

# Genesis Research Trust

## The challenges of maternal health

Genesis Research Trust's leading fertility expert, **Professor Robert Winston**, recently met with us at *Research Features* to discuss the history and heritage of his institution, before highlighting the current challenges facing maternal health – in more ways than one.

**P**rofessor Robert Winston is a well-known figure in the world of science communication, having featured in numerous science documentaries and TV shows over the years. These have included his groundbreaking documentary *Child of our Time*, which looked at how child growth is affected by the interaction between genes and the environment, and his multiple BAFTA award-winning series *The Human Body*.

Away from the camera though, Professor Winston is the leading fertility expert at Genesis Research Trust – a charitable research institution within Imperial College London. This institution funds the largest collection of UK-based scientists and clinicians dedicated to researching the causes and cures for reproductive conditions that affect women, their families and their babies.

Professor Winston recently sat down with us at *Research Features* to discuss the institution's background and heritage in more detail, before highlighting the importance of its research in the modern age.

*Hello Robert! Could you tell us some more about Genesis Research Trust and, in particular, the research it has been involved in over the years?*

The Genesis Research Trust has really evolved from what used to be called The Institute of Obstetrics and Gynaecology

which was founded after the Second World War. It's always been a major hub for research and is probably the leader across Europe for the work it does in all aspects of women's health. This involves pregnancy, fertility, delivery, early growth of babies and cancers which only affect women.

One of the earliest workers here that I can recall was Ian Donald – the man who invented ultrasound. This provided one of the cheapest ways of looking at tissues, which was truly a massive breakthrough and one of the firsts that this place was responsible for.

Another person who immediately comes to mind is Erica Wachtel who was a refugee from Nazi Austria and was a key person in getting the cervical cancer smear test running. These two remarkable inventions have shaped our history and heritage here.

Antenatal care has also been very much developed here by McClure Brown. I suppose more recently though we've been interested in miscarriage, stillbirth, ovarian cancer and we've also made breakthroughs in uterine cancer. Many of the improvements

in *in vitro* fertilisation (IVF) were also made on this site at Hammersmith Hospital, which is now a part of Imperial College.

For Genesis Research Trust especially, we're really interested in trying to promote women in science. One of the big issues for us is to make sure that women get a fair deal and if you look around our department, you'll probably see that there are more women than men working here.

*What do you think the challenges are that women might face if they try to pursue a career in science and how do you at Genesis Research Trust protect against this?*

I think the challenges for women scientists are invariably when to consider having a family. In my view, doctors are very ready to pontificate about how we should try to get pregnant earlier or how we should manage our career, but to my mind that doesn't make sense.

We established many, many years ago a 'women for women' programme where women raised money to help female scientists have a family and continue working as scientists concurrently – by offering them

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the opportunity for part-time or flexi-time working hours.

The Genesis Research Trust is interested in the social side of what we do so, at the moment, we run the women's health unit at Queen Charlotte's Hospital and the research that goes on there. We also have a collection of PhD students who I'd say are the backbone of British science – generally if you go to any lab in Britain, the best research is being done by the doctoral students. We fund all of our doctoral student's research materials and we're rather proud of that – we think that's one of the reasons why this is such an important place.

We look for young people who have energy, work well in a team and are capable of doing really innovative things. We try not to be too disciplinary as well, as we like to let them have freedom when researching. That's part of the ethos here, and a very large number of our doctoral students are also women.

#### *How important is collaboration with other scientific researchers to you at Genesis Research Trust?*

All science groups, if they're any good, collaborate around the world. Over the years we have collaborated with Harvard, Caltech, University of California, Cambridge University and many other world-class institutions. There was a time in Britain when this place was responsible for more than half the professors in our field in the United Kingdom. Certainly in my own lab, I used to have a map of all the countries in the world which I would cover with hundreds of pins to represent the nationalities of the people in the lab. There was one time when we could even count 65 different languages being spoken in the lab.

I think the influence of institutions such as ours is not fully understood and that's one of the reasons xenophobia about immigration is such a negative thing. Places like the Genesis Research Trust understand that we have a responsibility to make sure we are training people from outside the UK and we've always done that very well here – people come here to do their own research and then go back to their own country to develop it more.

A lot of our research is also taken up in the poorest countries in the world. We have projects that have influenced perinatal care in every African nation and, in fact, most developing nations. For instance,



prematurity is a huge problem in Africa and the greatest cause of maternal death is preeclampsia. By working with communities in the poorest parts of the world, we can help improve the health for both women and their babies. There is a general recognition for how important international collaboration is, not just with scientists, but with communities who have the needs we would like to support.

#### *Do you think Brexit will significantly impact the research activities of Genesis Research Trust?*

It's difficult to say but it's quite likely that it might do. When I last looked at the people working in this laboratory, we had people from the United States, Finland, Russia,

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Holland, Belgium, Israel, Africa and quite a few people from Asia. Of course, those people will not be directly affected by Brexit itself, but what they will be affected by is the hardening of attitudes to immigration and allowing people into the country. I think Brexit was the result of a wrongful reaction to immigration, and what we haven't done is really explain why those people who come into labs like these are actually a huge benefit to the UK.

I don't know how it will affect us at the Genesis Research Trust in particular, but I think generally all research groups are concerned – there is a worry that we won't be able to attract the high quality teams we currently have.

*That is a real shame. It sounds like Genesis Research Trust has a fantastic code of ethics in place though – you promote equality and a collaboration between scientists from different backgrounds and nationalities which is fantastic to hear.*

*Going back to the research side of things, and with the recent commercialisation of IVF treatment, do you think there is now more than ever a need for clear, accurate and unbiased information for women who are having problems conceiving?*

Well one of the things we have at Genesis Research Trust is the 'Ask Robert' section of the Genesis Research Trust website where people can contact me directly with a question, anonymously, and we try to give them unbiased information.

We're not prepared to recommend a clinic to them, and we won't recommend a particular doctor, because we don't think that would be anything other than biased, but we try to give information. I think we should generally be doing more of that within a whole range of women's health issues, but it is definitely needed within fertility.

#### *How successful has that service been?*

We get lots of letters of deep gratitude and people who think that it's wonderful we do it. It's very time consuming though, and it can be very expensive, because each answer takes 30 – 40 minutes to really make sure that the information is accurate. While we don't ask for a donation on the site, we hope that more people will donate for this work as it really benefits the charity.

*We at Research Features love the fundraising challenges Genesis Research*

*Trust runs. Could you tell us some more about these?*

We started doing challenges to raise money for this building, which was built and opened by the Prime Minister in 2002. The first big challenge we did was a ride from Jordan through Israel into Egypt, which was a massive test at the height of summer. That challenge was for women only, as we wanted to promote women doing something for their own gender that would help women scientists researching women's health. That then developed into what was called the women-for-women challenge, which we have now done a number of over the years. We went from Gallipoli to Izmir in Turkey one year, we went right along the Nile for two years running, we've been to Cuba, we've been to Rajasthan, we've been to China many times, we've been to Cambodia, we've been to Vietnam, and we've been to other parts of the world as well, including the Baltic and Peking. Our next big rides are to Burma and an amazing trip to Madagascar which we've already got close to 100 people signed up for.

These challenges are deliberately arduous – we don't make it easy – but women of all shapes and sizes do them and they have been very successful. The trouble really is that when we started this we were one of the first charities doing this kind of thing. Now of course there is a massive market for them, but we still think our charity is rather special because our cause is such a good one – reproductive medicine generally only receives 0.2% of charitable giving. It's easy to think of a neighbour or a relative who has watched a baby die of a genetic disease that could have been treatable in a unit like this – it's important to remember that when you're pedalling up a hill in unbearable humidity.

*Like you say, these challenges are for a fantastic cause but it seems like not many people have heard about them. Are Genesis Research Trust hoping to get more people involved in the future?*

We haven't advertised enough – that's been an issue – so I think we could do much more about promulgating what we do. We've used a few of the television programmes I go on, like *This Morning* and so on, and Fern Britton has been a wonderful patron. We've also had Charlotte Holmes, a former Miss England, who has been one of our patrons too, but we haven't done enough of that sort of outreach.

We can also probably do more challenges inside the UK. Fern Britton has twice done a

challenge from the very tip of Scotland right down to Land's End over two weeks. It can be quite a big time commitment though so we're looking for slightly shorter rides to get people interested and hopefully generate more custom. But you're right – not enough people have heard about the work we're doing.

*What do you think taking part in these challenges has taught you?*

I've been on most of the challenges and I think it's given me a massive respect for the women who are prepared to take part. Very often you start off with a group of people who are strangers to each other, but by the end of the ride, five or six days later, they are almost a different group – they are in each other's arms, they're crying, they've made permanent friendships. There's an extraordinary camaraderie about that and I find that very uplifting.

• **Genesis Research Trust are always grateful for donations of any amount to help continue their vital work. If you would like to donate to the charity generally, or contribute specifically to a supporter's fundraising target – or even would like to take part on one of their future cycle rides or treks – please visit their website at [www.genesisresearchtrust.com](http://www.genesisresearchtrust.com).**



## Contact

Genesis Research Trust  
Hammersmith Hospital  
Du Cane Road, London  
W12 0NN

**T:** +44 (0)20 7594 2192

**E:** [j.roche@imperial.ac.uk](mailto:j.roche@imperial.ac.uk)

**W:** [www.genesisresearchtrust.com](http://www.genesisresearchtrust.com)

**f** [/GenesisResearchTrust](https://www.facebook.com/GenesisResearchTrust)

**y** [Youtube/Genesis Research Trust](https://www.youtube.com/GenesisResearchTrust)

**t** [@ProfRWinston](https://twitter.com/ProfRWinston)

**t** [@GenesisTrustUK](https://twitter.com/GenesisTrustUK)

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*science for the health of women & babies*