

Ethnicity Could Impact Health of Kidney Transplant Patients

People's ethnicity impacts their physical activity following a kidney transplant, according to research carried out by the University of Leicester

Transplant operations improve health and quality of life for patients with kidney failure, but cardiovascular disease (CVD) remains the largest cause of mortality with people with the condition, particularly among South Asians.

A study explored ethnic differences in physical activity and functional capacity among kidney patients and showed that South Asians have significantly lower physical function compared to white British people.

NIHR-supported researchers from the Leicester Kidney Exercise Team carried out the research, which was partly funded by Kidney Research UK via a bursary which was awarded to a medical student who carried out some of the work.

Lead author Dr Alice Smith who is a Senior NHS Researcher and Team Leader for the Leicester Kidney Exercise Team, John Walls Renal Unit, University Hospitals of Leicester NHS Trust, said:

"Regular exercise can help reduce the risk of CVD, but we are finding that not many patients who have undergone the transplant operation are being advised to get active."

Dr Smith, who is also from the University of Leicester Department of Infection, Immunity and Inflammation, said:

"People with a South Asian origin unfortunately appear to spend more time sitting down and have lower physical capacity than those with a white background.

"Our research has shown that we need to focus on appropriate strategies to engage South Asian kidney patients in exercise to improve physical function and reduce cardiovascular risk in this particularly vulnerable population."

A total of 271 transplant patients took part in the study and they were asked to complete a physical activity questionnaire to describe their attitude towards exercise.

They were also asked how willing they were to change their physical activity behaviour.

Some participants were also asked to carry out a number of tests to measure their physical capabilities.

They took part in tests to measure their walking ability and the strength of their legs getting up from a chair. They also had their heart output and body fat measured.

Neerja Jain, Health Improvement Project Manager for Kidney Research UK, said:

"This study is a prime example of evidence gaps which need to be urgently addressed so that we can understand

why some people face worse health outcomes than others.

"Kidney Research UK runs a range of programmes addressing health inequalities so we can help people from communities at greater risk. Great research like this by the team at Leicester will continue to inform our work."

Researchers are now calling on healthcare professionals to adopt new ways of encouraging kidney transplant patients from the South Asian community to exercise in a bid to reduce their risk of cardiovascular disease.

Public Lecture Series

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INform

Pokemon Go could help with Type 2 Diabetes

Leading diabetes researchers believe smartphone craze Pokemon Go could be an "innovative solution" to rising obesity levels and chronic disease.

Millions of people have started to play Pokemon, a virtual reality treasure hunt where players must walk to places within the real world and catch, train and battle monsters which appear on their mobile phone screens.

Dr Tom Yates, a Reader in Physical Activity, Sedentary Behaviour and Health, University of Leicester based at the Leicester Diabetes Centre, said:

"Recent figures suggest five million people in England are at high risk of developing Type 2 diabetes, which is largely associated with physical inactivity obesity. If there is something out there which is getting people off the sofa and pounding the streets then this game could be an innovative solution for rising obesity levels. Walking is hugely underrated yet it is man's best and the cheapest form of exercise. It's an easy and accessible way to get active and help maintain a healthy body.

The app was first launched in the US, Australia and New Zealand and has now been released in the UK. It already boasts more active users than dating app Tinder and is tipped to soon overtake social networking site Twitter.

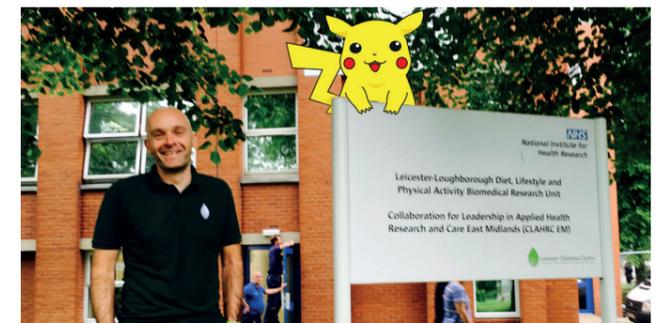
Obesity is the most potent risk factor for Type 2 diabetes as it accounts for 80–85 per cent of the overall risk of developing the condition.

The Department of Health recommends that adults should aim to be active every day. It recommends that over a week, activity should add up to at least 150 minutes (2.5 hours) of moderate exercise in bouts of 10 minutes or more.

Tom Booth, aged 45 from Market Harborough, has become a

regular Pokemon Go user, despite suffering from acute social anxiety which has left him rarely able to leave his home. He said:

"I originally thought it was just for kids, but I downloaded it to see what all the fuss was about and for the first time in years I've left the house and walked miles just by following what's going on in the game. When I get home, I'm exhausted but it's actually been great getting out and about and exercising without even realizing that I'm doing it.



Last year the findings of a study, which was carried out at the Leicester Diabetes Centre, demonstrated the importance of incorporating breaks in prolonged sitting into otherwise sedentary lifestyles.

The research, which was led by University of Leicester researchers working for the NIHR Leicester-Loughborough Diet, Lifestyle and Physical Activity Biomedical Research Unit (BRU), showed that women could prevent developing Type 2 diabetes by regularly standing up or walking.

Published in Diabetes Care, the journal of the American Diabetes Association, the research suggested that breaking up prolonged periods of sitting regularly with five minutes bouts of light movement every 30 minutes significantly reduces blood sugar and insulin levels.

Joint Respiratory Research Day

On Wednesday 4th May 2016, the Joint Respiratory Research Day took place at Stamford Court in Leicestershire.

This event was held in conjunction with the University of Leicester, the University of Nottingham, Nottingham Centre for Respiratory Research, Nottingham Respiratory Research Unit and Leicester Respiratory Biomedical Research Unit. It was an opportunity for people to talk about the research they have been involved in and for delegates to meet and discuss their work in respiratory medicine.

Delegates were treated to presentations and a talk by key note speaker Professor Debbie Jarvis of Imperial College, London.

The 2016 Wendy Stannard Prize for best presentation was awarded to Dr Cathryn Weston.



Clinical trial to test new treatment for chronic cough

The National Institute for Health Research (NIHR) Leicester Respiratory Biomedical Research Unit is taking part in an exciting research study investigating treatment for chronic cough.

The NIHR are participating in a clinical trial to test a promising new treatment for chronic cough. If approved, this would be the first new cough drug in 50 years and offer hope to the millions of people living with chronic cough for whom few, if any, effective treatments exist.

A cough is considered to be chronic when a patient has experienced coughing for eight weeks or more, with many patients living with the condition for years and even decades without effective treatment. Some patients experience coughing that is so severe it can lead to them vomiting or losing consciousness. While it is not known exactly how many people suffer from chronic cough, it is thought to affect around 12-15 percent of the population.

A new drug which could offer relief to those affected by chronic cough is now being tested by the NIHR Translational Research Partnership (TRP) as part of a twelve week clinical trial. The drug, called AF-219, is being developed by US based biotech company,

Afferent Pharmaceuticals. The trial involves 200 patients at 47 sites in the UK and US. Patient recruitment is now underway and is due to complete in the next few months

The trial will use a cough monitor called the VitaloJAK, and it works by recording the cough sounds and allows the number of coughs in a 24-hour period to be counted and the effects of new therapies to be objectively quantified.

Mark Samuels from the National Institute for Health Research said: "This could be the first new cough drug in 50 years. This large-scale trial takes us a step closer to being able to treat chronic cough. It offers real hope that this severe condition can be treated."

(<http://www.nocri.nihr.ac.uk/news-and-events/news/multi-centre-trial-to-test-new-treatment-for-chronic-cough/>)

Get Involved in Heart Research ...from the comfort of your own settee

You can now take part in world-leading heart research from the comfort of your own settee thanks to our new online facility.

We're making it even easier for you to have your say on heart research. Using the internet you can now email us your research questions, take part in surveys, and put questions to our world-leading researchers through our 'Ask the Expert' feature on Facebook.

We already work with patients and the public face-to-face but we want to hear what matters to you too. Your heart-health questions can help us develop new research proposals. And as well as asking us questions, you can help shape our future research by telling us what you think of our ideas.

Why is heart research important?

By asking questions and finding answers, we can:

- Find new ways to prevent heart disease
- Improve the way we diagnose heart disease
- Understand heart health genetics
- Find effective treatments
- Improve the quality of life for people living with heart conditions

What do you need to do?

Send your full name and contact email address to Kelley Green kg198@leicester.ac.uk putting 'Get Involved in Heart Research' as the subject.

That's all! We'll then reply with a confirmation email and you'll then be shown how to send us your questions and how to take part in short surveys direct from our researchers.

Who are we?

We are Leicester Cardiovascular Biomedical Research Unit (or LCBRU for short), a partnership between Leicester's Hospitals and the University of Leicester. We're based in state-of-the-art research facilities at Glenfield Hospital and have over 20 consultants as well as research fellows and research nurses. We are funded by the NIHR (National Institute of Health Research), the research arm of the NHS.

To find out more contact:

Tatty Scott, public and patient involvement and engagement manager at ts289@leicester.ac.uk or **0116 204 4764**

Or follow us on Facebook:



NIHR Leicester Cardiovascular Biomedical Research Unit



Asthma

Professor Christopher Brightling and his dedicated team of researchers are extremely proud to have their research published in the Lancet this week.

The study, led by Professor Brightling and his team, investigated the first new asthma pill that for nearly 20 years has the power to significantly reduce the severity of the condition.

The research was funded by Novartis Pharmaceuticals, National Institute for Health Research (NIHR) and the EU (AirPROM), and is described by Professor Brightling as “a game changer for future treatment of asthma.”

Three people die every day because of asthma attacks and research shows that two thirds of asthma deaths are preventable, according to Asthma UK.

Fevipirant (QAW039) significantly decreased the symptoms of asthma, improved lung function, reduced inflammation and repaired the lining of airways.

The drug is currently being evaluated in late stage clinical trials for efficacy in patients with severe asthma, according to ClinTrials.gov.

A total of 61 people took part in the research. One group was given 225mg of the drug twice a day for 12 weeks and the other participants were assigned to a placebo group. Fevipirant and the placebo were added to the medications the participants were already taking.

The study was designed primarily to examine the effects on inflammation in the airway by measuring the sputum eosinophil count.

The sputum eosinophil is an inflammation measurement of a white blood cell that increases in asthma and is used to assess the severity of this condition.

People who do not have asthma have a percentage of less than one and those with moderate-to-severe asthma typically have a reading of about five per cent.

The rate in people with moderate-to-severe asthma taking the medication was reduced from an average of 5.4 percent to 1.1 percent over 12 weeks, according to the study published in the prestigious The Lancet Respiratory Medicine journal.

Professor Brightling, who is a NIHR Senior Research Fellow and Clinical Professor in Respiratory Medicine at the University of Leicester, led the study here at the NIHR Leicester Respiratory Biomedical Research Unit.

Professor Brightling said: “A unique feature of this study was how it included measurements of symptoms, lung function using breathing tests, sampling of the airway wall and CT scans of the chest to give a complete picture of how the new drug works.

“Most treatments might improve some of these features of disease, but with Fevipirant improvements were seen with all of the types of tests.

“We already know that using treatments to target eosinophilic airway inflammation can substantially reduce asthma attacks.

“This new treatment, Fevipirant, could likewise help to stop preventable asthma attacks, reduce hospital admissions and improve day-to-day symptoms- making it a ‘game changer’ for future treatment.”

Gaye Stokes from Grantham in Lincolnshire has had severe asthma for 16 years. She took part in the trial and was part of the Fevipirant group.

The 54-year-old said: “I knew straight away that I had been given the drug. I felt like a completely different person. I had more get up and go, I was less wheezy and for the first time in years I felt really, really well.

“For me, it felt like a complete wonder drug and I can’t wait for it to be available because I really think it could make a huge difference to me.”

After the 12 week trial and Gaye stopped receiving the drug, she said her health started to “go downhill again very quickly”.

Professor Brightling added that the latest advance underpinned the work of the Leicester Precision Medicine Institute, a Centre of Excellence that coalesces and aligns the research missions of the University of Leicester and the NHS in Leicester.

Future treatment of human disease will increasingly move from a ‘one size fits all’ approach to one of tailoring the treatment to the individual patient.

Asthma is a long-term condition that affects the airways. When a person with asthma comes into contact with something that irritates their sensitive airways it causes the body to react in several ways which can include wheezing, coughing and can make breathing more difficult.

The NIHR Leicester Respiratory Biomedical Research Unit – a partnership between the University of Leicester and Leicester’s Hospitals - focuses on promoting the development of new and effective therapies for the treatment of respiratory diseases including severe asthma and chronic obstructive pulmonary disease (COPD).

AirPROM stands for ‘Airway Disease Predicting Outcomes through Patient Specific Computational Modelling’.

This is the technical name for the five year Europe-wide, EU funded project, which aimed to produce computer and physical models of the whole human airway system for people with asthma and chronic obstructive pulmonary disease (COPD).

AirPROM has demonstrated how an integrated approach, involving modelling, measurement and clinical validation, can accelerate the development of new therapies and improve existing methods.

AirPROM is led by the University of Leicester and coordinated by Professor Brightling.

Leicester Heart Professor stars in BBC documentary

Professor Toru Suzuki from Leicester Cardiovascular Biomedical Research Unit is to star in a BBC One documentary explaining how red meat affects the body.

Red meat has long had a bad press in heart health. Professor Suzuki recently discovered a link between red meat and heart failure – via our gut bacteria. His findings led the BBC team to invite him to take part in their documentary, ‘The Truth About Meat.’

Professor Suzuki said: “We recently identified that people who suffer from heart fail-ure often have high levels of trimethylamine N-oxide (TMAO) – of which red meat is a major dietary source.

“TMAO is released when we digest red meat. Through our research of over 1,000 people, we were able to show that people who have heart disease AND high TMAO levels are more likely to suffer poorer heart health and die than those who have heart disease but lower TMAO levels.

“When red meat such as steak reaches our large intestines, this is where the magic happens. It’s the gut bacteria here that breaks down the red meat and the creation and release of TMAO into the blood stream begins.

The next phase of Professor Suzuki’s research will be to look at if - or how - TMAO directly affects the heart.

During the BBC filming presenter Chris Bavin gave a blood sample to measure his baseline TMAO levels. He then ate



a steak and swallowed a battery-operated pill camera. The tiny device flashes a light as it passes through the intestines. Viewers will be able to see images of Chris’s large intestines where the gut bacteria begins to break down the steak and trigger the creation process of TMAO.

Once the steak was digested, Chris had a follow-up blood test and viewers will find out how the steak affected his TMAO levels.

Professor Suzuki’s Trimethylamine N-oxide and Prognosis in Acute Heart Failure study was the first to investigate the association of TMAO levels in acute heart failure patients. The research was supported by the John and Lucille van Geest Foundation and the NIHR Leicester Cardiovascular BRU.

‘The Truth About Meat’ is part of a BBC science documentary season and is due to be broadcast in the autumn.

INTERESTING FACTS

TMAO is derived from the cholesterol membrane.

When vegetarians eat red meat they don’t get a spike in TMAO levels like meat eaters do. This suggests that meat eaters’ gut bacteria is different and has evolved to digest red meat.

Professor Melanie Davies from the Leicester Diabetes Centre has been responsible for major advances in diabetes and receives a CBE for services to diabetes research in the New Year's Honours List.

Professor Davies was appointed in 1996 as a full-time NHS Consultant at Leicester Royal Infirmary and recruited her first research nurse in 1998. With increasing success the team grew and Professor Davies took up an appointment at the Department of Health Sciences, University of Leicester as Professor of Diabetes Medicine in 2007.

Sustained growth over several years saw relocation to the Leicester General Hospital site, bringing together a number of colleagues into one large and increasingly successful unit.

Working alongside Professor Kamlesh Khunti, Professor Davies has built up the Leicester Diabetes Centre team with more than 140 people currently carrying out over 40 studies designed to improve the lives of people with diabetes. The Leicester Diabetes Centre is recognised across the world for its leading research, education and innovation.

Professor Davies is still a practising hospital Consultant at Leicester General Hospital and last summer was listed among the top ten global diabetes experts. Having published over 400 academic articles and been recognised by the National Institute of Health Research as one of England's most successful researchers, she has risen to the top in what is still a male-dominated industry. Professor Davies said:

“This award means a lot because it is recognition for a significant amount of hard work and determination in turning a vision into reality and I would like to acknowledge the great team with which I am fortunate to work.

Professor Davies gave up a promising career in the equestrian world as a show jumper in order to study medicine at the University of Sheffield, she became the first member of her family to get a degree. Professor Davies continued her training in Ipswich and Cambridge before being appointed as a Consultant in Leicester in 1996 and subsequently, a Professor of Diabetes Medicine at the University of Leicester, in 2007.

Professor Davies said she has always had an interest in research, though earlier in her career had to fit this in around being a full-time consultant and looking after her family. She said:

“Research is about looking at gaps in clinical knowledge and solving these problems by applying new methods, then testing and measuring what really makes a difference, rather than continuing to do things the same way.

Professor Davies lives in Scraftoft, Leicester, with her husband Andrew and their three children, Jacob, 21, Isaac, 19, and Tilly, 16.



Professor Melanie Davies

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BRU PUBLIC LECTURE SERIES 2016

JAN 27 th	Sitting at work? Do working lifestyles impact your health Presented by Ms Veronia Varela-Mato, PhD student from School of Sports, Exercise & Health Science, Loughborough University Venue: U020, Brockington Building, Loughborough University	SEP 13 th	Judging, Nudging or Fudging: Can wearable technologies help us with lifestyle behaviour change? Presented by Dr Dale Eslinger, Senior Lecturer in the Measurement of Physical Activity Venue: U005, Brockington Building, Loughborough University
MAR 16 th	Glucose or fats? Which is to blame for increasing risk for age-related morbidity? Presented by Professor Eef Hogervorst, Professor of Biological Psychology, Loughborough University Venue: U005, Brockington Building, Loughborough University	OCT 11 th	Diet and lifestyle throughout the ages: our past, present and future Presented by Dr Tom Yates, Senior Lecturer in Physical Activity, Sedentary Behaviour and Health, Leicester Diabetes Centre, Leicester-Loughborough Biomedical Research Unit Venue: U005, Brockington Building, Loughborough University
MAY 24 th	Can obesity be good for you? Presented Professor Gavin Murphy, Professor of Cardiac Surgery, University of Leicester / Honorary Consultant Cardiac Surgeon, University Hospitals of Leicester NHS Trust Venue: U005, Brockington Building, Loughborough University	NOV 8 th	Sport and Exercise with a kidney transplant: celebrating the gift of life Presented by Dr Alice Smith, Honorary Senior Lecturer and Multidisciplinary Team Leader, Leicester Kidney Exercise Team Venue: U005 Brockington Building, Loughborough University
JUN 14 th	Fat, Fit and healthy: is weight loss the wrong goal? Presented by Dr Gary O'Donovan, Research Associate, Leicester Diabetes Centre, Leicester-Loughborough Biomedical Research Unit Venue: U005, Brockington Building, Loughborough University		

FREE refreshments available 6pm • Lectures start 6:20pm • To book email: a.stanley@lboro.ac.uk



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