



Medway
NHS Foundation Trust



**TRANSFORMING Healthcare
THROUGH CLINICAL RESEARCH
and INNOVATION**



**Research and
Innovation**

CREATING THE CARE OF TOMORROW

THE DOUBLE HELIX SCULPTURE

The double helix sculpture is an exciting piece of artwork in the atrium which was commissioned by The Medway Hospital Charity in 2021. It symbolises Medway NHS Foundation Trust's commitment to providing the best care to our patients and our desire to offer the newest techniques and treatments to them.

Double helix is the term used to describe the structure of deoxyribonucleic acid (DNA) molecules held within the cells of our bodies. DNA carries the genetic instructions for the development, functioning, growth and reproduction of all known organisms. It is a very recognisable symbol and since its discovery in the 1950s by Rosalind Franklin, Francis Crick and James Watson, it has come to be associated with research and medicine.

Due to its long association with medicine and research, the double helix was chosen to draw people's attention to the work carried out by the Trust's Research and Innovation Department and other colleagues.





Improved patient outcomes
which active organisation
with an emphasis

Research and Innovation

BE HOPE FOR
FUTURE
generations

RESEARCH
DELIVERS

BE PART OF
IMPROVING
HEALTH
care

RESEARCH
MATTERS

- Research Area
- Research Centre
- Research Dept
- Research Unit

WHAT IS RESEARCH?

Research is the detailed study of a subject with the aim of discovering new information or reaching a new understanding. Scientific research follows a structured process known as the scientific method. The scientific method aims to ensure the accuracy of the findings while removing an individual's personal point of view.

Medical research applies the scientific method to the study of medicine, disease and health. This is often conducted in hospitals with patients acting as participants. Medical research helps us to find better ways of looking after people, by improving procedures, drugs and medical equipment. People who join medical research may try new medications, new procedures, new ways of being cared for, or they may be asked questions about their condition, treatment and/or care.

All of these different types of research can provide information which enables us to improve treatment options. Staff within healthcare may also be asked to participate in research, especially when researchers are investigating methods of improving staff members working lives.





WHY IS RESEARCH IMPORTANT?

Medical research is vital in ensuring that medical treatments and healthcare techniques are constantly improving. Medical research has changed the ways we care for and treat people with medical conditions, illnesses and injuries. It has also resulted in the development and improvement of drugs, vaccines, equipment and techniques for many years. For example, during the COVID-19 pandemic, multiple vaccines were developed, tested and rolled out within a year.

Not only is medical research important for helping those who have an illness or injury, it can also help those with other conditions. An example is In Vitro Fertilisation (IVF) treatment which has had a significant impact on fertility and helped many people have children that otherwise would not have been able to.

DID YOU KNOW?

Over the years there have been major changes in treatment as a result of research. Some of the big changes to treatment are:

FIRST CLINICAL TRIAL

The first reported clinical trial occurred in 1747, and was conducted by James Lind.

Lind demonstrated that scurvy could be treated by supplementing the diet with citrus fruit, in one of the first controlled clinical experiments reported in the history of medicine. As a naval surgeon on HMS Salisbury, Lind had compared several suggested scurvy cures: hard cider, vitriol, vinegar, seawater, oranges, lemons, and a mixture of balsam of Peru, garlic, myrrh, mustard seed and radish root. In "A Treatise on the Scurvy" (1753) Lind explained the details of his clinical trial and concluded "the results of all my experiments was, that oranges and lemons were the most effectual remedies for this distemper at sea."

GERM THEORY

Prior to germ theory it was believed that diseases simply appeared out of thin air known as 'spontaneous generation.'

In 1861 Louis Pasteur demonstrated that microscopic organisms known as pathogens were responsible for the spread of disease. This new understanding resulted in significant changes to treat, control and prevent disease. These changes included doctors washing their hands and equipment being sterilized.

These findings helped prevent many epidemics from disease that were common at the time, including the plague, dysentery and typhoid fever. These techniques continue to help us fight current diseases such as MRSA and COVID-19.



vaccines

Although the use of vaccination stretches far back in human history, it is generally accepted that Edward Jenner's 1796 smallpox inoculations were the first to start the modern study of the technique and its wide acceptance.

Since Jenner, vaccines have been used to combat some of the deadliest diseases such as rabies, tuberculosis, and cholera; with smallpox being eradicated completely.

Vaccinations continue to be at the forefront of medical care for viral infections.

OUR RESEARCH AND INNOVATION (R&I) DEPARTMENT

The Research and Innovation Department is Medway NHS Foundation Trust's dedicated research department. The department assists staff to undertake medical research, devise new equipment, techniques or systems of care that help to improve patient care and their experience within the hospital.

The department is made up of different teams who actively support research and innovation projects in different ways.

The Governance Team is responsible for ensuring that the research is safe, scientifically and ethically sound, and follows the strict guidelines that apply to research being conducted in a hospital setting. If a member of staff has an idea, members of the team help turn that idea into a research project.

The Delivery Team is responsible for supporting and undertaking research within the hospital. The team consists of nurses, midwives and practitioners who are experts in conducting medical research. The team are focused on implementing national and international research projects at the Trust.

By fully integrating research and innovation into the Trust we outperform other organisations that do not, leading to better quality care and improved use of resources.

Research and innovation is at the heart of everything we do. The hospital's Executive Team supports and encourages learning, which fosters a culture that seeks out research evidence and applies this evidence in decision-making.



I feel like I've been really lucky. The staff at Medway have been brilliant – both after my accident and during the study. And I couldn't have got through any of it without my family's support. They have been amazing. I would say to anyone who has the opportunity to take part in a trial, just do it. If we don't support research then medicine can never move on.



Tracy

Tracy was the first patient recruited to take part in the OPTALYSE PE study. Patients with blood clots in a major artery within the lung are typically treated with a blood thinning drug over the course of 12-hours. The OPTALYSE PE study tests whether drugs can be administered over a shorter period of time – along with an ultrasound device which is directed straight onto the clot to help the drugs dissolve it – and achieve the same benefits with fewer risks.



Everybody knows research is really important for finding new medications, but I want to give you a slightly different perspective on why research is so important.

Firstly, as clinicians it forces us to be very well read, to review the literature and be as up-to-date as possible in the subject area, and that leads, in my view, to really immediate and significant improvements in patient care well before the research outcomes are available. And so I'm all for research and I encourage my teams and our nurses and junior doctors to participate as much as possible.



Dr Gihan Hettiarachchi

WORKING IN PARTNERSHIPS

The Research and Innovation Department works in collaboration with stakeholders at national and international level. We continually seek partners who share our passion for improving healthcare through evidence and innovation.

We are members of the Kent, Surrey and Sussex Clinical Research Network (KSS CRN). We collaborate with local universities, Public Health, councils, other NHS providers and local entrepreneurs to develop and investigate new treatments and methods of care.

The hospital engages with the local community, expanding education opportunities, contributing to the economic growth and elevating healthcare status. One of the examples is the active engagement in the establishment and management of the Kent and Medway Medical School (KMMS).

The hospital is actively involved in a number of national and international initiatives. We participate in knowledge and expertise exchanges to influence the future of medicine.

<https://local.nihr.ac.uk/lcrn/kent-surrey-and-sussex>







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I started a voluntary study for one year which was Colustimethate Sodium in patients with non-cystic fibrosis bronchiectasis. I found I was very easily informed with everything during the whole trial, and I cannot fault Laura who leads the team. She was there for me during everything and nothing was too much for her...all I can say is, if I was asked to take part in any more trials, I would not hesitate to do it. So please, if you are asked to take part, please do it as it helps you and can maybe some day save other people.

Mrs Devlin

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THE TRUST'S SUCCESSES IN MEDICAL RESEARCH

Over the years, the Trust has taken part in hundreds of research studies. Some of those studies have changed the way people are treated. When the Trust takes part in research which changes practice, it is very exciting and rewarding. Here are some examples of the studies we have been involved with:

AZTEC (AZITHROMYCIN THERAPY FOR CHRONIC LUNG DISEASE OF PREMATURITY)

A randomized, placebo controlled trial of azithromycin for the prevention of chronic lung disease of prematurity in preterm infants.

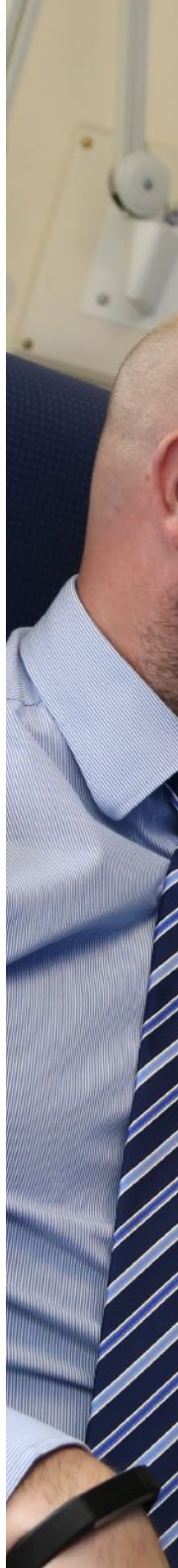
Premature births account for a tenth of all world-wide births. Many premature babies, especially those who are born extremely premature, sadly do not survive. Out of those that survive, many develop the disease called Chronic Lung Disease of Prematurity (CLD). The condition happens when breathing machines or oxygen, essential for baby's underdeveloped lungs, injures its lungs. Previous studies found an association between ureaplasma urealyticum colonization and development of CLD. As the ureaplasma is typically treated by an antibiotic, azithromycin, the purpose of the study was to evaluate the effectiveness of the antibiotic in reducing the prevalence of CLD. If the study is successful, the treatment will allow babies to be discharged without further need for oxygen, relieving the burden on parents, and reducing the number of hospital admission and chest infections in childhood.

THE RECOVERY TRIAL (RANDOMISED EVALUATION OF COVID-19 THERAPY)

The RECOVERY trial currently involves thousands of doctors, nurses, pharmacists, and research administrators at 178 hospitals across the whole of the UK, and has had over 47,000 participants worldwide. This large international clinical trial aims to identify treatments that may be beneficial for people hospitalised with suspected or confirmed COVID-19. This is achieved by comparing several different treatments with the standard care given to patients in hospital to see what works. These treatments have been recommended for testing by the expert panel that advises the Chief Medical Officer in England. Although these treatments show promise, nobody knows if any of them will turn out to be more effective in helping people recover than the usual standard of hospital care that all patients will receive.

At Medway NHS Foundation Trust, we have had over 550 participants take part in the study and we have helped evidence effective COVID-19 treatments such as Baricitinib (an anti-inflammatory drug usually used to treat rheumatoid arthritis), Dexamethasone (a steroid), Tocilizumab (a treatment for arthritis), and Ronapreve (synthetic monoclonal antibody therapy). These are now given as routine hospital treatments to patients suffering with COVID-19. These discoveries have changed clinical practice worldwide and have been credited with saving hundreds of thousands, if not millions, of lives.

The study is conducted by researchers at the University of Oxford, which acts as the sponsor for the research, working with doctors at many hospitals across the UK, and is funded by UK Research and Innovation and the National Institute for Health Research.





WHAT HAPPENS IF YOU ARE APPROACHED ABOUT RESEARCH?

You or your family could be asked by a doctor, nurse, research practitioner or another healthcare professional, if you would like to participate in a research study. If you are interested, they will briefly explain it and give you written information about the study, in the form of a patient information sheet. You will be given time to read the sheet, discuss the research with friends and family, and have the opportunity to ask questions about the research. If you agree to join the research study, you will be asked to sign a consent form. The person who explained the study will also sign the consent form, and give you a copy.

If a member of your family is too young or unable to give consent for themselves, you may be asked on their behalf. You will be asked to read about the study before being asked if you think that the person you are representing would, under normal circumstances, be willing to join the study. If you think that they would, you will be asked to confirm that in writing by means of an assent form.





WHAT TO EXPECT IF YOU ARE ASKED TO JOIN A RESEARCH STUDY

Every research study is different, but some things are similar for all. Some research studies want to collect information about you and your health. This can be from a variety of methods including questionnaires, blood samples, health measurements such as blood pressure, etc. Other research studies require you to trial different medications, treatments or procedures. These may be in addition to your standard care or instead of. These studies usually require the collection of similar information such as questionnaires and blood samples. Some studies will require one visit, whereas others may require multiple visits over a few years. Each study is different and it is important to consider the requirements of the study before you consent to take part. The person explaining the study to you should go through all of the patient requirements prior to you consenting.

HOW TO GET INVOLVED WITH RESEARCH AT MEDWAY NHS FOUNDATION TRUST

Medway NHS Foundation Trust has lots of ways that you can get involved and help in research. From following us on social media to supporting us through fundraising.

PATIENTS

When you next see your healthcare professional, be sure to ask them about any research we may be offering.

HELP RAISE MONEY FOR RESEARCH AND INNOVATION AT MEDWAY

Please get in touch if you would like to help us continue to fund and assist local research projects.

CONTACT US:



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MEDWAY MARITIME HOSPITAL



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Best of care
Best of people