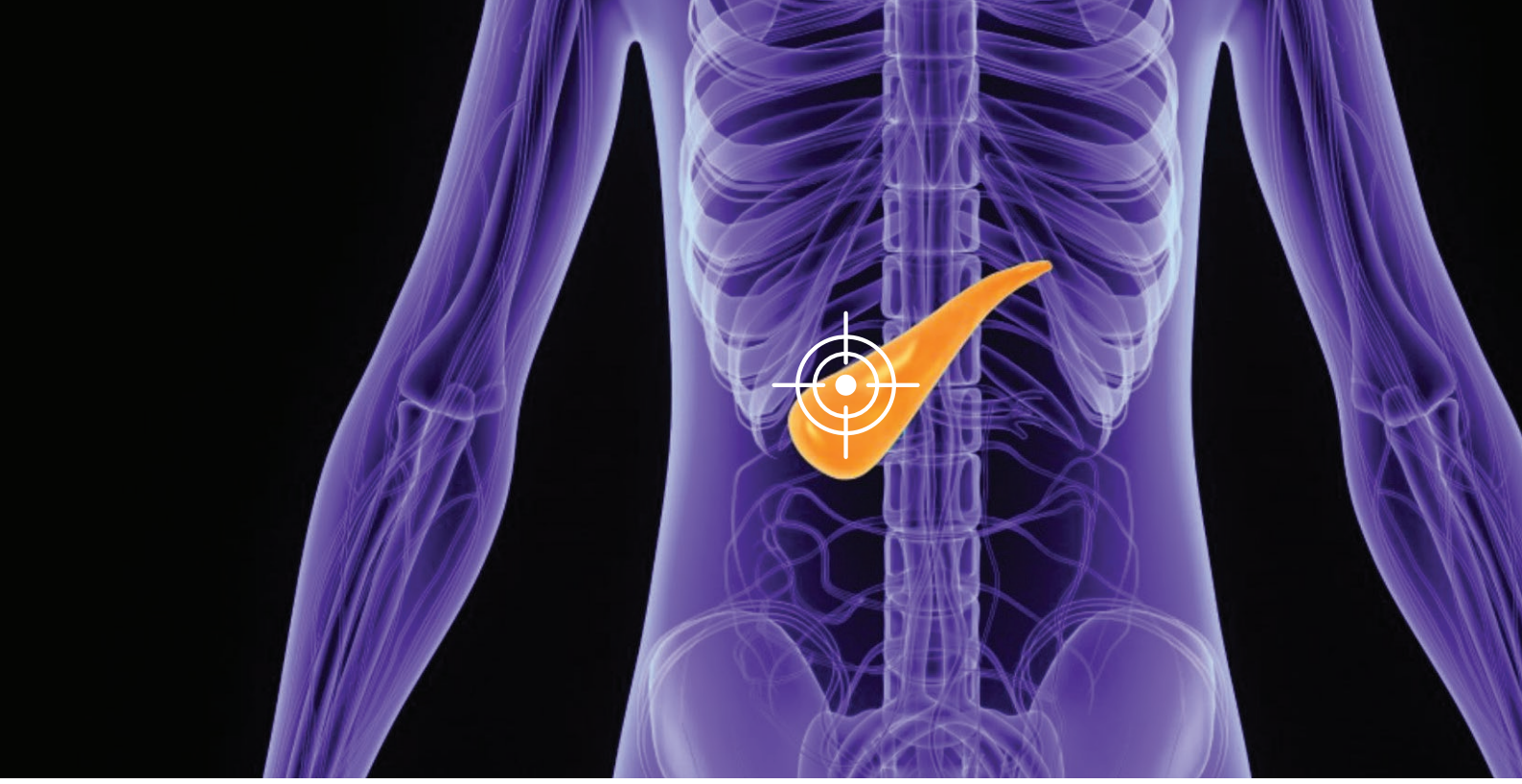
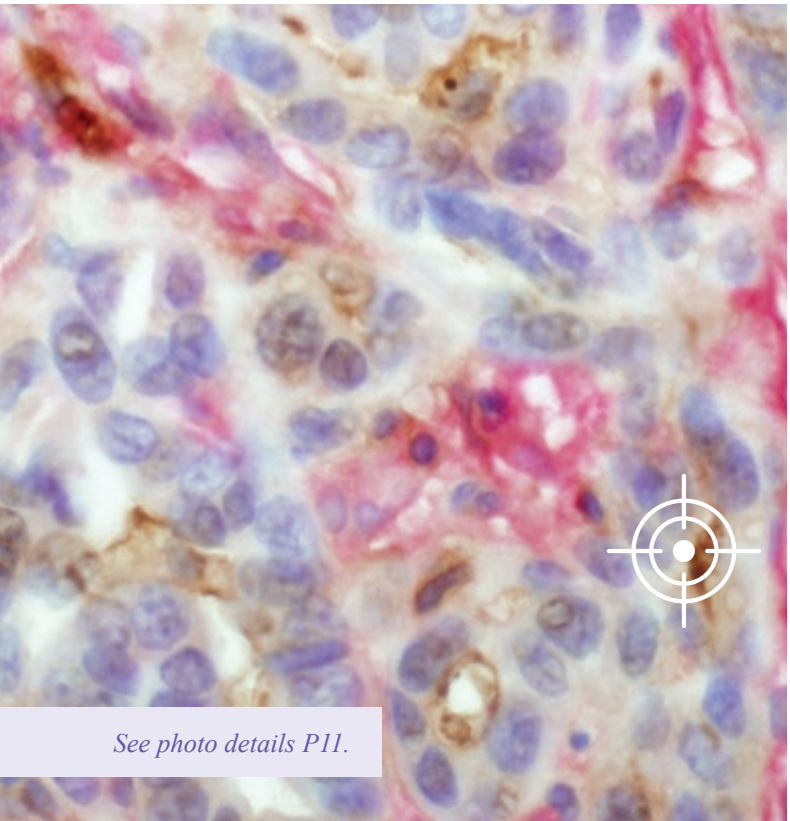


Precision-Panc Clinical Trials

Not all cancers are the same. Precision medicine is about tailoring treatments to an individual's cancer. **Precision-Panc Clinical Trials** are delivered through the NHS and aim to match people with pancreatic cancer to the trial **treatment most likely to work for them.**

NHS

CANCER RESEARCH UK | PRECISION PANC



See photo details P11.

MOLECULES, GENES AND PRECISION MEDICINE

What does it mean?

The average human body has more than 37 trillion cells and there are more than a trillion molecules in each of those cells. **Molecular or genomic testing** analyses a person's genetic code to look for biological markers – genes, proteins, or other molecules – in a sample of tissue, blood or other body fluid. Molecular tests also check for certain changes in a gene that may cause or affect the chance of developing a specific disease or disorder, such as cancer.

DNA

A molecule that is made up of four basic chemical building blocks represented by the letters A, C, G and T. The sequence of these letters forms the instructions to our cells on how they should develop and maintain themselves. These sequences can now be read with advanced technology.

Genes

Genes are made up of blocks of DNA letters. A gene is transferred from a parent to a child and determines some characteristic of that child, such as eye colour or height. It can also carry beneficial or harmful characteristics. Genes can be affected by how we live our lives, such as smoking.

Genome

The genome is the complete set of genetic information we inherit from our parents. The human genome contains around 6 billion of these DNA blocks. The first human genome sequences took years and cost nearly £1 billion to produce. Now a person's genome can be sequenced in days for a tiny fraction of the cost.

Genomic research

Genomic research has given us a new understanding of how our genes work together in our genome – and the relationship of our genome to how we live our lives. While genetics focuses on specific genes, genomic research uses genome sequencing to study genes and other information encoded in an individual's genome. It looks at the structure of the person's whole genome, including the DNA sequence.

Precision or Genomic Medicine

The diagnosis and treatment based on information about a person's entire DNA sequence. Variations in the DNA sequences determine the differences between us as individuals, and differences between types of cells (eg tumour cells and non-tumour cells). Researchers are looking for harmful variations that can determine what kinds of disease we might have – and what type of drugs and dosages might work best for each person. This is precision medicine.

Precision Oncology

Using genomic and other molecular information in the study and treatment of cancer.

Did you know?

There are around
10,000
PEOPLE DIAGNOSED
each year with pancreatic cancer in the UK

Around **9,300** OF THOSE WILL DIE OF THE DISEASE

Pancreatic cancer is
SELDOM DETECTED in its EARLY STAGES
& typically spreads rapidly

Most pancreatic cancer patients do not respond to EXISTING TREATMENTS

Only **5%** LIVE FOR 5 YEARS

Pancreatic cancer will soon become the **2ND** LEADING CAUSE OF CANCER DEATH in Western societies, after lung cancer

WHY PRECISION MEDICINE?

Right drugs, right patient, right time

Understanding the human genome enables doctors to more precisely deliver the right drugs to the right patients at the right time. This is precision medicine.

Dr Andrew Biankin

Regius Professor of Surgery Wolfson Wohl Cancer Research Centre, University of Glasgow.

At the **University of Glasgow, the Wolfson Wohl Cancer Research Centre** led by **Regius Professor of Surgery Andrew Biankin**, is at the leading edge of precision medical research. The University's **Glasgow Precision Oncology Laboratory** uses new technologies to study the genome at a deep level, including harmful genetic variations and their combined influence on health and disease. Studies also include the latest advancements in molecular research that give even greater insight into how cancers develop.

The University is also home to the UK-wide **Precision-Panc** (Precision Pancreatic Cancer) programme, a significant collaborative research effort involving the Universities of Glasgow, Cambridge, Manchester and Oxford, the CRUK Manchester Institute, the CRUK Beatson Institute and the Institute of Cancer Research. The Precision-Panc platform uses the **Glasgow Precision Oncology Laboratory**'s internationally recognised cancer genome testing to match patients with pancreatic cancer to the right drugs in clinical trials. These trials are managed by the CRUK Clinical Trials Unit (Glasgow) and the Barts Clinical Trials Unit (London) and are delivered through the NHS.

We now know that many diseases have a genetic component – from rare inherited disorders to common and complex diseases, such as cancer and diabetes. Precision-Panc is one of the first programmes in the UK to bring genetic sequencing into the clinic in order to direct the care of people with pancreatic cancer.

Currently a cancer patient's treatment is based on the type of cancer, where it is in the body, the size of the cancer, what the cancer cells look like under the microscope and if it has spread. Though this approach works for many people, it does not work for all. Precision medicine is an approach to disease diagnosis and treatment that takes into account the differences in individual cancers.

Genes are found in every cell in our body, including cancer cells, and contain the instructions that control how our bodies function. Most cancers start due to changes in genes that happen over a person's lifetime. Based on the different genes that change in the cancer cells, there will be different types of cancer. Pancreatic cancers can be very different from each other on a genetic level and this makes it hard to find a single treatment that will work for them all. It also explains why some people can have a fantastic response to treatment, and others will have little or no benefit.

Precision medicine uses genetic testing to identify the genetic changes present in each patient's cancer. Based on these results, patients would receive a treatment that is tailored to their specific cancer genetic profile. In the future, by giving patients the right treatment, targeted to their cancer, at the right time, we avoid unwanted side-effects and ineffective medication, and ensure better survival.

'Precision medicine holds hope for all cancer treatment' said Professor Biankin, but especially for less common, high-mortality cancers, such as pancreatic cancer. People with pancreatic cancer have poor outcomes because it can be difficult to diagnose due to vague symptoms, standard treatments are less effective than in other cancer types, and there is limited access to new treatments.'

The Precision-Panc clinical trials are individually focused and genome-based in order to develop targeted treatments for genetically complex pancreatic cancers. This means developing new treatments and optimising current treatments by matching them to the patient and making them even more effective.

Precision-Panc aims to make precision medicine a reality for people with pancreatic cancer by delivering its clinical trials through the NHS and gathering knowledge that will ultimately allow cancer specialists to match patients with the most suitable treatment or clinical trial for them. The programme will also speed up drug development, and ultimately new drug approval, improving access to new drugs and survival in patients with pancreatic cancer.

The Wolfson Wohl Cancer Research Centre, University of Glasgow.

WHAT IS PANCREATIC CANCER?

The pancreas is an organ about 20cm long that lies horizontally behind the lower part of the stomach. It produces chemicals that aid digestion and hormones that help regulate how we process sugars. Pancreatic cancer occurs when some cells in the pancreas develop changes that can cause them to grow into tumours.

There is more than one type of pancreatic cancer. Pancreatic ductal adenocarcinoma, which originates in the part of the pancreas that makes digestive enzymes, accounts for about 90% of cases. This part of the pancreas can also produce other rarer types of cancers. About 10% of pancreatic cancers are neuroendocrine tumours, arising from the hormone-producing cells of the pancreas. These can be benign or cancerous and generally have better outcomes.

Although pancreatic cancers are less common than say breast, prostate, bowel or lung cancer, they will soon overtake bowel cancer as the second most common cause of cancer-related death in Western society.

Risks for pancreatic cancer

Pancreatic cancer is unusual before the age of 40, more commonly occurring in those over 70 years of age. Risk factors for pancreatic cancer include tobacco smoking, obesity, diabetes and certain rare genetic conditions. Chronic pancreatitis (inflammation of the pancreas) appears to almost treble the risk and hereditary pancreatitis increases the risk even more. Signs and symptoms are as varied as upper abdominal pain, jaundice, loss of appetite, weight loss, or blood clots, but these may not appear until pancreatic cancer is quite advanced and surgical removal isn't possible.

Current treatments and outcomes

Pancreatic cancer can be treated with surgery, radiotherapy, chemotherapy or palliative care, or a combination of these.

One reason for the poor outcomes for pancreatic cancer is that it is often diagnosed late. By the time someone has symptoms, goes to their doctor and is diagnosed, the cancer is very often quite advanced. About 15% of patients can have surgery to remove their pancreas, which gives the only chance of cure.

Pancreatic ductal adenocarcinoma typically has a very poor outcome: after diagnosis 20-25% of people survive one year and 5% live for five years. Even in those lucky enough to have surgery, only 25-30% will live for five years. Only 1% will survive their cancer for 10 years or more after diagnosis.

For those whose pancreatic cancer has spread into other parts of the body and surgery is not possible, patients will live about six months to a year.

Gemcitabine was the chemotherapy standard for many years for people with advanced pancreatic cancer. Then from 2007, doctors began to combine gemcitabine with other drugs that target specific abnormalities within cancer cells, as in the case of erlotinib (Tarceva) which blocks chemical signals causing cancer cells to multiply. While these combinations, including with capecitabine, improves the way gemcitabine works, they have still not significantly changed survival times.

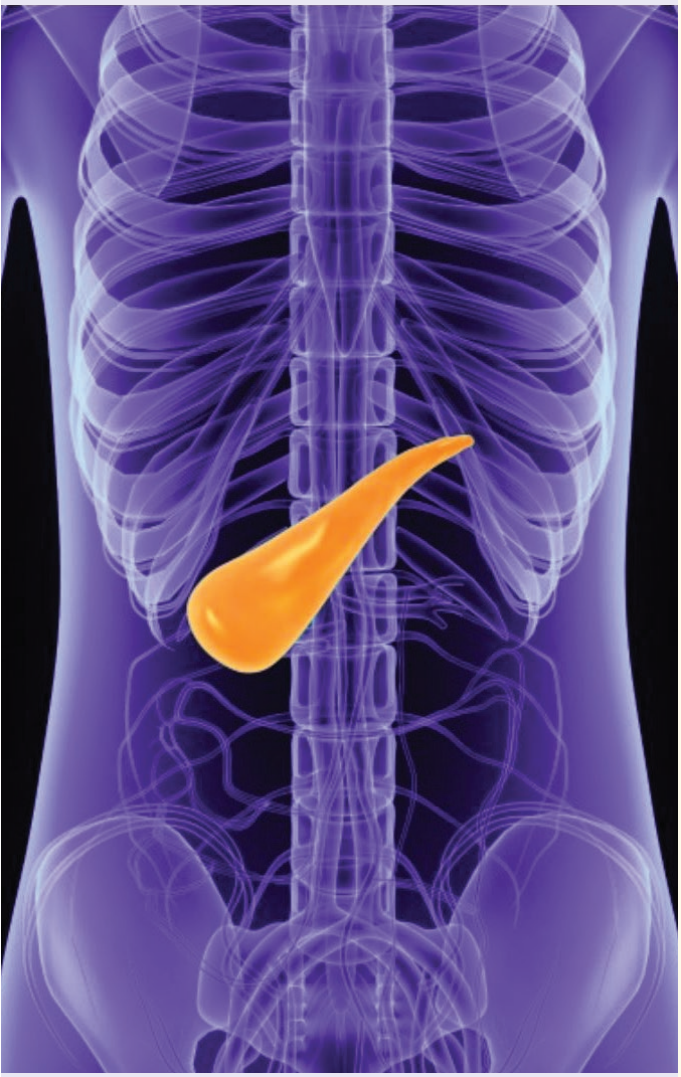
More recently, the gemcitabine plus nab-paclitaxel (Abraxane®) and FOLFIRINOX combinations have become the standard of care for patients who are well enough to cope with the significant side effects. However, these newer treatments only extend survival by a few months at best – the two-year survival rate for advanced disease remains less than 10%.

Importantly, there are small groups of patients who will derive significant benefit from some of these therapies. Identifying these patients before commencing treatment, and not giving treatments to patients when they will not work may seem obvious, but this is the current challenge facing doctors involved in cancer care.

As pancreatic cancer spreads to nearby lymph nodes and other organs, the increasing burden of symptoms means that patients are no longer well enough to have surgery, radiotherapy or chemotherapy and the primary medical focus is on making the patient comfortable.

Precision-Panc

The treatment and survival of patients with pancreatic cancer has barely changed in almost 50 years, partly because there has been little research into how pancreatic cancer works on a deeper, cellular and molecular level.



This is why Precision-Panc's pancreatic cancer clinical trials are vital in the search for new knowledge of how this disease develops and better ways to treat it and stop it spreading.

Maggie Shapland

Maggie Shapland had retired in 2013 after a 40-year career as a database consultant and developer at the University of Bristol Computer Centre and continued to be busy with volunteer work on heritage projects and her passion for vintage cars. It came as a complete shock when she was diagnosed in October 2016 with Stage 4 metastatic pancreatic cancer at the age of 70.

'My health had always been very good,' said Maggie, 'and all I had was heartburn, there was no weight loss. No one could believe I could look and feel so well with metastatic cancer and only have a few months to live.

'My partner of 14 years was devastated, but we were married soon after the diagnosis in December 2016, in a joyous, if unconventional, event. My sons were clearly upset, but supportive, as were my brother and sister. I was determined to keep strong for everyone, and to live life to the full.

'As I was well enough, I was given the option of Folfirinox rather than GemCap, as there was a chance I would live longer. This chemo was given between November 2016 and May 2017, although the dosage was reduced several times due to side effects.'

Maggie's history of the Clifton Rocks Railway was published in December 2017, but around this time her blood tests started to show some worrying signs and Maggie began to lose weight.

'A CT scan in March 2018 showed that although the pancreatic tumour was still stable, the liver metastases were growing and there were new tumours on the lymph nodes. I started a six-month course of GemCap on 30 April 2018.

'After three months the metastases on my lymph nodes had vanished, the liver metastases were disappearing and the pancreatic tumour had shrunk by half. By December 2018, after six months of treatment, my condition was stable and my weight nearly back to normal.

'I am really glad there are finally Precision-Panc trials at Bristol, since all too often they are too far away and at only one site, and it's great that there are no placebos. It will be fantastic if I can get on Precision-Panc trials when my situation changes.'

PRECISION-PANC CLINICAL TRIALS IN THE NHS

Finding the trial for the patient

A clinical trial is a research study involving people. It will try to answer specific questions about new treatments, or new ways of using current treatments. Clinical trials are used to determine whether treatments are safe and effective.

'There is excellent evidence that participation in clinical trials is associated with better outcomes, but people with less common cancers, such as pancreatic cancer, have little access to clinical trials because they are less economically feasible to run for the comparatively small numbers of patients, compared to other cancer types,' said Professor Biankin.

Traditionally, clinical trials in humans for new drugs can take more than five years to complete and average development costs are estimated at around £2.75 billion per drug, but only one in seven such drugs is successful – and for cancer drugs it is only one in 30. The high cost of drug development, which must be recouped by the pharmaceutical industry, limits access to treatment options and affects future public health care costs.

The UK Government also uses information gained from trials when deciding if they will fund a new drug. With smaller numbers, it is much harder to get the level of evidence needed for the Government to approve funding. This means that the lack of access to clinical trials for people with less common cancers can also result in a lack of Government-funded treatment options.

Each patient's pancreatic cancer is different on a genetic level, so to improve treatment options, we need to be able to identify the specific type of pancreatic cancer a person has based on their genetic make-up, and to look for a treatment tailored to that type.

Many treatments developed in common cancers have been shown to work in less common cancer types, precision medicine research has led to the creation of new treatments, and immunotherapies are being developed to stimulate an immune response to help the body fight cancer cells. These approaches need to be tested in clinical trials.

'For the first time, there is a real opportunity to improve the outcomes for pancreatic cancer patients across the UK as Precision-Panc develops targeted approaches to slow or stop cancer growth,' said Professor Biankin.

'With its focus on discovering new treatments, and testing the ideas in the laboratory and then in clinical trials in the NHS, Precision-Panc aligns research with the development of new drugs. The results from the clinical trials and information from the samples we collect from patients, in turn provide valuable information that contributes to our knowledge of pancreatic cancer, so that researchers can further advance the discovery of new targets and the development of new treatment strategies.

'We want to bring new drugs to patients and learn as much as we can in the process, so that we can continuously improve treatment options in this area of high unmet need.

Traditionally, clinical trials are only offered late in a patient's treatment journey, but that is changing and patients and clinicians are now recognising the importance of clinical trials as an early treatment option, so that the appropriate preparations can be made. We are also being more innovative and adaptive in how we match patients with the right kind of clinical trials for them.'

Clinical trials – a treatment option

'Since pancreatic cancer is very aggressive, we need to begin the conversation about Precision-Panc clinical trials as early as possible, preferably when a patient first attends their local hospital for a biopsy for suspected pancreatic cancer,' said Professor Biankin. 'A clinical trial may be the best treatment option for them, so patients are informed about Precision-Panc trials before the biopsy so that we get all the blood and tumour samples we would need for a trial as part of routine preparation for treatment. Then when the time comes to decide on which treatment to have, one of the choices is a **Precision-Panc trial.**

'Precision-Panc is available at multiple centres throughout the UK. Some patients may come to Precision-Panc at the beginning of their patient pathway, others will be referred by their specialists after they have already had some treatment. We want pancreatic cancer patients to have the option of clinical trials at each step of their journey.'

Until recently, clinical trials were generally used to test a new treatment, with some patients getting a new drug and the others getting an existing drug or placebo (no drug at all).

The Precision-Panc trials test different treatments at the same time and all patients on a Precision-Panc trial will receive a treatment.

Immunotherapy drugs stimulate the patient's natural anti-cancer immune response, enabling immune cells to attack cancer cells. Although immunotherapies are proving to be effective in many cancer types, they do not work in all patients. Future Precision-Panc trials will include new immunotherapy drugs in order to more precisely tailor treatment with immunotherapy to individual patients based on the characteristics of their immune system and its interactions with tumour cells.

'If at any time patients don't want to participate in a clinical trial, and just want standard care, that is also fine. The only thing we request is that they consent to having their information collected annually so the Precision-Panc team can see what treatments they have had and how they responded to help us with our ongoing research.

If a person with pancreatic cancer agrees to participate in Precision-Panc, they will be asked to provide tissue and blood samples before the start of treatment, so that the researchers can look at the altered genes in their cancer. A biopsy (small sample of the cancer) is taken for diagnosis. And sometimes there may be a need for extra biopsy, although Precision-Panc is also testing the use of less invasive 'liquid biopsies', using blood samples as a way of monitoring how the cancer is responding. Patients with a recent diagnostic biopsy can also go onto Precision-Panc without an additional biopsy. Further details about these procedures are provided in the Patient Information Sheets given to everyone taking part in Precision-Panc.

If their cancer is matched to a drug in a Precision-Panc clinical trial and they are well enough, then patients will be offered a place on a trial. Not all patients will be eligible, and some may choose not to join a clinical trial.

Eligibility

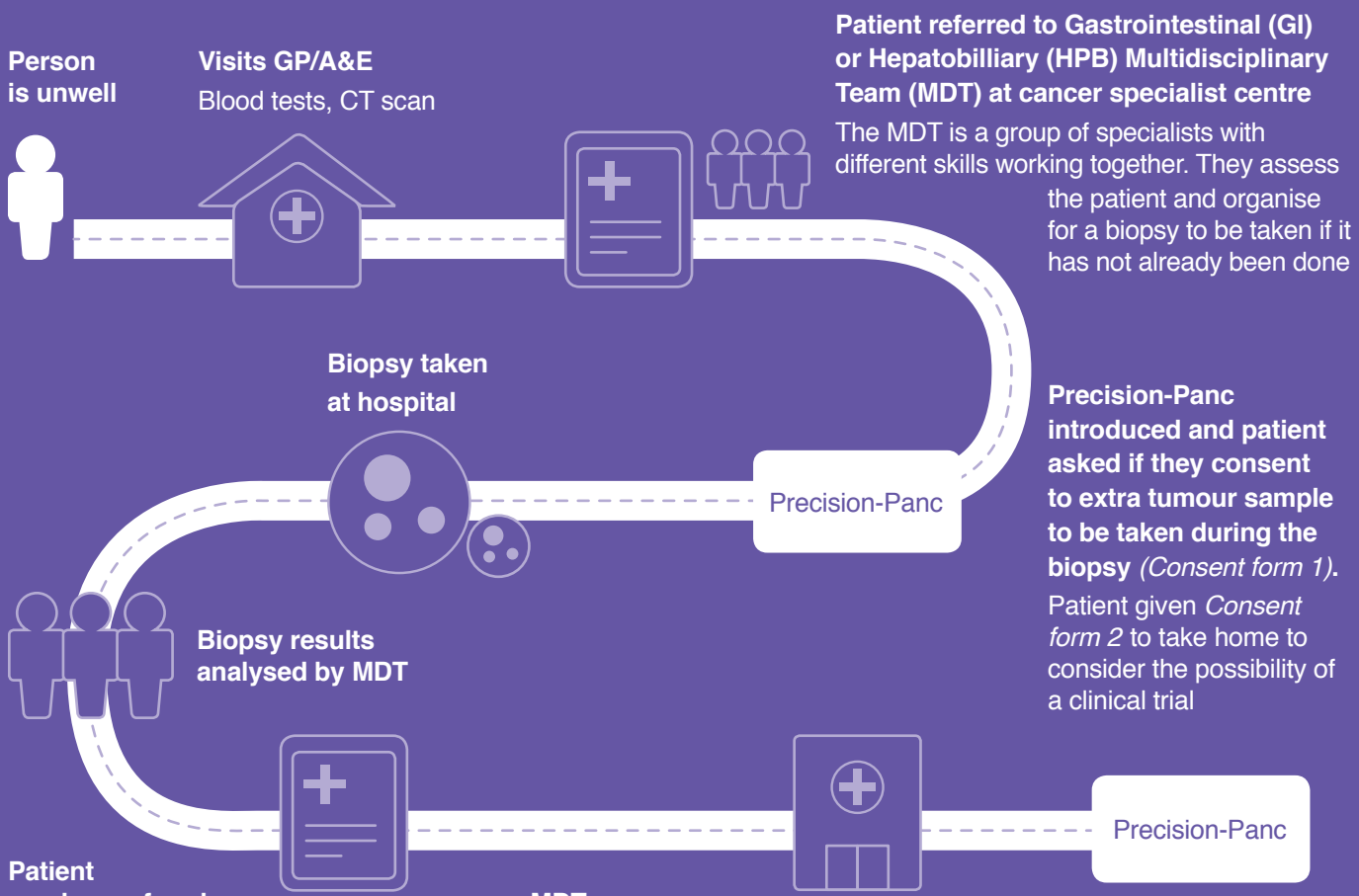
Each trial will have different eligibility requirements, but they generally include:

- Having suspected or confirmed pancreatic cancer, either localised in the pancreas or which has already spread to other organs
- Being deemed medically suitable to receive chemotherapy and/or radiotherapy, and/or surgery depending on the stage of disease

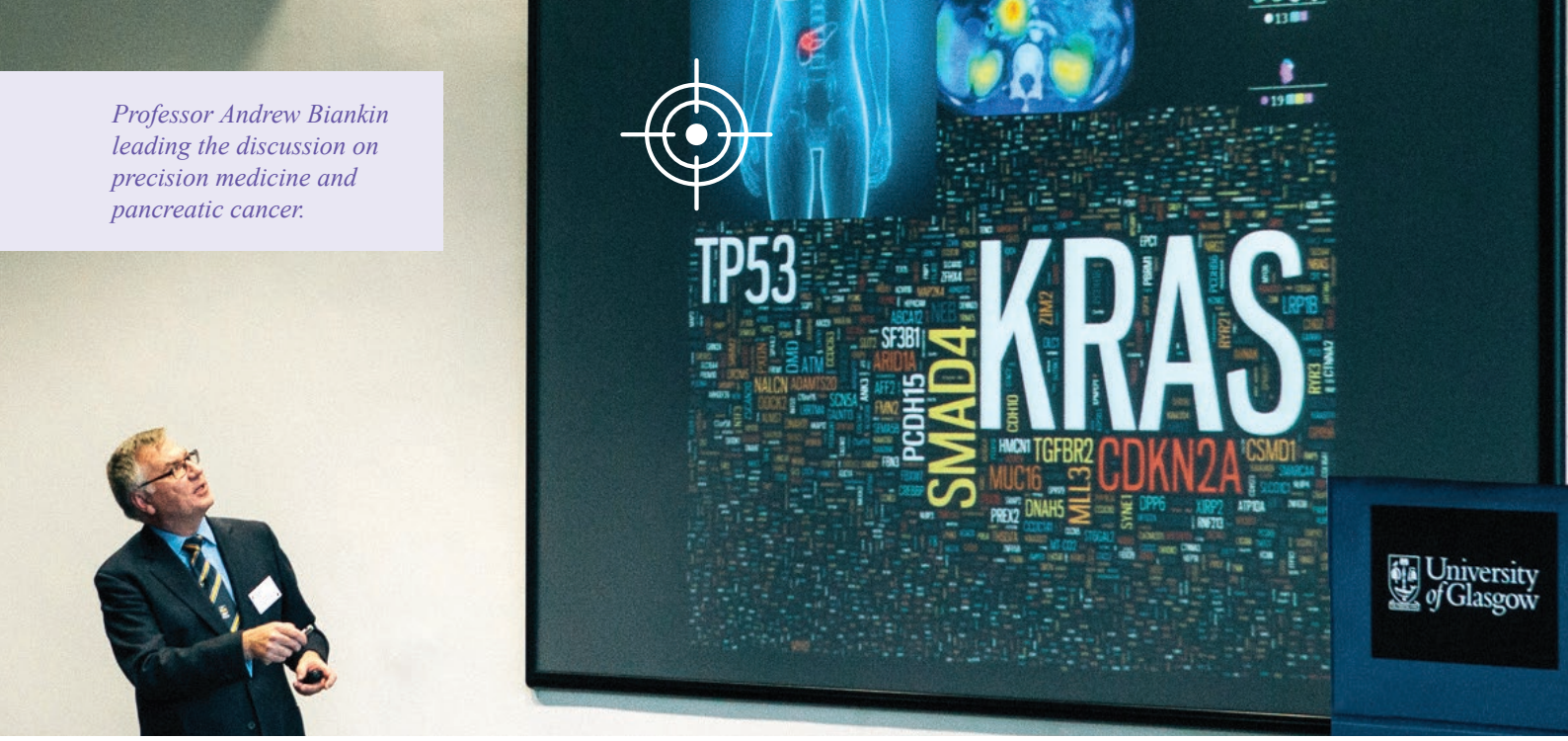
It can take years before clinical trial results are available, but by taking part in Precision-Panc and letting researchers follow their treatment details and outcomes, today's patients have the chance of new pancreatic cancer treatments and could help people with pancreatic cancer have better treatment options in the future.

Precision-Panc trials centres are opening all the time. Please see page 10 for current centres.

Patient Journey for Precision-Panc Clinical Trials



* This is the usual patient journey for Precision-Panc clinical trials, but there can be variations.



Professor Andrew Biankin leading the discussion on precision medicine and pancreatic cancer.

LEADING PANCREATIC CANCER RESEARCH

Together, the Precision-Panc programme research partners and the Glasgow Precision Oncology Laboratory form a world-leading network of centres for pancreatic cancer research.

The Glasgow Precision Oncology Laboratory's pancreatic cancer research is diverse, focusing on translating basic scientific discoveries into the clinic. These include defining the genetic characteristics of pancreatic cancer, developing biomarkers of prognosis and response to treatment, and understanding why some cancers are resistant to drugs, in order to develop new treatments.

Advances in technology give the pancreatic cancer research teams the unparalleled ability to test pancreatic cancers in new ways, vastly increasing our understanding and leading to better, safer, more effective, personalised therapies. Building an accessible database is key and much of the information for this is based on data from the International Cancer Genome Consortium, as well as from the Cancer Genome Atlas. Precision-Panc researchers are networked with cancer researchers in more than 30 countries around the world, bringing together the information that is needed to improve current treatments and develop new ones.

The need to find cancer subtypes

A highly skilled cancer surgeon, Professor Andrew Biankin's experiences with the high mortality rates in pancreatic cancer led him to rethink treatment approaches to this and other less common cancers.

'It was almost impossible to predict from pathology results which patients would respond to treatment,' said Professor Biankin. 'Although tumours looked identical under the microscope, and despite modern scanning technology, it was clear there was an underlying complexity. Only in the last decade, due to the ability to test cancer genomes at large scale, are we beginning to understand some of this complexity, and use precision medicine to tailor treatments to the individual patient.'

Professor Biankin's work on the molecular testing of pancreatic cancer began in 2008 in Australia where he led the Australian Pancreatic Cancer Genome Initiative (APGI), which forms the basis of research he conducts today. The APGI organised the collection of tumour sample, the taking of patient histories and it catalogued and analysed the genetic changes in tumour samples from patients with pancreatic cancer. This work is providing unprecedented new insights into how pancreatic cancer develops and is helping to promote research in the development of new tailored cancer treatments.

The APGI is also a member of the International Cancer Genome Consortium, a worldwide collaborative research effort to comprehensively map genomic abnormalities in more than 50 major human cancers.

Finding molecular subtypes is the first stage of the process where researchers begin to target particular groups of cancers to find out how they develop and the characteristics, or biomarkers, that it might be possible to target with specific drugs to improve patient outcomes. Researchers are looking for subtypes that informs us about the pattern of disease, the prognosis or, more importantly, whether a patient will respond to a treatment. Then those ideas are tested in the

laboratory, and if they are successful, clinical trials based on that knowledge can be offered to patients.

'In Precision-Panc clinical trials we analyse patients' molecular profiles to identify specific cancer biomarkers that are associated with response, resistance or lack of response to certain treatment approaches. We are now beginning to see certain subtypes of pancreatic cancer, all of which seem to have key vulnerabilities that we are working to find the right drugs for. This is most important for patients with pancreatic cancer because the great majority of patients are diagnosed so late in their disease course that there isn't time to try various drugs.

'In the Precision-Panc clinical trials, patients are tested to find if there is a trial that has a good chance of helping them, as well as adding to our knowledge so that we can offer better treatments to patients in the future.

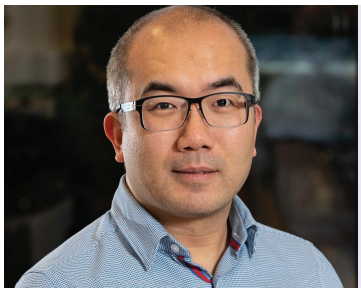
'If we understand differences in disease, then we can begin to predict which drugs will and won't work for individual patients. This will lead to improved outcomes for patients who will get the most suitable drugs for them, and be of benefit for patients who will not have to suffer the side effects from drugs that will not help them. In this way, we will be able to offer the very best health care globally.

'Finding the right way for precision medicine to work in healthcare systems is a bit like breaking a wartime code – the stakes are high and time is against you. Breaking the cancer code that connects the cancer genomes to the patient's treatment is what drives me as a scientist and a doctor.'

'We are working with the NHS towards a time when the research clinical trial pathway merges with the standard diagnostic pathway, to give us real-world treatment testing that is embedded in the healthcare system', said Professor Biankin.

AGPI research majority funded by the National Health and Medical Research Council (Australia), with follow-up research funded by the University of Glasgow, Wellcome Trust, Medical Research Council and Cancer Research UK.

Precision-Panc - from the laboratory to the healthcare system



Dr David Chang

Reader and Honorary Consultant Pancreatic Surgeon, Wolfson Wohl Cancer Research Centre, Institute of Cancer Sciences, University of Glasgow. Glasgow Royal Infirmary.

Precision-Panc was established to accelerate the development of treatments for pancreatic cancer by making continuous links between the three main stages of drug development – Discovery (where scientists research how cancerous and non-cancerous cells work in order to find new ideas for how drugs might work), Preclinical Development (where Discovery ideas are tested in the laboratory) and Clinical Development (where Discovery ideas that have been successful in Preclinical Development can be tested in clinical trials for people with pancreatic cancer).

'From a concept with robust preclinical evidence, to setting up and running clinical trials can take a long time – sometimes too long in the case of aggressive cancers, such as pancreatic cancer,' said Dr David Chang, the co-lead researcher behind the Precision-Panc Master Protocol that allows Precision-Panc clinical trials to be delivered through the NHS.

'We are running several Precision-Panc clinical trials, each of which has their own protocol, a document that describes how a clinical trial will be conducted that is tailored to the research question they are trying to answer. We needed to be as efficient as possible to save precious time, so we developed what we call a Master Protocol that spells out how patients are recruited to the first stage of all of the Precision-Panc trials.

'The Precision-Panc Master Protocol covers how we talk to patients and ask for their consent, take biopsies, and run and analyse molecular and genomic tests for patients so that they can be enrolled later onto a clinical trial if they choose. We developed new patient and tumour sample pathways and incorporated these into routine NHS clinical practice to fast-track the processing and enable clinically meaningful turnaround times for the molecular testing.'

All the testing and analysis is performed using the Glasgow Precision Oncology Laboratory's state-of-the-art sequencing facilities and the bespoke cancer tests that have been developed there.

'Using the Master Protocol to embed research activities into routine NHS clinical practice has significantly reduced time from taking the blood and tumour samples to having test results from weeks or months to 14 days.

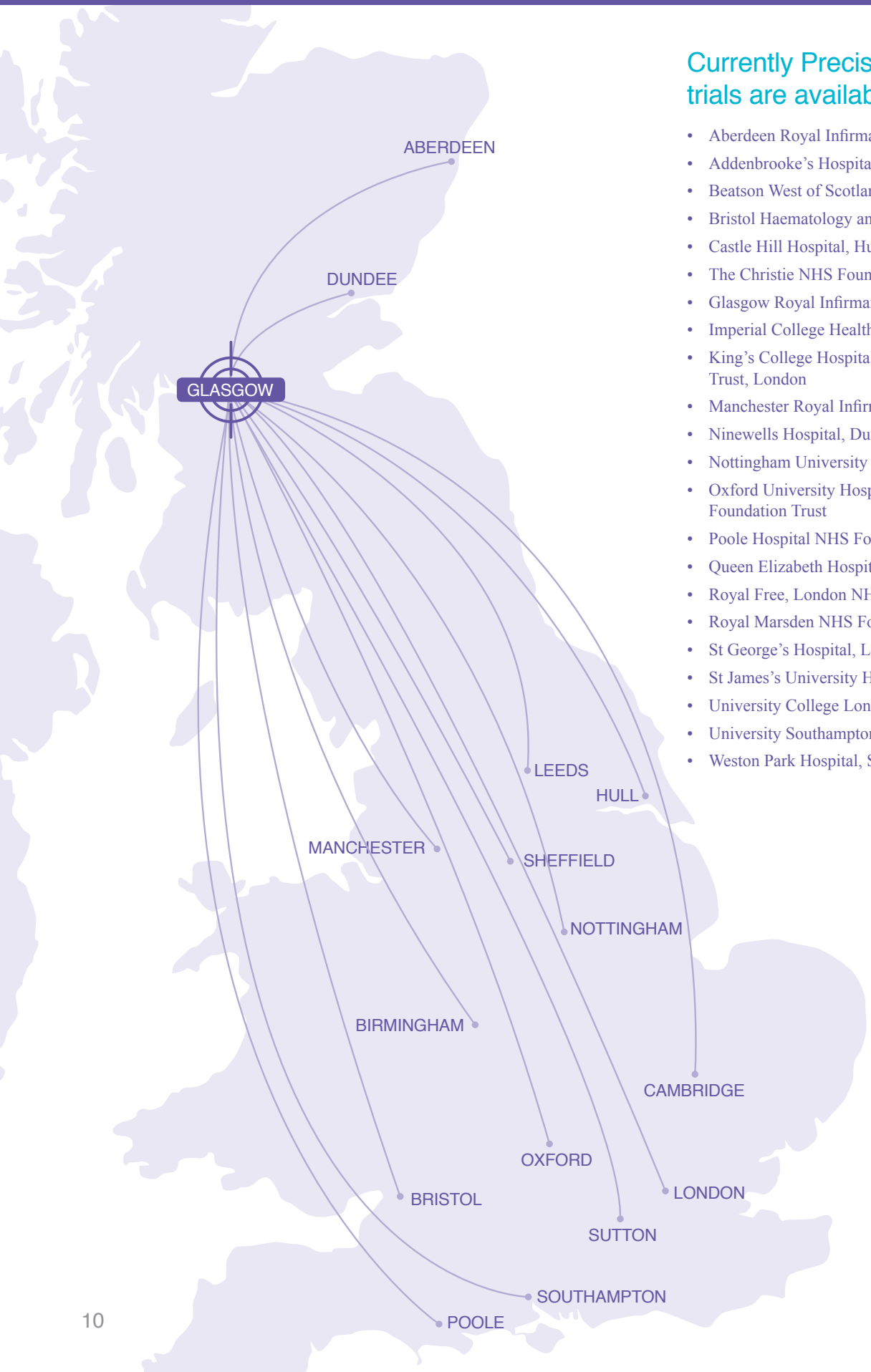
'As we continue to expand the capacity of Precision-Panc, we aim to further improve the process and increase the number of clinical trials so as to be able to offer more patients the opportunity to participate.

'As a surgeon-scientist, I feel extremely privileged to work on pancreatic cancer on the bench and also at the bedside. I truly hope through the work of Precision-Panc that we are able to offer patients with pancreatic cancer more treatments and improve their outcomes,' said Dr Chang.

This research is supported by the University of Glasgow, the NHS and Cancer Research UK.

CURRENT TRIAL CENTRES

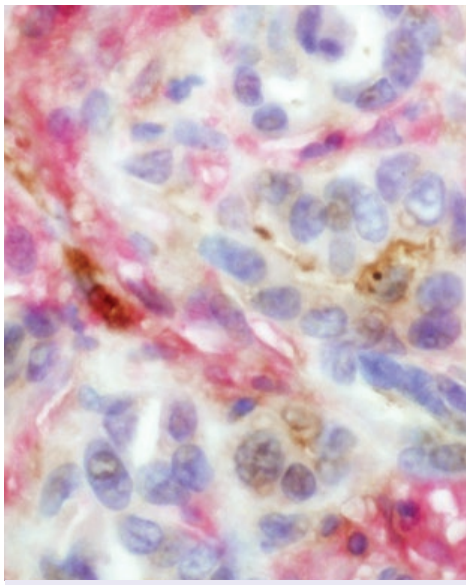
Precision-Panc trials centres are opening all the time, so please refer to the Precision-Panc website at www.precisionpanc.org for the latest centres list.



Currently Precision-Panc trials are available from:

- Aberdeen Royal Infirmary
- Addenbrooke's Hospital, Cambridge
- Beatson West of Scotland Cancer Centre, Glasgow
- Bristol Haematology and Oncology Centre
- Castle Hill Hospital, Hull
- The Christie NHS Foundation Trust, Manchester
- Glasgow Royal Infirmary
- Imperial College Healthcare NHS Trust, London
- King's College Hospital, NHS Foundation Trust, London
- Manchester Royal Infirmary
- Ninewells Hospital, Dundee
- Nottingham University Hospitals NHS Trust
- Oxford University Hospitals NHS Foundation Trust
- Poole Hospital NHS Foundation Trust
- Queen Elizabeth Hospital, Birmingham
- Royal Free, London NHS Foundation Trust
- Royal Marsden NHS Foundation Trust, London
- St George's Hospital, London
- St James's University Hospital, Leeds
- University College London Hospitals
- University Southampton NHS Foundation Trust
- Weston Park Hospital, Sheffield

Front cover right: Natalia Brzozowska, Technician, characterising immune evasion pathways in pancreatic cancer towards improvement of immunotherapy.
Courtesy University of Glasgow.



Front cover left: Pancreatic ductal adenocarcinoma (mouse), where the brown tumour cells have recruited 'normal' blue cells to support them. The red chemokines are recruiting normal immune cells to work for the tumour, keeping out 'good' immune cells and allowing the tumour to spread.
29/01/2016. Images courtesy Dr Jen Morton, Morton Lab, CRUK Beatson Institute.

John Currie

It was a great shock to John Currie's family when he was diagnosed with pancreatic cancer in November 2015 at 62. His daughter Janice shares his story.

'Dad had what would be classed as a really good healthy lifestyle', said Janice. 'He regularly cycled and was very fit and healthy. He had ongoing thyroid problems, but these were well controlled.

'In October 2015, Dad began to get tired and thought a holiday would help. The following week he became jaundiced, was admitted to hospital through A&E and diagnosed with inoperable pancreatic cancer.

'Initially, Dad had a stent fitted to ease the jaundice and went on to have a drain inserted to help with fluid collection. This allowed Dad to be at home, which was very important to him. He chose not to accept palliative chemotherapy, which we respected.

'The prognosis was three to six months and Dad had eight months, almost to the day. An excellent team of district nurses provided support and at the end, Marie Curie nurses helped us with overnight stays, for which we were extremely grateful.

'During the eight months, Dad did have some good times – even managed a small cycle and saw family and friends – and his pain was really well controlled throughout. At the beginning, changes in his condition were visible monthly, then weekly and finally, daily.

'It was really difficult as a family. It came as a total shock, but as time progressed, the reality began to settle in. Dad's attitude, faith and approach to the diagnosis was without doubt very helpful and he tried to make things as easy for us as possible. Time became very important – time to accept, say goodbye and move forward, which Dad was very keen we did.

'It is a real privilege to be involved in some part in Precision-Panc's vitally important research as it begins to offer hope and a future for people who are diagnosed with pancreatic cancer. I am incredibly proud of the people who have registered to participate in Precision-Panc clinical trials and of the talented researchers and medics who are determined to take on pancreatic cancer.'

Wolfson Wohl Cancer Research Centre, Institute of Cancer Sciences, University of Glasgow.
Courtesy University of Glasgow.

Cancer charities, research bodies and industry support Precision-Panc's pancreatic cancer research in order to:

- Find breakthroughs in our understanding of pancreatic cancer
- Develop tests for early detection
- Find ways to prevent pancreatic cancer
- Evolve new therapies to treat pancreatic cancer and stop it spreading

SPREADING THE WORD

Precision-Panc is centred around the needs of patients. Patient organisations have an essential role to play in supporting research and in informing people with pancreatic cancer and their families about what participating in a clinical trial can do for them – and what it can do to help others.

Precision-Panc is supported by:

CONTACT

For Precision-Panc clinical trial information please email contact@precisionpanc.org

August 2019