



SCIENTIFIC STRATEGY

2015–2020



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Our Purpose

To rebuild lives after major trauma through research into tissue reconstruction.

Our Work

We carry out groundbreaking medical research into tissue reconstruction after trauma.

TRAUMA includes major surgery, burns, severe wounds and traumatic injuries.

TISSUE RECONSTRUCTION is the process of physically replacing and rebuilding missing tissue parts. This is also often called tissue engineering.

Our research is **TRANSLATIONAL**, which means that our findings can be 'translated' into medical practice with clear patient benefits. Our work helps people regain their quality of life, independence and dignity after major trauma.



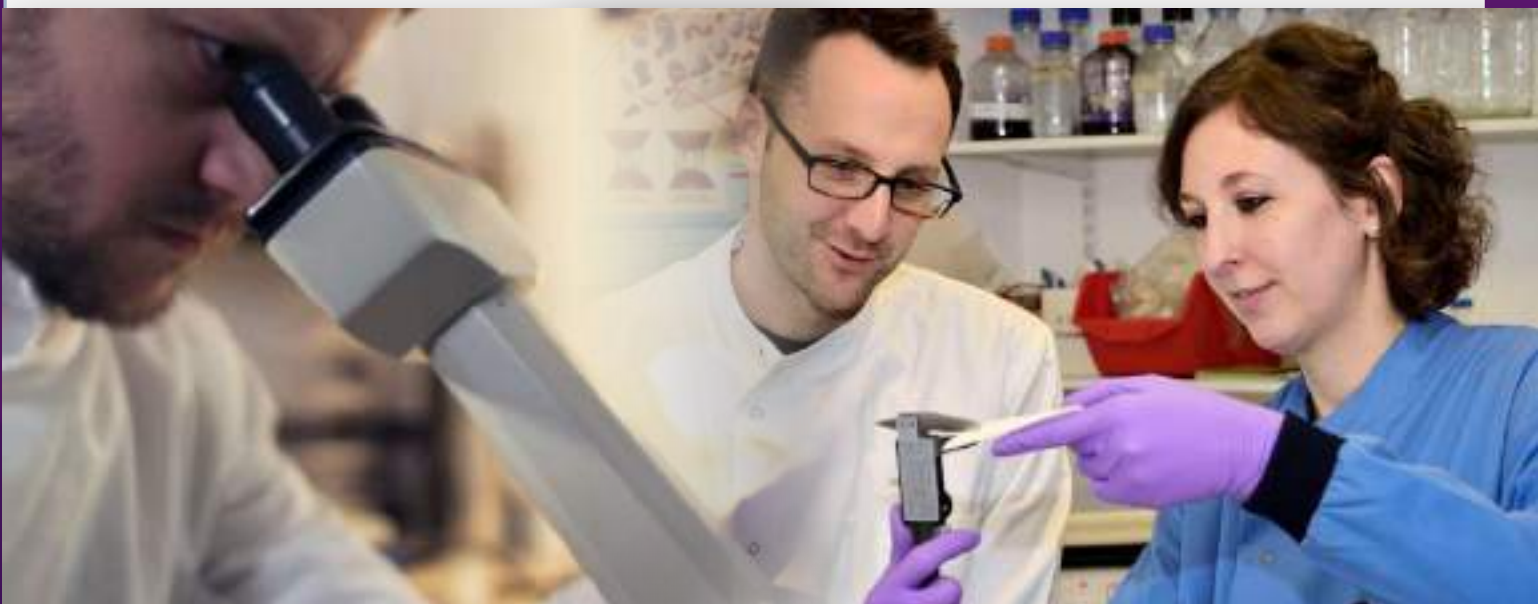
Our projects include:

- **REBUILDING BREAST TISSUE** after mastectomy and lumpectomy, by transferring fat or tissue flaps from another part of the body.
- **ENCOURAGING BONE GROWTH** across non-healing fractures through use of a 3D scaffold. The scaffold acts as a solid support for cells to migrate and form new bone tissue.
- **REGENERATING SKIN TISSUE** following burns and surgical wounds through use of SmartMatrix®, a dermal regeneration scaffold developed by RAFT. Inserting SmartMatrix® into the wound encourages cells to migrate and form new blood vessels and dermal tissue.

We do not research treatment of degenerative diseases, for example the replacement of neural tissue in patients with Parkinson's disease. Research into replacing whole organs, for example liver transplant, is also beyond the scope of our work.

Portfolio approach

In the short term, we are focusing on our existing projects and a limited number of new projects. In the longer term, we aim to have a larger group of projects at various stages of development, to generate a pipeline of technologies to improve patient treatment.





“We aim to have a larger group of projects at various stages of development”

Our funding

We currently invest approximately **£1m in research each year**.

Our research is carried out by RAFT employees at our own facility in Middlesex and by RAFT employees at collaborating institutes both in the UK and abroad.

We do not normally give grants directly to third parties and so do not issue specific requests for proposals. However, **we will consider new project proposals from potential collaborators** in academia and industry.

We aim to use our relatively small funds in ways that will best increase our output and, ultimately, provide more benefits to more patients. Therefore, we carefully select the projects we undertake and the researchers we work with. We focus on and actively seek collaboration with those who share our dedication to tissue reconstruction that transforms lives.



Project selection criteria

New projects will be selected based on assessment against set criteria. This will help ensure that we focus on our core activities and make the best use of our funds. All new projects must fall within the scope of tissue reconstruction following trauma, and must pass stage 1 assessment before progressing to stage 2.

STAGE 1 ASSESSMENT (GATEWAY QUESTIONS)

- i) What is the unmet clinical need?
.....
- ii) How does the proposed technology fill this need and what is its unique selling point?
.....
- iii) Is the technology underpinned by scientific excellence?

STAGE 2 ASSESSMENT

- i) Is the right team in place, or have the required skills been identified, both externally and internally?
.....
- ii) What is the Technology Readiness Level (TRL), ie how close is the product to being used in patient treatment?
.....
- iii) Why does this project need money and/or expertise from RAFT (and would it happen without RAFT input)?
.....
- iv) What is the plan to develop the research into patient treatment?
.....
- v) What is the competition and what is innovative about this product in comparison with the market leader?
.....

Scientific review

We have appointed a Scientific Advisory Committee (SAC), which comprises a mix of independent, expert, clinical, industrial and academic scientists.


The SAC reviews our research progress, future plans and scientific strategy every 6 months. The SAC also provides peer review to assist in the selection of new research projects. Although the SAC only meets twice a year, we are willing to discuss project proposals at any time.

In 2017 we will initiate a quinquennial review process. An independent panel will carry out a detailed strategic review of the quality and direction of our research every 5 years.

Training and working with RAFT

We have a long history of training plastic surgeons in research, and training is an important part of our mission. Surgical research fellow and PhD projects will be assessed using the criteria above. There is no set quota for the number of training positions, but numbers will remain similar to those in previous years, within the constraints of funding available.

When available, RAFT-funded surgical research fellowships, PhD studentships and positions in our research labs will be advertised in medical and scientific research journals and websites.

A photograph of two scientists in a laboratory setting. One scientist, wearing a white lab coat and glasses, is pointing at a piece of equipment. The other scientist, wearing a blue lab coat, is looking through a microscope. The background shows laboratory equipment and shelves.

“We have a long history of training plastic surgeons in research, and training is an important part of our mission”

Our ambitions by 2020

Over the next five years, we aim to:

- increase our annual research spend from **approximately £1m to £3m**
- increase the number of **research programmes from four to five**
- expand our existing research programmes to contain **more individual projects**
- achieve a larger group of **projects at various stages of development**, to generate a pipeline of technologies to improve patient treatment
- progress **one new product to patient treatment**.



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