



Department of Twin Research & Genetic Epidemiology



Newsletter Autumn 2008



Welcome to the Autumn 2008 Department of Twin Research & Genetic Epidemiology Newsletter. We hope you all enjoyed a lovely summer, despite the weather!

You may have been wondering why our name is no longer 'Twin Research Unit'. Well, our name has been modernized to the 'Department of Twin Research (DTR) & Genetic Epidemiology' to reflect our position as one of the major departments within King's College London. Not only do we have a new name and a refreshing change to our newsletter design,

but those of you who are due to come for a visit will get a chance to see our brand new clinic rooms and research facility opened by Princess Anne on October 29th.

We have so many ongoing studies and so much interest around the world in our work that we are sending you an extra questionnaire this year which covers topics ranging from eating behaviours to aspects of personality. In addition, we are interested in your views on personal genome screening, a new technology which looks at genetic susceptibility to certain diseases. Your responses will help us to investigate this new development.

Please see our questionnaire for more information. We do hope you can find time to complete this. As ever we could not do any of our research without your help and support and we do thank you and wish you all a very happy Christmas and New Year.



Tim Spector

HRH Princess Anne Opens DTR Clinic Rooms



Twins will now be seen in our long awaited Clinical Research Facility.

The newly built facility on the 4th Floor North Wing was formally opened by HRH Princess Anne on 29th October 2008. Professor Spector was there to welcome HRH Princess Anne and introduce her to some twins in the new space that takes full advantage of the spectacular views of the River Thames and the Houses of Parlia-

ment. We invite you to come and see us in our new establishment and enjoy the views!



King's College London, St Thomas' Campus, Westminster Bridge Road, London, SE1 7EH

Phone: 0207 188 5555 Fax: 0207 188 6761 Email: twinsuk@kcl.ac.uk Web: www.twinsuk.ac.uk

New Clinical Rooms



Phlebotomy Room



DEXA room with a view



Back - Fiona, Jodie, Metod, Maria, Liisa
Front - Ayrun and Gail, Nurse Manager

Welcome to a snapshot of our new clinical rooms. For those of you who've visited our tired, old and worn rooms, you will find this a welcome change. The facilities have vastly improved, as well as the view. Come and enjoy a visit with our lovely research team in our new premises (above right). You'll enjoy the experience!

Research Update

We have published over 50 research papers in top medical journals in the last 9 months 'thanks to you'. Here are some highlights, many of which were reported in the media. See our website for full details.

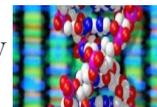
BBC In January 2009 Professor Spector will be appearing on the **BBC One Show** discussing the association between exercise and ageing based on our published telomere research that we reported in the last newsletter.

Male Pattern baldness is very genetic! We found a new genetic locus on Chromosome 20 that doubles your risk of this condition. One in seven men who also have a change in the androgen receptor gene are seven times more likely to have male pattern baldness! We found a similar effect in women and are trying to follow up with bigger numbers



 **Osteoporosis and Bone Loss** We found that over half of the variation in age-related bone loss is due to our genes. We also found 2 main genes controlling bone density - called OPG and LRP5. If you have malfunctioning versions of these genes you have a nearly 1 in 2 risk of fracture. A new injectable treatment involving the OPG pathway should be available next year

Arthritis We found a new gene for knee arthritis which acts in the same way as anti-inflammatory drugs. This finding may in future be helpful for therapy.



 **Diabetes** With 10 other groups we identified a new gene - the melatonin receptor, which controls blood sugar levels.

Eye Eye Eye! 3 genes have been identified on Chromosome 3 which appear to contribute to common myopia (short-sightedness)



Female sexual function We found that female sexual problems, as well as being partly genetic, are associated with emotional instability, introversion and not being open to new experience.

FOR FULL COPIES OF OUR PAPERS AND MEDIA COVERAGE, SEE OUR WEB-SITE

www.twinsuk.ac.uk

TreatOA



As part of a 5 year, 12 million euro EU collaborative effort, we are in the process of identifying the genes that cause osteoarthritis, and novel approaches to its diagnosis and treatment. Many of you have already contributed to this study. If you want to learn more about this project, please visit project website: www.treatoa.eu

DTR's Summer Outing



On a beautiful afternoon in July the newly-named DTR went on our annual day out to a beautiful village called Alfriston in East Sussex. We went for a long country walk to the smallest church in England called Lullington Church, followed by a stroll. Exhausted we revived our weary bodies with a scrumptious cream tea at the renowned Badgers Tea House (10% discount for twins), which is owned by our very own Consultant Ophthalmologist Chris Ham-

mond. As you can see, our department has really grown. There are now over 50 people including nurses, clinicians, epidemiologists and statisticians, not to mention our PhD and research assistants working on a large variety of studies.



New Studies You Can Do From Home!



New for the DTR, our very own Jute bags which will be available for sale shortly on your twin visit.



Osteoarthritis Study

This study aims to identify the genes that are responsible for Osteoarthritis. We are recruiting **individuals, even non-twins** with diagnosed hip or knee osteoarthritis who are due to or have had in the last 2 years, a joint replacement. For more information, please contact:

Fiona for the Arcogen Study on 0207 188 6762



Osteoporosis Study

This study aims to identify the genes that are responsible for Osteoporosis. We are recruiting **individuals, even non-twins** with diagnosed Osteoporosis and who have had a hip replacement due to a broken hip in the last 10 years. For more information please contact **Liisa on 0207 1886736**



ActiHeart Postal Study

Together with the Medical Research Council (MRC) we are investigating the genetic and environmental factors influencing our physical activity. You and your twin will be required to wear a very small waterproof monitor weighing less than 10grams attached discreetly to your chest. For more information, please contact **Mala on 0207 188 6764**



Current Studies at St Thomas'

Healthy Ageing Twin Study (HAT'S)

This popular study is recalling all female twins over the age of 45 who have visited DTR (formerly TRU) in the last 15 yrs - to have a repeat visit to assess changes over time. Many twins have already commented on how great it is to have another "MOT" with even more clinically valuable results.

If this is you, please contact **Sol on 020 7188 6759**



Fat Biopsy

Thank you to all of you who have already participated in this exciting study to discover genes for obesity and diabetes. **We still need women over 18 to donate a fat sample.** Shirley Borrett wrote about the experience that she and her sister had during their fat biopsy:

For more information please contact **Karolina on 020 7188 6754**



"We had no pain or other problems and we would like to let other twins know how straight forward it was for us"



The BBC's science department is producing a major two-part documentary on twins with the help of the Department of Twin Research. The documentary will focus on what we have learnt about nature and nurture and what makes all of us who we are. It will air on BBC1 in autumn 2009.

We are looking for the following twin pairs to take part.....

- a) identical twins who are astonishingly and demonstrably *similar* in tastes, traits, behaviour or appearance OR
- b) identical twins who are noticeably *different* in some way - tastes, behaviour, sexuality, lifestyle or appearance OR
- c) identical twins who were *separated at birth*, but have since met each other OR
- d) *identical and non-identical* twins willing to take part in fun and informative tests, overseen by the DTR..

We can only make this important documentary with your help.

Please contact the BBC directly by emailing blythe.tinker@bbc.co.uk or calling 0208 008 4946

Ongoing Studies . . .

♂ **MEN ONLY** - Postal Semen Sample Study – if you have not replied but are still interested please contact Raj on 0207 188 6760



♀ **WOMEN ONLY** – If you were one of the women who received a questionnaire on female sexual function this summer, it is not too late to return it. If you need a replacement or would like to complete this questionnaire, please call Andrea on 0207 188 8544 or email andrea.burri@kcl.ac.uk



Do you **and/or** your (identical or non-identical) twin have: **BIPOLAR DISORDER** (Manic Depression), Schizo-affective Disorder or **SCHIZOPHRENIA**?

OR

We are also looking for healthy volunteers. We need **SAME-SEX TWIN / SIBLING PAIRS** with **no** history of mental illness or drug abuse problems aged 25-65.



If you replied yes to either of the above questions, you have the opportunity to take part in our study, which aims to increase our understanding of mental illness and help inform future therapies. The research visit, at the Institute of Psychiatry, Kings College London, involves psychological tasks. All expenses are paid, plus you will be entered into a £250 prize draw. If you are interested, please call Anna Georgiades on **0207 848 0023** or email Anna.Georgiades@iop.kcl.ac.uk

L'ORÉAL

L'Oreal, because you're worth it! To further our research into ageing, we hope to collaborate with L'Oreal next year on a project investigating the way your skin ages. This will involve a number of assessments of the degree to which your skin has aged. If this is of interest, please email twinsuk@kcl.ac.uk or call 0207 188 5555

And Finally, Your Questions Answered . . .



Why have I been asked to send my blood for DNA (postal bloods)? For those of you who cannot visit the DTR at St Thomas', we are trying to make it easier for you to donate blood so that we can use your DNA in our studies. Due to the large number of studies that we are involved in, it is often necessary for us to replenish supplies.



Why have I been asked to send other samples like saliva, hair root samples or sperm? DNA can also be extracted from other tissues in our body, analysis of which can offer different and valuable insights into how our bodies work. We are also trying to make it as convenient as possible for you to participate in these important studies from home.



Why do different studies seem to offer different amounts of reimbursement for my time and travel? We rely on grants for our funding and so different studies have different amounts of allocated funding. We will always give you the maximum amount allocated by a specific study.

Can I participate in a study or fill in a questionnaire even if my twin declines? Yes! Although we would rather have both of you participating, single responses or single visits are still extremely useful to our research.



Do I need to come in for another visit if I have already been for a visit? Yes! We have new studies all the time, and we are very interested in changes in your life-style and health as you get older. Another visit helps us with both newer studies and keeps us up to date!



I would like to take part in a study but I cannot come in to the DTR (formerly TRU) can I still take part in a study? Yes! Our questionnaires give us an enormous amount of information for use in research. Please also see our studies on page 3 which you can do from home.