

Moorfields Eye Charity
FREEPOST NAT9528
162 City Road
London
EC1B 1BR

Prudential Ride London Surrey 100



Well done and thank you to the Moorfields Eye Charity team of 76 riders who took part in this year's Prudential RideLondon-Surrey 100 on Sunday 10 August. The remnants of Hurricane Bertha meant participants had to contend with torrential rain, flooded roads, strong winds and at times a little sunshine before crossing the finish line on the Mall. If you are interested in taking a place in the 2015 event, please contact Lianne by email at Lianne.Williams@moorfields.nhs.uk or by phone on **020 7566 2486**.



Testing, testing, testing

The visual acuity test is a routine part of an eye examination and is used to determine the smallest letter you can read on a standardised chart, usually composed of black letters superimposed on a white background. One limitation of this type of chart is the variability of

measurements particularly when researchers are assessing the effect of treatment or investigating whether changes in acuity are due to ocular disease. Researchers at Moorfields have recently demonstrated that a new type of chart, the Moorfields Acuity Chart (MAC), containing letters with a black core and a white border presented on a grey background, reduces the variability of acuity measurements. With the support of charitable funds, optometrist Mr Pádraig Mulholland is investigating whether changes in vision owing to keratoconus, a disease that causes the cornea to adopt an irregular shape, may be detected more easily and accurately using the MAC compared with conventional charts.

Buller family raise £4,000 to support acanthamoeba keratitis research

Moorfields' patient Zach Buller and his family are raising sight-saving funds to help support fellow Nicole Carnt's leading-edge research into the rare but serious infection, acanthamoeba keratitis. This disease can result in permanent visual impairment or blindness.

Twelve-year-old Zach started having symptoms of the disease in October 2011 and has been a patient at Moorfields for two years. Zach's mother, Becky, said: "The high quality of care that Zach received

at Moorfields was exceptional – we call it 'Moorfields magic'. Although it unfortunately didn't work out for Zach, it wasn't from lack of trying. We are fundraising in the hope that others won't have to go through what Zach has been through."

Almost £4,000 has been raised already through hosting a ball at Zach's school and a summer fete. Friends and family have also signed up to run the Royal Parks Foundation Half Marathon in honour of Zach's courage.



Events 2014/15

October

Royal Parks Foundation Half Marathon **Sunday 12 October 2014**

Halloween Moonriders **Friday 31 October 2014**

November

Fright Hike **Saturday 1 November 2014**

March

Eye to Eye **Sunday 22 March 2015**

For further information on how you can get involved, please get in touch with **Lianne** or **Rebecca** on **020 7566 2486** or email eyecharity@moorfields.nhs.uk



Visibility

Inside this issue

New insight into diabetic retinopathy

Choroideremia research

New visual testing chart

Family raise £4,000



EYE TO EYE – step into action

Moorfields' very own inaugural mass participation event, Eye to Eye, springs into action on **Sunday 22 March 2015**. The walk from the hospital in City Road to the London Eye is a great opportunity for staff, patients, friends and family to come together to raise funds for Moorfields Eye Charity, supporting life-changing research leading to the prevention, treatment and cure of major eye diseases.

Participants will have the option of walking one of two routes: a 14 mile walk or a shorter family-friendly four mile route. Both start at Moorfields Eye Hospital at City Road and finish at the London Eye on the South Bank.

TV's Claudia Winkleman, Event Ambassador and Strictly Come Dancing presenter hopes to be able to join Moorfields' CEO,

John Pelly, and Medical Director, Declan Flanagan at the event next year and says "I am delighted to be supporting this exciting new event for Moorfields Eye Charity. I underwent laser surgery in 2010, after my vision really started to deteriorate; it was a frightening time but the operation was life-changing. I am so grateful to the fantastic staff at Moorfields Eye Hospital, which is why I wanted to get involved. I hope you will too as Eye to Eye provides a great opportunity to support the hospital, while raising money to help benefit more patients in the future."

Those taking part will also have the option to nominate, from a list of about half-a-dozen, which area of eye research is to benefit from the money they raise through sponsorship.

Please join us and together we can make the inaugural Eye to Eye an amazing and memorable day and a very successful fundraiser.

Registration costs just £15 for the 14 mile route and only £10 for the shorter distance. There is no minimum sponsorship but we hope those taking part will raise as much as they can! Everyone raising over £100 on the 14 mile and £75 for the shorter route will receive an Eye to Eye t-shirt. Children under 12 go free with every adult place on the four mile route.



Please call **020 7566 2486** or email eye2eye@moorfields.nhs.uk for more information or register now using the tear off form attached to the back page.

Many thanks for your generosity



Ophthalmic Consultant Alex Shortt

Professor Julie Daniels and ophthalmic consultant Alex Shortt have been overwhelmed by the success of the Moorfields Eye Charity Summer Appeal, raising over £140,000 for the Cells for Sight Sir Jules Thorn Stem Cell Research Unit.

The unit manufactures routine and research cell therapies for patients at Moorfields Eye Hospital who have been blinded by diseases affecting their cornea or retina. It is critical that they are able to grow cells for patient transplantation in conditions similar to those in the human body. The incubators that they so heavily rely upon to provide this environment work 24 hours a day, seven days a week. Following the many generous contributions from large numbers of people, they can now replace worn equipment and maintain cell therapy production for their vital stem cell therapy research programmes and clinical trials. Thank you to all who so very kindly contributed!

Study improves our understanding of diabetic retinopathy progression

Diabetes is a common cause of blindness in young adults. It's a disease that can damage the small blood vessels in the retina causing them to leak or close down resulting in vision loss.

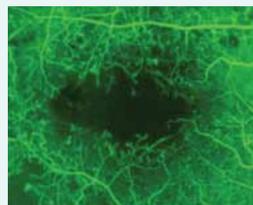
Current treatments have limited effects and cannot restore areas of damaged blood supply but a team from Moorfields and the UCL Institute of Ophthalmology led by Dr Marcus Fruttiger and consultant Mr Adnan Tufail are looking at the use of stem cells to repair damaged and leaky blood vessels in the retina. The study, which is supported by a generous donation from a Moorfields patient, has made great progress.

The analysis of clinical data from hundreds of patients found that loss of vessels in certain areas in the retina has a much bigger impact on vision than in other areas. The team has also

identified certain clinical factors that help in predicting how quickly blood vessels degenerate in diabetic retinopathy patients. It was also found that certain immune cells in the blood of diabetic patients are changed depending on whether the patients have leaky vessels or degenerating vessels. This is an important step forward in understanding how cells in the blood (such as stem cells) change during different forms of the disease. Developing a novel cure for a disease is a huge undertaking that requires many different steps. Having made progress in this project the research is one step closer to testing stem cell therapies in patients, because it has improved our understanding of how diabetic retinopathy progresses in patients.



Healthy Eye



Damaged Eye

Supporting choroideremia research

Choroideremia is an X-chromosome inherited eye disease, causing problems with night vision, loss of peripheral vision, colour vision problems and gradual deterioration in central vision. With the support of a generous donation, Dr Mariya Moosajee is testing how treatment of nonsense-mediated choroideremia using small molecule drugs may help produce normal-functioning protein, prevent retinal degeneration and preserve vision. If successful, small molecule drugs may be employed for use in patients of all ages, but in particular children or patients with early symptoms to prevent or delay the onset/progression of disease.

This research, and in particular, the use of stem cell technology to generate retinal cells with nonsense mutations may provide us with a greater understanding of how choroideremia causes damage to retinal cells. The wider implication of this research is the development of a drug therapy that safely targets



Dr Mariya Moosajee and her team

nonsense mutations that could treat a substantial proportion of patients irrespective of their disease.

The donation meant the purchase of a microperimeter was also possible. A microperimeter obtains an image of the retina, a light sensitive layer at the back of the eye. Testing points can be individualised to suit the patient and this is especially important in choroideremia as the loss of retinal cells follows a different pattern in each patient. This device will be used in the clinic for monitoring patients during a current choroideremia gene therapy trial, as well as to assess suitability of patients for the new trial.



60th birthday celebration raises six-figure support

At a private concert in front of family and friends in May this year, businessman Michael Wade fulfilled a life long ambition to conduct an orchestra.

He chose Saint-Saëns' Symphony No.3: "Organ Symphony" at St John's Smith Square in London and invited guests to make donations in lieu of presents, raising over £110,000.

In the last few years Mr Wade had detached retinas in both his eyes but following the success of his sight-saving operations at Moorfields Eye Hospital, he decided "to give something back to the world of eye care". His appeal for the hospital is supporting the development of a gene therapy treatment for LCA4, a rare but particularly severe form of congenital blindness that affects children. Although there is no treatment available for this condition, Moorfields' consultant and scientist Professor James Bainbridge and his team have recently shown that sight can be improved in children who have one form of inherited blindness, by delivering the relevant missing gene into the eye using a modified virus or 'vector'.

An effective gene therapy for LCA4 will pave the way for the treatment of other severe blinding disorders affecting both children and adults that are potentially amenable to gene therapy.

Step into action for Moorfields Sunday 22 March 2015

If you would like to take part in Eye to Eye, please return this FREEPOST form by detaching along the perforated line and sealing the gummed edges.

Registration costs just £15 for the 14 mile route and £10 for the four mile route and there is no minimum sponsorship – just raise as much as you can!

Register now by filling in the form below or call **020 7566 2486** for more information.

Please tick as appropriate

- 14 mile route
 No. of participants
 4 mile route
 No. of participants (over age 12)
 No. of participants (under age 12)

NB Free place for under 12s with every adult place

- I would like to include a donation of £ _____ to Moorfields Eye Charity
 I do not wish to take part but would like to donate £ _____ to Moorfields Eye Charity

I would like the funds I raise to go towards research into (please tick one):

- Glaucoma
 Age-related macular degeneration
 Diabetic retinopathy
 Retinal diseases
 Cornea and ocular surface diseases
 Children's eye conditions
 Inherited eye disease/rare diseases
 Wherever the need is greatest

Lead Participant name: _____

Age: _____

Other participant name(s) and age(s): _____

Company/team name: _____

Lead participant address: _____

Lead participant postcode: _____

Lead participant phone number: _____

Lead participant email: _____

I am happy for Moorfields Eye Charity to contact me by email (please tick).

Registration fees can be paid by cheque or credit card. Please enclose a cheque with this form, made payable to 'Moorfields Eye Charity'. To pay by credit/debit card, please complete the details below or call **020 7566 2486**

Card type: _____
 (please note we cannot accept AMEX)

Card number: _____

Security code: _____
 (last 3 numbers of the back of the card)

Issue number: _____
 (Switch only)

Start date: _____

Expiry date: _____

All the information you provide us with will be treated in the strictest confidence by Moorfields Eye Charity in line with the Data Protection Act 1998. However, we would like to keep you updated on our work and developments in eye care. If you do not wish to receive any further information from us please tick this box.

Signature: _____ Date: _____

If you require this form in a larger font please call **020 7566 2486**.

Please note: Registration fees are non-refundable.

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