

Circulating Tumour DNA Test

This information sheet is for cancer patients who may be offered this test by their doctor.

What is ctDNA?

Inside the cells of our body are small building blocks called genes.

- Genes contain a molecule called **DNA**. DNA is the instruction manual that tells our cells how to function.
- **Small changes** can occur in the structure of the DNA, making the instructions unclear and causing the cells to malfunction.

Malfunctioning cells can then grow uncontrollably and form a tumour.

- As tumours grow, they can shed their DNA into blood and other body fluids. The shed DNA has the same small alterations as the DNA in the tumour. As this DNA moves around the body in the blood, it's called **circulating tumour DNA (ctDNA)**.
- By collecting the ctDNA in your blood, doctors can look at the changes in the DNA and understand why the cells are malfunctioning and how to stop them growing.

How is the test done?

Doctors can perform a standard blood test at your local hospital.

This is easier to collect than a tissue biopsy. Tissue biopsies usually involve an operation.



Doctor explains
test options

Blood sample
taken

Lab tests for
ctDNA in blood

Doctor explains
results

Recommendations
and support

Will this test look for other things?

ctDNA from malfunctioning cells looks different to DNA found in healthy cells, so it's easy for the lab to know what to look for.

This test will only look at the small changes in the DNA (ctDNA) that are causing your tumour to grow.

How can this test help me?

This test may provide more information about:

- 1 The **type of tumour** present
- 2 The best **treatment** options for you
- 3 How the tumour is **responding to treatment**

What happens after my blood sample is collected?

The test results will be available in about 2 months. Your doctor will contact you to make an appointment to explain what the test result means and to discuss what the next steps are.

What are the risks?

Testing tumour DNA can sometimes show a possible DNA change that you inherited from your parents that could impact your health.

This is rare, but if this happens, your doctor will discuss what this means and refer you to a Familial Cancer Service.

It is possible the test may not pick-up the incidence of the tumor at all, even if a tumour is present.

You may also feel some pain when having the blood collected.

Benefits

- Simple blood test
- Quick results
- Provides personalised information about the tumour

Limitations

- Some tumours don't produce any ctDNA, it would not be detected
- There may not be enough ctDNA in the sample to give a useful result
- The small changes found in the ctDNA may not provide clear next treatment steps for doctors

How much will it cost?

The cost of the test depends on who is ordering it for you.

Ask your doctor about how much this test will cost.



For general information about genomics tests go to melbournegenomics.org.au



Melbourne Genomics
Health Alliance