



Can a vaccine
boost immunity in
older people?

Q&A with Sary Workman,
specialist sister

Road safety
improvements

Keeping the local community up to date with progress on the Pears Building and research work at the UCL Institute of Immunity and Transplantation (IIT)

Since construction work began in March, good progress has been made in demolishing the old multi-storey car park at the Royal Free Hospital. This will be completed by late summer when the ground will be prepared for creating the building's basement.

Meanwhile researchers have been explaining their work to the public at a recent Medicines for Members meeting.

There are many people bringing IIT research to life. In this issue we find out about Professor Arne Akbar's work on immunity in older people and ask Sary Workman about her role as a senior specialist nurse.

Update on the building project



Road safety improvements

Following discussions at meetings of the construction working group, a 15-point plan was drawn up to address a number of issues relating to traffic and pedestrian access in and around the Royal Free Hospital site. Most of the major points which were the responsibility of the Royal Free London NHS Foundation Trust and the Royal Free Charity have been successfully addressed. These include clearer signage, an increased number of traffic marshals, a pedestrian crossing from the Hampstead Green footpath into the hospital site and improved traffic management around the one-way system in front of the hospital.

The trust and the charity are in discussion with Camden Council about pedestrian safety measures at the boundary between the hospital and Pond Street. Our neighbours will be kept informed of progress via regular meetings.

If you have any feedback on this newsletter or aspects of the building project please contact us at rf.pearsinfo@nhs.net.

For matters that need immediate attention, call 07704 260779 (weekdays) or 0845 733 5533 (evenings and weekends).

Hoarding plan to bring research to life

Work is underway to develop an attractive hoarding for the construction site. The design will highlight the research that will happen inside the new building but will also provide an opportunity to involve the local community by bringing in schools and artists to contribute to creating a visually appealing space while the building work goes on.

Chris Burghes, chief executive of the Royal Free Charity, said:

"The hoardings at the Pears Building will be a unique canvas for an artist and designer to volunteer their time to not only make the hoardings a pleasure to look at but help schoolchildren bring to life their vision of the cutting edge research that will take place at the building."

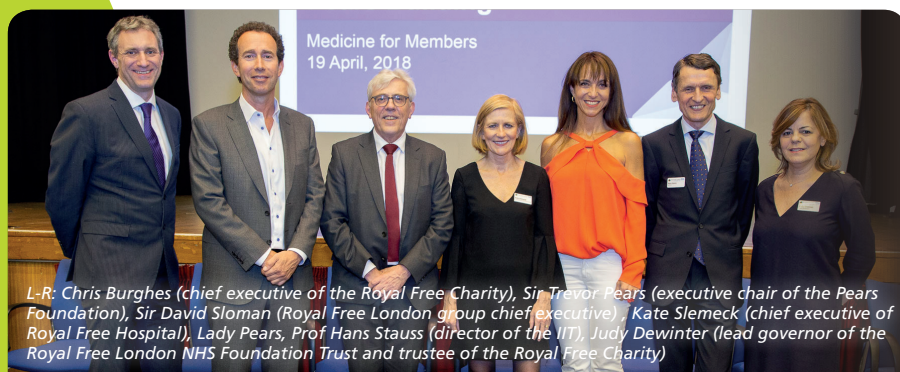


Research team engages Medicine for Members meeting

In April, members of the Royal Free London NHS Foundation Trust heard how the IIT is pioneering research into diseases linked to the human immune system. Guests at the Medicine for Members event included Sir Trevor Pears, who has made a substantial donation to the new research centre through his family's Pears Foundation.

Members were given an insight into one recent success story: a pioneering stem cell transplantation treatment which is transforming the lives of adults with primary immune deficiency disorders.

Professor Hans Stauss, director of the IIT, said: "I'm thrilled to have had the chance to share with members the opportunities that the Pears Building will give our research teams. The Pears Building will provide more space for the IIT and enable us to further expand our world class research teams, which are using cutting edge technology to better understand what causes disease and how to treat it more effectively."



L-R: Chris Burghes (chief executive of the Royal Free Charity), Sir Trevor Pears (executive chair of the Pears Foundation), Sir David Sloman (Royal Free London group chief executive), Kate Slemek (chief executive of Royal Free Hospital), Lady Pears, Prof Hans Stauss (director of the IIT), Judy Dewinter (lead governor of the Royal Free London NHS Foundation Trust and trustee of the Royal Free Charity)

The Institute in focus

Professor Arne Akbar and his team are finding out how to improve our immune system as we age.

People's immune systems do not function as well in their later years and they can become susceptible to infections. Vaccines are really the only way to improve the immune system but many of them do not work well in older people because of that decline. Even targeted vaccines such as the annual flu jab are only 50% as effective in older people.

Professor Arne Akbar's research group at the IIT has been working for more than 20 years to understand why the immune system declines as we age. The researchers started by looking at the role of white blood cells when an older person gets shingles – a common disease in later life.

"Anyone who has had chickenpox is at risk of getting shingles in later life," said Prof Akbar "Most people get over chickenpox quite quickly but the virus stays in the body. The immune system keeps it under control, preventing it from harming us further, but as we age it can no longer do this and the virus resurfaces, this time as shingles."

The research was then widened from white blood cells to looking at the immune response in tissues in the whole body. As shingles results in severe, long-lasting, painful symptoms, the team realised that it was important to know what was happening in the skin itself. The team already knew that the older body has more inflammation and that this stops the immune cells from being fully effective.



Professor Arne Akbar

"I think of it as an army trying to operate in a hot desert," said Prof Akbar. "The soldiers can't work well if they're too hot. We wondered whether reducing inflammation could improve the response to vaccines."

The team found that anti-inflammatory drugs needed to be used for only a short time before they had an effect. They set about recruiting 38 patients to their research trial. Patients were given two anti-inflammatory tablets a day for four days and were then injected with a product of the chickenpox virus, although not the virus itself.

"The results have been very enlightening and encouraging because blocking the amount of inflammation in the body did change patients' response to the vaccine," said Prof Akbar.

There was a positive response to the vaccine in 71% of participants and of those 44% responded very well. Looking at the whole group, in 38% of them the immune system returned to that of a young person."

"Most interesting was that after some time, in some patients the increased immunity in the skin remained improved," he added.

This research revealed that the issue is not only about the immune cells themselves but the tissue environment they are in. If the environment can be manipulated, for instance by blocking inflammation temporarily, it could make vaccines more effective. It opens the way for further research on therapies for older people, including attempts to increase the effectiveness of the flu vaccination.



Q&A



with Sary Workman, specialist
sister in immunology research

What do you do at the IIT?

My role is half clinical and half research. I co-ordinate academic and pharmaceutical research projects. This involves formulating research projects, writing information sheets for patients, submitting studies for regulatory approval and conducting the research studies or clinical trials. Mainly I work with patients who have little or no immune system to protect them from infection.

I'm also part of the team of nurses who give immunoglobulin replacement therapy to patients with immunodeficiencies. We also train patients to enable them to do their own treatments at home.

Recently I've set up clinics led by nurses. This frees up consultants' time to see more complex patients and helps develop nurses' skills.

How long have you been nursing and when did you start working at the institute?

I qualified as a registered nurse in 1997, having trained here at the Royal Free Hospital under Middlesex University. In 2004 I began working as the specialist sister in immunology research. I helped to set up research studies, some of which are still going today. I continue to organise and co-ordinate research studies in immunology and advise other IIT researchers on setting up clinical studies. I got a master's degree in clinical research in 2010.

How do you think the Pears Building will make a difference to your work with patients?

The Pears Building will specialise in what we call translational research: research which applies findings from basic science to enhance human health and wellbeing. Some people talk about "from bench to bedside". This will be helped enormously by having the latest research facilities and patient areas close together.

Much is still unknown about why people have immune deficiencies, why some are healthier than others and the long-term effects of immunodeficiencies. We hope this research will help us understand this better.

What patient facilities will be most important in the new building?

The greatest benefit will be patient accommodation. Many patients travel from all over the UK, some staying in expensive hotels so they can attend their clinic appointments and investigations over a few days. Having accommodation facilities will allow them to go to appointments without huge hotel bills.

How does working in a specialist place like IIT differ from a usual ward or clinic?

The immunology department is next door to our clinic, making it a very simple process to review our patients. The infusion bay where we administer the immunoglobulin replacement therapy is a comfortable and friendly area for our patients.

Having the clinical trials pharmacy located within the department makes it easier for patients on trials to obtain their medicines. We also have a room specifically for taking blood samples which makes processing easier. We try to take clinical and research samples at the same time. It saves the patients' time and means they have fewer jabs in their veins.

What's your view of developments in treatment for immune system conditions and transplantation?

Now is probably the most exciting time to be involved in this research. Treatments for immune conditions and transplantations are moving forward in leaps and bounds. I'm looking forward to being involved in improving diagnosis and treatment for as many of our patients as possible.