in the accumulation of visceral fat - which surrounds the organs in the abdomen - and how it relates to diet. The researchers analysed stool samples and diet questionnaires from over 1,700 TwinsUK participants.

They found that certain diet nutrients and gut bacteria affect the accumulation of visceral fat in different ways. Overall, differences in gut bacteria explain differences in visceral fat levels to a greater extent than nutrients alone. Dr Jordana Bell is grateful to TwinsUK participants:

"I'd like to thank our twins who so generously give up their time and samples to make this research possible. It's because of them that we're beginning to unravel the relationships between food, gut bacteria and abdominal fat."



TO FIND OUT MORE ABOUT THESE AND OTHER TWINSUK STUDIES, VISIT TWINSUK.AC.UK/NEWS

WHY DO MORE WOMEN DEVELOP LUPUS THAN MEN?

We have identified a new gene which may explain why so many more women develop lupus than men.

Systemic lupus erythematosus - known as SLE or lupus - is an autoimmune condition where the immune system mistakenly attacks the joints, skin and other organs, leading to inflammation.

It's thought to affect about 65,000 people in the UK. 9 out of every 10 people with the condition are female.

The team analysed genetic information and cells collected for TwinsUK and a number of other research programmes. The researchers identified a gene on the X chromosome called CXorf21 as the likely culprit, which does not get "switched off" like it should. Dr Amy Roberts, who co-led the research, explained:

"Our study supports the idea that males and females have different risks for autoimmune conditions due to genetics. More work is now needed to fully understand the function of CXorf21, which ultimately could lead to both a better understanding of the disease and potential for improved treatments."