Information for Patients

Personalising Treatment In Cancer Care

FOUNDATION MEDICINE®

Roche

This booklet explains how this can provide information to help you and your doctor make informed decisions about your treatment.

This booklet should supplement the advice given to you by your medical team. If there is anything you don't understand or if you have any medical concerns, please talk to your doctor/nurse.

Contents

Personalised medicine in cancer treatment

What is personalised medicine?

DNA is part of your body's cells. It contains the information needed to run and repair your body. Changes in the DNA of healthy cells can cause cancer.

Even if you have the same type of cancer as someone else (e.g. breast cancer), the DNA changes that caused the cancer may be different. Personalised medicine means providing you with the treatment that is most suited to your cancer.

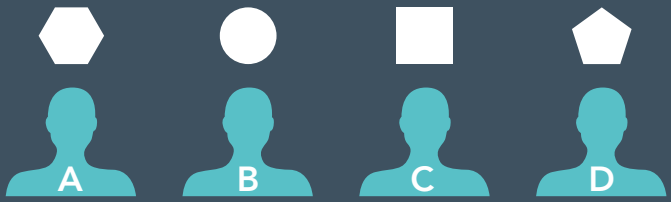
What is targeted therapy?

Personalised medicine can involve the use of targeted therapies, which are medicines that specifically identify and attack cancer cells without damaging normal cells.

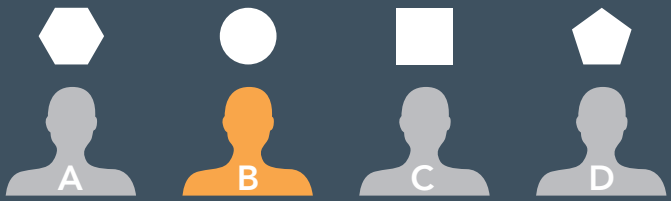
Targeted therapies work by acting on specific DNA changes or proteins involved in the growth, development and spread of cancer. They can:

- **Block/turn off the signals that tell cancer cells to grow and divide**
- **Stop making new blood vessels to feed the cancer cells**
- **Kill the cancer cells, by:**
  - Changing proteins within cancer cells
  - Delivering a substance that kills cancer cells
  - Triggering your immune system to kill cancer cells

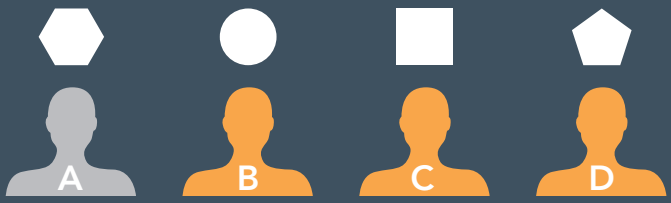
Targeted therapies will not work for everyone, as explained below.



The DNA changes in the cancer cells of each patient are different.



A treatment that works on the circle DNA change would only be suitable for patient B.



A treatment that does not work on the hexagon DNA change would be suitable for patients B, C and D, but not patient A.

How can treatment be personalised to me?

Tumours with certain changes in their DNA respond better to certain treatments. Knowing which changes are present in the cells of your cancer is useful because it allows your doctor to understand:

- If any currently available targeted therapies are suitable options for you
- If you may be a candidate for a clinical trial (a test of a therapy that is being developed)

Genomic profiling

What is genomic profiling?

Genomic profiling is looking closely at a person's DNA. Comparing the DNA of their healthy cells with the DNA of their cancer cells can help to identify changes that may have caused the cancer to develop.

What is required from me?

Depending on the type of cancer you have, your doctor will need to take either a small sample of your tumour (known as a tissue biopsy) or a blood sample.

I have already had a genetic test. Why do I need another one?

There are two main reasons why your doctor may have advised that you use the FoundationOne® service.

1. The previous genetic test that you had was only able to look for a small number of cancer-causing DNA changes. This service may be able to reveal other important information because it looks at more possible changes.

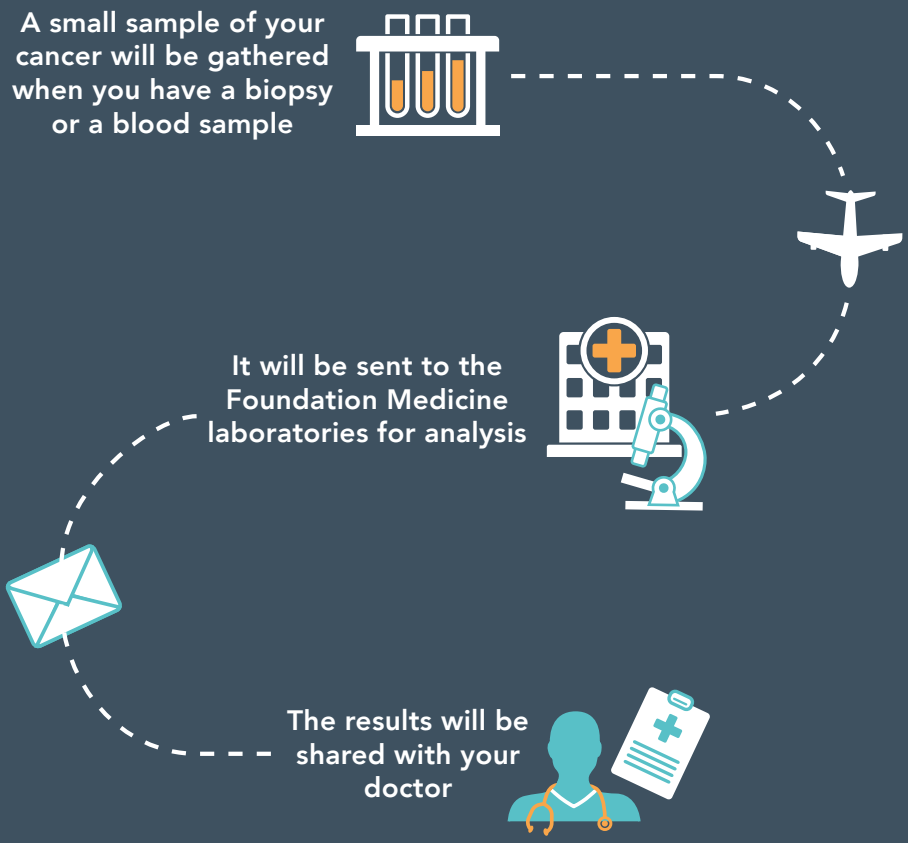
2. Since your cancer was first diagnosed, new changes may have happened in the DNA of your cancer cells, which may mean your cancer will not respond to certain treatments.

What happens next?

If you and your doctor decide that this is right for you, your doctor will place an order for the FoundationOne® service. This is provided by a company called Foundation Medicine.

FoundationOne® can detect changes across hundreds of sections of DNA known to cause cancer. Your doctor can use this information to decide on a treatment based on the specific type of cancer that you have.

What will happen if I agree to have the service?



It is common practice for only some of your sample to be used for analysis. Any remaining DNA and other samples which are not used will be returned to your doctor.

There may be certain circumstances where your DNA will not be analysed. If this happens, your doctor or medical team will explain why.

What results will be provided?

The results will provide information on DNA changes found in your cancer in the form of a clinical report.[1] Your doctor will discuss your results with you and the next steps in your treatment.

It is important to understand that whilst the service often provides valuable information to help you and your doctor make informed decisions about your treatment, there is no guarantee that any treatment suggested will work for you. This is because cancer is a complex disease driven by multiple factors and responses to therapies vary from patient to patient.

When will the results be made available to my doctor?

The results should be provided to your doctor within one month, but could take longer. Depending on when your next treatment is scheduled for, the results may not be provided to your doctor in time to affect the next treatment given to you.

[1]Please note that Foundation Medicine are unable to provide information to show if these genomic changes were inherited i.e. changes that could have been passed to you by your parents. You should discuss with your doctor if you are interested in testing for inherited DNA changes.

What about my privacy – who looks at my data?

A number of steps are taken to reduce the risk of anyone other than your doctor being able to identify you from your genetic profile:

- Your sample will be anonymised (removing your name or anything else that might identify you) prior to being analysed by the scientists at Foundation Medicine
- Your data will be identified only by a code (in most cases, your NHS number) and stored in a secure database
- The clinical report will be sent back to your doctor through a secure website

Anyone involved in providing the genetic profiling and data analysis will only see the code and will not see any personal information that identifies you.

What if I agree to have a sample taken and then decide I don't want to have my sample analysed?

You can withdraw at any time by contacting your doctor. You do not have to give a reason. Doing this will not affect your care.

Glossary

Cell	**Cells** are the basic building blocks of all living things. The human body is made up of trillions of cells.
DNA	**DNA** is the material that provides the instructions needed to build and maintain the body's proper functioning.
Gene	**Genes** are sections of DNA that tell the body how to make proteins.
Genome	**Genome** is the word used to describe the complete set of DNA of a person.
Protein	**Proteins** are large, complex molecules that play many essential roles in the body.

Where you can find more information

You and your family can get more information on cancer in general and personalised medicine to treat cancer from a number of organisations. These include:

Genomics England: www.genomicsengland.co.uk

Macmillan Cancer Support: www.macmillan.org.uk
Free helpline: 0808 808 0000

For further information about these services:

Visit online:
www.foundationmedicine.co.uk

To order contact Roche Foundation Medicine Customer Care:
Telephone: 0800 731 5711
Email: uk.foundation@roche.com

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0800 328 1629 or by emailing medinfo.uk@roche.com.